

Comment 340 against 60802 D2.1

“Tables 11 and 12 describes requirements for error generation for (preciseOriginTimestamp+correctionField), rateRatio, and rateRatioDrift . The description of these requirements imply that they are included in the sync message, which is true for one-step mode, but preciseOriginTimestamp, correctionField are transmitted in follow_Up message, if two-step mode is used. RateRatio is transmitted in the Follow_Up information TLV that is attached to Sync message in one-step mode, and it is attached to Follow_Up in two-step mode. The rateRatioDrift is transmitted in the Drift_Tracking TLV that is attached to Sync message in one-step mode and it is attached to Follow_Up in two-step mode

Similar comment for Annex D.

The Working Group has decided to become silent about one-step clock, and therefore a more generic description without calling out for Sync or Follow_Up message seems to be appropriated. Therefore, I propose to change the description in tables 11, 12 and Annex D to use “PTP message” instead of “Sync message” for the general cases, Follow_Up information TLV when referring to rateRatio, and Drift_Tracking TLV when referring to rateRatioDrift”

Per discussion during the meeting, for the resolution of comment 340, please make the changes in the D2.1 draft as follows:

- Table 11, first cell of the first row, replace “Sync message” with “PTP timing message” only at the first occurrence of “Sync message”.
- Table 11, the first cell of the second row, replace “Sync message” with “Follow_Up information TLV” only the second occurrence of “Sync message”.
- Table 12, first cell of the first row, replace “Sync message” with “PTP timing message” only at the first occurrence of “Sync message”.
- Table 12, first cell of the 2nd, 3rd, and 4th row, replace “Sync message” with “Follow_Up information TLV”.
- Table 12, first cell of the 5th, 6th and 7th rows, replace “Sync message” with “Drift_Tracking TLV ”.

- Page 177, Figure D.1, change Sync message to PTP timing message

- Page 178, Figure D.2, change Sync message to PTP timing message

- Page 178, line 6350, change "Sync message" to "PTP timing message" as follows:
“... the timing of the input PTP timing message transmission and output PTP timing message reception.”

- Page 178, line 6353, change "Sync message" to "Follow_Up information TLV" as follows:

“In the input Follow_Up information TLV, rateRatio will be 0 ppm, and in the input Drift_Tracking TLV rateRatioDrift will be 0 ppm/s.”

- Page 178, line 6361, change "Sync message" to "PTP timing message" as follows:

“... transmission of the input PTP timing message and ...”

- Page 178, line 6363, change "Sync message" to "PTP timing message" as follows:

“... output PTP timing message with the ..”

- Page 178, line 6365, change "Sync message" to "PTP timing message" as follows:

“... syncEgressTimestamp value in the output PTP timing message ...”

- Page 179, Figures D.3 and D.4, change “Sync message” to “PTP timing message”

- Page 179, line 6372, change from:

“In the output Sync message, the rateRatio field will increase over time, and the rateRatioDrift field will maintain a matching positive value.”

To:

“In the output Follow_Up information TLV, the rateRatio field will increase over time, and in the output Drift_Tracking TLV, the rateRatioDrift field will maintain a matching positive value.”

- Page 179, line 6376, change from:

“For tests 3 and 6, the test equipment can compare the rateRatio and rateRatioDrift fields in the output Sync message with the equivalent calculated values between the measured Local Clock and the Emulated ClockSource.”

To

“For tests 3 and 6, the test equipment can compare the rateRatio and rateRatioDrift fields in the output Follow_Up information TLV and Drift_Tracking TLV respectively with the equivalent calculated values between the measured Local Clock and the Emulated ClockSource.”

- Page 180, line 6384, change from:

“In the output Sync message, the rateRatio field will be 0 ppm, and the rateRatioDrift field will be 0 ppm/s.”

To:

“In the output Follow_Up information TLV, the rateRatio field will be 0 ppm, and in the output Drift_Tracking TLV the rateRatioDrift field will be 0 ppm/s.”

- Page 180, line 6388, change from:

“For tests 4 and 7, the test equipment can compare the rateRatio and rateRatioDrift fields in the output Sync message with the equivalent calculated values between the measured Local Clock and the Emulated ClockSource.”

To:

“For tests 4 and 7, the test equipment can compare the rateRatio and rateRatioDrift fields in the output Follow_Up information TLV and Drift_Tracking TLV respectively with the equivalent calculated values between the measured Local Clock and the Emulated ClockSource. “

- Page 180, Figure D.5, change Sync message to PTP timing message

- Page 180, line 6400, change from:

“In the input Sync message, rateRatio will be 0 ppm and rateRatioDrift will be 0 ppm/s.”

To:

“In the input Follow_Up information TLV, rateRatio will be 0 ppm, and in the input Drift_Tracking TLV, rateRatioDrift will be 0 ppm/s.”

- Page 180, line 6405, change from:

“In the output Sync message, the rateRatio field will increase over time, and the rateRatioDrift field will maintain a matching positive value.”

To:

“In the output Follow_Up information TLV, the rateRatio field will increase over time, and the output Drift_Tracking TLV, the rateRatioDrift field will maintain a matching positive value.”

- Page 180, line 6410, change from:

“In the output Sync message, the rateRatio field will be 0 ppm, and the rateRatioDrift field will be 0 ppm/s.”

To:

“In the output Follow_Up information TLV, the rateRatio field will be 0 ppm, and in the output output Drift_Tracking TLV, the rateRatioDrift field will be 0 ppm/s.”

- Page 183, line 6480 to line 6500, change Sync to Sync/Follow_Up as follows:

“NRR is used when calculating meanLinkDelay and output Sync/Follow_Up message fields. The first NRR drift calculation will only be available after receipt of 32 Sync/Follow_Up messages, i.e. after approximately 4 seconds of operation given the 125 ms Sync Interval. During this time meanLinkDelay and output Sync/Follow_Up messages fields must still be calculated, so an alternative must be used, even if it can not deliver the same assurances regarding network-level performance.

If measured NRR from Sync/Follow_Up message information is unavailable but equivalent information from Pdelay_Resp messages is available it may be substituted for Sync/Follow_Up

message information. However, measuring NRR using Pdelay_Resp messages is vulnerable to additional error due to clock drift between the time NRR is measured, on receipt of the latest Pdelay_Resp message, and use of the measurement during Sync message processing. This is the reason using Sync/Follow_Up message information is preferable. It also means that a switch to using Sync/Follow_Up message information as soon as possible is desirable. It is technically possible to calculate a NRR using a combination of Pdelay_Resp and Sync messages but this can be risky due to the potential for very short intervals between messages and resulting high error due to timestamp errors, so it not recommended.

The following describes potential startup behaviour when using either Sync/Follow_Up or Pdelay_Resp message information. It is the responsibility of implementers to decide whether and when to use Pdelay_Resp message information and when to switch to using Sync/Follow_Up message information. It is, however, a normative requirement that implementations use Sync/Follow_Up message information when information from 32 or more timely Sync messages is available.

The following describes potential startup behaviour applicable to either Sync/Follow_Up or Pdelay_Resp message information.”

- Page 184, line 6515, change Sync with Sync/Follow_Up as follows:

“On arrival of the 5th Sync/Follow_Up message the first mNRRcalc and mNRRcalcT calculations can take place and should be used for NRR:”

-Page 184, line 6542, change Sync with Sync/Follow_Up as follows:

“estimate of the local Rate Ratio Drift when the latest Sync/Follow_Up Message is received, based on the”