

Clarification Request

References: BTL Test Plan 12.0.final, 13.2.6

Date of BTL-WG Response: August 1, 2013

Background:

13.2.6 Align_Intervals and Interval_Offset TimeSynchronization Test

Test Steps:

1. WRITE Time_Synchronization_Interval = (X1, one of 4, 5, 6, 10, or 12)
2. BEFORE 2 times X1
RECEIVE TimeSynchronization-Request,
'Time' = T1
3. CHECK (T1 'minutes' is a multiple of Time_Synchronization_Interval, ± 1 minute)
4. WRITE Time_Synchronization_Interval = (X2, any of the values not chosen in step 1)
5. BEFORE 2 times X2
RECEIVE TimeSynchronization-Request,
'Time' = T2
6. CHECK (T2 'minutes' is a multiple of Time_Synchronization_Interval, ± 1 minute)
7. WRITE Interval_Offset = (any value from 2 to Time_Synchronization_Interval-1)
8. BEFORE 2 times X2
RECEIVE TimeSynchronization-Request,
'Time' = T3
9. CHECK (T3 'minutes' modulo Time_Synchronization_Interval = Interval_Offset, ± 1 minute)
10. WRITE Interval_Offset = (any value from Time_Synchronization_Interval+1 to (2 * Time_Synchronization_Interval)-1)
11. BEFORE 2 times X2
RECEIVE TimeSynchronization-Request,
'Time' = T4
12. CHECK (T4 'minutes' modulo Time_Synchronization_Interval = (Interval_Offset - Time_Synchronization_Interval), ± 1 minute)

CHECKS 3 and 6 expect, that the TimeSync 'minutes' are a multiple of Time_Sync_Interval.
e.g. if Time_Sync_Interval is set to 12, then Time_Sync 'minutes' shall be one of 0,12,24,36,48.

CHECK 9 expects, that TimeSync 'minutes' modulo Time_Sync_Interval are equal to Interval_Offset.
e.g. if Time_Sync_Interval is set to 12 and Interval_Offset is set to 5, then Time_Sync 'minutes' shall be one of 5,17,29,41,53.

135-2010 - 12.11.49 Align_Intervals

This optional property, of type BOOLEAN, specifies whether (TRUE) or not (FALSE) clock-aligned periodic time synchronization is enabled. If periodic time synchronization is enabled and

the time synchronization interval is **a factor of (divides without remainder) an hour or day**, then the beginning of the period specified for time synchronization shall be **aligned to the hour or day**, respectively. If this property is present, it shall be writable.

The Time_Sync_Interval selected for this test is not a factor of an hour or day, so the period for time synchronization shall not be aligned to the hour or day.

Question:

Which behaviour is expected, when Interval_Offset is smaller than an hour?

Should it be like this?

When Time_Sync_Interval is set to 12 and Interval_Offset is changed to 5 at 5:20:00 (local time), then the next Time_Sync will be send at 5:25:00 (+5 Interval_Offset), then 5:37:00, 5:49:00, etc. (+12 Time_Sync_Interval)

Does the test need to be revised?

Response:

"The test does not need to be revised. In your example, TimeSynchronization-Request would be sent at 5:29 (a multiple of 12 plus 5), 5:41 (a multiple of 12 plus 5), and 5:53 (a multiple of 12 plus 5)."

"In Step 1, Time_Synchronization_Interval = (X1, one of 4, 5, 6, 10, or 12) were chosen intentionally. All of these are factors of one hour. Thus they are required to align by the standard."