INTERNATIONAL TELECOMMUNICATION UNION

ITU-T G.8273.2/Y.1368.2

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

Amendment 1
(01/2015)

SERIES G: TRANSMISSION SYSTEMS AND MEDIA, DIGITAL SYSTEMS AND NETWORKS

Packet over Transport aspects – Synchronization, quality and availability targets

SERIES Y: GLOBAL INFORMATION INFRASTRUCTURE, INTERNET PROTOCOL ASPECTS AND NEXT-GENERATION NETWORKS

Internet protocol aspects – Transport

Timing characteristics of telecom boundary clocks and telecom time slave clocks

Amendment 1

CAUTION !

PREPUBLISHED RECOMMENDATION

This prepublication is an unedited version of a recently approved Recommendation. It will be replaced by the published version after editing. Therefore, there will be differences between this prepublication and the published version.

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Amendment 1 to Recommendation ITU-T G.8273.2/Y.1368.2 (2014)

Timing characteristics of telecom boundary clocks and telecom time slave clocks: Amendment 1

Summary

Amendment 1 to Recommendation ITU-T G.8273.2/Y.1368.2 (2014) addresses the following:

- Modifies clauses 7.1, 7.1.1 and 7.1.2.
- Adds clause 7.1.3, *Dynamic time error (dTE_H) high frequency noise generation*.
- Adds Note 3 to Annex A.
- Modifies clause C.1.2.2.
- Adds clause C.2.1.3, *Dynamic time error (dTE_H) high frequency noise generation*.

Amendment 1 to Recommendation ITU-T G.8273.2/Y.1368.2 (2014)

Timing characteristics of telecom boundary clocks and telecom time slave clocks: Amendment 1

1 Clause 7

Add the following note after the first paragraph:

Note - The 1pps input pertains to telecom grand master functions, and it is for further study.

2 Clause 7.1

Change the following note from:

"Note 1 – The values in Table 1 are valid for 1 PPS, 1GbE and 10 GbE interfaces. Above 10GbE is for further study."

To:

"Note 1 – The values in Table 1 are valid for 1 PPS, 1GbE and 10 GbE interfaces. Values for signals above 10GbE or below 1GbE are for further study.

3 Clause 7.1.1

Change the following note from:

"Note: The values in Table 2 are valid for 1 PPS, 1GbE and 10 GbE interfaces. Above 10GbE is for further study."

To:

"Note 1 – The values in Table 2 are valid for 1 PPS, 1GbE and 10 GbE interfaces. Values for signals above 10GbE or below 1GbE are for further study.

4 Clause 7.1.2

Change the title of Clause 7.1.2 from:

"Dynamic time error (dTE) noise generation"

To:

"Dynamic time error low-pass filtered noise generation (dTE_L)"

Add the following note after Table 4:

Note: Guidelines for variable temperature testing are described at Appendix I of [G.8273]

5 Clause 7.1.3

Add Clause 7.1.3 after Clause 7.1.2 as follows:

“**7.1.3 Dynamic time error high-pass filtered noise generation (dTE_H)**

For a T-BC Class A or Class B containing an EEC-Option 1 clock, and operating in locked mode synchronized to both a noise-free time reference at the PTP input, and a noise-free frequency reference at the SyncE/SDH input, the peak-to-peak time error at the T-BC output interfaces, measured over a 1000 second measurement interval, with a first-order high-pass filter of 0.1Hz must be less than 70 ns.”

Note: The value of 70 ns is a conservative limit based on the SEC/EEC noise generation specification. This is based on the assumption that most of this noise is generated by the high-pass filtered noise of the SEC/EEC oscillator. It is expected that implementations based on better clocks can result in significantly lower values. It is not intended and not assumed that the component of the high-pass filtered noise due to timestamp granularity is a major portion of the 70 ns.

6 Annex A

Add the Note 3 after Note 2 in Annex A as follows:

“Note 3: T-BC functional model is also applicable to the T-TSC; except for the PTP master side (The T-TSC functional model includes the 1PPS and ToD interface).”

7 Annex C.2.1.2

Change the title of Clause C.2.1.2 from:

“Dynamic time error (dTE) noise generation”

To:

“Dynamic time error low-pass filtered noise generation (dTE_L)”

8 Annex C.2.1.3

Add Clause C.2.1.3 after Clause C.2.1.2 as follows:

“**C.2.1.3 Dynamic time error high-pass filtered noise generation (dTE_H)**

For a T-TSC containing an EEC-Option 1 clock, and operating in locked mode synchronized to both a noise-free time reference at the PTP input, and a noise-free frequency reference at the SyncE/SDH input, the peak-to-peak time error at the T-TSC output interfaces, measured over a 1000 second measurement interval, with a first-order high-pass filter of 0.1Hz must be less than 70 ns.”

Note: The value of 70 ns is a conservative limit based on the SEC/EEC noise generation specification. This is based on the assumption that most of this noise is generated by the high-pass filtered noise of the SEC/EEC oscillator. It is expected that implementations based on better clocks can result in significantly lower values. It is not intended and not assumed that the component of the high-pass filtered noise due to timestamp granularity is a major portion of the 70 ns.