IEEE 1914 NGFI
IEEE 1914.3a RoE – Change Summary for Draft D1.4

Richard Tse, Microchip Technology
Dec 1, 2020
Teleconference
Change Summary

• To assist the recirculation ballot review, this presentation identifies the major changes made in draft D1.4 of P1914.3a
  • All change details are recorded in the comment resolution spreadsheet, tf3_2011_D1_3_comment_resolution_3.xls, which can be found at the following website: https://sagroups.ieee.org/1914/p1914-3/ieee-p1914-3a-draft-specifications/
General Changes Throughout the Draft

- Editing instructions (used by future editors for incorporating the amendment into a new release of the standard) have been updated, as per comments on D1.3
  - Where applicable, the instructions are more precise in regards to where the change is implemented in the clause or subclause
  - Use of actions other than the 4 approved by IEEE (Change, Insert, Delete, and Replace) has been eliminated
  - Editing instruction style has changed from “Change the following” to “Change XXX as shown”
  - Editing instructions for a subclause are all placed at the beginning of the subclause (except when not reasonable)
- Line numbering is now continuous through the entire document, instead of restarting at line 1 on each page
- Unnecessary instances of the term “subclause” have been removed (except for editorial instructions)
Clauses 1 to 7

• Subclause 1.3
  - New subclause and footnotes inserted as per 2020 version of IEEE style manual
  https://mentor.ieee.org/myproject/Public/mytools/draft/styleman.pdf

• Subclause 7.2.2
  - Added de-mapper PRACH to the enTLVs in Table 6 (at enTLV = 10) and to the preceding examples. Subsequent enTLVs were renumbered.

• Subclause 7.3.5
  - Added missing elements from Table 9 and Table 9a
Clauses 8 to 10

• Subclause 8.6.2
  • The added NOTE is to address comment #93. The final resolution is different from that discussed at the meetings.

• Subclause 9.7.6
  • MAPPER_MANUAL_DFCT field added to the RoE mapper status control packet

• Subclause 10.1.5.3
  • The implementation that addresses comment 97 is different from that discussed at the meetings
    • The dmSize field is indeed necessary and this need is identified in the existing text that describes this field. To make it more obvious what this field is used for (setting the packet size for remote DM requests) and why it is necessary, its name was changed to reqDmSize.
Clause 12

• Throughout clause 12
  • The names of new parameters that appear at both the mapper and the de-mapper were modified so they are unique
    • manual_dfct renamed to mapper_manual_dfct for the mapper’s version of the defect
    • manual_dfct renamed to demapper_manual_dfct for the de-mapper’s version of the defect
    • The names of the mapper_manual_dfct, cpri_los_alrm, cpri_lof_alrm, cpri_rai_alrm, cpri_sdi_alrm, and cpri_reset_notif defects are all prepended with ‘stat_ctrl” for the de-mapper’s instances because they are conveyed through the mapper status control packets.
More in clause 12

• Subclause 12.4
  • `.mapper_buffer_ovfl_i` parameters was moved to the `enParam = 3` in Table 28. All subsequent parameters had their `enParam` values incremented.
  • In Table 28, added relationships between some of the defects to the `.cpriL1` parameter

• Subclause 12.5
  • `.demapper_buffer_ovfl_i`, `.demapper_buffer_undrun_i`, `.stat_ctrl_mapper_manual_dfct_v`, and `.stat_ctrl_mapper_manual_dfct_i` parameters were moved/inserted close to the beginning of Table 29. All subsequent parameters had their `enParam` values incremented.
Still more in clause 12

• Subclause 12.8
  • In Table 32, added consequential action for the stat_ctrl_mapper_manual_dfct defect at the RoE de-mapper
Clause 13

• Clause 13 – many changes for autonegotiation
  • Changes as per meetings on Oct 20 and Nov 3, 2020 were made
  • The following additional changes were made:
    • Table 34 was removed as the parameters it used to contain were found to no longer be needed
    • In the RoE Proxy Leader autonegotiation state machine shown in Figure 35
      • The transition from SEND_CPRI state to the SEND_RPL_PATT state was removed. The editor believes a change in CPRI rate is first identified by one of the defects that move this state-machine to the SEND_RPL_PATT state.
      • The INS_RPL_PATT state was removed. The editor believes the conditions related to this state are not part of the autonegotiation state machine. They are, instead, part of the defect handling mechanism. A state like INS_RPL_PATT does not exist in the Proxy Follower state machine.
**Clause 13 – Proxy Follower State Machine**

From D1.3

- **Init Link**: Rate_num = 0
- **Change Rate**: \( \text{cpriSpeed} = \text{cpri_an_speed}[\text{rate_num}] \)
  
  \( \text{sync_timer} = \text{sync_exp_time}[\text{rate_num}] \)

- **Wait HFNSYNC**: \( \text{cpri_lof_dfct_v} = 0 \)
  
  \( \text{psync_timer} = \text{psync_exp_time}[\text{rate_num}] \)

- **Send Wait Peer**: Rate_num = 1 and hfnsync_timer = 0
- **Finish Ancillary**: Rate_num = 1

From D1.4

- **Init Link**: Rate_num = 0
- **Change Rate**: \( \text{cpriSpeed} = \text{cpri_an_speed}[\text{rate_num}] \)
  
  \( \text{sync_timer} = \text{sync_exp_time}[\text{rate_num}] \)

- **Wait PF Sync**: \( \text{cpri_los_dfct_v} = 1 \)
  
  \( \text{mapper_manual_dfct_v} = 1 \)

- **Send Wait Peer**: Rate_num = 1 and \( \text{cpri_los_dfct_v} = 1 \)
- **Finish Ancillary**: Rate_num = 1

From [tf3_2011_tse_continued_resolution_comments_116_117_118.pdf](http://example.com/tf3_2011_tse_continued_resolution_comments_116_117_118.pdf)
Clause 13 – Proxy Leader State Machine

From D1.3

From D1.4

From tf3_2011_tse_continued_resolution_comments_116_117_118.pdf
Clause 13, 14, and Annex E.3

• Subclause 13.6
  • The descriptions were enhanced to better describe what happens in each second of the example

• Clause 14.3 and 14.4
  • “arrival-time-offset” parameter renamed to “presTimeOffset” as per comment 23, 119, and 120
  • Date of YANG model changed to “2020-11-27”
Annex E

• Annex E.3
  • A few comments were added to describe some of the numbers in the tables
  • Table E.3.5
    • Numbers updated to cover the 5 rate changes that might be needed to cover 4 autonegotiated rates
    • NOTE added to explain why 5 rate changes are needed to cover 4 autonegotiated rates

• Annex E.5
  • CPRI port parameters added to annex
    • These parameters are passed between the CPRI port and the RoE mapper or RoE demapper