

Checklist of Remaining Items for 802.1AS

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Introduction

- ❑ This presentation is a summary checklist of items still needed for completion of IEEE 802.1AS
- ❑ Boilerplate and front matter items are also needed
 - Overview (including Scope and Purpose)
 - Definitions
 - Abbreviations
 - Conventions and Notations
 - Annex A (PICS proforma)
 - Etc.
- ❑ Current Clause 8 in table of contents is currently entitled ‘Assumptions’
 - This material should probably either be in an informative annex or, if not extensive, included in other clauses in informative notes where appropriate
- ❑ The following slides summarize the items by Clause number (or Annex)

Clause 7

- Title: Clock synchronization model for a bridged local area network (Informative)
- 7.5.1 must be updated to reflect the latest discussions and decisions for synchronization over the wireless links
 - Recent discussions considered the master initiating the Presence Request/Presence Response exchange
- Finish incorporating comments on D0.6
 - Elimination of description on one-step clocks
 - Explicit mention of internal link in collocated TC and OC
 - Update the overview description of BMC and attributes it considers
 - Other minor comments
- Update description of synchronization algorithm, if necessary, to reflect final decision on algorithm

Clause 9

- Title: Characterization of PTP entities and 802.11 entities used in IEEE 802.1AS
- Complete description of PTP entities, pointing to subclauses of IEEE 1588 where appropriate, but stating restrictions and/or additions
 - PTP domain (done)
 - PTP timescale (802.1AS will use the PTP timescale, and not the ARB timescale)
 - Messages (both PTP and 802.11v)
 - Communication media
 - Port and port identity
 - Device characterization and attributes
 - Priority1, priority2, class, clock accuracy, time scale, variance, number_ports
 - Protocol timing characterization
 - Message transmission intervals
 - timeouts

Clause 10

- ❑ Title: Synchronization architecture, state machines, and procedures
- ❑ Complete wired and wireless layering descriptions
 - Existing diagrams must be modified such that the notation and level of detail is consistent for the wired and wireless cases
- ❑ Complete the state machines and accompanying functions for the wired network, using the initial versions in [1]
 - 1) Pdelay requestor
 - 2) Pdelay responder
 - 3) P2P TC node
 - 4) Receipt of Sync and Follow_Up by a P2P TC port
 - 5) Receipt of Sync and Follow_Up by an OC
 - 6) Sending of Sync and Follow_Up by an OC
 - 7) Receipt of Sync and Follow_Up by an S_BC
 - 8) Sending of Sync and Follow_Up by an S_OC
 - 9) Presence Request/Response mechanism between an S_BC in a wireless AP and wireless end stations

Clause 10 (Cont.)

- ❑ Complete the state machines and accompanying functions for the wired network, using the initial versions in [1] (Cont.)

10) Receipt and sending of Announce, and corresponding state changes, for an OC

- 1) Both general case and, for receipt of Announce, slave-only case
- 2) Functions will include BMCA

11) Receipt and sending of Announce, and corresponding state changes, for an S_BC

- ❑ For the above, much of items 1) – 6) are done

- Item 4 must be updated, if necessary, to reflect final decision(s) on syntonization algorithm
- Appropriate level of detail must be specified for synchronization
 - i.e., appropriate level of detail for specification of the use of the phase offset Functions are currently in the form of C code; may not be desirable to include them in the final standard in this form
- Items 7) and 8) are similar to items 5) and 6)
- Item 9) must be done
- Item 10) exists in simplified form; must be completed with appropriate level of detail

Clause 11

- Title: Clock data sets
- Extract necessary clock data sets and members needed from IEEE 1588
- Add any additional data sets/members for wired network portion
- Develop data sets needed for wireless network portion

Clause 12

- Title: 802.1AS message formats
- Incorporate wired network message formats currently given in [1]
 - Point to IEEE 1588 where appropriate
- Add message formats for wireless network
 - Point to IEEE 802.11v where appropriate

Annex B

- Title: Endpoint filter requirements (Normative)
- Need to add the endpoint filter requirements for the respective applications

Annex C

- ❑ Title: Summary of end-to-end jitter, wander, and synchronization requirements for time sensitive applications (Informative)
- ❑ This material largely exists in VG form; must put it in appropriate form for this annex

Annex D

- ❑ Title: Hypothetical reference models for synchronization transport in bridged local area networks (Informative)
- ❑ Various HRMs exist
 - Wired and wireless network portions within a residence
 - One HRM for transport over service provider network and residential network
- ❑ Largest missing item is the allocation of the end-to-end jitter/wander/synchronization requirements (for various time sensitive A/V applications) to the various network portions for the case of transport over one or more service provider networks followed by a residential network

Annex E

- ❑ Title: Modeling and analysis of end-to-end jitter and wander accumulation for synchronization transport in a bridged local area network (Informative)
- ❑ This material largely exists in VG form; must put it in appropriate form for this annex

References

1. Geoffrey M. Garner, *State Machines and Frame Formats for IEEE 802.1AS*, Revision 0.0, March 8, 2007.