

P802.1DG Status Update September 19, 2019

by: Craig Gunther (Editor)
Craig Gunther Consulting, Bosch

D1.0 - let the Task Group balloting begin!

Draft 1.0 is ready for TG balloting. The following information is for those who wish to participate but are unfamiliar with the IEEE 802.1 TG balloting process.

- Anyone can vote in a TG ballot; you do not have to be an IEEE 802.1 voting member or even a regular attendee.
- Ballot announcement, including due date, will be via email (see <http://www.ieee802.org/1/private/email2/mail1.html>)
 - Closing date,
 - Link to P802.1DG/D1.0 draft,
 - Balloting template and naming convention for the file that contains your comments,
 - Subject line for your emailed ballot comments (attach your file) and content of email.
- 30-day ballot to allow time for participants to review the draft after the Detroit September 23 one-day interim and the Oct 1 P802.1DG call

The Editor's philosophy for P802.1DG

Clause 14 – Profiles

How should profiles be organized? – Editor asking for help, especially presentations

What is a profile?

- OEM's can specify a device that implements a certain profile
 - They know a device that implements that profile has been through a set of certification tests
- Tier 1's use the profiles when building devices to know it is what an OEM expects
 - Tier 1's use the certification tests to know when their devices are operating correctly
- Tier 2's use the profiles to design their chips, because the profiles:
 - (Hopefully) specify minimum and maximum values for hardware related functions
 - Specify which recommended and optional features are required

The Editor's philosophy for P802.1DG D1.0

Clause 14 – Profiles (continued)

There are no profiles in D1.0. How do we start?

- Agree with previous slide, or correct it
- Presentations and discussions about what profiles are
- Presentations and discussions about what profiles are NOT

See [Automotive TSN profile based on features, architectures or requirements?](#), which has suggestions about basing profiles on “Common base requirements” (slide 10). Slide 9 contains warnings about feature-based profiles. Do you agree or not?

What can the Editor do while waiting for profiles to be outlined?

- Clause 6 – tutorial & education for future use by profiles (see following slides)

The Editor's philosophy for P802.1DG D1.0

Clause 6 - a different approach than previous TSN profiles

The Editor has provided many AVB/TSN training sessions and been involved with several companies, organizations, and non-TSN groups where TSN standards were discussed.

It has become apparent that most people understand the basic concepts of the various TSN standards. However, when diving into implementation details and design considerations the Editor believes that a tutorial/educational approach, as introduced in P802.1DG, will greatly benefit the intended reader of this standard.

It is with this philosophy that D1.0 has been created.

The approach used in P802.1DG/D1.0 cl. 6

There are several TSN standards that will eventually be referenced in P802.1DG. In D1.0, two standards have been targeted: 802.1CB and 802.1AS.

When reading those two TSN standards there are some subtle network design considerations that can get lost in all the details of the “standard-ese^{*}” language.

A network designer’s concerns are often more focused on the impact of their design decisions, rather than with how the internals of the standard work.

Designers can overlook some of these internals because they know there are (or will be) Certification programs provided by various companies and laboratories which will confirm that a particular piece of silicon does what the standard requires.

^{*}Standard-ese: Precision and accuracy are fundamental to Standards. It has been said that the readability can suffer because of this.

Is this approach valuable?

One of the Editor's goals for this ballot is to answer these questions: "Is this approach of any value to the reader, and should it be continued or abandoned?"

It takes considerable time to identify the subtleties of a TSN standard, and additional time to explain those subtleties to the reader. As you read the document is should become obvious that figures and scenarios are the Editor's favored approach, and these take time to create.

As you read through Clause 6 see if you learn something you didn't know, or that you had forgotten. Could this clause be considered as a good "reference" to keep at your side as you design your IVNs (In-Vehicle Networks)?

Note that the Editor has learned/re-learned much over the last several weeks creating D1.0!

Assuming your answer is “YES” ...

- Are there other points that should be addressed for 802.1CB and/or 802.1AS?
- Does this information belong in a Clause or in an Annex?
- TSN standards that are potential IVN candidates (Editor recommends waiting until we need them for a profile):
 - Security ([AE](#), [AR](#), [X](#))
 - Traffic filtering, queueing and shaping ([Qav](#), [Qbv](#), [Qch](#), [Qci](#), [Qcr](#), [Qcz](#))
 - Reservations ([Qat](#), [Qca](#), [Qcc](#), [CS](#), [Qdd](#))
 - Pre-emption ([Qbu](#), 3br)
 - Link aggregation ([AX](#), [AX-Rev](#))
 - Configuration ([Qcp](#), [Qcw](#), [Qcx](#), [AB](#), [ABcu](#))
 - Address assignment (1722 MAAP, [CQ](#))
 - Privacy ([E](#))

Introduction to draft D1.0

- Start by reading the “Introductory notes to P802.1DG Draft 1.0” on page 3.
- Clause 6.1 and its subclauses
 - Making some blanket statements about vehicular addressing and topology. Do you agree?
- Clause 6.2 The TSN standards.
- Clause 6.2.1 (802.1CB + CBdb) and subclauses
 - Stream identification, capacities, out-of-order packets, bandwidth, etc.
- Clause 6.2.2 (802.1AS + AS-Rev) and subclauses
 - BMCA options, Pdelay, Sync, jitter/drift, Clock Domains.
- Clause 6.2.3 (Scheduled Traffic)
 - A stub for the next possible TSN standard to describe.

Other content to comment on

- In addition to the basic questions asked on slide 7 “Is this approach valuable?”, and the content in general, the Editor has inserted several “<< Editor’s note: ... >>”s throughout the draft. This is the Editor asking for decisions, direction, help, etc. Many of these notes are designed to extract input from the target audience about what should and should-not be included in the draft. Your comments to these Editor’s notes are appreciated.
- What should profiles look like? Clause 14 suggest creating an Audio Systems profile because of the large body of “experts” who have already created such systems in the vehicle. Do you agree or not? It also points to a presentation about an alternative approach. Add a comment about the Editor’s note in Clause 14.

Questions?
Thank you!