The Suggestion from JASPAR
How to coexist between AUTOSAR and IEEE

Japan Automotive Software Platform and Architecture

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Background

We indicated that Announce Message is unnecessary for the Automotive Use Case at the previous plenary meeting in July.

However, we want to discuss truly the fact that differences between AUTOSAR and IEEE exist instead of discussing the necessity of Announce Message itself.

We sincerely want you to align the specification with AUTOSAR.

JASPAR Use Case
~Effective Coexistence between AUTOSAR's gPTP and IEEE 802.1DG~

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JASPAR Use Case ~Effective Coexistence between AUTOSAR's gPTP and IEEE 802.1DG~

The new use case of JASPAR
- In the dawn of Ethernet-based in-vehicle networks, a vehicle has both existing devices and those with origin of IT equipment.
- In general, the former is **a control system ECU designed by AUTOSAR** while the latter **is a communication device with GPS based on IEEE P802.1DG**.
- Control system ECU designed by AUTOSAR synchronizes IVI, *i.e.*, Grand Master, based on IEEE 802.1AS.

Differences between profile of IEEE 802.1 and that of AUTOSAR
- The profile of the time synchronization in AUTOSAR differs from that in IEEE P802.1DG.
  # This has been already pointed by Mr. Rodney Cummings at May 2019 Interim.
- **[IEEE P802.1DG]**
  - By transmitting Announce message, relationship between Master and Slave is established.
- **[AUTOSAR]**
  - Grandmaster transmits no Announce message. Even if a node receives Announce messages, it will ignore them.

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Suggestion from Jaspar

We presented the result of our study regarding the deference among some profiles, including .1DG and AUTOSAR, at Ethernet&IP@Automotive Technology Day last week.

The major differences we extracted are BMCA-related, Multiple Domains, and Use of VLAN.
There may be other ones. However, we can't analyze without exception.
We want t .1DG colleagues to take over this analysis further.

Item	P802.1DG (D1.4)	802.1AS (Standard)	Avnu (v1.6)	AUTOSAR
Use of BMCA	Not used	Optional	Yes/Not used	Not used
Use of Announce message	Yes	Yes	Yes/Not used	Not used
Use of Signaling message	Undefined	Yes	Yes	Not used
Use of Pdelay message	Yes	Yes	Yes	Measurement is optional
Sync message format	2-Step	2-Step/1-Step	2-Step	2-Step
Multiple time domains	Yes	Yes	No	Yes (non-Std.)
Use of VLAN and priority	Undefined	Not used	Not used	Optional
…	…			…

Request to IEEE

.1DG has Liaison relationship with both AUTOSAR and JASPAR.
JASPAR also has Liaisons between AUTOSAR and .1DG, respectively.

Thus, We Will Make Our **BEST Effort** to contribute to aligning the specifications.

Primarily, we want **IEEE** (and AUTOSAR) **to lead** the discussion to create the specification which allows coexistence.
Fundamental specifications regarding Ethernet must be born from IEEE.