Open1722 – An OSS Implementation of the IEEE 1722 Standard

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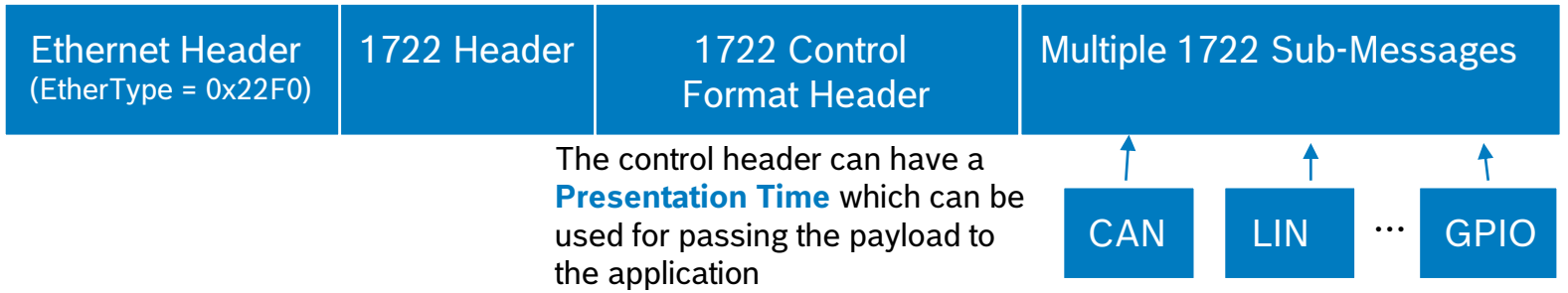
IEEE 1722 – Audio Video Transport Protocol
Layer 2 Protocol for disseminating In-vehicle Data

- Audio Video Transport Protocol (AVTP), as specified in IEEE 1722, can be used for transporting audio/video data on Layer 2 networks like the ones within vehicles

- IEEE 1722 has been extended to also include control formats which can used for tunneling automotive fieldbus payloads over Ethernet, e.g., while interconnecting zones in a zonal E/E-arch.

- Use cases could also include remote interactions (e.g., as the Remote-Control Protocol (RCP) being discussed in the Open Alliance) between vehicle computers and microcontroller-less peripherals



Each sub-message can have an **Acquisition Time** field which can be used for sensor fusion

IEEE 1722 – Audio Video Transport Protocol
Open-Source Software Project

- No fully implemented IEEE 1722 software stack available

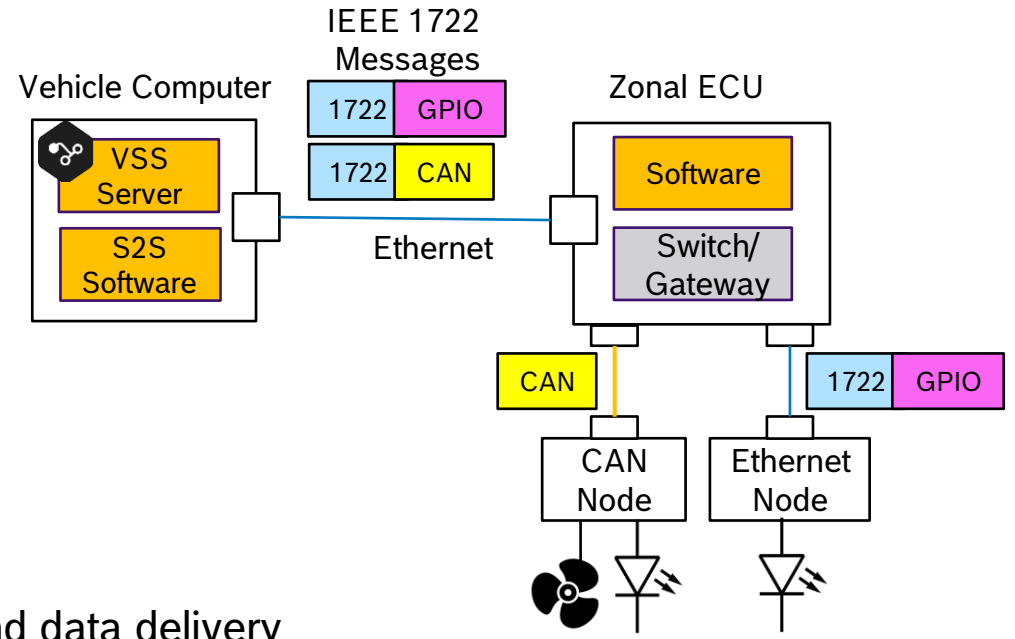
- Partial implementation (only audio/video formats, no control formats) available at AVNU/libavtp (https://github.com/Avnu/libavtp)

- Proposal: Fork from AVNU/libavtp and extend the implementation for automotive relevant formats
  - Note: Audio/video formats also of interest for automotive use cases, e.g., networking of cameras, microphones and speakers

- Roadmap:
  - First version: Compliance with the IEEE 1722-2016
  - Extension for the formats currently under standardization
  - Add-ons for interactions with other COVESA/Eclipse OSS Projects, e.g., a 1722-feeder for Eclipse Kuksa

IEEE 1722 – Audio Video Transport Protocol
Relation with other COVESA OSS Projects

- Vehicle Signal Specification (VSS)
  - IEEE 1722 provides the possibility for mapping VSS datapoints to parameters of deeply-embedded devices which are not directly connected to the vehicle computers
  - S2S mapping can include an IEEE 1722 interface



- SOME/IP
  - Provides service-oriented communication at Layer 4
  - Includes mechanisms for service discovery and on-demand data delivery
  - IEEE 1722 is, on the other hand, a statically configured tunneling protocol primarily on Layer 2 to stream data between devices connected to zonal ECUs and the vehicle computers
  - If required, IEEE 1722 messages can be offered as SOME/IP services, e.g., between vehicle computers

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