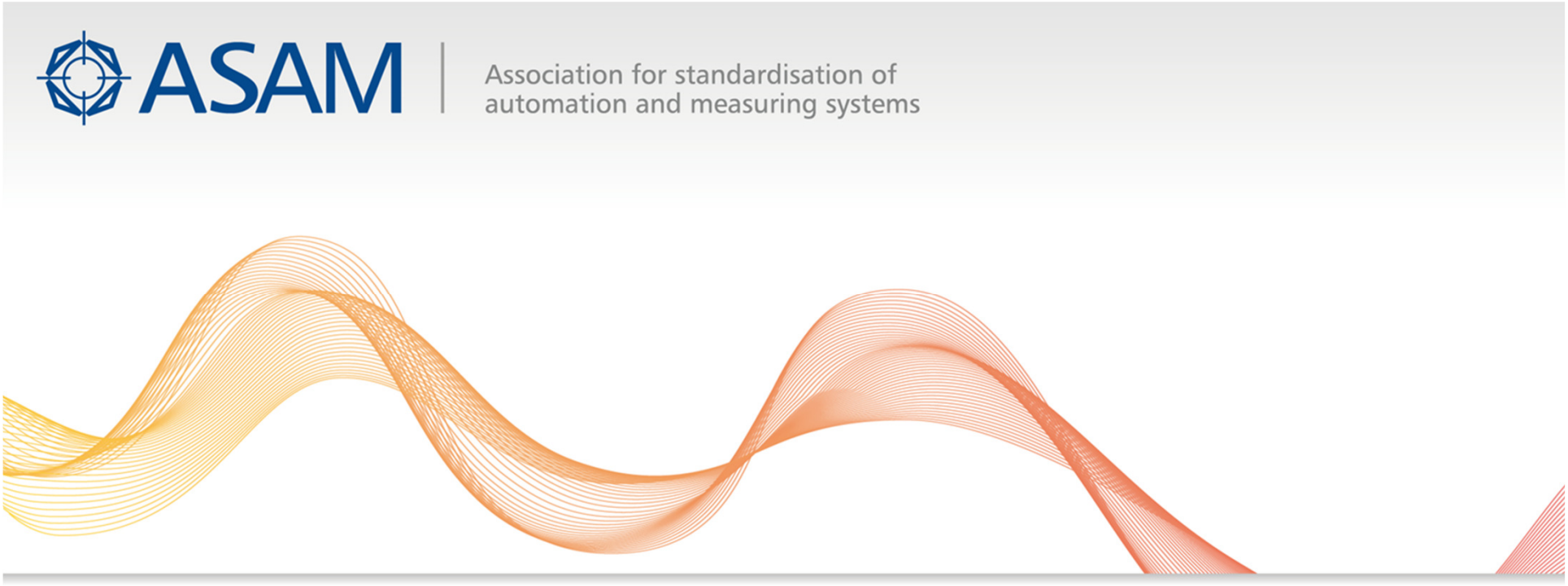


Release Presentation

ASAM AE-MCD1 POD V1.0

Plug-On Device Interface

<Release Date: 2017/05/18>

Deliverables

- Documents:
  - Base Standard: ASAM_AE_MCD-1_POD_BS_V1-0-0.pdf
  - POD Vender ID List: POD_Vendor_List.xlsx
- Templates:
  - POD_V1_0.aml
- Examples:
  - Example A2L: POD_Example.a2l
  - Example for special EAP functions: A_PSS_EAP_Functions.c
  - Directory, containing an example project (AURIX Tricore) of an EAP + POD and a test/parametrization application: AURIX Example Implementation
- Reference Implementation:
  - Directory containing the reference implementation of the ASAM PSS: ASAM_POD_PSS

Introduction

- ASAM MCD-1 POD defines the interface between an ECU application and a plug on device (POD) which can be used to measure data and change data in the ECU. In addition it extends the XCP protocol by POD specific commands, which standardize configuration and usage of the POD by a tool (measurement, calibration etc.)
- To aid future implementations of the standard a reference implementation has been developed and tested (AURIX platform).

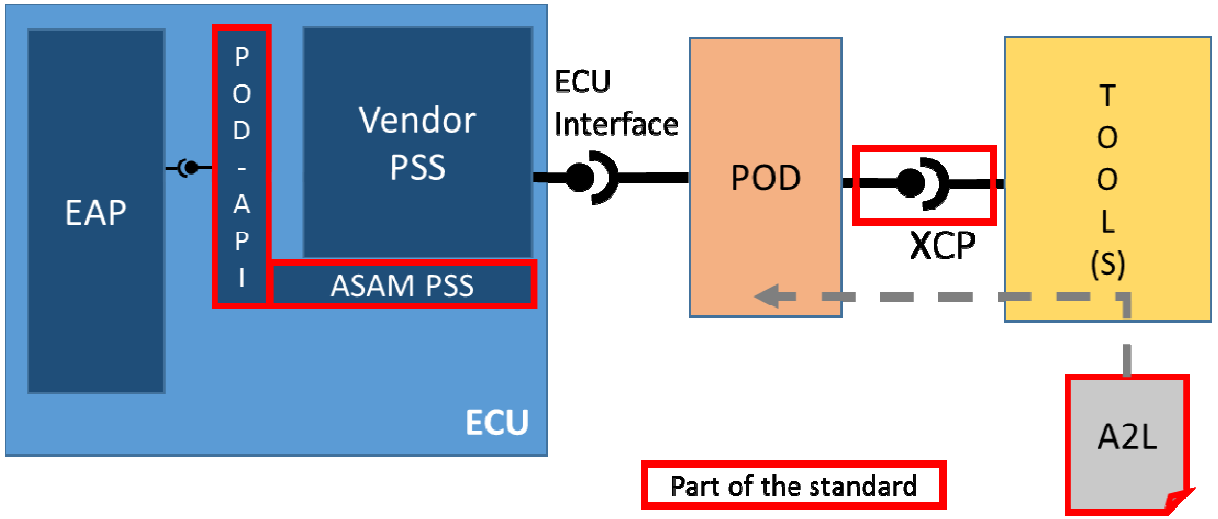
Marketing

- Reduce risk and effort for software integration of a POD into an ECU application
  - Call interface of functions is standardized and thus POD drivers from different vendors can be integrated in the same way
  - Detection of PODs is fully standardized, reference code implementation has been developed
  - Flow of events and synchronization points are standardized
  - “Emergency mode” is defined to enable the ECU application to switch to a safe state whenever necessary
- Enable standard compliant tools to operate with any standard compliant POD
  - XCP commands and events to configure a POD and retrieve status information
  - A2L definition (AML) to store and transport configurations for PODs from multiple vendors in combination with ECU variants in a development project
- It is NOT motivation to standardize hardware/debug interfaces because they are currently evolving so fast that a standard has high probability to be outdated.

What's New?

This is the first version of the standard, it consists of

- The POD API defines functions necessary for the covered use cases
- The ASAM PSS implements the fully standardized POD detection
- The POD XCP command space implements configuration and status functions
- The A2L definition is used to store and transport the POD configuration



Use Cases Covered

- Configuration of the system (ECU, POD, and tool)
- Possibility to prepare configurations for a variety of tool- and POD-setups in a development project
- Selection, transport, and check of POD configuration(s)
- Detection and initialization of a POD
- Fully standardized detection of a POD
- Optional transport and selection of configuration information to reduce necessity of user input
- Synchronous measurement (controlled by ECU application)
- Generic pattern for triggering the start of measurement, implementation is vendor-specific
- Synchronous page switching (synchronized with ECU application)
- Possibility to realize page switching by the POD or ECU application in a synchronized way
- ECU can set “emergency mode” so that it gains full control on pages in critical situations

Compatibility

- ASAM-MCD1 V1.4: Is extended with a subcommand space for POD
- ASAM-MCD2 ASAP2, 2015: Provides an AML so that A2L files for ECU can be enriched with POD information