



On-going ASAM Standardization Activities

Joseph Sparacino 2016.10.26

Association for standardisation of automation and measuring systems

Agenda







3 Working Groups and Recent Releases



4 Driving New Efforts

OPEN FOR INDUSTRY ASAM MEMBERSHIP REQUIRED Phase 1: Phase 2: Phase 3: Phase 4: Phase 5: Idea-creation Proposal Development Review Release



New Topics in the Ideation Phase

Telematics



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New Topic: "Telematics": Security / Authentication



Project Description

- Datalink protocol to perform 2-way data exchange for manufacturer specific data for Authentication and Authorization between ECU and Telematics device
- Datalink service/message structure to exchange authentication information to complete registration
- Datalink service/message structure for completing authorization
- Selection/standardization of the encryption algorithm for establishing future session



Project Status

Currently, building concept and team prior to the proposal phase

Notes

- This project will be the first from the area called "Telematics"
- This project will require additional standards (Authentication from the Cloud, Cloud Interfaces, and others)
- Currently, many members in this group are not ASAM Members or not familiar with ASAM Process

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New Topic: "Telematics": Cloud Interfaces



Project Description

 Providing a standardized bi-directional information access in the Telematics Service Providers Cloud



Project Status

Currently, building concept and team prior to the proposal phase

Notes

- This project will be the second from the area called "Telematics"
- This project will require additional standards (Authentication from the Cloud, Security / Authentication, and others)
- Currently, many members in this group are not ASAM Members or not familiar with ASAM Process



New Proposals

Measurement & Calibration ECU Networks





New Proposals

Measurement & Calibration ECU Networks



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Working Groups

- Measurement & Calibration
- Diagnostics
- **Test Automation**
- Data Management & Analysis

Phase 3:

Plan Release

- ASAM MCD-1 XCP 1.4
- ASAM MCD-2 CERP 1.0.1
- ASAM CPX 1.0.1
- ASAM XIL 2.0.4



Cross Test ASAM XIL 2.0.1 EES-Port

September

2016

Phase 3:

Plan Release

ASAM ODS 6.0

ASAM XIL 2.0.3

February

2017

ASAM OTX Extensions 1.1

ASAM MCD-1 POD 1.0.0

ASAM ODS 6.0

ASAM

Open Data Services Planned Release: Feb 2017



Goal

Replace CORBA with state-of-the-art technology for client-server communication, and modernize the ODS API

Achievements

- Requirements for benchmarking and feasibility study
- Supported by two research companies, paid by ASAM
- Investigated multiple open-source technologies: REST, Thrift, Protobuf
- Result: Project group accepted two technologies as foundation for the future ODS API
 - W3C REST (standard for API specification)
 - Google Protobuf (data serialization)

Results

- Specification of new ODS API based upon REST and Protobuf
- API is simplified and should become easier to use
- Special focus on performance and IT security



Working Group: Big Data and ASAM ODS



Initial Meetings Next project proposal to Investigating interest investigate: Understanding technology 1. Mass data in HDFS 2. Metadata in HDFS Aligning Use Cases 3. Try Use Cases with Example Project Proposal Environment 4. Integrate existing Approved as **ODS** Clients concept project with interface request to further refine work Fall Spring Spring 2014 2015 2017

Project Description

Investigate Big Data Technologies for use in the Automotive marketplace

- data bases (e.g. NoSQL),
- distributed file systems (e.g. HDFS),
- file formats (e.g. Parquet), and
- search and visualization (e.g. Spark/Tableau)

Project Status

Currently writing proposal for next steps and staying in alignment with activities of the ODS 6.0 group

Notes

- Second project initiated by an organization(s) in North America
- First multi-continent concept project
- Very fast moving industry

ASAM MCD-1 POD

ASAM

Plug On Device Planned Release: Feb 2017



Goal

Standardize POD configuration and software interface between the POD hardware and ECU software

Achievements

- Standard
- Reference Implementation of the POD-Access driver

Benefits

- Swap POD hardware from multiple vendors without the need to integrate different POD software drivers in ECU
- Easier connection and configuration of multiple tools to one POD
- Enables OEMs and Tier-1s to select best-in-class calibration tools



Recent Releases

Measurement & Calibration ECU Networks



ASAM MCD-2 CERP 1.0.0

Calibration Expert System Rule and Product Model Format Released: Feb 2016



Goal

Define a data model and language to express complex calibration parameter dependencies

Achievements

- Standard is the basis for a new class of tools: Calibration Expert Systems.
- Define system parameters (e.g. hardware, legal values)
- Check parameter consistency
- Check parameter plausibility
- Future: Calculate calibration parameters from other parameters and system model data

Benefits

- Capture business-critical expert knowledge
- Improve calibration quality and detect errors early
- Improve communication between controls engineering, software development, calibration, test and quality assurance
- Future: Speed-up calibration process via parameter calculation

ASAM CPX 1.0.0

Calibration Process Exchange Format Released: Feb 2016





Goal

Define an exchange format for test sequences for the determination of ECU calibration parameters, based upon ISO OTX

Achievements

- Define and document the steps of specific calibration processes
- Create comprehensive libraries for ECU calibration
- Automated calibration

Benefits

- Capture business-critical expert knowledge
- Improve calibration process efficiency and repeatability



Driving New Efforts

North America







Gartner Technology Hype Cycle





Driving New Efforts

Becoming more active in the Americas

End User Meetings



Connectivity Mobility Automation





More Information

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