Overview of Past and Future Standard Releases

General Assembly Meeting 2017, Stuttgart, Germany

Presenter

Stefan Romainczyk

National Instruments Corp. (Speaker of ASAM TSC)

Content

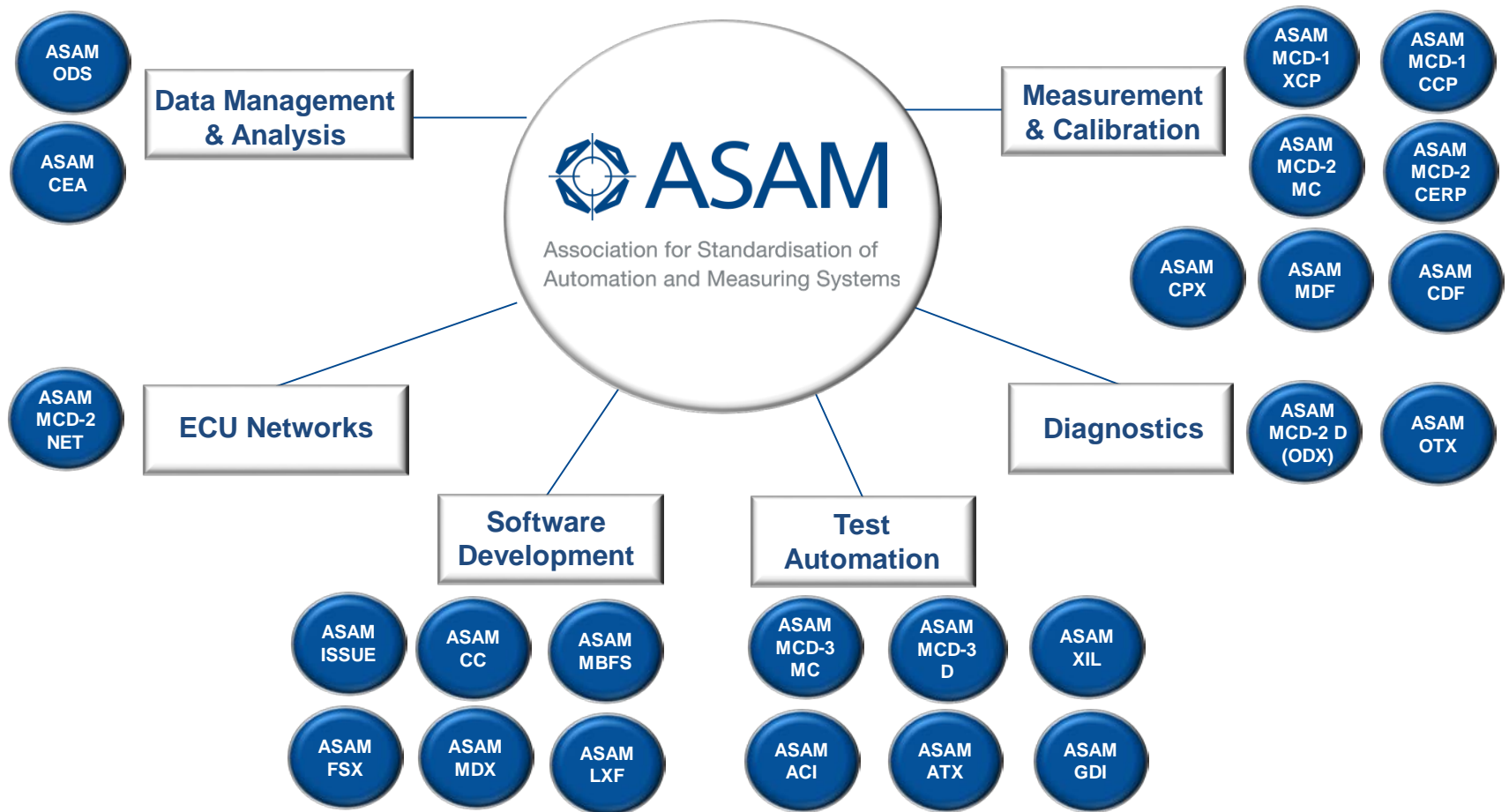|	
1	About ASAM Standards and ASAM TSC
2	Standardization Projects 2016/2017
3	Standardization Process Improvements

TSC Overview

- Project Controlling
  - Schedule
  - Expenses
- Continuous Process Improvements
- ASAM Catalyst
  - Workgroups
  - Board of Directors
  - ASAM Office
  - Members

TSC MEMBERS	Umesh Kini	Robert Bosch Engineering and Business Solutions Limited
	Dr. Hans-Jörg Kremer	Peak Solution GmbH
	Dr. Hans-Joachim Rabe	dSPACE GmbH
	Stefan Romainczyk	National Instruments Corp.
	Dr. Gerald Sammer	AVL LIST GmbH
	Killian Schnellbacher	ETAS GmbH
	Markus Steffelbauer	Softing GmbH
	Dr. Jörg Supke	emotive GmbH
	Helmut Wellnhofer	Continental Automotive GmbH
	Franz Wöhrl	Audi AG
REPRESENTATIVE OF THE BOARD	Marc Blatter	Daimler AG

Areas of Standardization

ASAM Owns 24 Standards in 6 Different Domains

Data Management & Analysis
- ASAM ODS
- ASAM CEA

ECU Networks
- ASAM MCD-2 NET

Measurement & Calibration
- ASAM MCD-1 XCP
- ASAM MCD-1 CCP
- ASAM MCD-2 MC
- ASAM MCD-2 CERP
- ASAM CPX
- ASAM MDF
- ASAM CDF

Diagnostics
- ASAM MCD-2 D (ODX)
- ASAM OTX

Software Development
- ASAM ISSUE
- ASAM CC
- ASAM MBFS
- ASAM FSX
- ASAM MDX
- ASAM LXF

Test Automation
- ASAM MCD-3 MC
- ASAM MCD-3 D
- ASAM XIL
- ASAM ACI
- ASAM ATX
- ASAM GDI

More details: http://www.asam.net/nc/home/asam-standards.html

TSC Project Controlling

YoY
- ‣ 3 Physical Meetings
- ‣ 2 WebEx Meetings
- ‣ ~20 Ongoing Projects

P2014-01_AE_MCD-1_XCP_Improvements-for-external-slaves-and-time-synchronization_BS+AS_V1-3-0_FVD
P2014-12_AE_MCD-1_POD-Driver_BS_V1-0-0_FVD
P2015-03_CAT_ODS_BS_V6-0-0_FVD
P2015-05_AE_OTX_Extension_FVD
P2015-08_CAT_ODS_Big-Data-Technologies_CONCEPT
P2015-09_AE_XIL_Crosstest_BS_V2-0-1_SOFT
P2015-10_AE_XIL_BS_V2-0-0_Maintenance
P2016-04_AE_MCD-1_XCP_DAQ-Improvements_BS_V1-4-0_FVD
P2016-06_AE_Study-on-Real-Time-ECU_Access_Concept
P2016-07_Common_MDF_Virtual-File-System-Server-for-ODS_Soft
P2016-08 MDF
P2016-09_AE_MCD-2_MC_BS_V1-7-0(1)_Main
P2016-10_AE_MCD-2_NET_FIBEX_BS_V4-1-1_Main
P2016-11_AE_ISSUE_BS_V3-2-0_FVD
P2016-12_AE_MCD-1_XCP_SW-Debug_AS_V1-0-0_FVD
P2017-01_AE_MCD-2_HEX_File_Management_Concept
P2017-02_AE_OTX_BS_V1-0-0_MAIN
P2017-03_CAT_ODS_BS_V6-0-0_MAIN

2016 - Release of First "Smart" Standards

Capturing Expert Knowledge for Faster and Secure ECU Calibration

2016

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Release
- ASAM MCD-2 CERP 1.0 — New Standard
- ASAM CPX 1.0 — New Standard

Cross Test
- ASAM XIL 2.0.1 MA-Port

Release
- ASAM OTX Extensions 1.1

ASAM Concept Projects
- Big Data Technologies for ODS

ASAM Ideation Projects
- Use Cases in Telematics
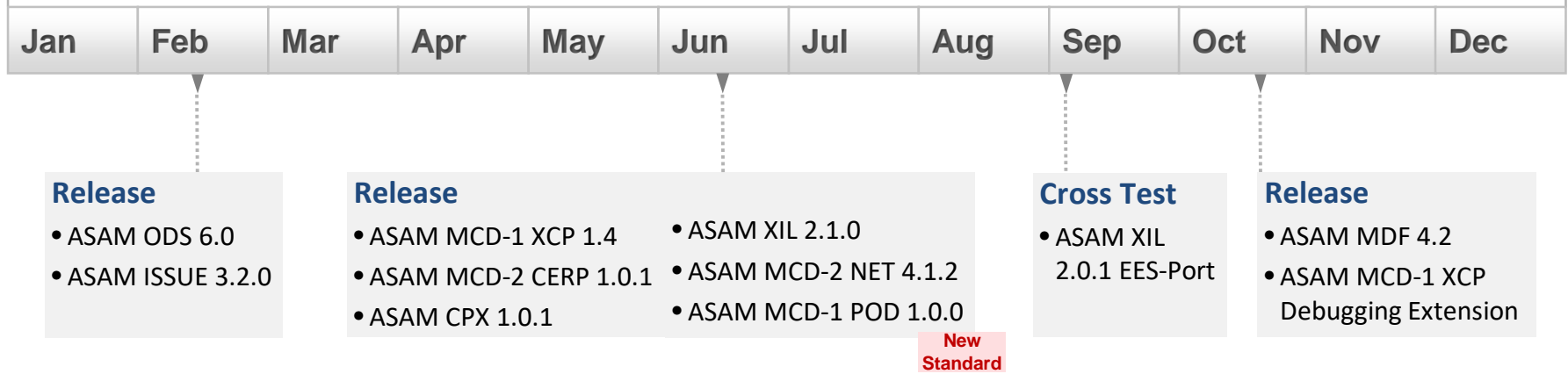
Study Projects in Japan
- Investigating applicability of ASAM MCD-1 XCP 1.3 and POD Access
- Interoperability Analysis of ASAM MCD-2 MC Tools
- ASAM ODS Use-Case Analysis and Problem Resolution Determination

2017 – Japan and North America Become Active

First Proposal from Japan for a New International Standard

2017

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Release
- ASAM ODS 6.0
- ASAM ISSUE 3.2.0

Release
- ASAM MCD-1 XCP 1.4
- ASAM MCD-2 CERP 1.0.1
- ASAM CPX 1.0.1

- ASAM XIL 2.1.0
- ASAM MCD-2 NET 4.1.2
- ASAM MCD-1 POD 1.0.0 **New Standard**

Cross Test
- ASAM XIL 2.0.1 EES-Port

Release
- ASAM MDF 4.2
- ASAM MCD-1 XCP Debugging Extension

ASAM Concept Projects
- Big Data Technologies for ODS
- Conceptual Study on Real-Time ECU Access API

First Projects from Japan
- ASAM MCD-2 MC 1.7.1
- HEX File Management **New Standard**

Joint EU/JP Project Group on ASAM MCD-2 MC

Goals: • Minor bug fixing, improvements and clarifications
- • Try out new collaboration methods for international project teams

Title: ASAM MCD-2 MC v1.7.1

Release: March 2018

Features

- Work on three CRs that originate from Japanese members
  - dependent characteristics can be used with multi-dimensional data such as curves, maps, etc.
  - two clarifications
- Work on 20 further CRs

Pilot Project for International Project Collaboration

- Meetings take place with professional video conferencing equipment
- Members prepare meetings with written proposals, ahead of time
- Internal document review at the end of project
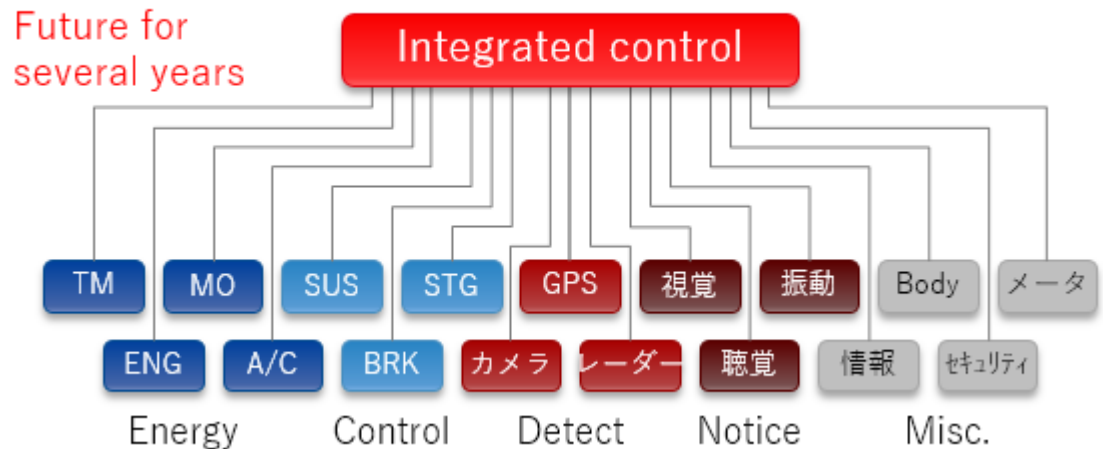
Concept for HEX-File Management

Goal: Systematically determine matching HEX-files of a complex E/E system

Title: HEX-File Management

Finish: April 2018

Problem

- Complex functional interdependencies between many ECUs
- Engineers work in different domains. They have problems to understand the status of development of the other domains.
- Which of the many versions of HEX-files for each ECU will work together in the test vehicle?

Complicated relation (e.g. autonomous car) *)

Future for several years — Integrated control

TM | MO | SUS | STG | GPS | 視覚 | 振動 | Body | メータ
ENG | A/C | BRK | カメラ | レーダー | 聴覚 | 情報 | セキュリティ
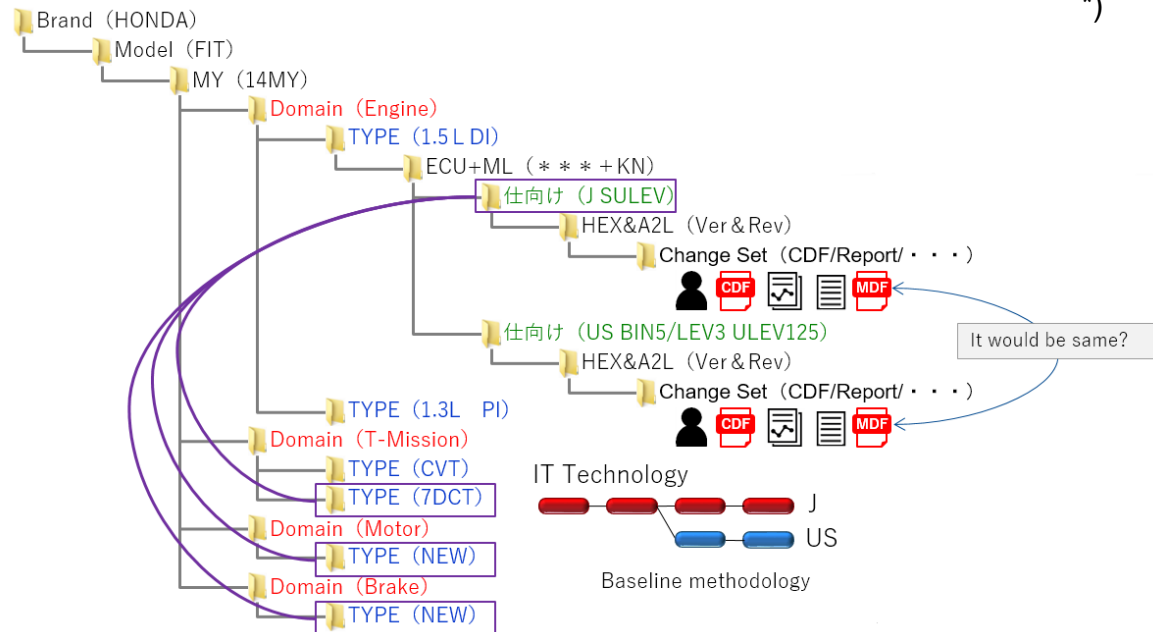Energy | Control | Detect | Notice | Misc.

Concept for HEX-File Management

Goal: Systematically determine matching HEX-files of a complex E/E system

Title: HEX-File Management

Finish: April 2018

Solution in Research

- Meta model, which contains development and test data related to the HEX-file

- Linking specification to internal and external data (e.g. to PLM system)

- Interface (e.g. API) between the HEX-file management system and external tools

- HEX-file identification, integrated in the flash file image

*) Diagram from Honda R&D

TSC's Continuous Improvements

‣ ASAM Project Proposal Template (New)
  ‣ Already positive Feedback of Workgroups using the new template

‣ Public Review Process using Adobe Review

‣ ASAM License Terms for Standards, Tools and Source Code

‣ Project Handbook
  ‣ Issue Resolution Process (New)

‣ Quality of ASAM standards

Stefan Romainczyk

National Instruments Corp. (Speaker of ASAM TSC)

Phone: +49 2408 1438 535
Email: Stefan.Romainczyk@ni.com