

ASAM ODS V6.2.0

Release Presentation

Hans Beckers
Peak Solutions

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Agenda

1 Introduction

2 Motivation for the new release

3 New features

4 Other changes

5 Backward-compatibility

6 Relation to other standards

7 Deliverables

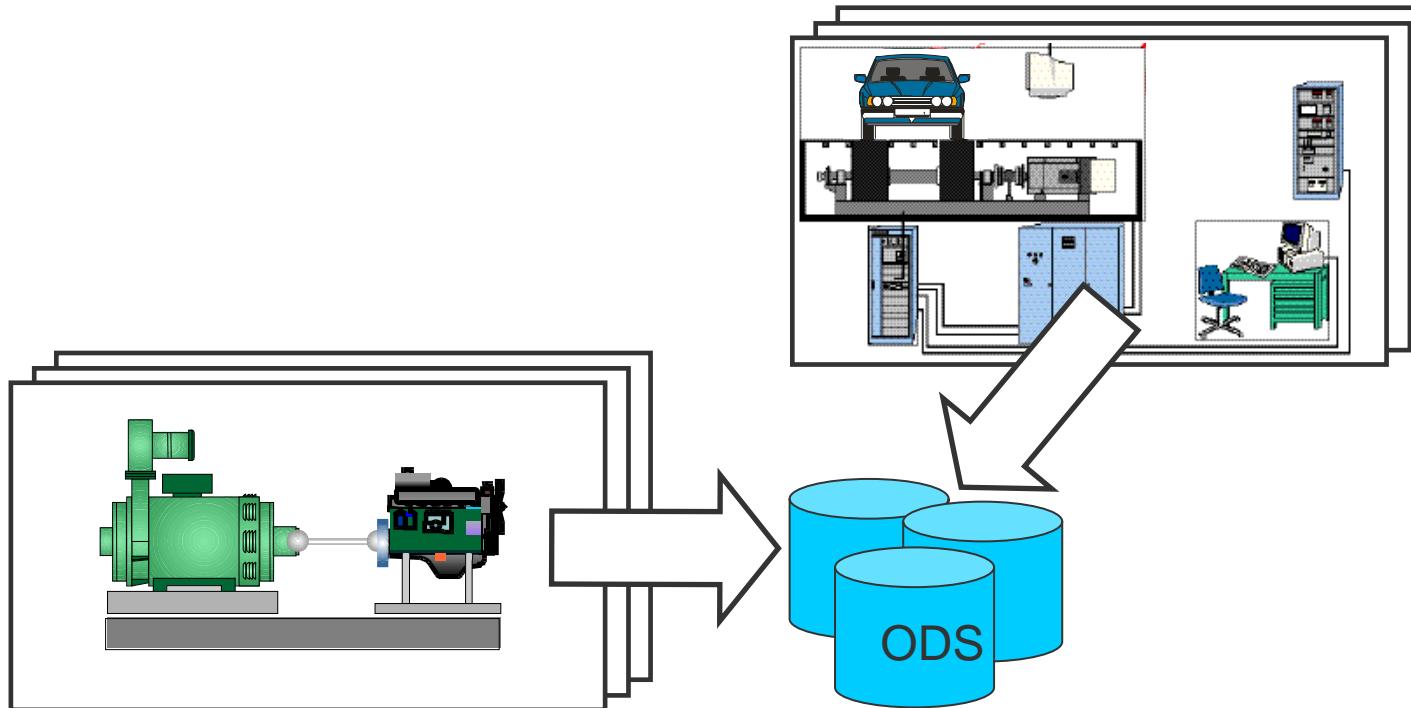
Introduction

This release of the ASAM ODS standard is a minor version.

- A new interface to use external data has been added.
- The application model of the associated standard “Instrumentation” to describe sensors and sensor geometries has been extended.
- Two requests for correction were settled.

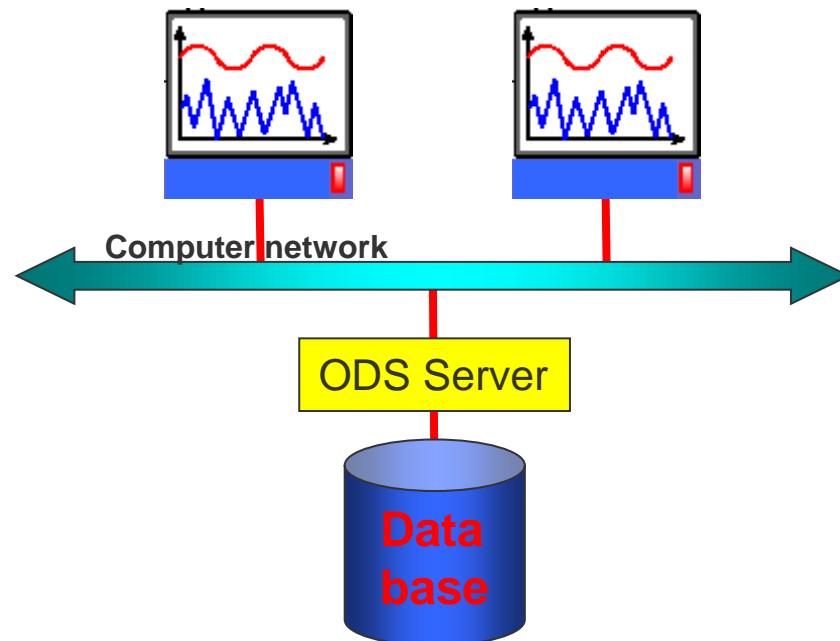
Introduction

- ASAM ODS is a standard for archiving test data persistently.



Introduction

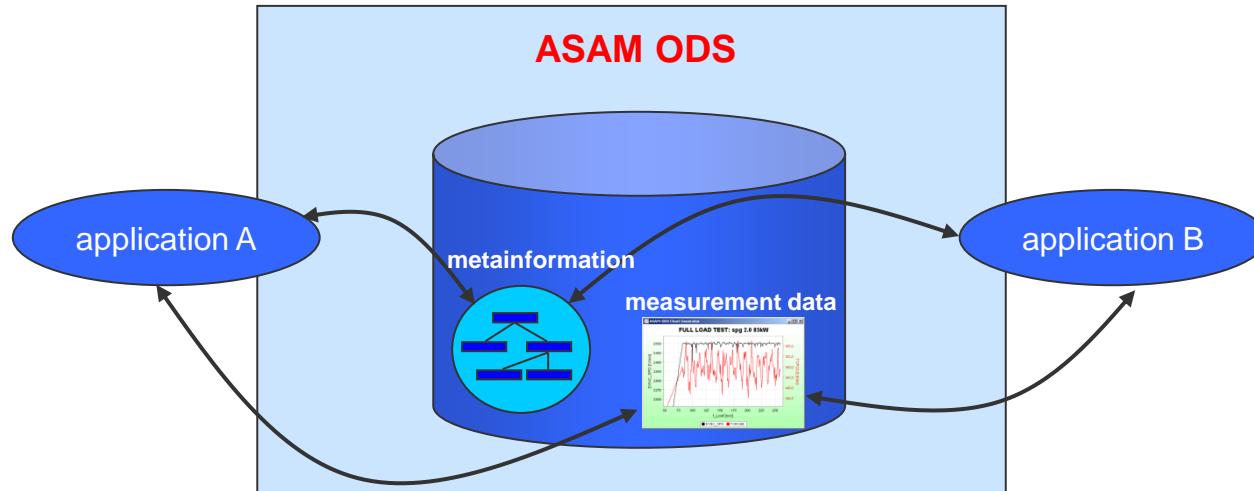
- ASAM ODS defines Application Programming Interfaces (API) for a server. The server is a front end to a traditional database.
- The server is accessible via a TCP/IP computer network.



Introduction

ASAM ODS defines

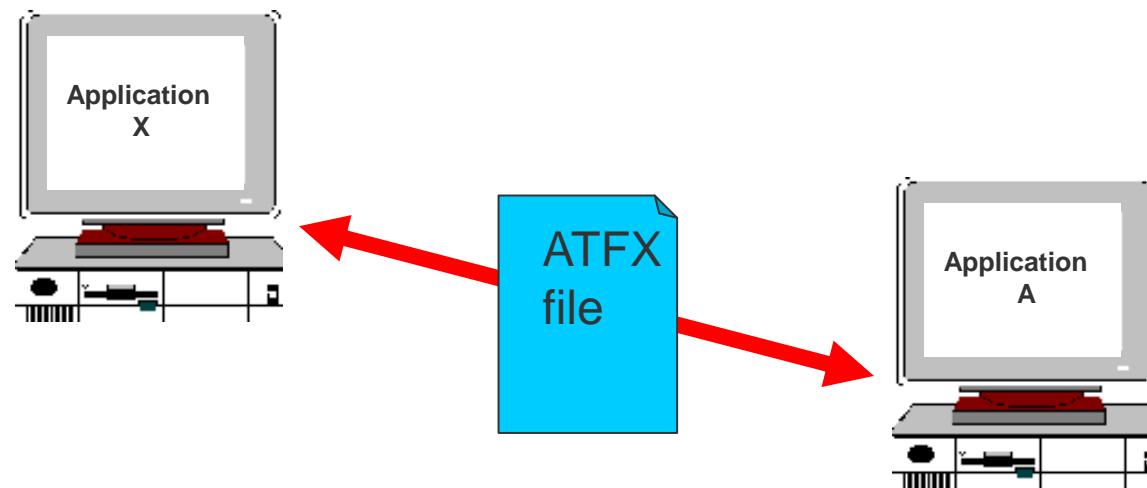
- a basic data model which can be mapped to customer specific applications (engine test, brake test, engine calibration, ... etc.)
- a meta data model enabling a client application to navigate through domain specific or application specific data structures



Introduction

ASAM ODS defines

- a file format for the exchange of test result data



Introduction

ASAM ODS

- defines data models for dedicated applications like
 - NVH data
 - Test stand calibration data
 - VSIM (crash test data model, provided by ISO)
 - Workflows
 - Geometry data
 - Bus data
 - Big data
 - Instrumentation (extended)
- supports gateways to foreign data formats
 - **New interface to external data**
- defines export of ODS data into Avro, JSON and Parquet

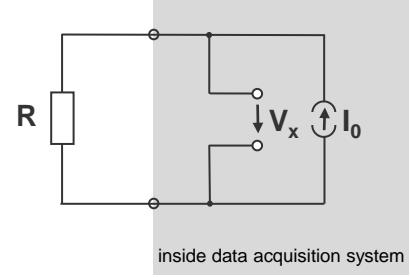
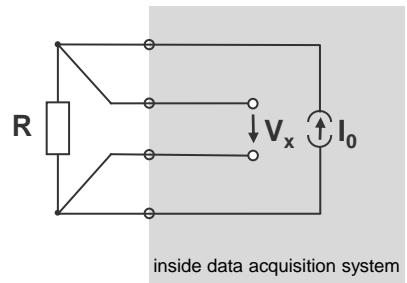
Motivation

1. The associate standard “Instrumentation” needed some extensions
2. Issues with ASAM MDF4 files as external references
Idea: Create a plugin concept for handling external data
3. CRs for the standard came in.

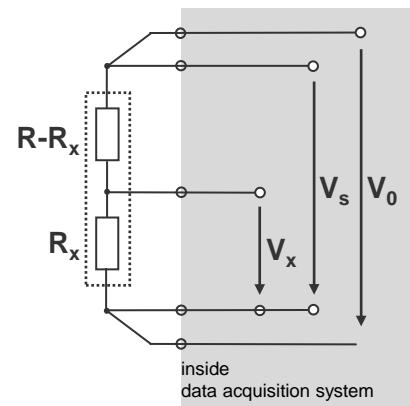
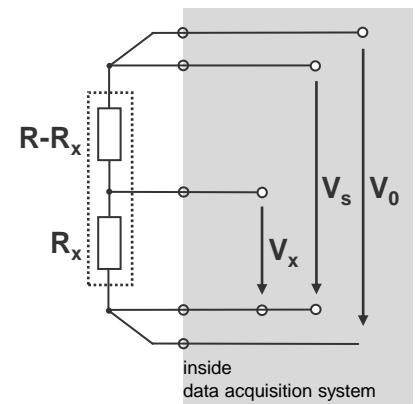
New Features

Extension of the Associate Standard “Instrumentation”

- new sensor type Resistance



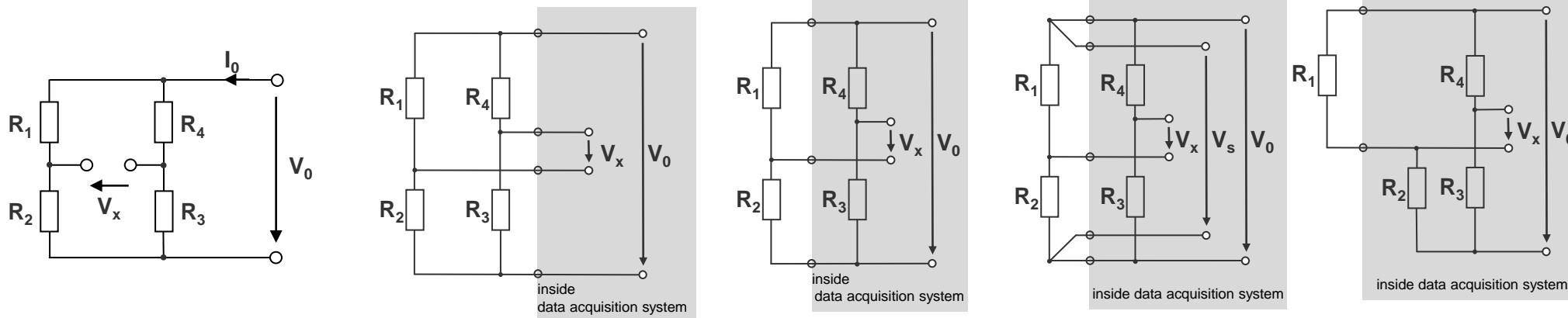
- new sensor type Potentiometer



New Features

Extension of the associate standard “Instrumentation”

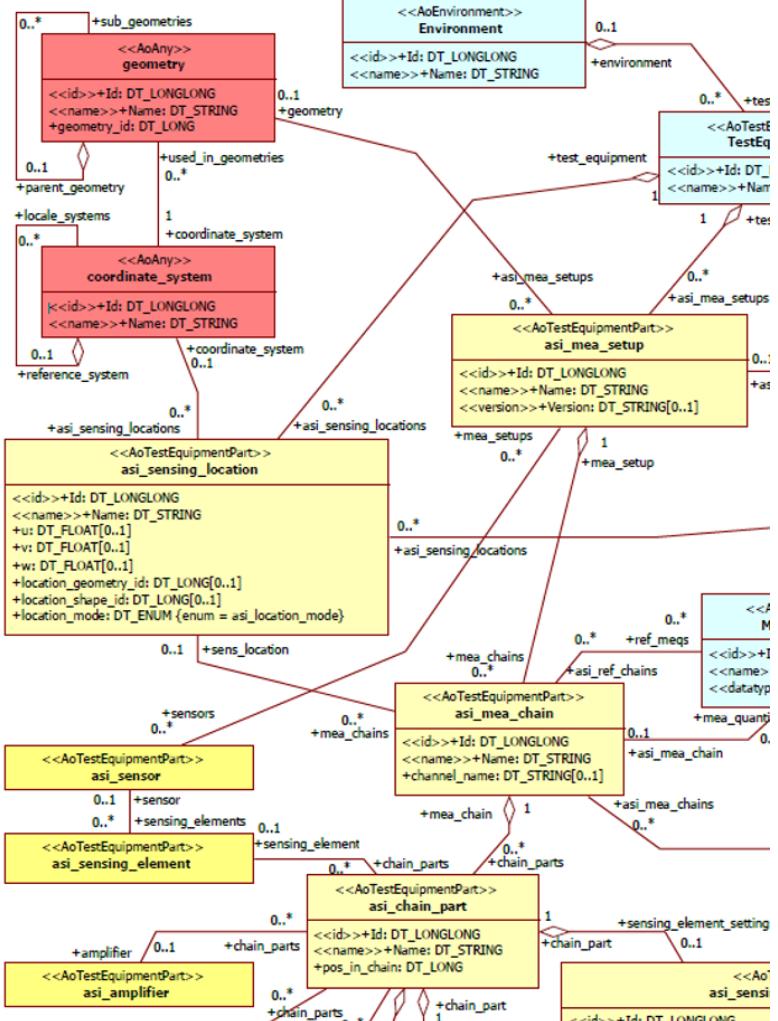
- Extension of the associated standard „Tacho“
- Wheatstone-bridge sensor types



- Storage of sensor locations by using the associated standard „Geometry“

New Features

Extension of the Associate Standard “Instrumentation”



Close Up

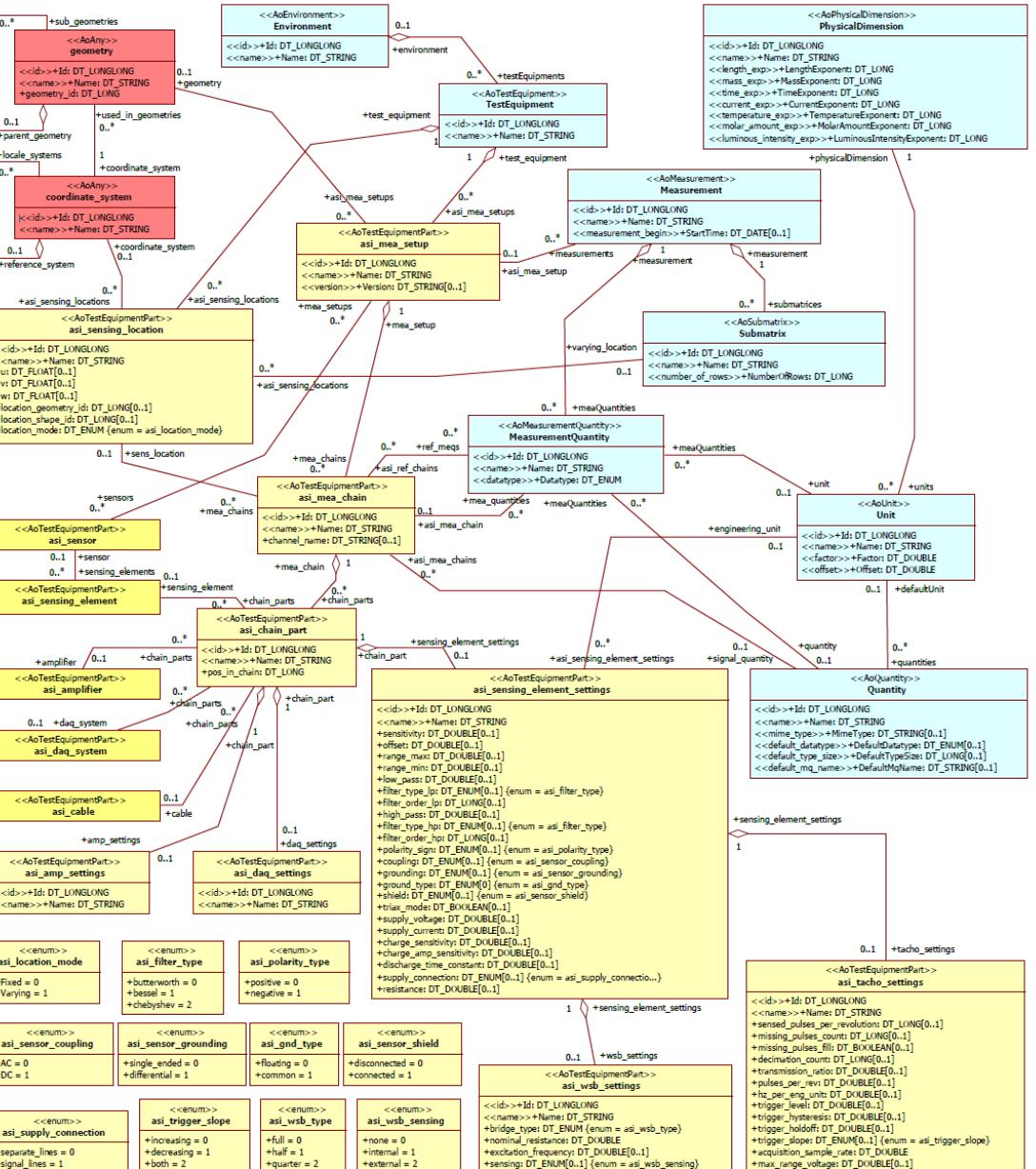
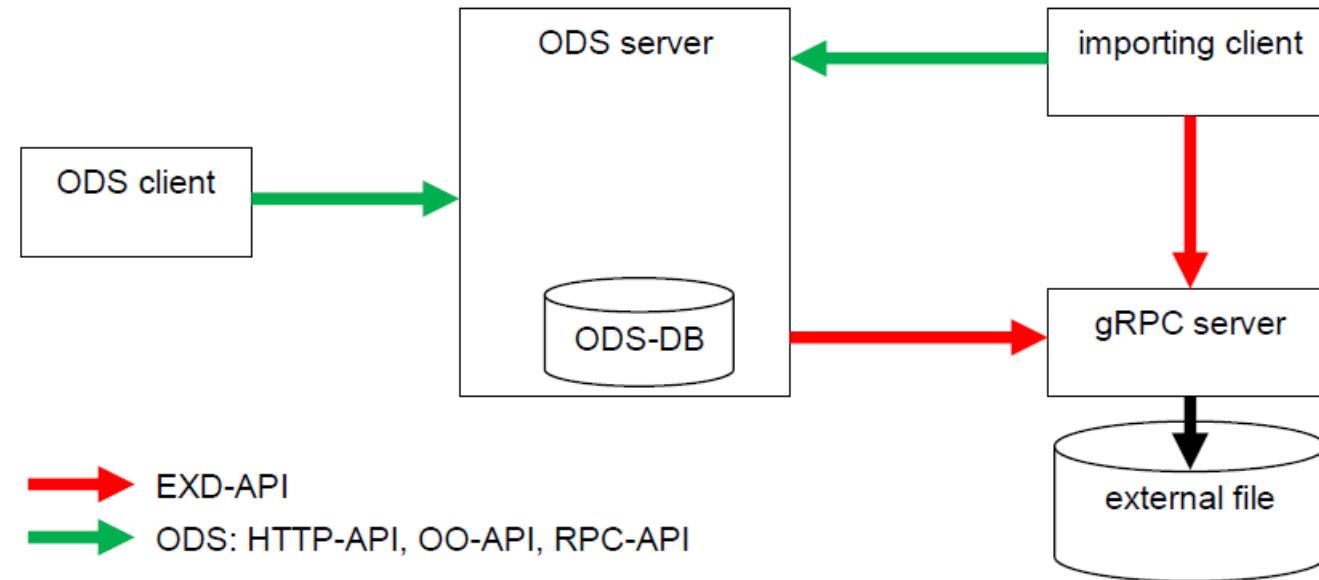


Figure 6 - Application model for the instrumentation settings

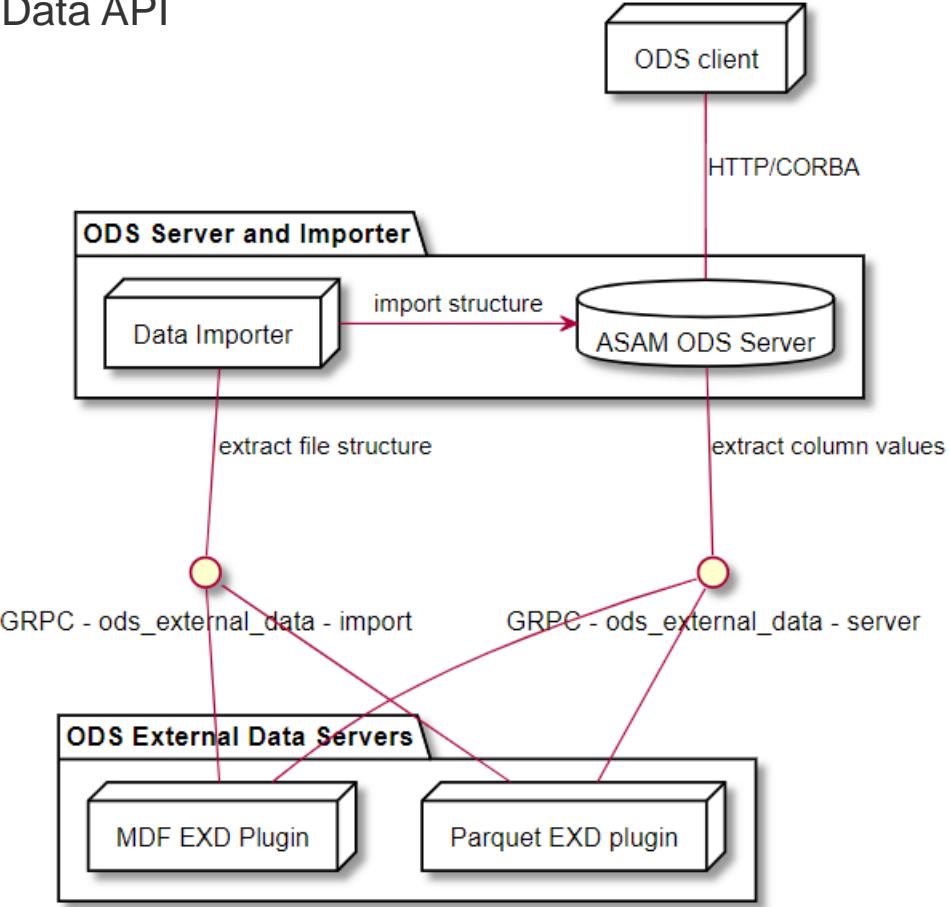
The External Data API

- The External Data API (EXD-API) is a programming interface, which allows to access mass data stored in external files of any type as long as an EXD-API implementation for such file type is available.
- Based on GRPC
- Only reading access is supported
- Chapter 9.5 of the ODS-base standard



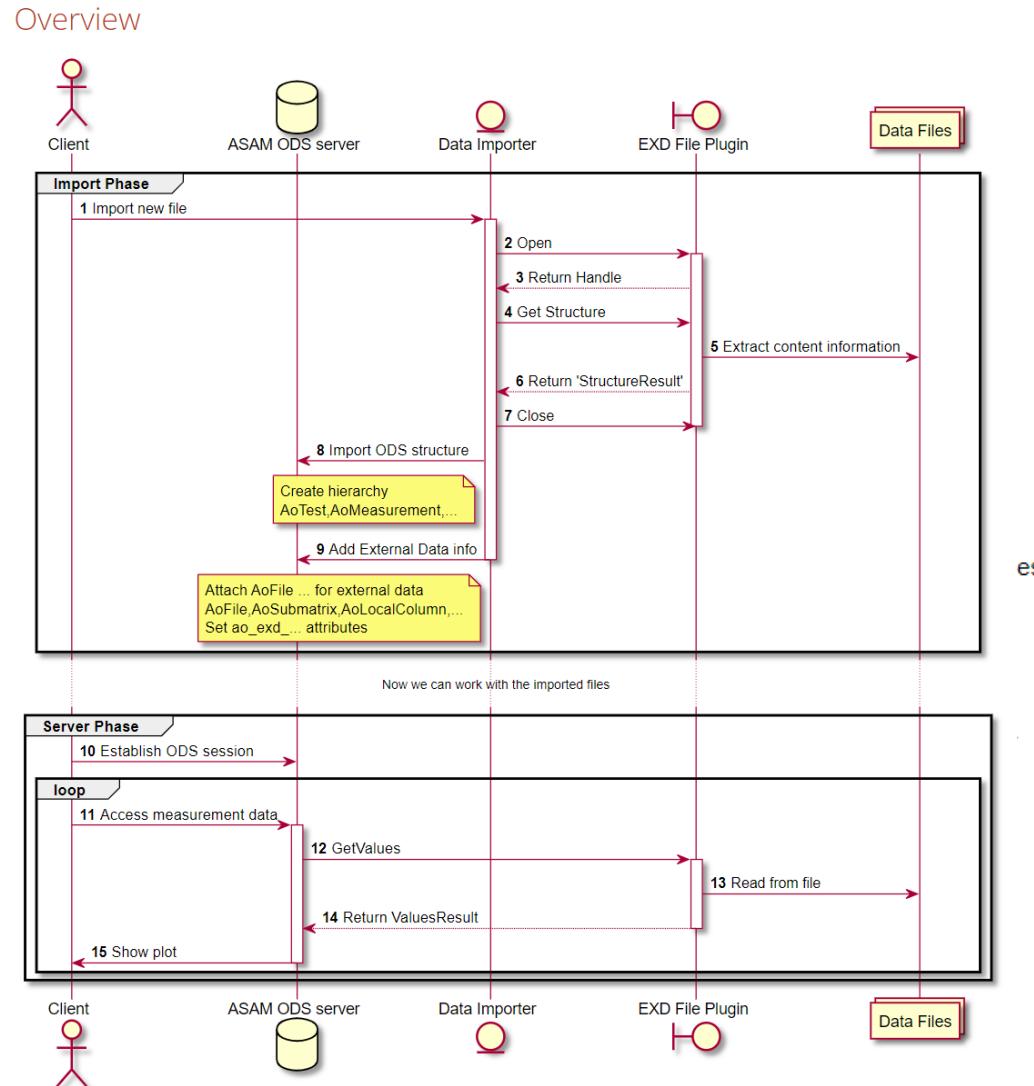
The External Data API II

Example with two plugins for the Extended Data API



The External Data API III

Flow diagram



Other Changes

Processed Change Requests

Number of processed CRs: 2

Checker	2
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More CRs will be solved in the
next maintenance project

Backward Compatibility

ASAM ODS 6.2 is fully compatible with the previous ASAM ODS 6.1.1 standard

Relation to Other Standards

ASAM MDF

ASAM MDF4 files can be used as external reference to be managed by an ASAM ODS mixed mode server or by an ATFX file.

ASAM MDF4-files can be referenced by the new external data interface.

Deliverables

Overview

- Specification incl. API description
- Appendix including related documents
- IDL description of API interface
- Definition of the structures for the GOOGLE Protocol Buffers
- Basic data model as step express file
- XML schema files
- Example ATF/ATFX files
- Example Query Code for CORBA Extended Query
- Example Code for HTTP
- Example Export Definition File
- Example Code for BigData Mass Data Export
- **Examples for using the External Data API (New)**
- Release Presentation

Deliverables

Base Standard Documentation

- ASAM_ODS_BS-01-15_Introduction_V6-2-0.pdf
- ASAM_ODS_BS-02-15_RelToOthers_V6-2-0.pdf
- ASAM_ODS_BS-03-15_Architecture_V6-2-0.pdf
- ASAM_ODS_BS-04-15_Base_Model_V6-2-0.pdf
- ASAM_ODS_BS-05-15_OO_API_V6-2-0.pdf
- ASAM_ODS_BS-06-15_RPC_API_V6-2-0.pdf
- ASAM_ODS_BS-07-15_ATF_XML_V6-2-0.pdf
- ASAM_ODS_BS-08-15_ATF_CLA_V6-2-0.pdf
- ASAM_ODS_BS-09-15_Physical_Storage_V6-2-0.pdf
- ASAM_ODS_BS-10-15_Mime_Types_V6-2-0.pdf
- ASAM_ODS_BS-11-15_HTTP-API_V6-2-0.pdf
- ASAM_ODS_BS-12-15_TermsDefinitions_V6-2-0.pdf
- ASAM_ODS_BS-13-15_SymbolsAbbrev_V6-2-0.pdf
- ASAM_ODS_BS-14-15_Bibliography_V6-2-0.pdf
- ASAM_ODS_BS-15-15_Appendices_V6-2-0.pdf

Deliverables

Base Standard Model and Interface Definitions

- Model
 - asam36.exp (Step-Express)
 - ODS BaseModel_asam36.xml
- CORBA OO API Interface Definition
 - ods531.idl
- RPC Interface Definition
 - aods.x
- Google Protocol Buffer Definitions
 - ods.proto
 - ods_notification.proto
 - ods_security.proto
 - ODS BaseModel_asam36.protobuf.json
- XML Schema Files
 - ASAM_HDTypes.xsd
 - HelperSchema.xsd
 - ODS BaseModel Spec Schema.xsd
 - Schema.xsd

Deliverables

Associated Standards Documentation

- Noise Vibration Harshness
 - ASAM_ODS_AS_NVH-Model_V1-5-3.pdf
- Calibration
 - ASAM_ODS_AS_Calibration_V1-1-2.pdf
- Geometry
 - ASAM_ODS_AS_Geometry_V1-0-2.pdf
- Workflow
 - ASAM_ODS_AS_Workflow_V1-0-1.pdf
- Bus Data
 - ASAM_ODS_AS_BusData_V1-0-2.pdf
- Big Data
 - ASAM_ODS_AS_BigData_V1-1-1.pdf
- **Instrumentation**
 - **ASAM_ODS_AS_Instrumentation_V1-1-0.pdf**

Deliverables

Example Files

Example ATF Classic File

- Example_ATF_CLA.atf

Example ATFX Files

- Example_AllTypes.atfx
- Example_Geometry.atfx
- Example_Bus.atfx
- Example_BusWithIndex.atfx
- Example_Simple.atfx
- Example_Workflow.atfx
- Example_CastTypespecs.atfx Example_CastTypespecs.dat
- Example_CommonTypespecs.atfx Example_CommonTypespecs.dat
- Example_NonNumbers.atfx
- Example_Instrumentation.atfx
- Example_DescriptiveData.atfx

Deliverables

Example Files

- Example Code Extended Query CORBA OO API
 - ExampleQueryCode.zip
- Example Code HTTP API
 - ExampleCode_HTTP.zip
- Example Export Definition File
 - Example_ExportDefinition_Simple.xml
- Example Code BigData MassDataExport
 - ExampleCode_BigData_MassDataExport.zip
- Example Code External Data API
 - Example_EXD-API.zip
- Example Data for the Big Data White Paper
 - BigDataWhitepaperExample.zip