

# quality & productivity improvements at bmw & siemens vdo by the use of asam ae container catalog

“We have chosen ASAM because of the competence for the automotive industry and we could use an already proven generic & standardized solution which fits to our needs.”

Helmut Wellnhofer

Automotive Powertrain

Siemens VDO

## i Summary

The Challenge was to improve the quality and productivity for the electronic information exchange in the context of shared & distributed software development between BMW and Siemens VDO Automotive - Powertrain, based on a tool independent solution.

The solution BMW and Siemens VDO Automotive - Powertrain came across was the use of the standardized Container Catalog XML schema from ASAM, in order to automate the import / export of version controlled file items (e.g. algorithm models, Software code, documentation).

The key benefits were found in the exchange process, including import / export to Configuration Management tools, where the software related sources are typically managed. This can be done by scripting, and will result into a totally automated exchange workflow, including a check of formal correctness of the agreed exchange policy.

## ii Situation

Previous to the ASAM based solution, there was mainly the use of email & shared drives for the electronic information exchange with all deficiencies — as typically no version information is attached to the single file items. In the case of complex software systems and inconsistency problems, it is difficult to analyze the work, as thousands of CM items have to be checked for the valid version either manually or by a dedicated scripting (e.g. file compare).

## iii Challenges faced

The common and highly dynamic software development between car makers and system suppliers leads to a dramatically increased frequency for the exchange of version controlled file items (e.g. algorithm models, Software code, documentation) with complex post-processing mechanisms.

In order to guarantee valid and consistent software deliveries, containing thousands of single version controlled file items, it is essential to exchange / identify / verify - automatically the valid file version. Typically the source of this information is stored in company specific Configuration Management tools and should be exported / imported for that reason, using a tool independent format.

The Container Catalog XML schema is able to transport the relevant Configuration Management information (e.g. version) and is able to act as a tool independent mechanism for the exchange of Configuration Management items between companies & Configuration Management tools.

## iv Success strategy

As ASAM-Automotive Electronics provided a proven generic solution for the electronic information exchange, BMW and Siemens VDO Automotive - Powertrain decided to use the Container Catalog for that purpose.

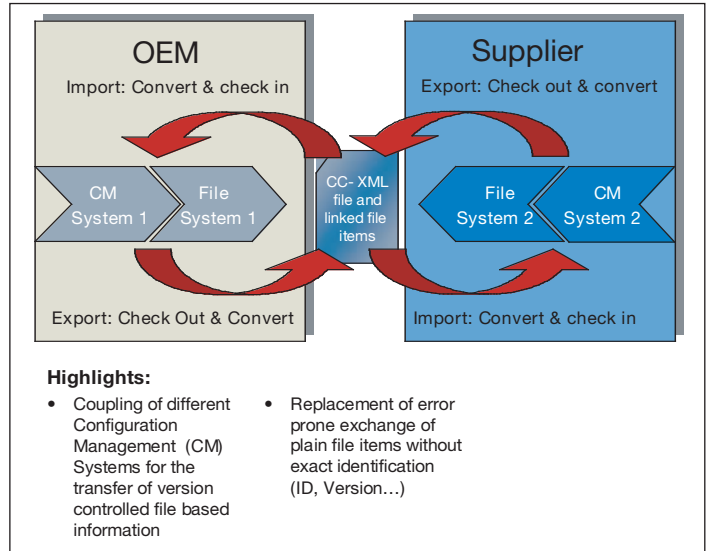
As the Container Catalog is able to support the exchange of any hierarchically organized file items including administrative information,

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the special use case for the exchange of software related file items was mapped within several process workshops to the generic Container Catalog XML schema. The supporting scripts were developed after specifying the exact usage of the Container Catalog for the exchange use case. No major difficulties occurred during the use case specification and the development of the corresponding scripts. Today the regular exchange of Software file items between BMW and Siemens VDO Automotive - Powertrain is fully based on the use of the Container Catalog.

### v Benefits

The main benefits of the Container Catalog based solution are quality & productivity improvements, as manual steps are avoided as much as possible.



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