

ASAM ODS maturing to a productive standard within the Audi research and development department

- i The Audi R&D department has been operating a large environment of physical testing equipment for many years. In general, the testing processes are spread over various organizational units and result in huge heterogeneous and distributed data resources of varying accessibility.

Caused by legal and market requirements, the demand and efforts for extensive testing and the related hard- and software inventory have grown steadily. As a consequence, Audi recognizes the inherent value data generated throughout the diverse process chains. The reuse of which should be made as extensive as possible:

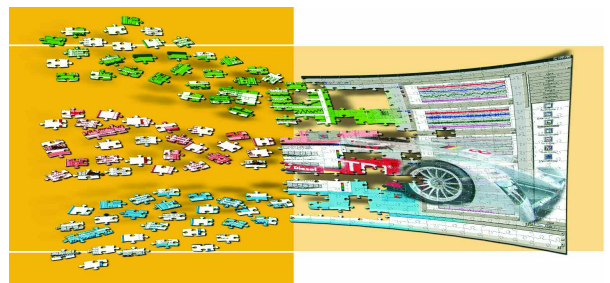
Therefore firstly semantic accessibility and classification, independency from vendor-specific encodings and awareness for reinterpretation by new methods and applications come into play as key factors for the value which can be realized by the reuse of the test data.

Secondly, the organizational units in their role as information supplier along the product development process and identifying data as a main product of their own, must be provided with an efficient and secure means of managing, handling and offering (i.e. publishing) their data on an enterprise level.

Thirdly, multi- domain knowledge and data must be integrated throughout the whole product development process in order to be highly competitive in efficiency, product maturity and quality.

Those arguments mentioned above, have lead the Audi R&D department to the decision to establish ASAM ODS as the central part of the test data management architecture. This decision is backed up by the acquisition of an enterprise license of an ASAM ODS Server and the in house controlled development and maintenance of a general, generic application model accompanied by a system components kit (Audi MDM application model and component kit).

The last two items are managed by the Audi CAT Methods department in an independent release and development process, taking into account the goal of system harmonization and process support based on a data centric and standardized approach. Step by step – mostly with the acquisition or renewal of test equipment – new domain specific and individual systems are built up using the corresponding components provided by the Audi MDM kit, replacing proprietary solutions.



In this context, several systems have been implemented or are under way. There are among others projects for the durability, the NVH and the component test domains. As the system configurations of productive systems

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more and more converge through standardization by the Audi MDM kit, operation and maintenance are simplified and gain higher levels of security and flexibility. System instances can more easily be reconfigured, reproduced and adapted to new use cases.

There are still more benefits. As the Audi MDM kit provides approaches and tools for the semantic enhancement of any data content, other methods working in similar parts of the product development process as CAT, can benefit from the higher information quality. The Audi MDM data model defines and reflects domain- specific methodology, knowledge and provider information for the reinterpretation by other domains. There are hooks for interfacing systems specific for them.

Domain administration specialists can express their technical statements or structure their domain specific data by using the generic features of the Audi MDM data model. The Meta information acquired in this way can be used after a certain time to restructure and update the whole data storage.

There is one important lesson learned throughout the last years: In order to realize the key benefit of ASAM ODS, it must be pushed by the pro- active application and the development of use cases driven by the end users, in this case an OEM of the automotive industry. Audi is going to put ASAM ODS step by step where it really belongs: Into the center of all testing activities as a platform suitable for information interchange on an enterprise level.

The dream of standardized and a priori compatible, “out of the box” but nevertheless leading edge CAT / IT solutions probably will remain a dream, if there is not a nucleus of stable, real life use cases on an enterprise level, driven and established by the OEMs for strategic, medium- term considerations. The scope a system vendor can gain, will always be limited by his economic and strategic interests, and is not necessarily convergent with the ideas of the end users. As a consequence, an end user should only expect a successful and beneficial application of ASAM ODS standards, if he takes control of the data / application model release and system architecture process on an enterprise level - as Audi does.

