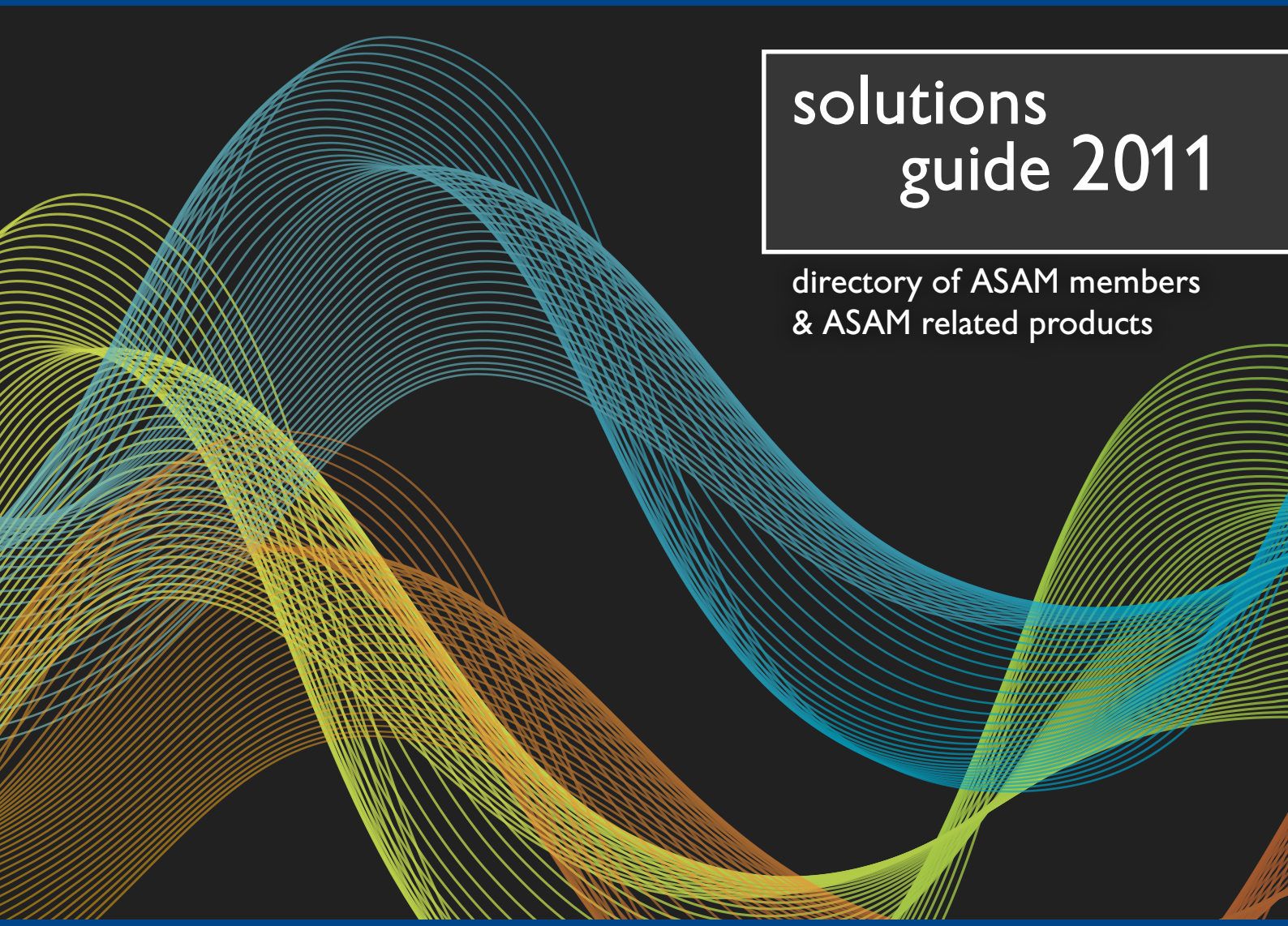
ASAM

association for standardisation of automation and measuring systems



solutions guide 2011

directory of ASAM members
& ASAM related products

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Association for Standardisation of
Automation and Measuring Systems
Altlaufstr. 40
85635 Hoehenkirchen
Tel: +49 8102 8061-60
Fax: +49 8102 8061-68
Email: info@asam.net
Website: http://www.asam.net

DEAR READER,

In the 2009 issue of our ASAM Solutions Guide, we talked about the global financial crisis within the auto industry, the scramble for new strategies, and the continued challenges that car companies are dealing with in trying to rapidly bring new technologies and features to differentiate themselves from the competition to sell cars. All these factors, including many more, drove our Board to look inwards at our core business strategy and initiate some deep discussions as to how we fit in with the business climate of today.

With the help of an outside consultant, ASAM was able to develop a strong Vision, which yielded the core Benefits ASAM provides. We think these are very important statements, as if we ever feel like we are straying from our track, we can continually come back and be reminded of what our intentions and purpose are.

The Vision of ASAM is strongly expressed in these four statements below:

WE ADD VALUE

ASAM is dedicated to create an engineering, testing and automation world where devices and software applications can be freely inter-connected and data can be seamlessly exchanged.

ONE OBJECTIVE – DIFFERENT PERSPECTIVES

As a non-profit organization ASAM addresses business needs of end users, their suppliers as well as service providers and research institutes in the area of automotive, transportation and related areas.

OUR CORE BUSINESS

ASAM provides a service environment based on development and maintenance of standards for data models, interfaces, and syntax specifications for a variety of applications including testing, evaluation, simulation and ECU development.

DIFFERENT PERSPECTIVES – SHARED VALUES

Co-operation within ASAM is borne by high technical understanding, task orientation, mutual respect, and high level engagement

The Benefits to ASAM members are stated within these four groups below:

For End Users, ASAM provides: Easy system integration (Plug & Play) for automating and measurement systems as well as control units; Exchangeability of systems (independent of manufacturer); and a Competition boost.

For Tool suppliers, ASAM provides: More marketing potential; The Ability to influence the standard with knowledge; Direct Marketing through the ASAM Solutions guide; and the Ability to minimize development costs due to standardized requirements of various OEMs.

For ASAM service providers, ASAM provides: Know how about standards; An Extended market range (e.g. data logger with ODS data base); A Door-opener to clients; and a Cost advantage due to limitation to one supported standard.

For Research institutes, ASAM provides: The opportunity to do industry-oriented research.

While these may be just words on paper, we also feel these statements will help guide our decision making processes in the future. While are not completely out of the water, as we head into 2011, things are beginning to look brighter! Membership is increasing, with more and more global OEMs, Tier1 Suppliers and Tool suppliers are coming to ASAM standardization as a solution for complex engineering issues. The time to join ASAM is now!

Best Regards,
ASAM Board of Directors
Manfred Keul (AUDI AG, Chairman of ASAM e. V.)
Günther Förstner (Elektrobit Automotive GmbH)
Puran Parekh (iASYS Technologies Pvt., Ltd)
Prof. Dr. Marcus Rieker (HORIBA Europe GmbH)

case studies

science + computing AG:

Web-based data selection and export tool for ASAM ODS data

"The complex selection criteria were a challenge but are the engineers major benefit."

(Florian Schmitt, Senior Software Engineer, SCIENCE + COMPUTING AG)

SUMMARY

Challenge: Engineers required an easy to handle interface for putting together selections of data on vehicle driving dynamics for manual or automatic analyses. An old software solution ought to be replaced by a web solution with enhanced functionality.

Solution: The web-based ASAM ODS navigation framework "CatWalk" by HighQSoft was customized to implement a web based application that accesses the ASAM ODS database. Additional features were added to implement data preview functionality, complex selection possibilities and an interface to analyses.

Key Benefits: Data handling is much more comfortable now, more reliable, much faster and more complex selection criteria can be used. Efficiency is increased by the direct interface to manual and batch driven analyses.

SITUATION

At a German OEM, measurement data on vehicle driving dynamics are stored in an ASAM ODS database, which was developed with ASAM ODS pre v3.0 and is in use for more than 10 years. The software for controlling the test rigs and for measuring has been replaced by modern software and the ASAM ODS standard has been migrated to V5.1 in the last years by science + computing ag. The original tool for exporting data for offline data analysis however was still in use.

CHALLENGES

The old export tool could no longer be supported as there existed no documentation, and parts of the software implementation were not documented well. Therefore the software could not be adapted to new requirements economically and all programs that accessed the database had to consider the existence of the old export tool, the structures and non standard tables in the database.

SUCCESS STRATEGY

Various tools and solutions were compared in a consulting project including the programming from scratch approach. It was decided to use the "CatWalk" framework by HighQSoft with its layer of standard ASAM ODS communication to generate a flexible web-based tool. Some additional features were implemented on top of the framework to create an application that fits the needs of the customer:

- A dynamic chart view for plotting any channel on any axis for a fast preview.
- A complex interface to search for data.
- Tree view and detail view were customized to be freely configurable by users.

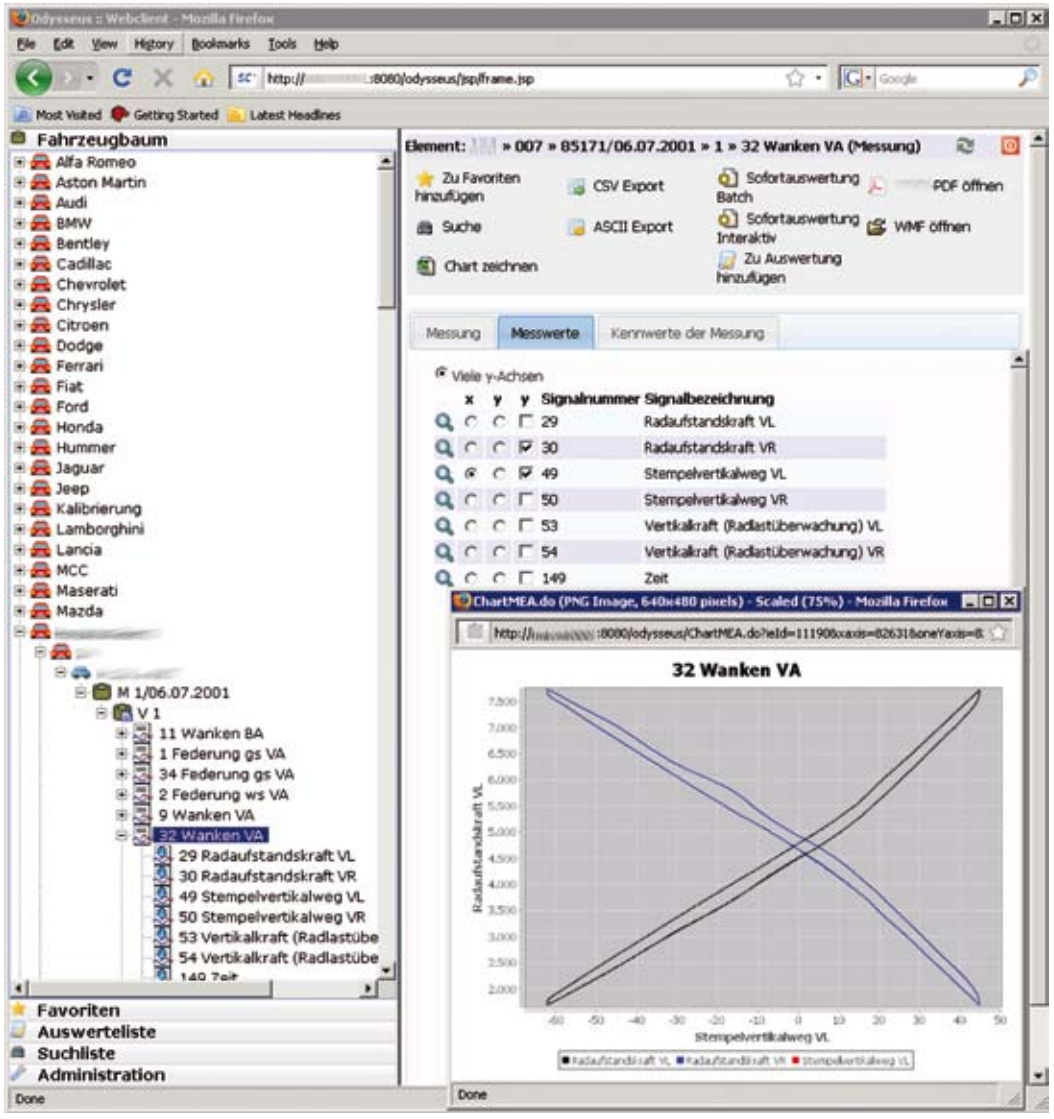
Collections of data can be gathered by the engineers, can be saved and handed over to various manual or automatic analysis methods. Statuses of automatic analyses can be tracked in the application.

CHALLENGES DURING THE PROJECT

Requirements of the engineers turned out to be more complex than was thought in the consulting phase. Therefore more adaptations on the framework and the browsing application had to be implemented than were expected in the beginning. Slow performance of the web interface was a topic and some optimizations had to be made on client side as well as on server side to speed up the application.

BUSINESS BENEFITS

Due to the powerful search engine and the fast data preview function, engineers are able to gather their collections of data more quickly, much more comfortable and with higher reliability. The direct interface to the various manual and batch driven analyses helped to increase efficiency. The web based software requires no installation at the clients. It is supportable and expandable and will be compatible with further versions of the ASAM ODS standard.



A screenshot of the application

case studies

science + computing AG:

Tool independent storage of NVH data

"The use of ASAM ODS, its NVH standard and the use of the openMDM framework allowed us to develop an application in half a year."

(Christoph Haas, Team Leader CAT software development, SCIENCE + COMPUTING AG)

SUMMARY

Challenge: NVH measurement data needed to be stored independent of the tool they were produced with, to allow processing of this data with any tool, even tools that will be available in the future. Online storage space must be available for new result data with constantly growing sizes, while huge amounts of old data needed to be stored.

Solution: Data is stored in an ASAM ODS database using the NVH standard. Old data is automatically removed from online storage, stored on tape and can be recalled by the user when it is needed.

Key Benefits: Data is stored independent of the NVH application and can be found across the whole NVH centre. Online storage space is available at all times, old measurements can be stored forever and are available in a short time when the user needs them.

SITUATION

The project started in 2006, at a huge NVH development centre at a German automotive OEM. science + computing ag was involved from the beginning, consulting on data management topics, designing the target system, building the whole system, programming the data management application and running the whole system.

CHALLENGES

Due to the sampling of more concurrent signals and due to switching to 24-bit sampling devices, the amount of NVH data is growing to extremes since 2007. Comparison data from older development cycles and products need to be available immediately, for a long time. This leads to an extreme growth of storage space. These storage demands needed to be satisfied by concept for evermore.

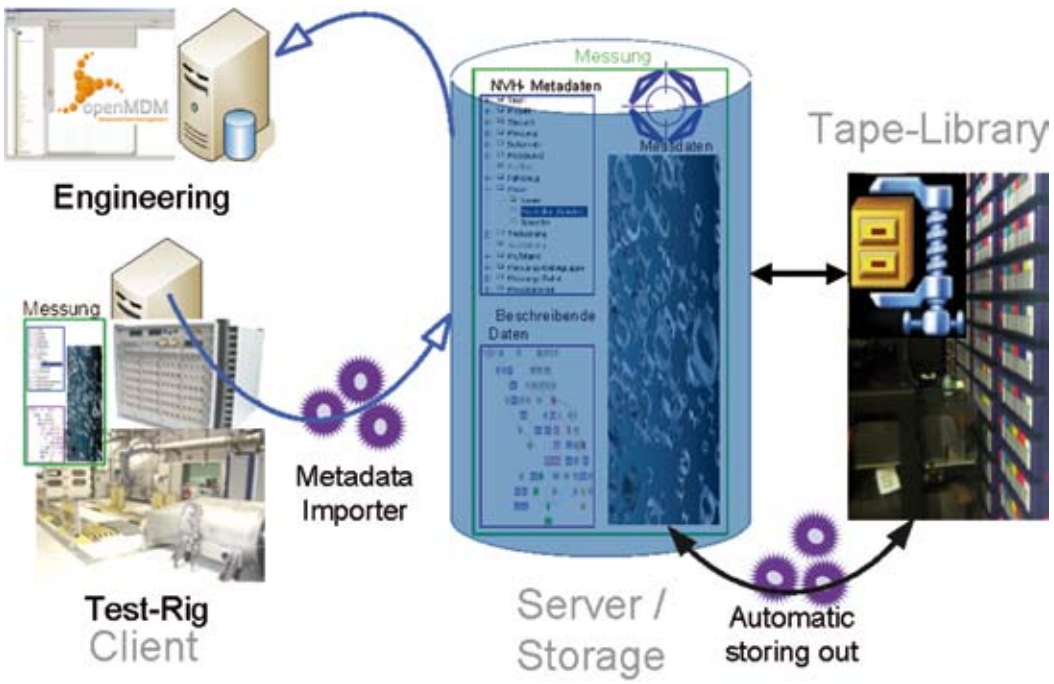
Data will not be readable anymore at some time as the measurement and engineering tools change over time. A tool independent storage format needed to be found that is a persistent and approved standard.

SUCCESS STRATEGY

An application independent format was implemented to store the data, the ASAM ODS NVH standard. A tape library allows storing the older data on a cheap and reliable media without wasting expensive online space. Automatically moving data from online storage to tape, releases the engineers from caring about their data. They can manually move the data back into online storage whenever they need it.

CHALLENGES DURING THE PROJECT

A complex system with many functions needed to be developed in short time. The ASAM ODS NVH standard helped very much in the definition of the format, as many NVH tool suppliers mostly implement the standard. The openMDM framework (www.openmdm.org) with its application model that can hold very different data (i.e. very different units under test) and its ready-to-use application elements allowed us to implement a first, basic application in less than half a year.



Concept of the system showing basic components

BUSINESS BENEFITS

Through the shared database, engineers can find all data measured in the NVH centre and can use them. Thereby a stronger integration of the different NVH disciplines was achieved. Automatic housekeeping on the online storage released engineers from caring for storage space and from securing their data. They gained time for their actual task, the engineering process. The standardized, tool independent data format allows the use of different tools in the engineering process. For each task the tool that best fits the needs of the engineer can be used and better results can be achieved.