The Extended Vehicle (ExVe) – New Standardization Project ISO 20078
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The Extended Vehicle (ExVe) – New Standardization Project ISO 20078

Agenda

1. What are the additional Benefits of Diagnostics and Telematics?
2. Which are the specific Questions that have to be solved?
3. Three different Types of Access have been discussed
4. The Extended Vehicle – New Standardization Project ISO 20078
5. First Implementation Proposal of the Extended Vehicle
6. Extended Vehicle Outlook
What are the additional Benefits of Diagnostics Data and Telematics?

The diagnostics supports the data and the telematics supports the access for the customer, the vehicle manufacturers, and 3rd party stakeholders!

* source: Symposia, Technical Press, and common Press or Journals
Which are the specific Questions that have to be solved?

While realizing established use cases or upcoming ideas, the questions of customer’s data rights & privacy, data security, vehicle data access, and vehicle data representation have to be tackled.

How is the customer bounded?
The right and a (software) tool for the customer to control his vehicle and private data in his manners.

How secure is the data connection?
Ensuring that an End-2-End Security (manipulation and controlling rights) is given.

How is the access to the vehicle designed?
Definition of the vehicle access, by which technology is the vehicle accessed in which case.

How is the data provided?
Definition of the (vehicle) data structures, that are available by the vehicle electronics and are processed for the customer.
Three different optional solutions concerning vehicle access have been discussed so far.

The OEMs prefer the “Extended Vehicle” in order to provide a reading and especially secure a future writing access to the vehicle by different stakeholder!
**The Extended Vehicle**

**New Standardization Project ISO 20078**

1. **ExVe Content**: Defining the data content by a human readable data format; e.g. XML.
2. **ExVe Access**: Defining the mechanism to read and alter data; e.g. https by WWW.
3. **ExVe Security**: Defining an end-2-end security mechanism; e.g. a timed certificate for each vehicle.
4. **ExVe Control**: Defining the customer portal; protection of data privacy and OEM's representation.

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**Extended Vehicle (ExVe)**
- vehicle, telematics unit, radio link, data, access, control, security, logs, back ends.
First Implementation Proposal of the Extended Vehicle to enable 3rd Party Stakeholder to access

Customer …
• is in Control of the Data Transmission and has, therefore, the free Choice who can access which parts of his vehicle data; e.g. Remote Diagnostics Support.
• receives Safety and Security by the Vehicle Manufacturer (OEM) and by each Independent Operator (IO) by state-of-the-art Telematics.

Independent Operators …
• can apply their specific Customer Relationship Management (CRM).
• are free in Case of Data Processing, e.g. big data analysis, ….
• can implement their own Applications and Web Services for their customers.

Vehicle Manufacturer …
• provide a non-discriminating Access to any 3rd party by the Extended Vehicle.
• assure a secure and safe Data Connection between each vehicle, the OEM telematics backend, and the IO telematics backend.
• are enabled to provide Road and Passenger Safety to their customers in order to secure Product Liability as well as Product Branding and Image.
• are looking forward for a fair Cost Compensation by providing Data Access.

Server-2-Server intercommunication allows for any connected 3rd party stake-holder to handle data due to his own manners, e.g. apps, web services, or analysis.

* VPN: Virtual Private Network

Extended Vehicle Outlook

Standardization of the Extended Vehicle will start within January 2015

- Data **Content** description in abstract manners (e.g. XML) – standardization is in discussion; e.g. diagnosis data content by new standardization project ISO 20080: “Remote Diagnostics Support.”
- **Access** Communication Protocol (e.g. http) – usage of already established technologies is targeted for access.
- **Security** Concepts (e.g. https, SSL) – have to be established, verified and worked out.
- Customer **Control** (e.g. portal) – data rights and data protection are in common discussion.

Future Applications by different Stakeholders might be adapted to ExVe

- **Implementation** of applications and web services **by Several Stakeholder** will be possible and based on already established or currently developed OEM telematics systems.
- Simultaneous **roll out to connected Vehicles** that are yet in market.

Benefits and Motivation of the Vehicle Manufacturer

- Guarantee of **Product Liability** and **Data Privacy** (duty to taking care for data rights).
- **Assuring Branding and Image** of the manufacturer products.

Future Potentials

- **Linking of related (telematics) Systems and Infrastructures** (e.g. car-2-X, traffic mgmt.)
Thank you for your attention.
For sure there are questions!?