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Müller-BBM VAS & Siemens openMDM® Strategy

openMDM® Annual Meeting, 25 July 2017

Historical Situation

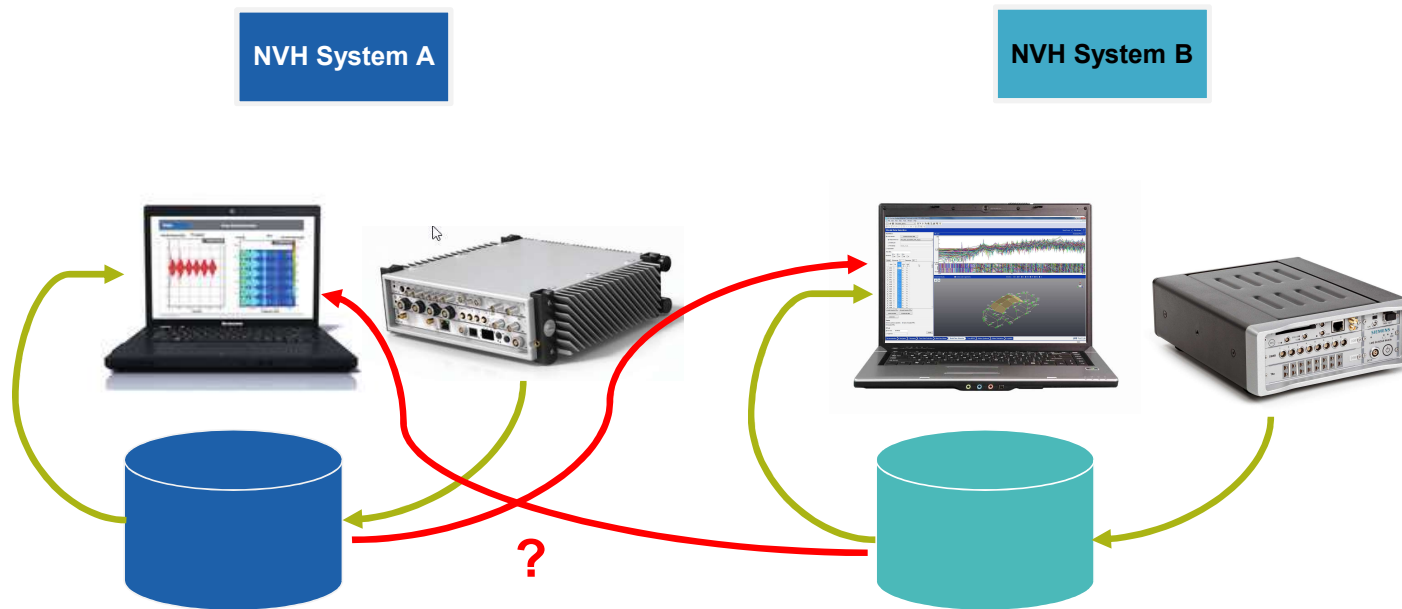MÜLLER-BBM
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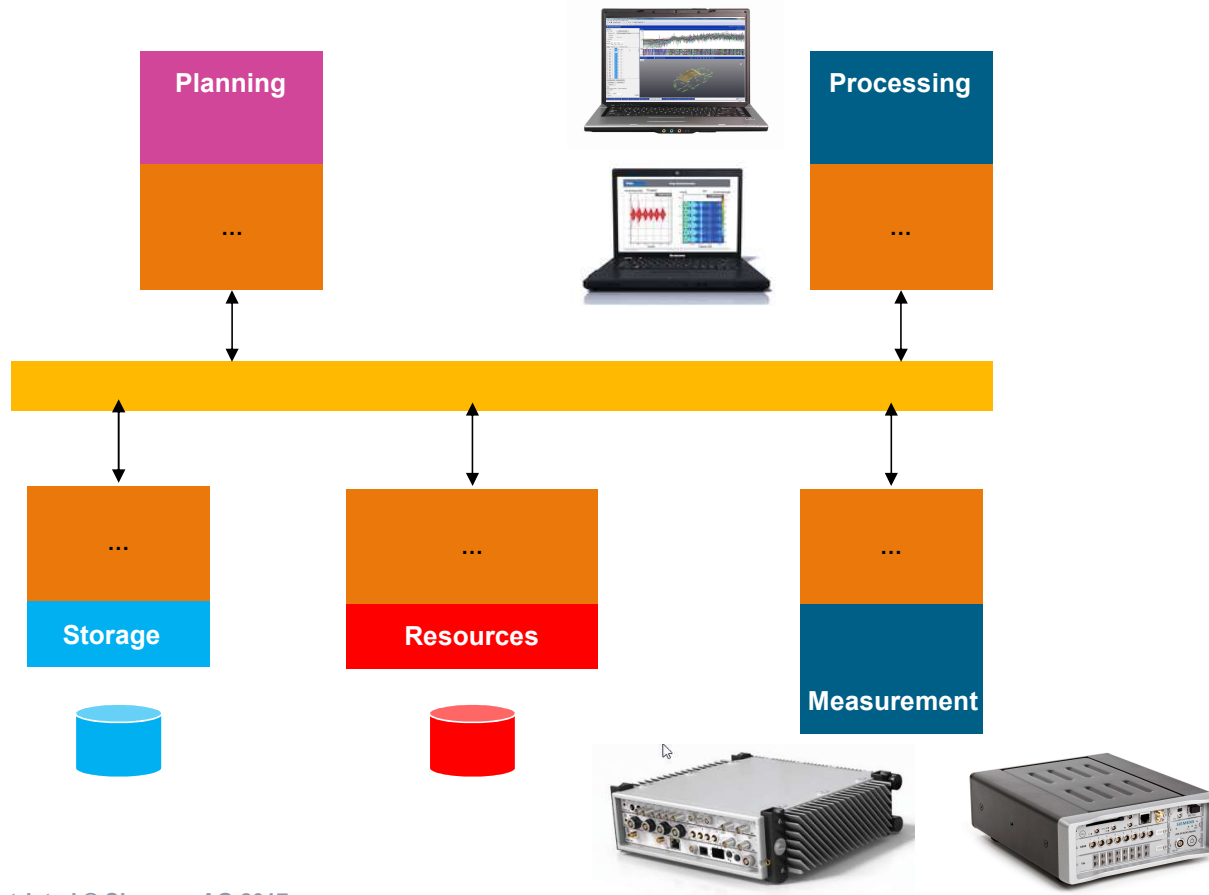**NVH System A**

NVH System B

?

Every NVH Authoring System uses its own proprietary format

- Processing of data measured with another system difficult to impossible
- Exchange via "neutral" file format results in inefficiency due to extra time needed and loss of information

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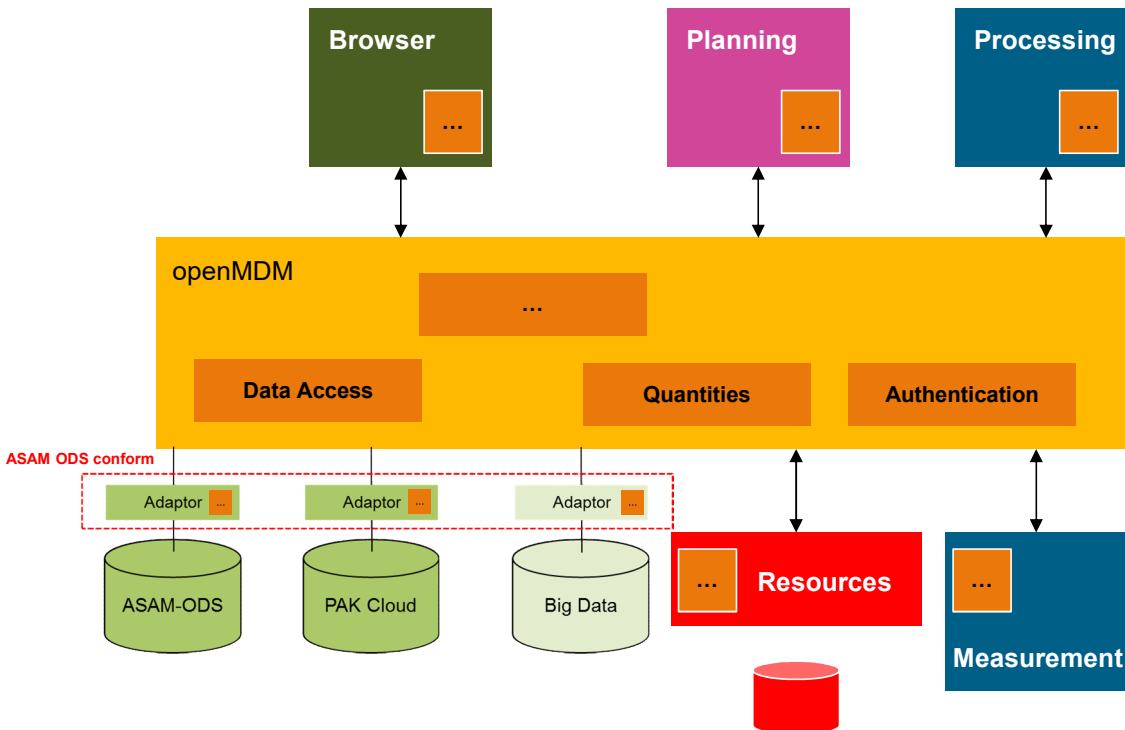
Solution with openMDM® 4

- After data acquisition, data are sent to the central database in ASAM ODS format
- Any NVH authoring tool can be used to process & analyze data, whatever data acquisition system they have been generated with
- As shown by means of orange color, openMDM® 4 has as drawback that modifications are required to the measurement and processing tools in order to make them openMDM®-compliant. These modifications can be different per installation (department/customer)

Solution with openMDM® 5

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openMDM® 5 = Layer of Middleware

- Modifications to data acquisition and data processing solutions are standardized, independent form installation/customer
- This results in higher quality and better performance
- Common concerns and operations such as security, quantities, etc. can be handled centrally in a unified way, independent from the authoring tools
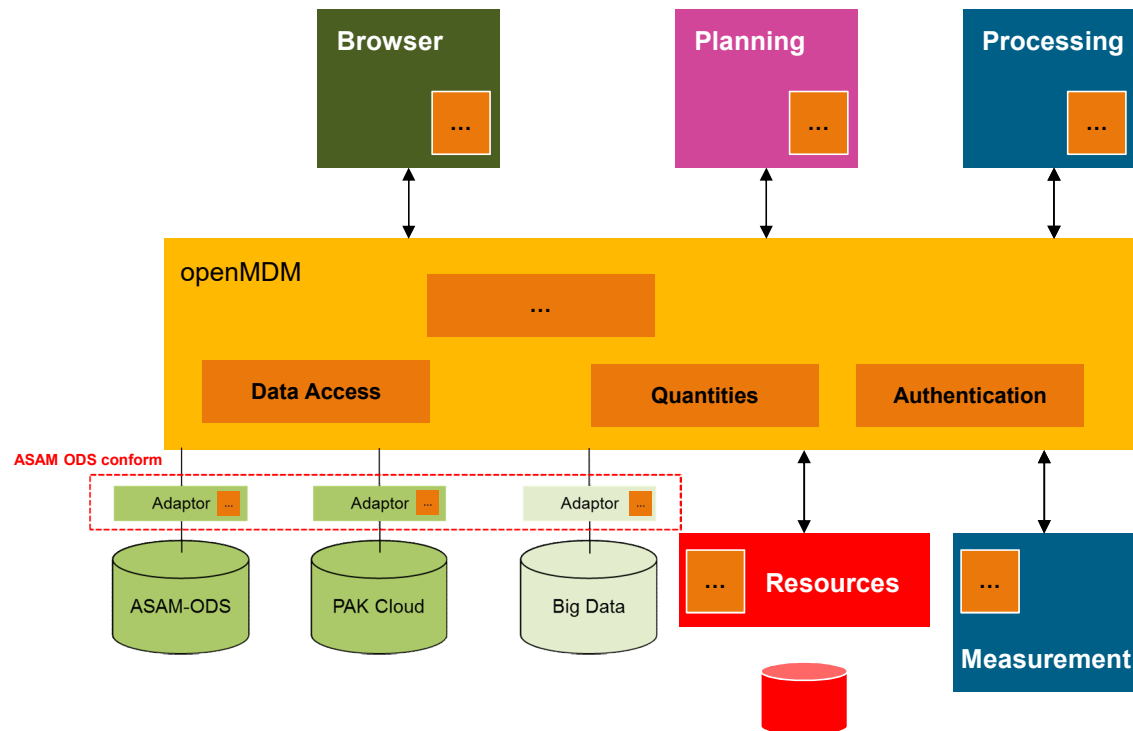
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Solution with openMDM® 5

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Siemens & Müller-BBM VAS identified the following areas to be investigated:

1. Authentication
2. Physical Quantities/Units
3. Performance for large data sets
4. Measurement locations
5. Sensor data
6. Data storage – ASAM ODS 6

Siemens and Müller-BBM VAS will:

- Cooperate with Automotive OEM customers to agree on use cases
- Write clear specification documents for components to be developed
- Have a service provider doing the coding
- Manage their ODS sources

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Current Status

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1. **Authentication & Roles**
   - All input taken from OEMs
   - Project started with CANOO
   - Solution proposal prepared & accepted by AC & SC
   - Next step is prototype implementation
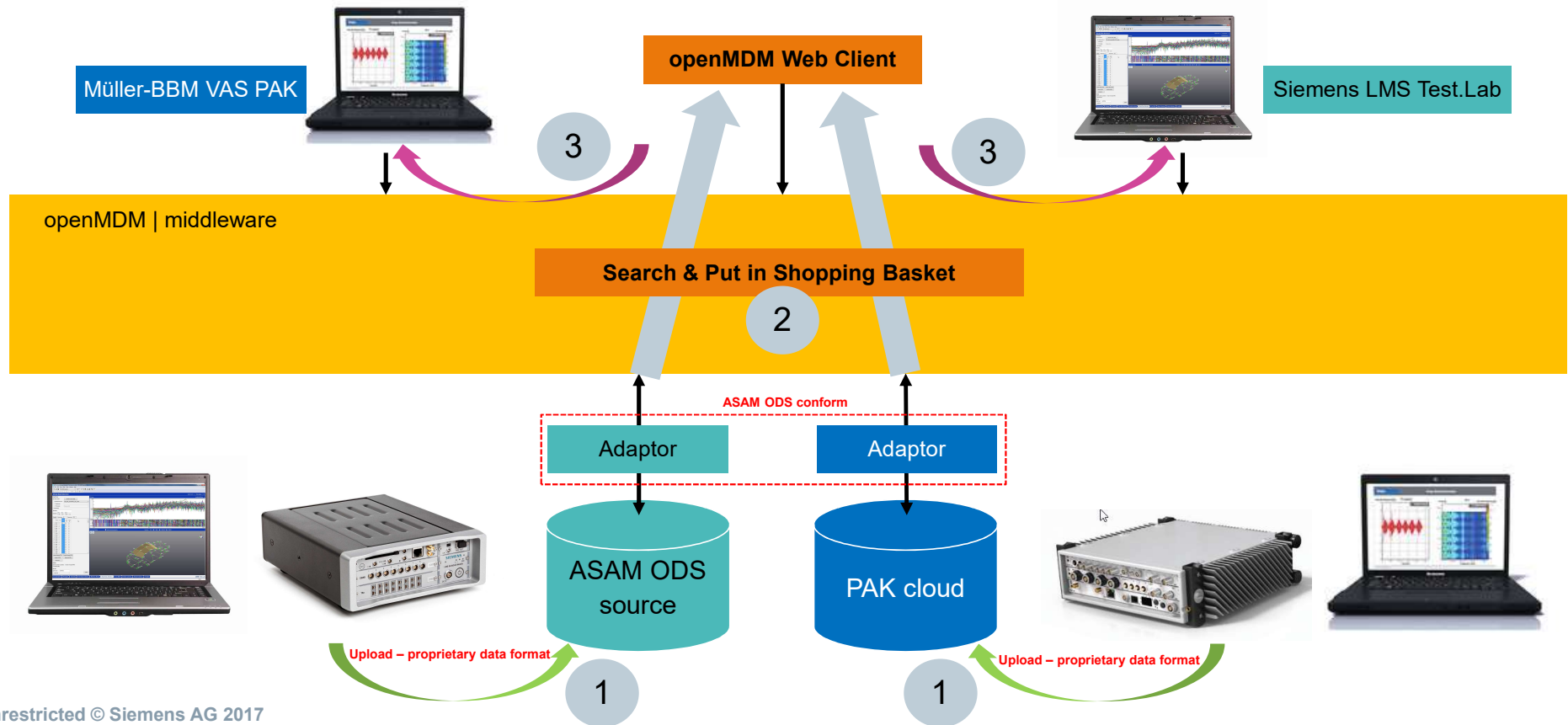
2. **Quantities & Units**
   - Technical discussion initiated between Müller-BBM VibroAkustik Systeme and Siemens

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Round Trip Demo Environment

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As a next step, Müller-BBM VAS and Siemens propose to set up a demo environment for "round trip testing"

Müller-BBM VAS PAK

openMDM Web Client

Siemens LMS Test.Lab

3

3

openMDM | middleware

Search & Put in Shopping Basket

2

ASAM ODS conform

Adaptor

Adaptor

ASAM ODS source

PAK cloud

Upload – proprietary data format

Upload – proprietary data format

1

1

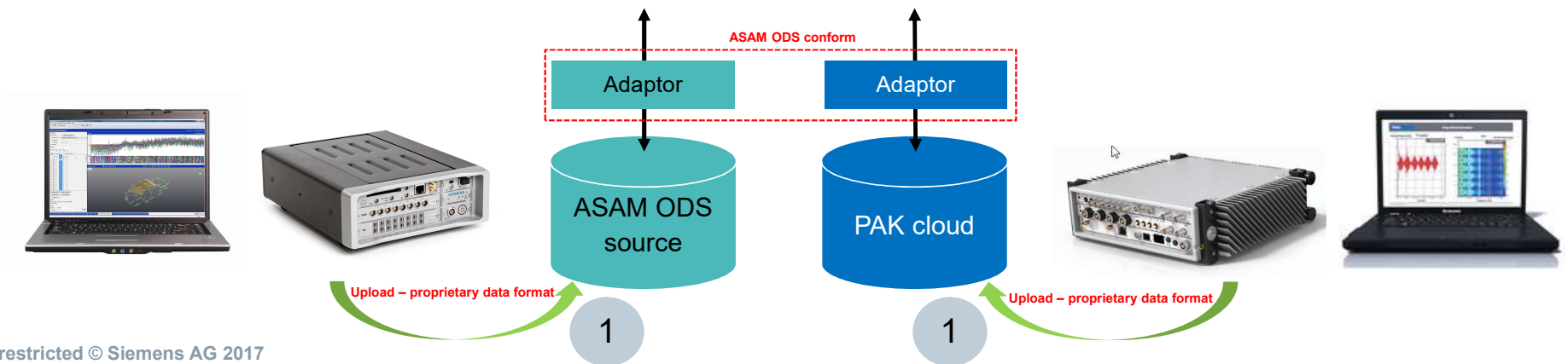Siemens PLM Software & Müller-BBM VAS

Step 1 – Storage of acquired & processed data

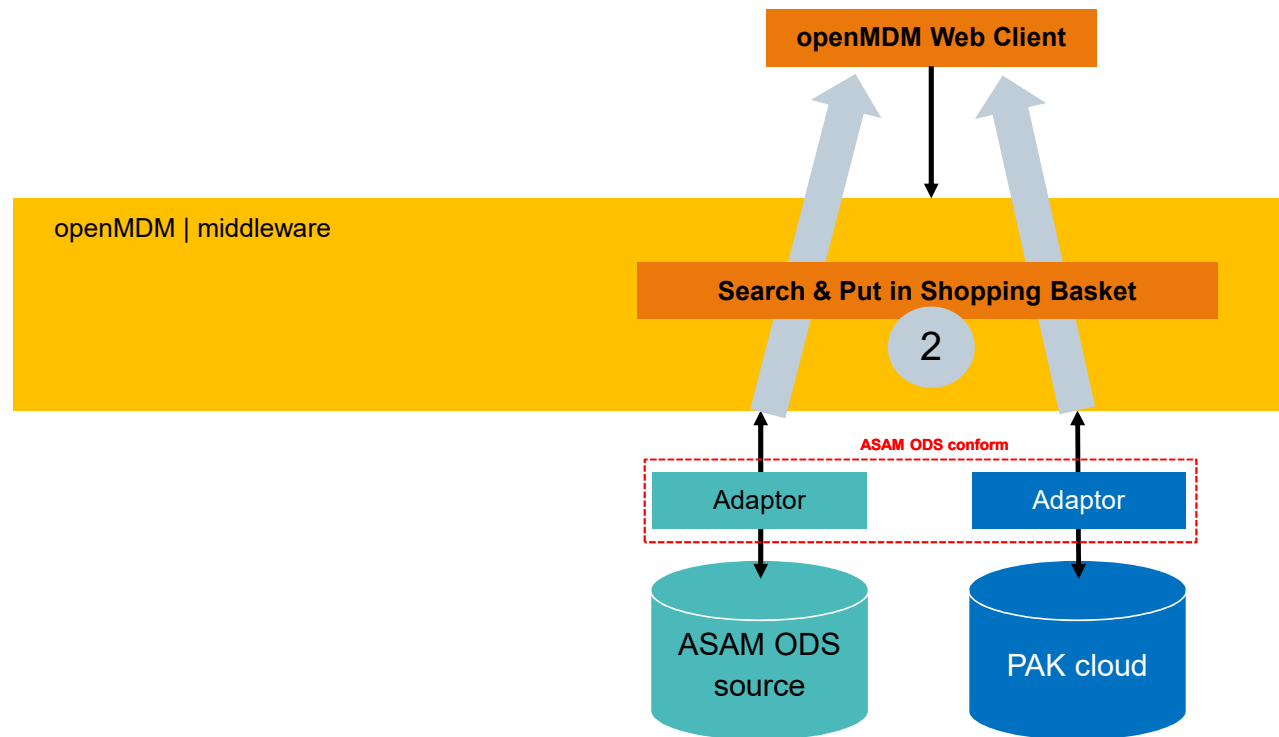MÜLLER-BBM
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- Authoring systems acquire NVH data sets and store them in the vendor specific (proprietary) data management solution
- Time domain data: Stored in binary files – accessible by the accompanying ASAM ODS ATF/X header file
- Frequency domain data: Stored in 3 different ways
  - Analog to time domain data – binary file + ASAM ODS ATF/X header
  - All data in ASAM ODS ATF/X
  - All data in local columns of the data base

Step 2 – Data search & collection

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openMDM Web Client

openMDM | middleware

Search & Put in Shopping Basket

2

ASAM ODS conform
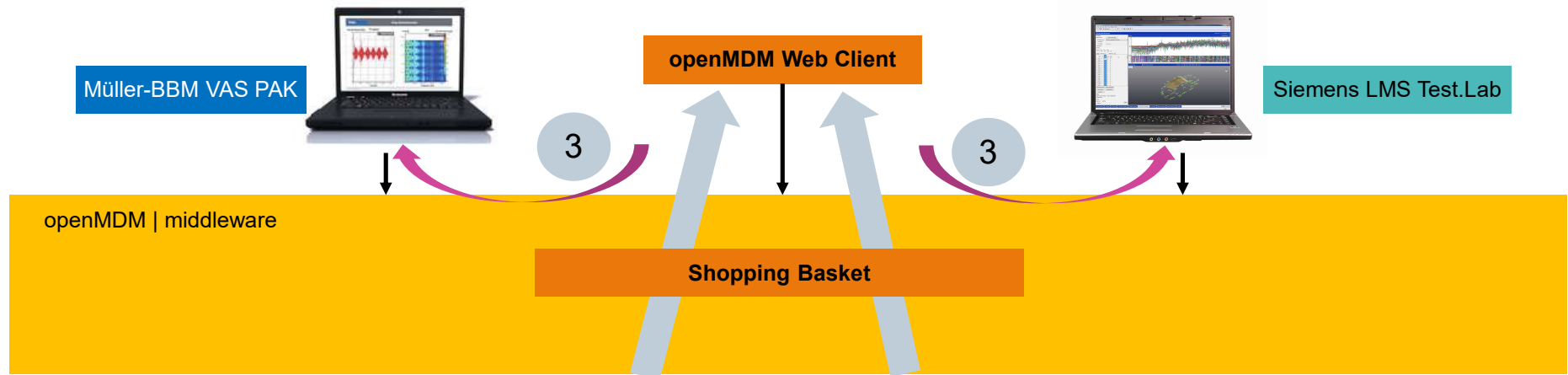
Adaptor

Adaptor

ASAM ODS source

PAK cloud

- Data search definition via the openMDM® Web Client
- Search results from both data sources
- Data sets have different authorization levels; results only visible if the user logged in has the appropriate rights
- Selected data sets are put in the basket of the the web client

Step 3 – Data post-processing

- NVH authoring applications (rich clients) can access the "authorized" data of the basket via references
  - Based Single Sign On (SSO)
  - "Cross" (direct) connections between the rich clients and their corresponding data sources seem evident ➔ connection should go through openMDM®

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