openMDM® eclipse working group

Plenum meeting 2016

Steering committee report

Stuttgart, July 18th

warm welcome to all! – Agenda

|	
Welcome and organizational matters	Gerwin
Annual report of the steering committee	Gerwin, Sven, Ulrich
Report/Vision from the AC	Andreas
Report/Vision from the QC	Michael
Vision/Milestones 2016 ff 5*5 min.	Driver
Lunch	12:30-13:10
Committee structure and elections	
Designation head of electoral management	Gerwin
Candidates for the committee-elections	Ulrich
Elections	Ulrich
Steering committee	Ulrich
Architecture committee	Ulrich
Quality committee	Ulrich
Elect the speakers per committee	SC, AC, QC
Plenum: result of elections	speaker of SC, AC, QC
Project structure of the WG	Gerwin, Stefan Beese – not attending
Documentation of new structure WG	Ulrich
Next meeting, close the meeting	new speaker of SC

SC-Report

end of the periode

elections

Photos of the meeting
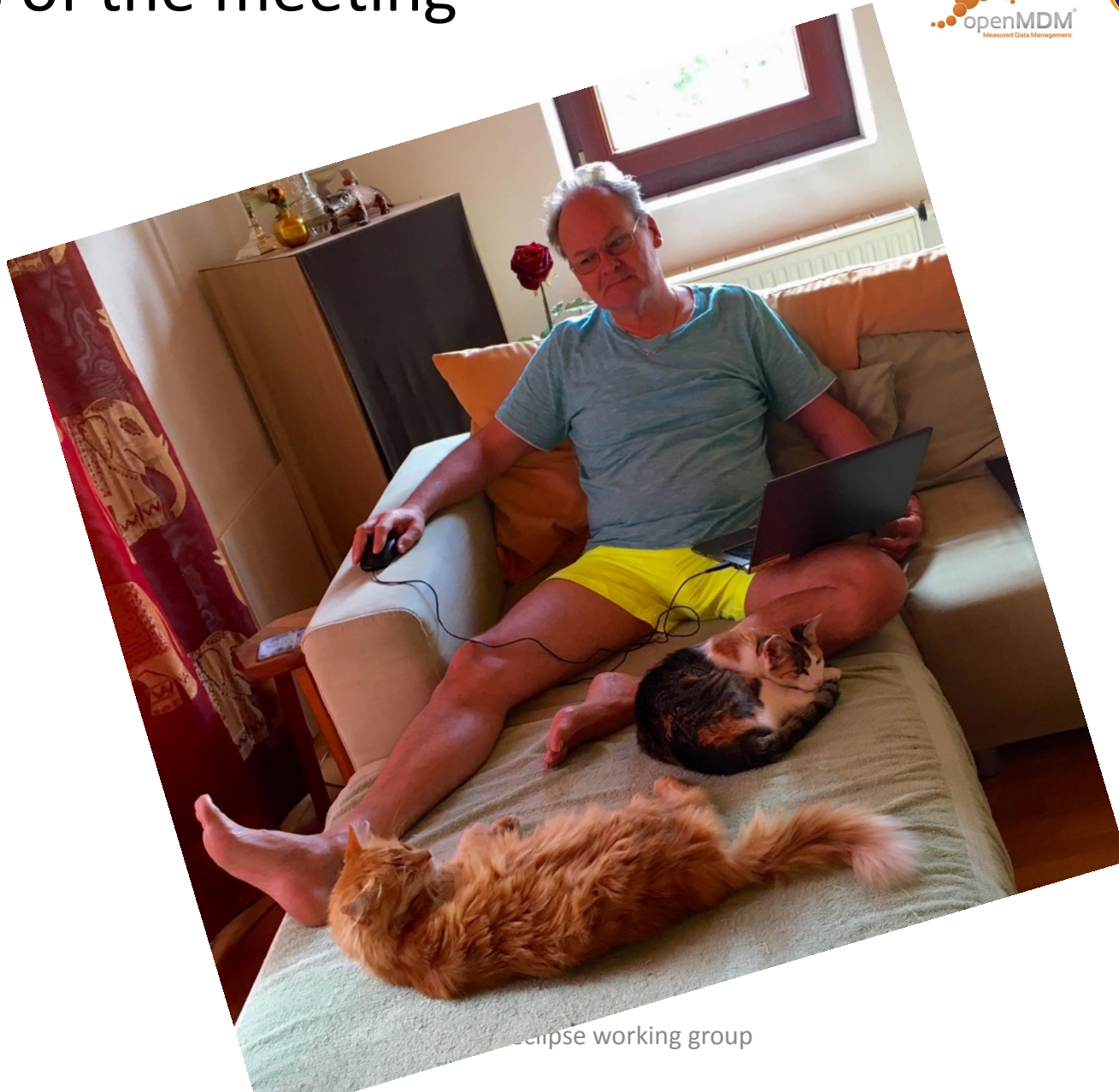
Members status – start 8, now 16 -> 24?

open MDM EWG, March 16. 2016					
Company	**Role**	**since**	**Counter**		
ASAM e.v	Guest Member	July 2014	1		
AUDI AG on behalf of Volkswagen	Driver Member	July 2014	1		
Bertrandt AG	Service Provider	Nov. 2014	1		
BMW Group	Driver Member	July 2014	1		
Canoo Engineering AG	Service Provider	July 2014	1		
Daimler AG	Driver Member	July 2014	1		
Gigatronic GmbH	Service Provider	July 2014	1		
HighQSoft GmbH	Application Vendor	July 2014	1		
itemis AG	Service Provider	Nov. 2014	1		
Mueller-BBM VibroAkustik Systeme	Driver Member	Sept. 2014	1		
NorCom IT AG	Service Provider	Sept.. 2015	1		
Peak Solutions GmbH	Service Provider	July 2014	1		
Piterion GmbH	Service Provider	Nov. 2014	1		
Science + computing AG	Service Provider	July 2014	1		
Siemens AG	Driver Member	Sept.. 2015	1		
Tata Motors Ltd.	User Member	Jan. 2015	1		
				16	Member
BridgingIT	AVL		2		near by member
AVL	Ford				
Continental	Bosch				
Volvo	PSA		6		maybe member

Companys want to be a member

Company	Mentor
AVL will be a member, Dr. Sammer	Sven
BridginIT will be a member, Dr. Tözün	Gerwin
Ford maybe, Dr. Faber	Gerwin
Continental maybe …, Hr. Hädrich	Gerwin
Bosch …	Sven
Volvo …	?
PSA …	Hans-Jörg
TWT …	Gerwin

Working group contrled by gremias solutions for losing the deligate of Daimler: Mathwig

~~Mathwig~~ (SC-Sprecher)

Steering Committee

1 Daimler-MA

~~Mathwig~~

eclipse

new.: Mark Gielow RD NA/T

WG-Manager

~~Mathwig~~

Architecture Committee

2 IT-Company: Canoo 24 PT

Charter

~~Mathwig~~

Quality Committee

3 IT-Company: ICS 15 PT

Project: MDM|API

Stefan Beese - Bertrandt

~~Mathwig~~

Project: MDM|Components

Eletion started
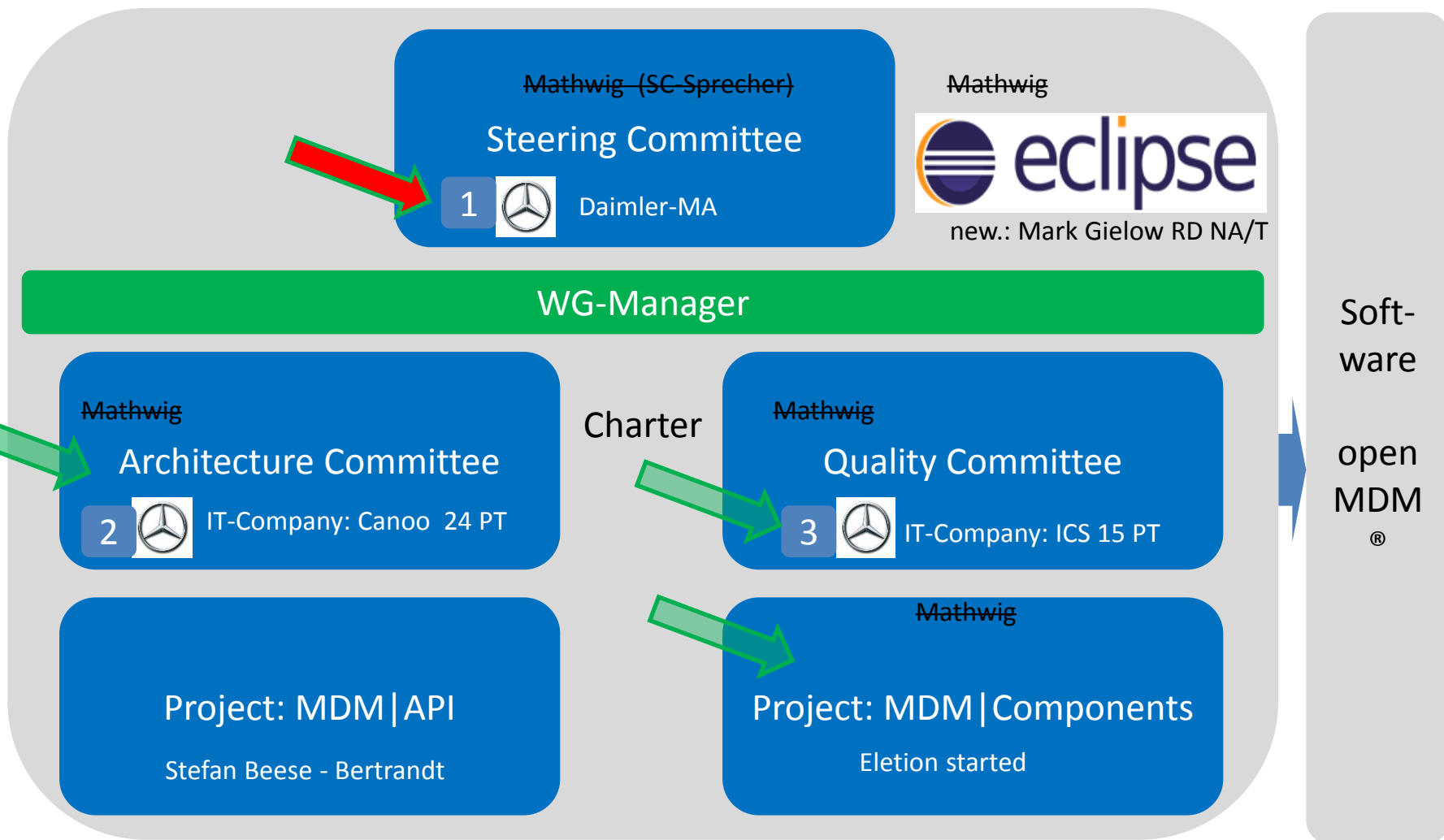
Soft-ware

open MDM ®

annual report 2015/2016 SC:

Audi
BMW
Daimler
Müller BBM
Siemens

Driver
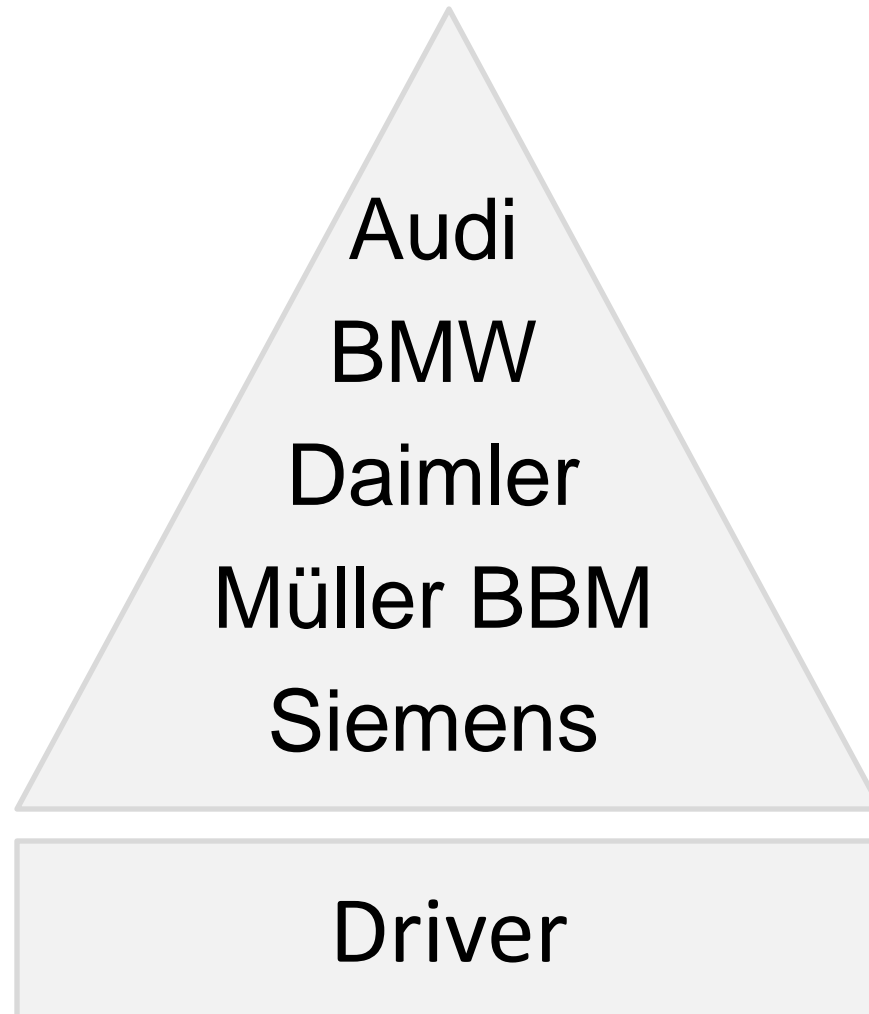
openMDM® EWG time line

job split's end

MDM rich client

MDM|components

MDM@web

MDM|BL (business layer)

openMDM® Eclipse working group
- Development process
- Requirements management
- Quality assurance

07/2014 – 06/2015 | **07/2015 – 06/2016** | **07/2016 – 08/2017**

openMDM® EWG time line

architecture 5.0
V1.0

job split's end

Operational readiness
(to be evaluated by
EWG's members)

WebClient development ✓

WebClient V 0.9
07/2016

WebClient V1.0

architecture RC 1
openMDM@Web

final architecture
openMDM@Web

Best practices   hackathon
04/2016

Component Architecture (CA4)   hackathon
02/2016

Collaborative development of components

Basic development ✓

Availability @ eclipse.org ✓

Strategic Orientation, goals synchronization, concept development ✓

07/2015 – 06/2016

07/2016 – 08/2017

It is established!
The working group can generate software

openMDM® status vs. architecture
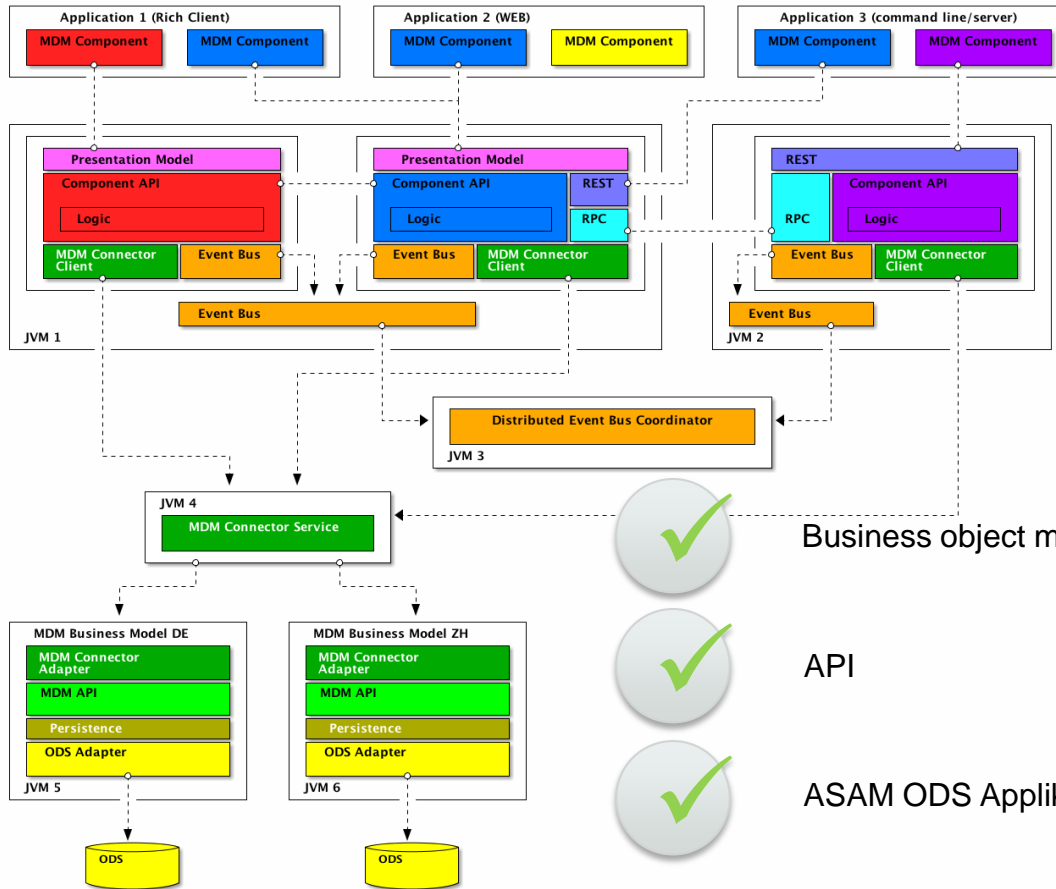
- ✓ Standardized generic Persistence layer

- ✓ Basic functions
  - Multiple database connect
  - Navigation
  - Search
  - Download

- ✓ Compatibility
  - MDM 4 database

- ? Functions
  - Import
  - Administration
  - Template handling

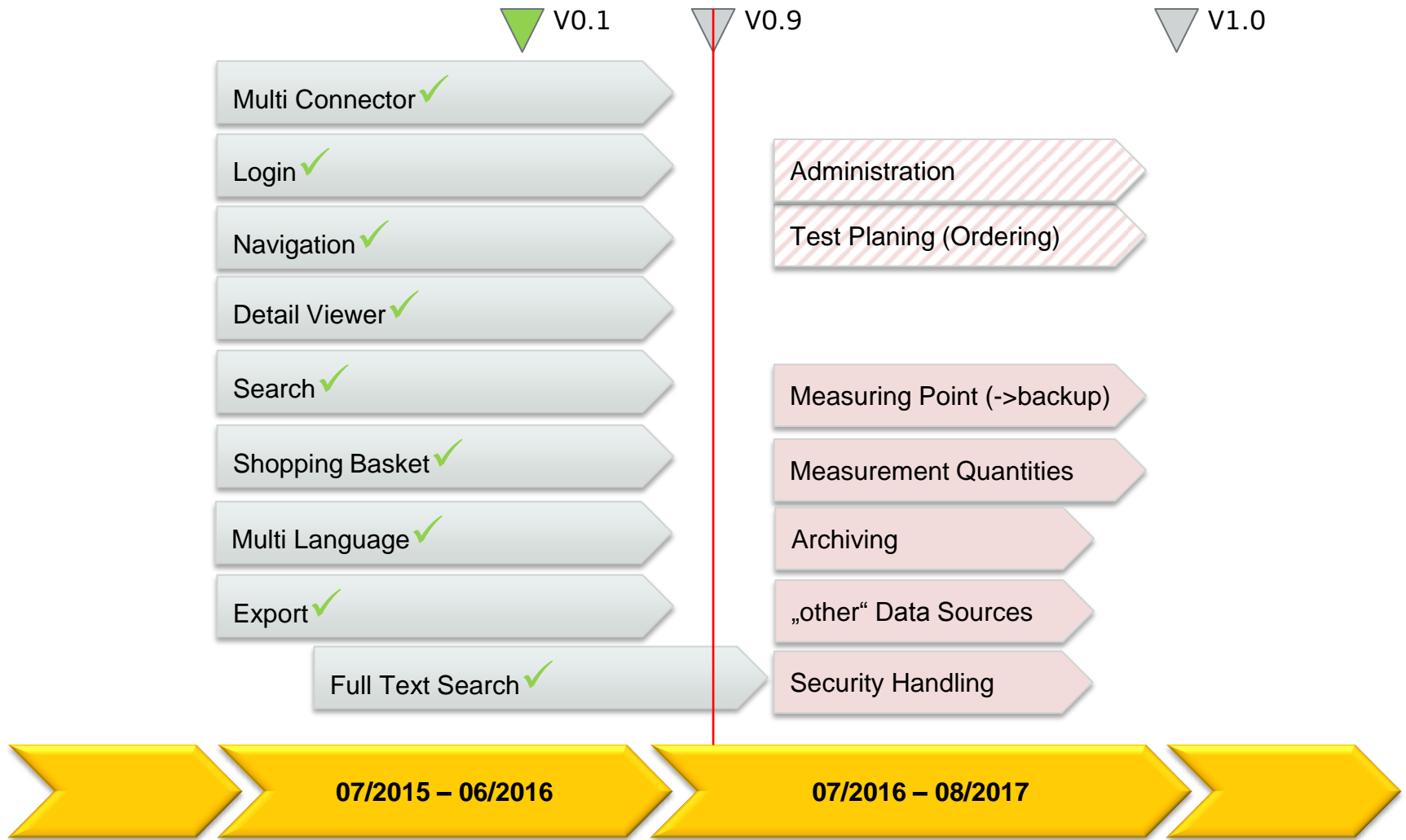- ✓ Business object model

- ✓ API

- ✓ ASAM ODS Applikationsmodell

- ! Big data readiness

- ! Collaboration readiness (modularization, QA)

openMDM® WebClient / architecture

Use standards: JEE
- Established and well known stack
- A set of standards that many vendors do implement
- Simplified connectivity (messaging, webservices, etc.)

Simplified, standardized operation
- Backend modules are run on a high available AppServer
- Webclient with no installation on desktops

Requirement driven architecture
- ➢ Integration FullTextSearch (ElasticSearch)
- ➢ Multi connections
  - openMDM 4.0 data model
  - openMDM 5.0 data model
  - different ODS Server

architecture RC 1
openMDM@Web

WebClient V 0.9
07/2016

WebClient V1.0

07/2015 – 06/2016

07/2016 – 08/2017

openMDM® EWG time line

V0.1 V0.9 V1.0

Multi Connector ✔

Login ✔

Navigation ✔

Detail Viewer ✔

Search ✔

Shopping Basket ✔

Multi Language ✔

Export ✔

Full Text Search ✔

Administration

Test Planing (Ordering)

Measuring Point (->backup)

Measurement Quantities

Archiving

„other" Data Sources

Security Handling

07/2015 – 06/2016   **07/2016 – 08/2017**

openMDM® eclipse working group

openMDM® operational issues

Use of Jira:

- All EWG members should be adressable within the Jira instances of the EWG
    - Create your account at https://openmdm.atlassian.net/admin/users/sign-up
    - Request authorization from jira@openmdm.atlassian.net

openMDM® operational issues

Use of Jira:

- Involve yourself to the EWG's topics

openMDM® operational issues

Use of Jira:

- Use the meeting management features in the EWG's Jira
- put issues on the agenda of EWG gremia by editing the committee field

openMDM® operational issues

Top Level Requirements (Goals) Management

The steering committee decided to maintain a set of top level requirements, from which further actions or decisions can be derived. It should be visible to the public and thus serve for a vivid and transparent discussion – followed by a stringent focus on the common goals of the EWG. For that reason, the charter was transformed into a set of goals (as Jira tickets qualified by the issue type „top level requirement").

This way, requests for strategic orientation and/or focus can be placed by the community members and validated by the steering committee. They serve furthermore to keep track of the strategic decisions of the community and to initiate and drive by the SC strategic changes if needed.

substantial improvement:
WG Manager ORGA-72

the working group manager is nesessary, beacause we need:

- meeting management of all committees (SC, AC, QC)
- preparing steering committee topics (presentations, decision memos etc.)
- EWG charter monitoring
- EWG membership and membership fees tracking
- on time fixing/agreement and on time delivery of membership fees service packages
- keep track of the membership status contacts, responsibilities
- annual meeting preparation
- coordination of marketing activities
- new member push up
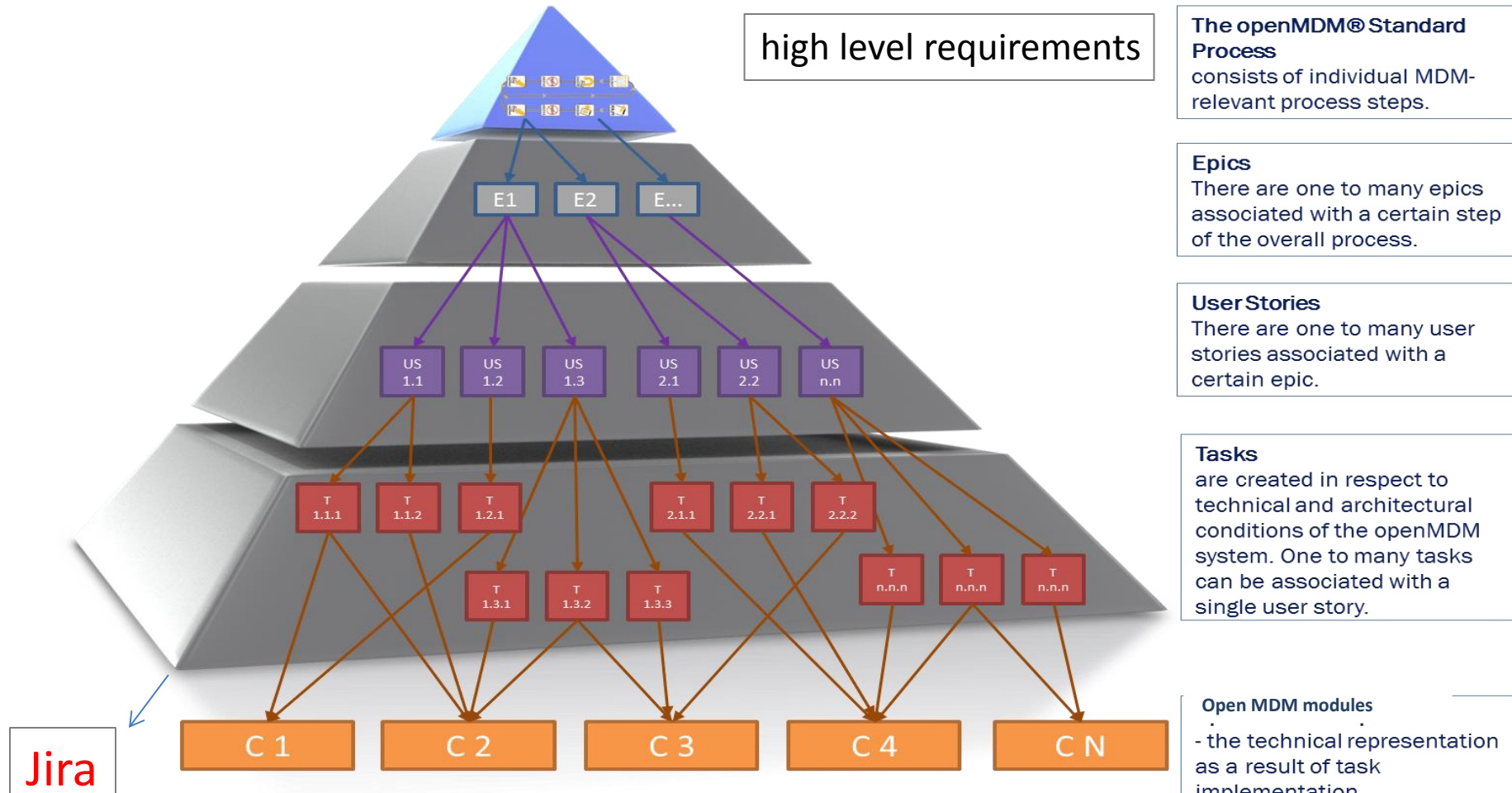- …..

Now: open MDM WG Fees

WG Member Fees

The following table lists the annual Eclipse Foundation membership fees and the openMDM working group fees payable to the Eclipse Foundation Inc.

Turnover	Eclipse Solution Membership	WG Fees Driver Member	WG Fees User Member	Other
>$250 million	$20,000	$ 40,000	$6700	$0
>$100 million <= $250 million	$15,000	$ 40,000	$6700	$0
>$50 million <= $100 million	$10,000	$ 40,000	$6700	$0
>$10 million <= $50 million	$7,500	$ 40,000	$6700	$0
<$10 million	$5,000	$ 40,000	$6700	$0
<$1 million & < 10 employees	$1,500	$ 40,000	$6700	$0

Application Vendor members and Service Provider are required to provide 10 manpower units of participation services to the WG per year.

Requirements management 2016 ff
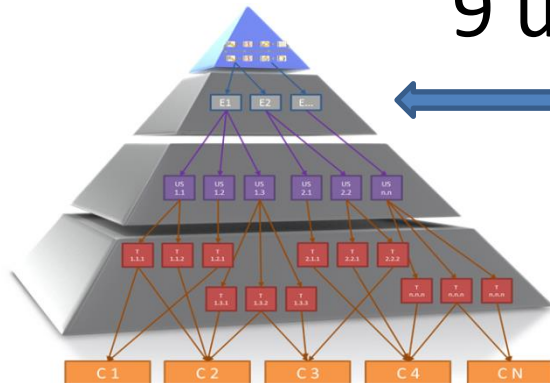## allways online and up to date with Jira-Link

high level requirements

The openMDM® Standard Process
consists of individual MDM-relevant process steps.

Epics
There are one to many epics associated with a certain step of the overall process.

User Stories
There are one to many user stories associated with a certain epic.

Tasks
are created in respect to technical and architectural conditions of the openMDM system. One to many tasks can be associated with a single user story.

Open MDM modules
- the technical representation as a result of task implementation.
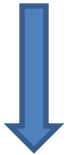
Jira

Requirements from Daimler 2016 ff

9 user storys planed

ambitious targets to open MDM® 5
- overview of the Daimler epic #1-#9 -

| epic	discription	decision date	leader	Pilot finished
#1	MDM@WEB – Simulation kann Messdaten laden und mit Simulation vergleichen (Siemens)	13.06.16	Dr. Kammler	06.2017
#2	MDM@WEB – Simulation kann Messdaten laden und mit Simulation vergleichen (Müller BBM)	offen	(Rabenstein)	06.2017
#3	MDM@WEB – Messdatenbrowsing	offen	NN	06.2017
#4	Funktionsdatenmanagement - Anlieferung von Simulationsparameter durch Lieferanten	2014	Dr. Böhm	12.2018
#5	Volltextsuche z. B. für Thermo-Simulation	19.05.16	Gärtner	08.2016
	use cases, die open MDM nutzen könnten:			
#6	Messstellen-Editor im Engineering-Client	02.2015	Mathwig	06.2016
#7	Audio-Messstellen-Editor im Engineering-Client und open MDM (Tonstudio)	28.06.16	(Dr. Schulze)	04.2017
#8	Serienerprobung Dauerlauf – evt. gleiches Konzept für Immendingen mit Big Data?	offen		
#9	Werkstattsteuerungssystem auf Basis von open Source Windkanal und PKW-Powertrain-Entwicklung	04.2016	Heidrich	12.2016

Requirements from Daimler 2016 ff
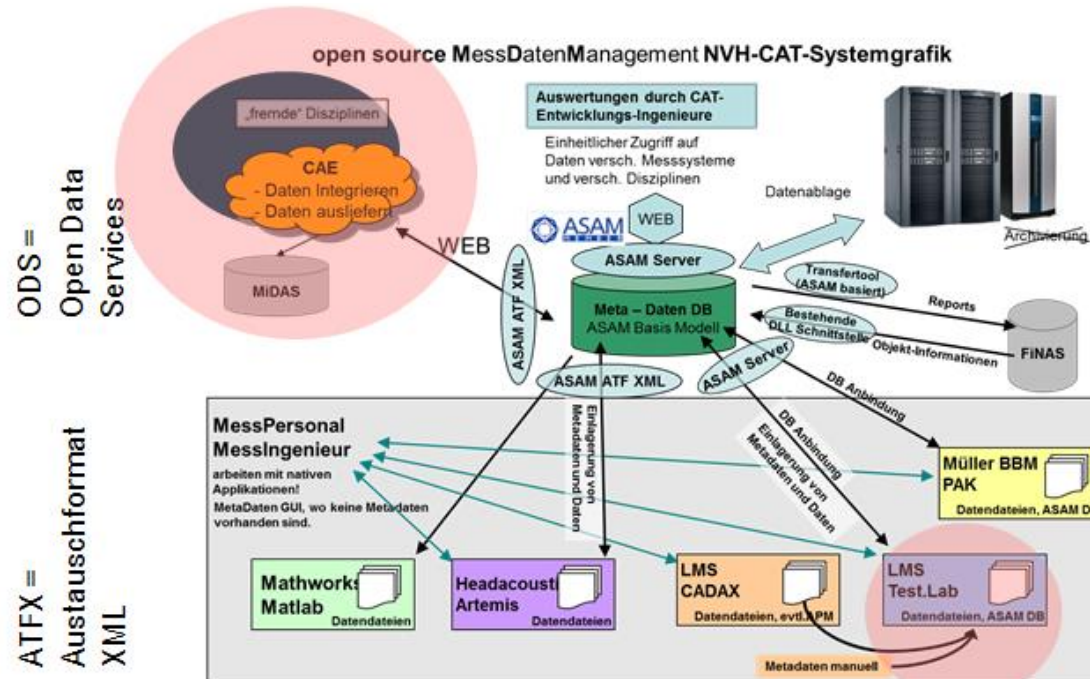## open MDM® 5 - Siemens tool box

- epic - example #1
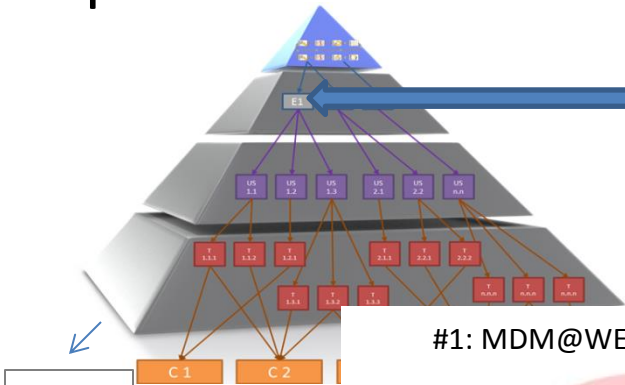
Jira

#1: MDM@WEB – Engineer can load measured data and compare it with simulation (Siemens Test.Lab)

open source MessDatenManagement NVH-CAT-Systemgrafik

Requirements from Daimler 2016 ff
open MDM® 5 - Siemens tool box

#1: MDM@WEB – Simulation kann Messdaten laden (Siemens)

Verantwortlicher	Team - Vorschlag		
• Dr. Kammler Beschluss: 13.06.2016	• Daimler MA1 • weitere …	• Daimler MA2 • Daimler MA3 • Daimler MA4	• ICS AG

Beschreibung Arbeitspaket / Zielsetzung	Erfolgsmessung / mögliche KPIs
• Simulation findet Messungen • Freigabe von Messdatensätzen • Laden der Messdaten (z. B. ATFX) in die Simulationsumgebung • Midas X-Y Darstellungen von Messkanälen wie Simulation • Snapshot Ablage der Simulations-/Messdatengegenüberstellungen (Einquellenprinzip)	• Geringere Nachbesserungsquote aufgrund Validierung der Simulation mit der Messung • Weniger Simulationszyklen durch verbessern der Simulationsparameter • Schnelles finden von Eingangsparametern aus Messungen für die Simulation • Kommunikation zw. Simulation und Testing wird verbessert (Stützstellendiskussion)

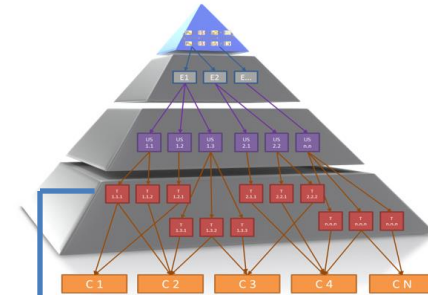| Kernaktivitäten	Termine		
	2016	**2017**	**2018**
• Projektdefinition • Anbindung von open MDM an Test.Lab mit Siemens • Anbindung von open MDM an MIDAS • Verknüpfung im MIDAS von Messung und Simulation • Abspeicherung des Snapshots • Multiplikation des Use-Cases auf verwandte Bereiche			

epics - detail plans #1-#9

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Kernaktivitäten	Termine		
	2016	2017	2018
• Projektdefinition • Anbindung von open MDM an Test.Lab mit Siemens • Anbindung von open MDM an MIDAS • Verknüpfung im MIDAS von Messung und Simulation • Abspeicherung des Snapshots • Multiplikation des Use-Cases auf verwandte Bereiche			

new open MDM® 5 modules = ?

to do

| security | cloud | detail view x/y | quick audio | start applications … |

Summary of the plan 2017 Daimler Realize the 9 epics for use

(# = epic)

#1: add necessary moduls to MDM|Components to transforme the open MDM4® ODS-selection Test.Lab to open MDM5® by Siemens

#2: add necessary moduls to MDM|Components for analog to #1 with PAK by Müller BBM

#3: add necessary modules to MDM|Components for data viewing like open MDM4 ® x/y and quick audio

…

to do: identify moduls wich we need by detail planning epic #1-#9 with the Daimler teams matching with Jira.

Statements from Daimler

open MDM is now established by the management as a tool
to realize industrie 4.0
by using the eclipse open source work bench
(open MDM®, openPASS, more …)

the Daimler user now want to feed open MDM® with there epics

Plan for developing goals:

    1) find data -> 2) standardisation of data -> 3) process data->
    4) automate data processing (Big Data)

Eclipse working group open MDM® 5 and Industrie 4.0 - goals

networking Automobile Industrie world wide

networking internal Daimler

high speed software developing

cost sharing with OEMs and internal

creating new standards

the 4.0 future we can!

more service provider

developing the next genation
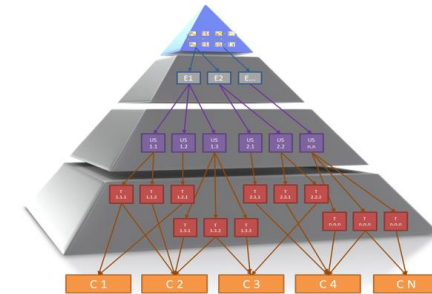
open documentation

Requirements from BMW 2016

Epic: Data Source

UserStories:
- User wants to navigate and view in NVH result data in the same way as in ODS data sources
- Data access must be controlled
- Direct access to result data from native application
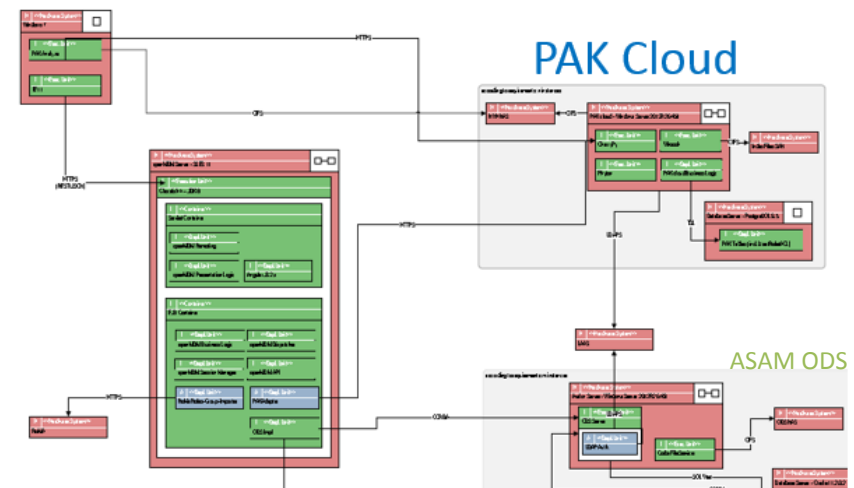- User wants a full text search functionality

Tasks:
- Readiness of: openMDM API, security API, PAK Cloud API
- Architectural concept, coordinated with AC

Modules:
- NVH adapter („other adapter" see architecture 5.0)
- FullTextSearch based on ElasticSearch

Dependencies:
- openMDM API
- PAK Cloud API (prop. API)
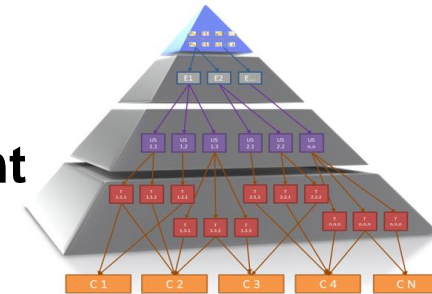- Security (role / rights)

Vision from BMW 2016ff

V1: Readiness of MDM@Web 1.0 for productive use
- Integration security (role/right)
- Usability, missing functionality/moduls, …

V2: Readiness of MDM@Web 1.x for NVH environment
- Integration major NVH applications

V3: PLM (Product-Lifecycle-Management)
- openMDM is the backbone of the result data storage in the PLM
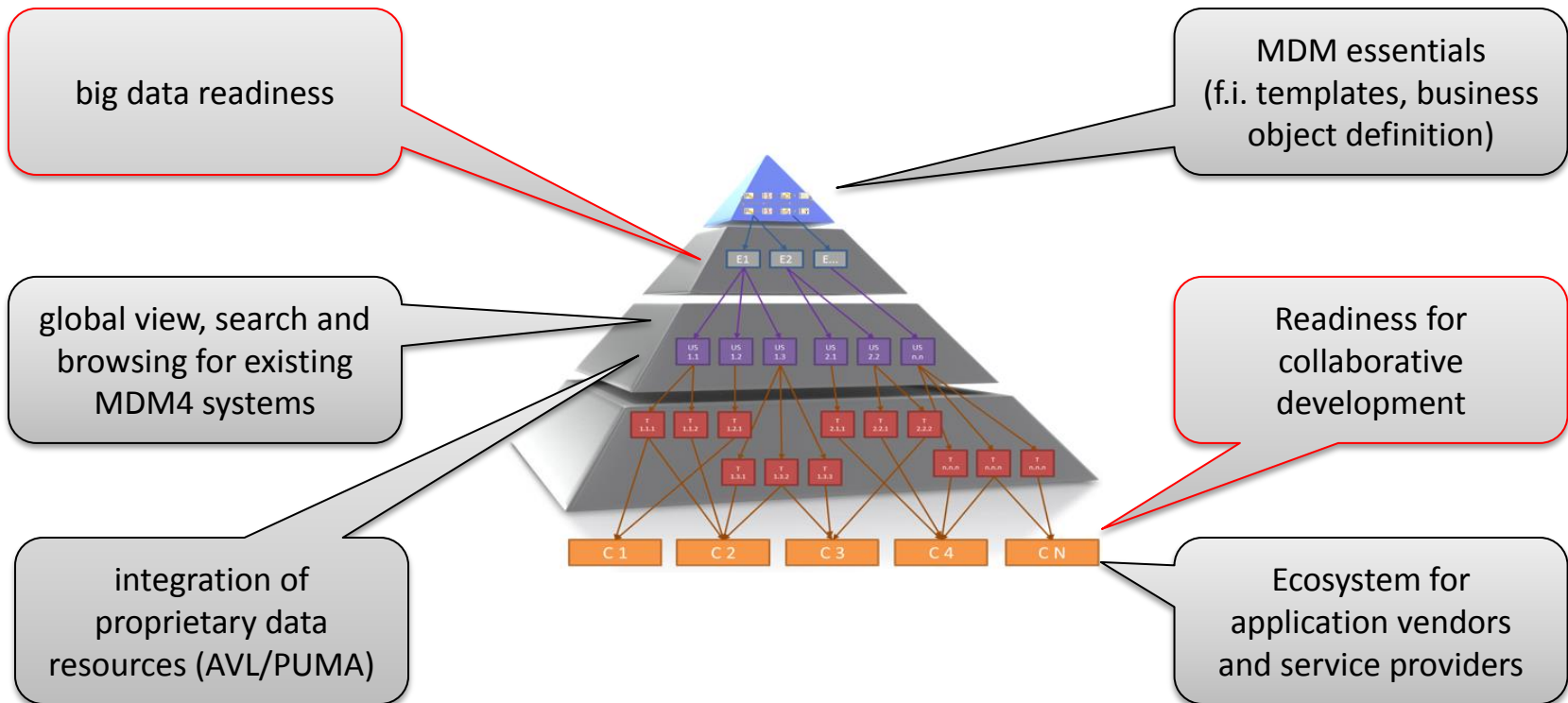- openMDM support different data storage („big data")

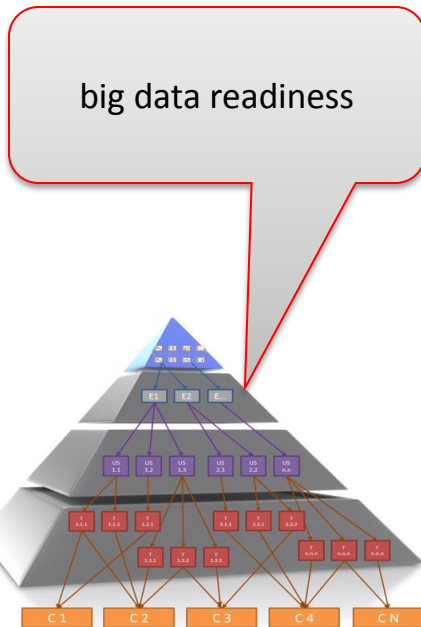**V4: Readiness openMDM for ASAM ODS 6.x**

07/2015 – 06/2016	07/2016 – 06/2017	V1, V2, V3, V4

openMDM® EWG related goals and focus 2016/17

big data readiness

MDM essentials
(f.i. templates, business object definition)

global view, search and browsing for existing MDM4 systems

Readiness for collaborative development

integration of proprietary data resources (AVL/PUMA)

Ecosystem for application vendors and service providers

openMDM® EWG related goals and focus 2016/17

big data readiness

- Seemlessly distributed data storage
- Multi site configuration
- Storage and processing resources affinity
- Fast analytics and processing
- Take <u>full</u> advantage of existing technology

BUT

- Keep openMDM® domain specific features
    - Reuse of test results
    - Process coverage
    - Reuse of tools (applications, components)
    - Ecosystem of vendors

openMDM® EWG related goals and focus 2016/17

Readiness for collaborative development
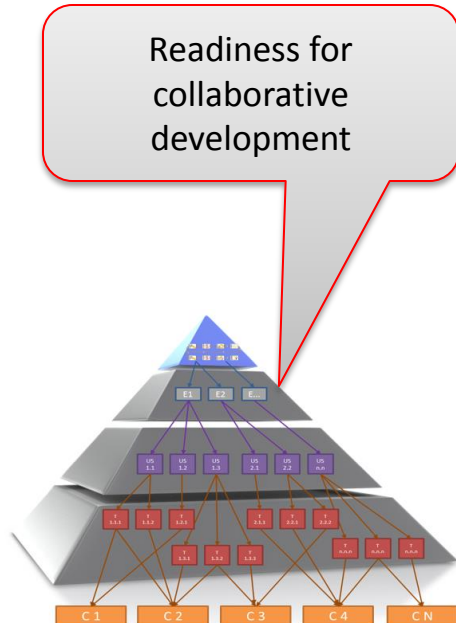
- Toolkit focused development
- Continuous architecture development

- Multilevel requirement's management
- Multilevel release management
- Quality assurance

To ensure

- Independent work on well defined work packages
- Efficient worksplit
- Reduced effort in decisions
- Full transparency on recent decision status

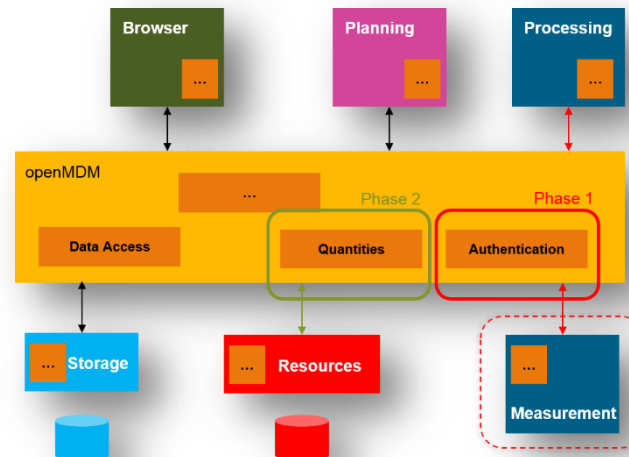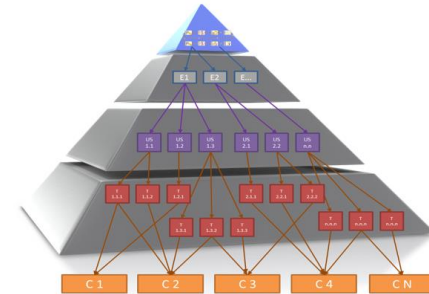# Requirements from Siemens and Müller-BBM

openMDM 5

Agreement/Decision on specifications for:

#1: Authentification ➜ Rolls and Rights

#2: Physical Quantities / Units

openMDM® eclipse working group
2nd annual meeting Stuttgart
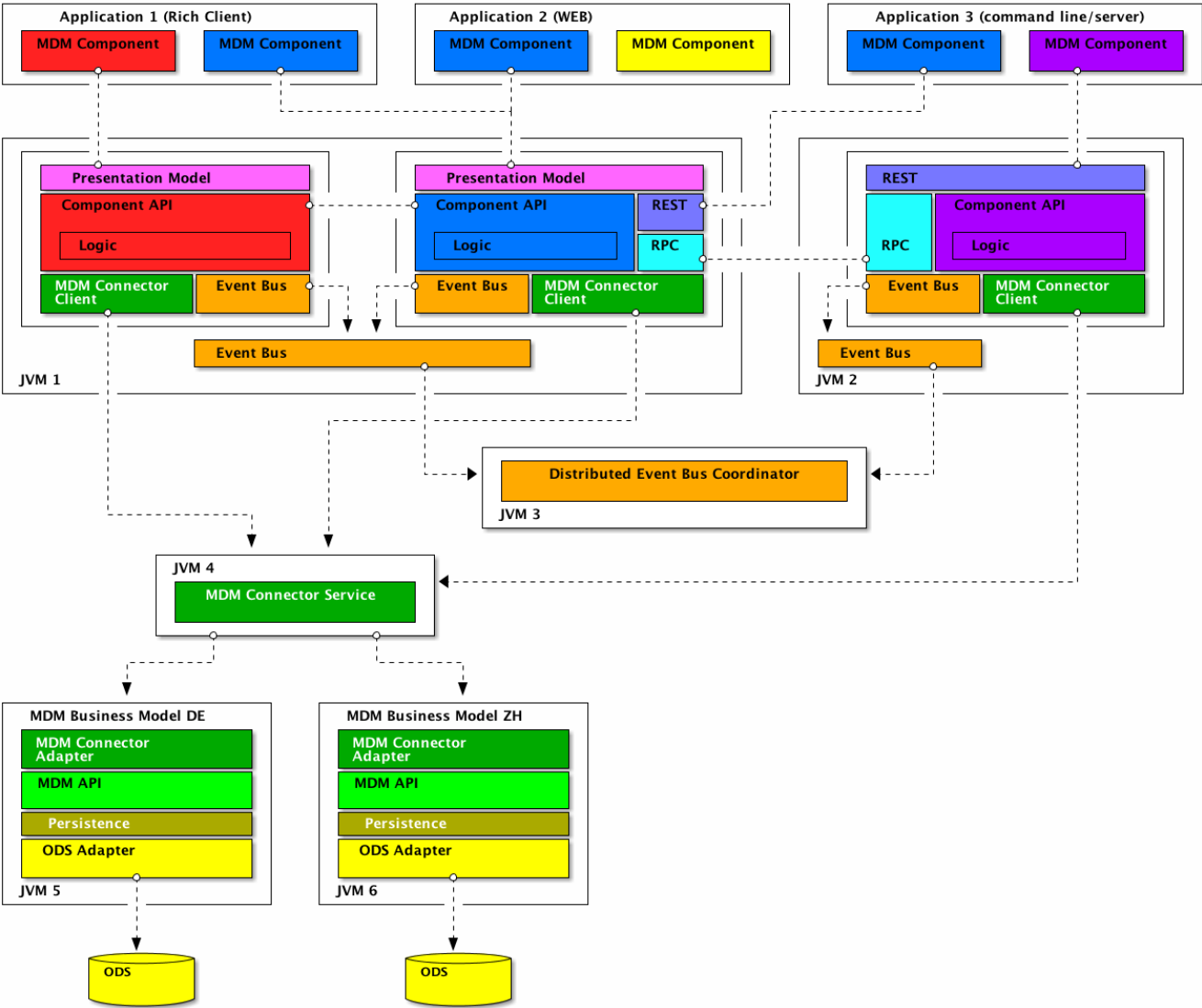
openMDM®
Eclipse Working Group

General Assembly

Architecture Committee Report

Stuttgart, July 18th, 2016

Andreas Benzing, Canoo

Starting Point: Architecture

Activities Overview

- 12 conference calls / 1 meeting + call
  - Protocols published in Wiki: https://wiki.eclipse.org/Open-Measured-Data-Management-WG/Architecture_Committee#Meeting_Minutes
- Approved architecture specification
- Gathered technology input
- Established proposal process
  - Created proposal guidelines: https://wiki.eclipse.org/Open-Measured-Data-Management-WG/Architecture_Committee#Technology_Proposal_Guidelines
  - 8 proposals discussed so far

Proposals

- MDM5API technology proposal (ORGA-59)
  - Refactored to individual topics
- Using an Adapter design   for MDM API (ORGA-61)
  - Already considered in architecture
- Definition of test frameworks (ORGA-64)
  - In favor of SonarQube
- Full-text search technology and architecture
  - In favor of ElasticSearch over Solr (ORGA-102)
  - Search uses the openMDM API (ORGA-103)
- Angular2 + Bootstrap (ORGA-100)
- Typescript (ORGA-101)

Implementation Proposal by BMW
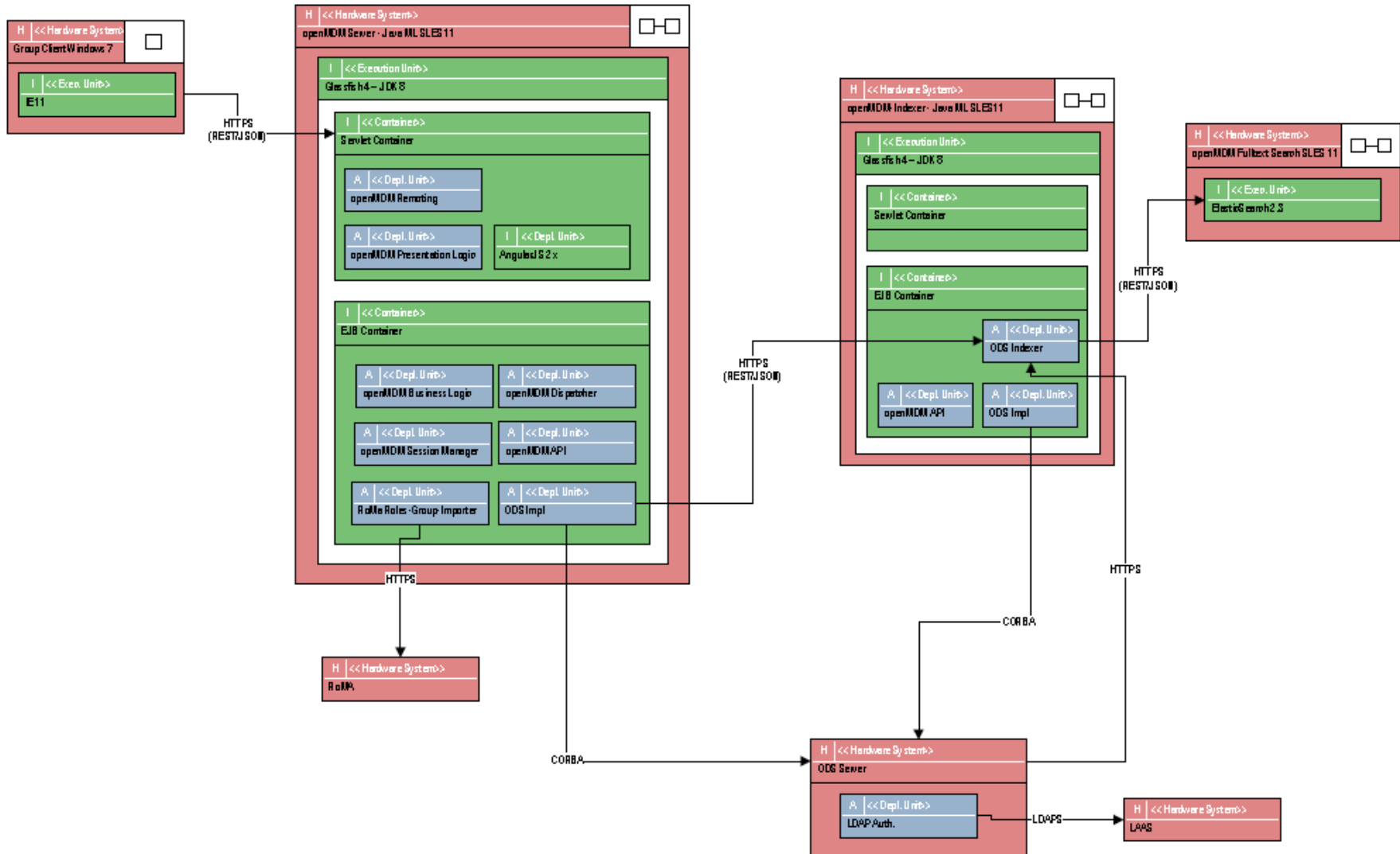
Recent Topics

- Discussion about repositories and collaboration

  - Technical environment to support collaborative development -> **Git based workflow**

  - Dependency handling to enable automated build and include proprietary code -> **Release artifacts!**

- Discussion of the difference between components in openMDM 4 vs. 5

  - Renaming to **openMDM 5 Modules** for clarity

Upcoming Topics

- Consolidate AC documentation (ORGA-74)

  - Individual protocols must be integrated in architecture documentation

  - Gather all related information in one place

  - Approved by SC, to be assigned

- Architecture conformity check

  - Review of the code to verify its alignment with the specified architecture

openMDM®
Eclipse Working Group

General Assembly

Quality Committee Report

Stuttgart, July 18th, 2016

Michael Schwarzbach, BMW

Status Quality Services

Integration environment / End-to-end test environment:
- Done:
    - PoC outside eclipse environment
- Work in progress:
    - Avalon ODS server in virtual server environment
- Open points pending commissioning by SC:
    - Integration in eclipse environment

Continuous integration/development:
- Pending commissioning by SC

Elections

openMDM® eclipse working group

Lunch break until 13:10

Open MDM® sailing tour 2016

1. Oct. -8 . Oct. 2016   booked

Open MDM® sailing tour 2017

30. Sept.-7. Oct. 2017   bookable

Gerwin.Mathwig@gmail.com

Backup

ATFX-Geometrie measure point editor Daimler / Piterion