MB Software-Base-Layer Part A
Supplier Information

Team Standardsoftware
RD/UPT
30.11.2020

Mercedes-Benz
Das Beste oder nichts.

Basic Information (1)

- Software delivery process
  - The MB SW-Base-Layer Packages are available at the Daimler Diagnostic Portal
  - ZULA request necessary for Standard-Software area and explicit for MB SW-Base-Layer folder
  - ZULA request shall include signal word MB SW-Base-Layer, concrete ECU project name (NCD name) and ECU supplier name
  - Acceptance of “Rights of Use” in the “Agreement for Delivery” is mandatory
  - Only for ECU projects with existing conclusion of contract between Mercedes Benz and ECU supplier
  - Acceptance of “Export Control Statement” is mandatory
- Specification MSS10730 V8.1 is mandatory for MB SW-Base-Layer Part A
- Step1a and Step1b software releases are mandatory to fulfil the requirements of MSS30003 (BROP milestone B1)
- Step1b can be done as an update of Step1a (no completely new configuration necessary)

Basic Information (2)

- **StartUp ReadMe → Important – please read first!**
  - Located in „Starter Kit Package“ → *ReadMe_MB-SW-Base-Layer_StarterKit_uC.pdf*
- Delivery includes the Basic Software and additionally a so called „Starter Kit“:
  - Runnable example integration including basic basis software integration (executable on Virtual Target or Aurix Evalboard)
  - Additional documentation
  - Example implementation of standard functionalities e.g.
    - Security integration
    - Standard network requirements (start-up, network management, …)
    - Standard diagnostic services
    - NVRAM
  - Webinar series is planned

Preconditions

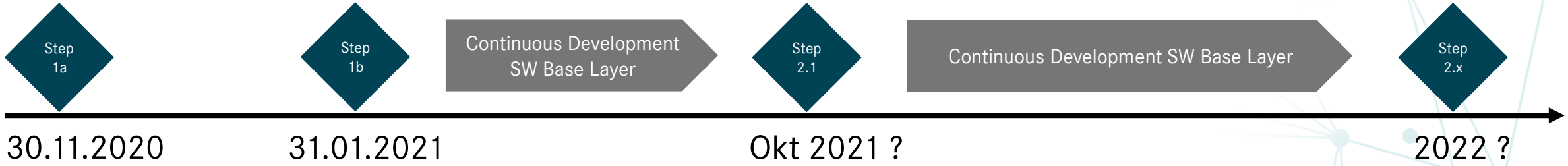
Correct explanation
- MB SW-Base-Layer
- ECU name
- Supplier name

Existing conclusion of contract between Mercedes Benz and ECU supplier
→ Check against MP list of contracts

Confirm “Export Control Statement”
Signed document has to be sent back to:
stdsw-support@daimler.com

Read „Agreement for Delivery“ → PW available
With unpacking the zip packages the supplier accepts the „Rights of Use“

Feature Rollout planning
MB SW-Base-Layer Part A – Classic AUTOSAR



MSR:
- Umfang BR223 + Erweiterungen aus ASR 4.4
- SSA 3.0 (ECU Trust Model, VSM)
- TLS
- OTA

HSM:
- OS
- Update

FBL:
- Encryption
- Secure Boot
- FBL Updater

MSR:
- SSA 3.0 (Restriction Authentication Broadcast)

FBL:
- OTA

Step1a and Step1b are mandatory for BROP B1!

Enhancements:
AUTOSAR 20-11 and additional Req. from Big5/SwdA/Top8

Concerning:
- Networking
- Diagnosis
- Application-Development
- Service-oriented Com.
- Partial Network
- Data Collection
- Etc.

	Geplante Features > ASR4.4	Anforderer	Zieltermin
Geplante ASR 20-11 Features	Reset Verhalten, Startup-Verhalten	Vernetzung	Step2?
	PNC Konfiguration, Optim[illegible]ung	Vernetzung	Step2?
	SD Robustheit	Vernetzung	Step2?
	PDU-Verlängerung, N[illegible]ität	Vernetzung	Step2?
	NVRAM-Schnittste[illegible]	Modelbas-Dev	Step2?
	IO-Control Schnitt[illegible]	Modelbas-Dev, Diag	Step2?
	TLV	Top7 SOA/SWDA	Step2?
	Service-Versi[illegible]	Top7 SOA/SWDA	Step2?
	OBD	Diag, Powertrain	Step2?
	Diverse Clarifications [illegible]	[illegible]erse	Step2?
	Diverse Bugfixes	Ver[illegible]ung,Modelbas-Dev, Security	Step2?

	Bisher nicht berücksichtigte Features	[illegible]der	Zieltermin
Neue Features SwdA/Big5/Top8	FlexRTE	Powe[illegible]EIC	Step2
	Subbus Mirroing/Data Collection	[illegible]p4	Step2
	LET	[illegible]n	Step2/Step3?
	PNC Lightweightkonzept	Verne[illegible]tung / U[illegible]	Step2?
	TLV	Top7 SOA/[illegible]A	Step2
	Enhanced Multicore Distribution	Powertrain/CEIC	Step2?
	IPsec	ADAS-Domäne	Step2
	Bosch Routing Engine?	CEIC	unklar
	AuroraLabs? (Intelligent Diff)	Top2	unklar
	Deterministic Timing	Powertrain	Step1
	zusätzliche RTE Features	Powertrain	Step2?

Draft

!

Switch to production release is mandatory

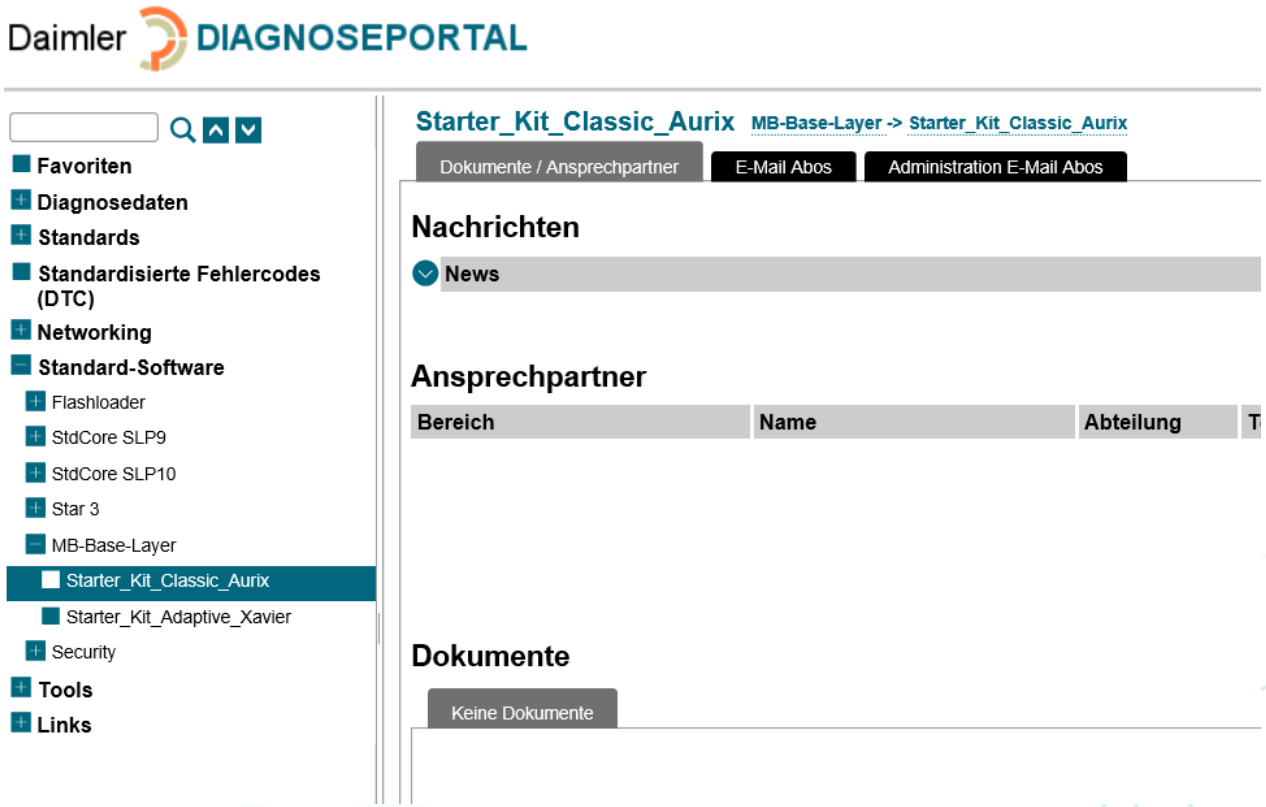
Support BROP

Final feature hub for MMA

Production release

Diagnostic Portal / Rights of use

- ZULA request necessary for Standard-Software area and explicit for MB-SW-Base-Layer folder
- ZULA request shall include signal word MB SW-Base-Layer, concrete ECU project name (NCD name) and ECU supplier name



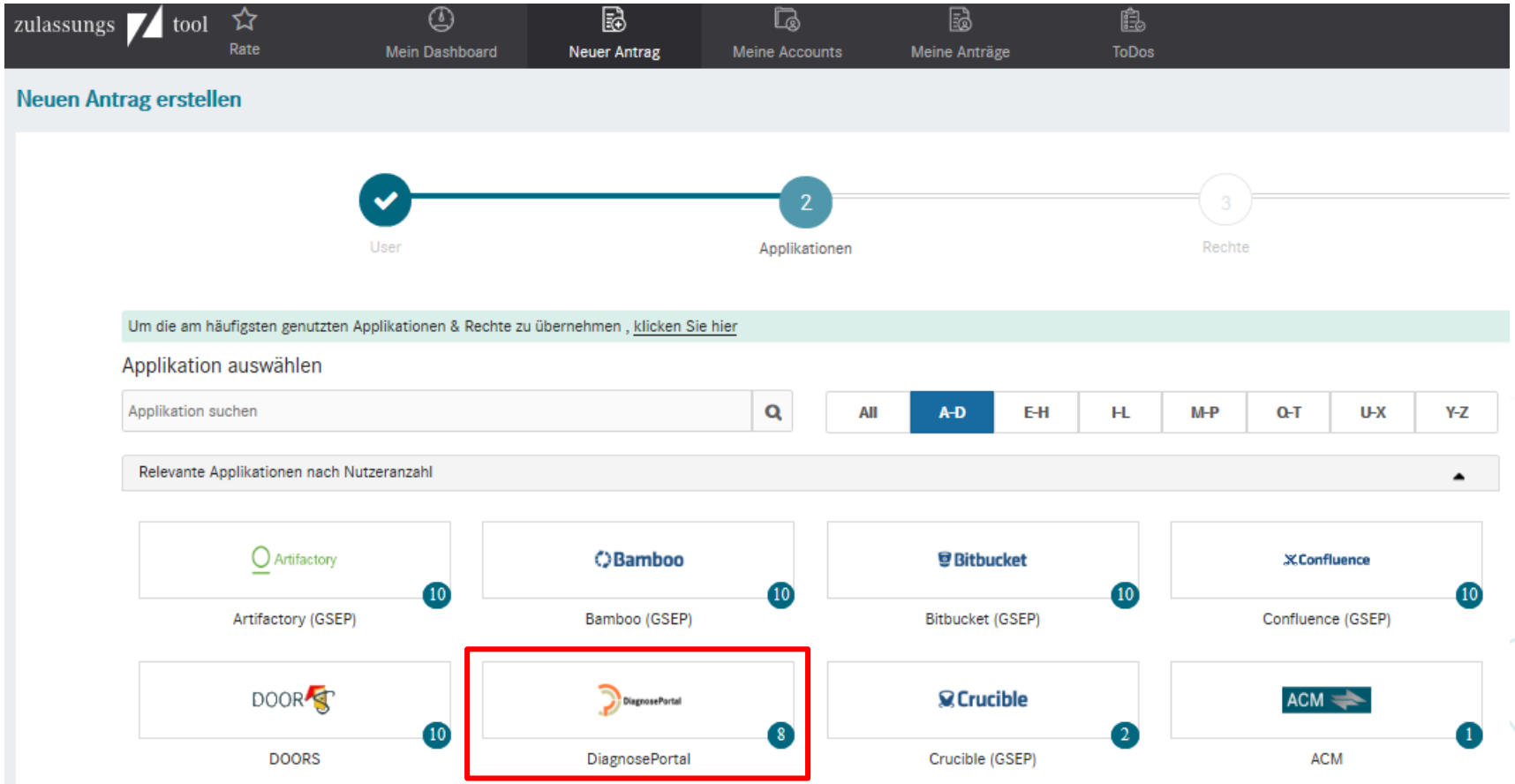
Four packages will be delivered:

- MICROSAR Package
- MICROSAR vHSM Package
- Flash Bootloader Package
- Examples/Starter Kit Package

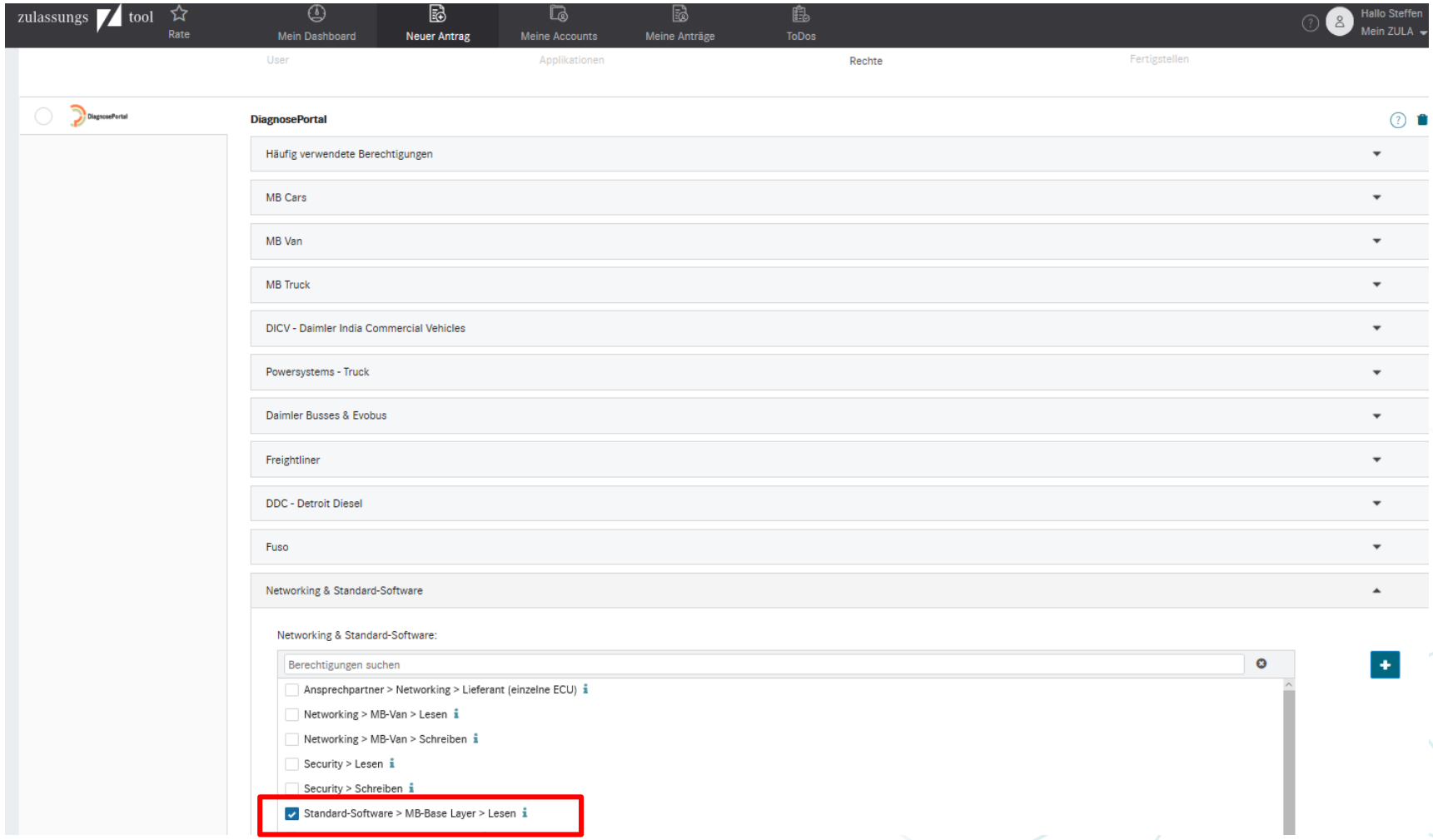
- Sideletter → Rights of Use

Rights of Use – Temporary Solution
Packages (ZIP format) are password protected.
Password is only available after reading „Agreement for Delivery“.
With unpacking the zip packages the supplier accepts the „Rights of Use“.

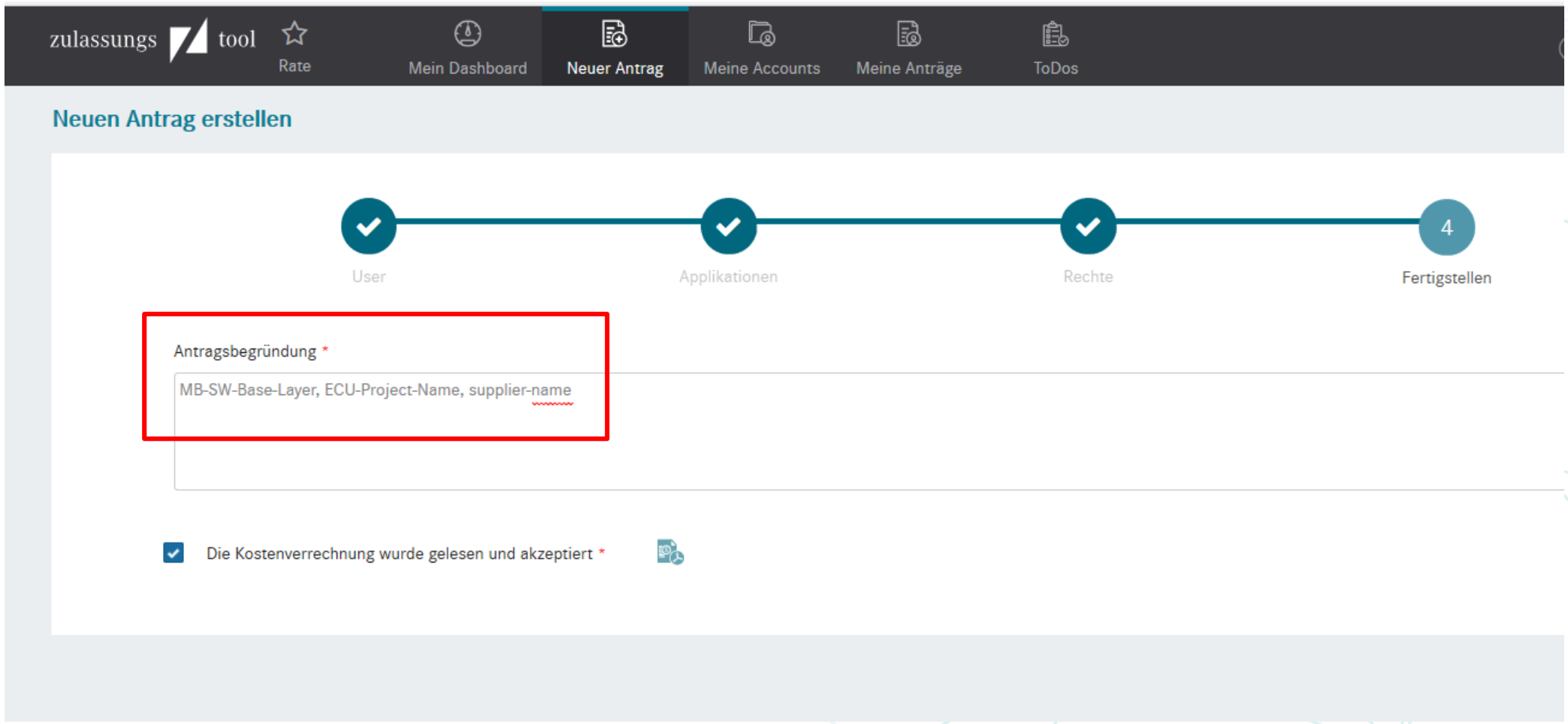
ZULA (internal view) – Step 1



ZULA (internal view) – Step2



ZULA (internal view) – Step 3



Export Control Statement

We inform you that, according to our current assessment, the following software is listed under number 5E002a of Annex I to Regulation (EC) No 428/2009 in its most current version:

MICROSAR 4 with crypto modules (Crypto_30_LibCv, vSeCPrim, VttCrypto_30_Vtt)
MICROSAR vHSM
Flash Bootloader
Adaptive MICROSAR

The reason is that this software contains crypto technology source code. Please note that the software is subject to export control restrictions and that a delivery may currently only be made to suppliers within the EU. When applying for portal access for downloading the aforementioned software, the supplier must confirm in advance that the crypto modules are only down loaded within the EU. Suppliers may request a declaration form under
stdsw-support@daimler.com

Package Setup after Download from Diagnostic Portal

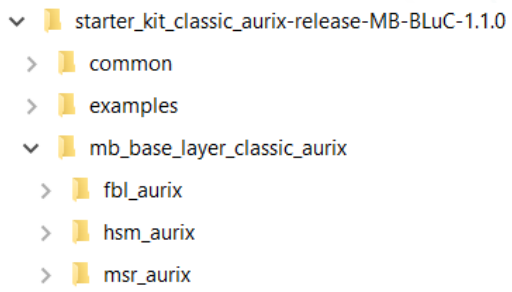
- All 4 downloaded packages have to be combined for usage.
  - The Examples/Starter Kit Package is the “master zip” and contain the folder structure
  - Copy MICROSAR Package into folder:

    “..\starter_kit_classic_aurix\mb_base_layer_classic_aurix\msr_aurix\..”
  - Copy MICROSAR vHSM Package into folder:

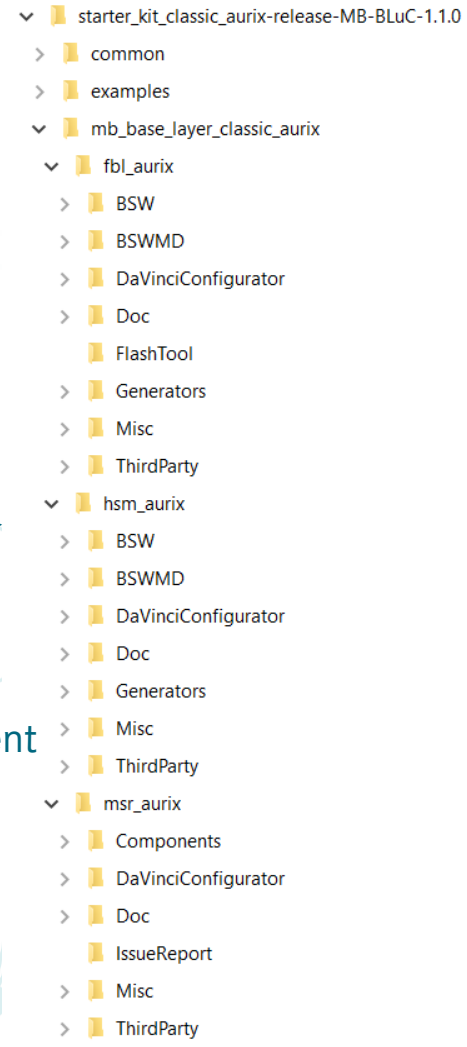
    “..\starter_kit_classic_aurix\mb_base_layer_classic_aurix\hsm_aurix\..”
  - Copy Flash Bootloader Package into folder:

    “..\starter_kit_classic_aurix\mb_base_layer_classic_aurix\fbl_aurix\..”

Before content is copied together:



After content is copied together:



Next Steps for ECU-Projects

- MSS 10730 V8.1 → ECU supplier
- Order separate offer from Vector (in case of need) → General License still in clarification
- Validate MB SW-Base-Layer feature set against ECU requirements → AddOn´s necessary?
- Purchasing of MCAL license and MCAL software
- Purchasing of relevant tool chain
- Purchasing of AddOn´s (if necessary)
- Risk-Management for each ECU → DAI “Fachbereich”
- Access to Diagnostic Portal (Standard-Software area) → ZULA
- Accept rights of use in the document “Agreement for delivery”
- Accept “Export Control Statement”
- Start development with Step1a release – available: 30.11.2020 EoB
- Update on Step 1b (mandatory for BROP milestone B1) – available: 31.01.2021 EoB

Backup

Content and Scope

General license – what´s included:

AUTOSAR Classic Stack (SLP/HLP)

- Microsar Stack Package (Part1)
- Flashbootloader Package (Part3)
- HSM Package (Part4)

AUTOSAR Adaptive Stack (Part2)

- Adaptive AUTOSAR SW Product (“Development Share”)
- Reference implementation based on QNX

Additional Mercedes-Benz specific SW parts (Part6)

- E.g. SSA, Diag-SWC, OTA, Adaptive Components (UCM-Client, SM)

Coaching and Support

- First-Level-Hotline
- Coaching (50h/ECU)
- Starter Kit (example integration, documentation, webinare)

Base-Safety Case

- Support of general Safety Case up to ASIL C/D

General license – what´s excluded:

MCAL

- MCAL License and Software → Infineon

Tooling (Part 5)

- Tool licenses (reference tool chain: Vector Informatik)

Deviations from MB-Base-Layer

- E.g. different Reference-Hardware, OS (Adaptive ASR), Compiler, ...

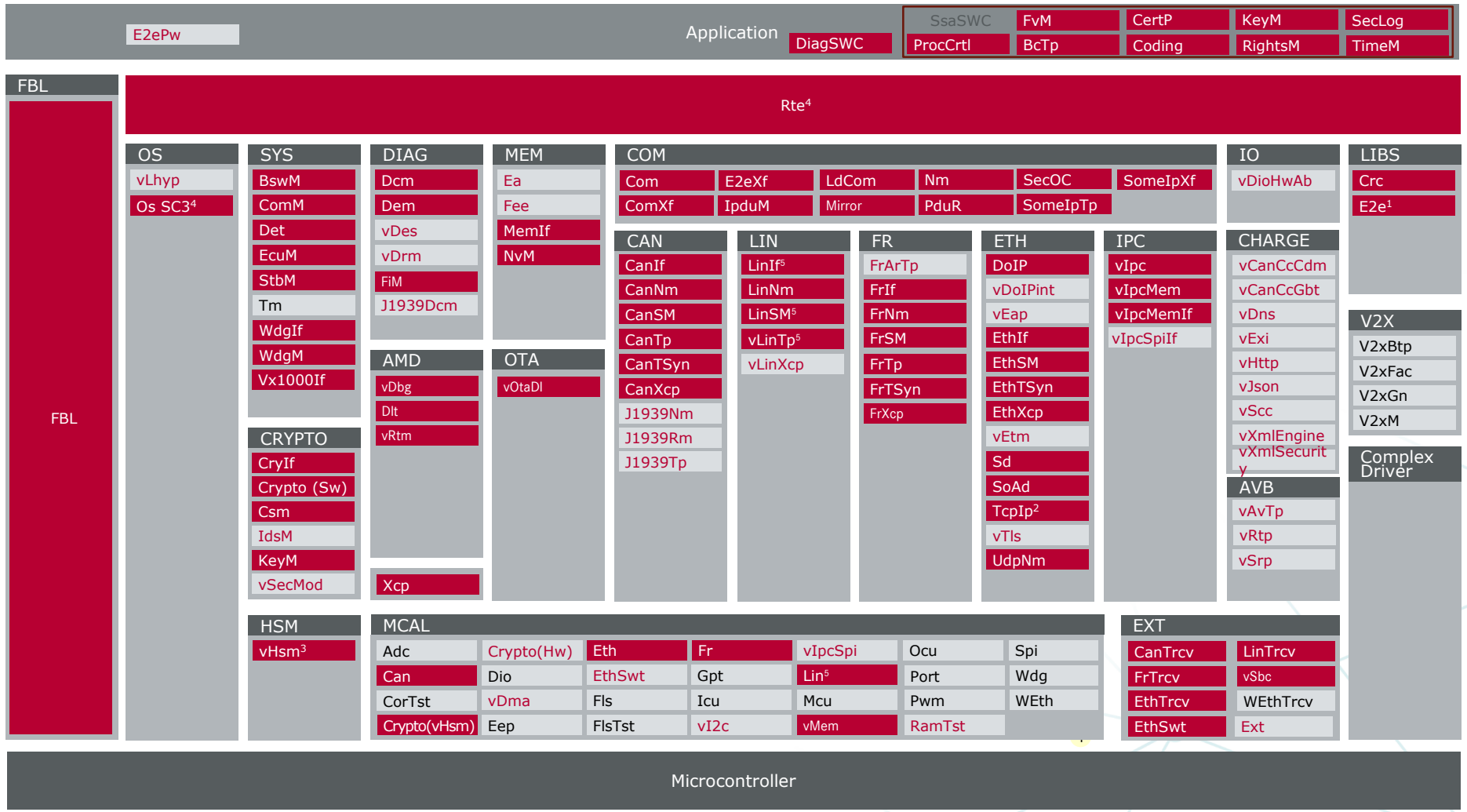
AddOn´s

- Feature AddOn´s (e.g. Smart Charging)
- License AddOn (e.g. OBD)
- Hypervisor (Adaptive AUTOSAR)

Different Stack Supplier

- E.g. Bosch Cubas, Elektrobit

• MICROSAR Classic: SLP11 Architecture



1) MCAL is provided by Infineon, parts (e.g. communication driver) are provided by Vector

2) Fee (at Aurix TC39xx) is part of the Infineon MCAL scope

[1] Includes Profiles 2, 5, 6 and 7
[2] Includes IPv4 and TLS Addons
[3] Includes Asymmetric Crypto, Certificate Handling, OS SC1 and Hsm Updater Addons
[4] Includes Memory Protection and Multicore Addons
[5] Includes Lin Master and Slave

Source: Vector-Informatik GmbH

Reference Hardware & Base Safety Case

The MB SW-Base-Layer Part A based on a dedicated reference hardware → see MSS10730 V8.1

The Base-Safety-Case is valid for
- Reference Hardware
- Compiler Version
- Compiler Options
- Software Release (e.g. SLP11.27.07)

14.1 Hardware Reference Overview

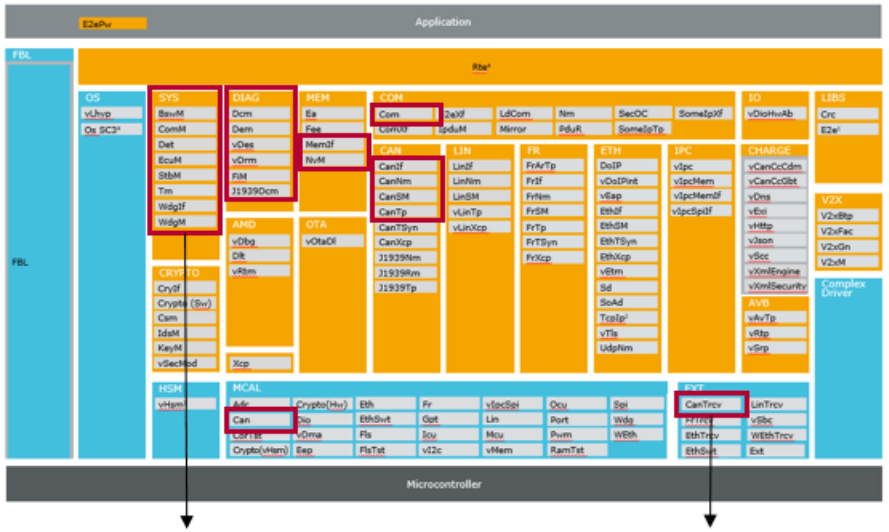
HW reference:

Classic AUTOSAR:	
Microcontroller derivate	Infineon Aurix TC39x
	Infineon Aurix TC38x
	Infineon Aurix TC3Ex
	Infineon Aurix TC37x
	Infineon Aurix TC36x
	Infineon Aurix TC35x
	Infineon Aurix TC33x
	Infineon Aurix TC32x
Microcontroller PMIC	TLF35584
	TLF35585
CAN-Transceiver	NXP TJA 1043
	NXP TJA 1052i
LIN-Transceiver	NXP TJA 1021
	NXP TJA 1022
	NXP TJA 1024
	NXP TJA 1029
Ethernet Switch	Marvell 88Q5072
	Marvell 88Q5050
	Marvell 88Q5192
Ethernet PHY Transceiver	Marvell 88Q1110
	Marvell 88Q2120
	Marvell 88Q1111
	Marvell 88Q2122
FlexRay-Transceiver	NXP TJA 1081G
	NXP TJA 1083G
	NXP TJA 1085G (Active Star)
Adaptive AUTOSAR:	
Microprocessor	NVIDIA ORIN
OS	QNX

The listed HW derivates are the HW reference plattform for the MB SW-Base-Layer.

Business Model – MB SW-Base-Layer Part A

MICROSAR Classic Basic Software

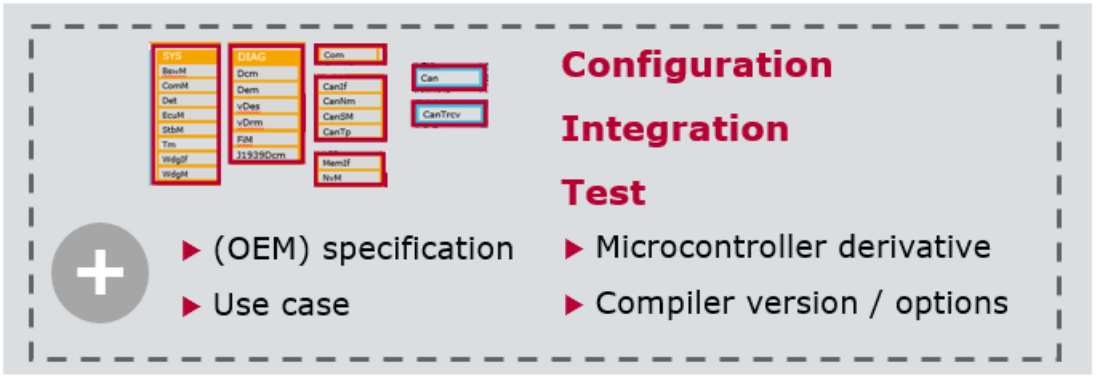


HW-independent modules

"Right of use" covered by
SLP: **S**oftware **L**icense **P**ackage

HW-dependent modules

"Right of use" covered by
HLP: **H**ardware **L**icense **P**ackage



SIP: Software **I**ntegration **P**ackage

SLP / HLP / SIP Model

Source: Vector-Informatik GmbH