Roadmap PREEvision 9.5

PREEvision User Day 2019, Stuttgart
Model-based Electric/Electronic Development
from Architecture Design to Series Production

- Support of Series-Production Use Cases
- Process Support
  - Version Management
  - Life Cycles
  - Ticket-, Release- and Change Management
- Team Collaboration
  - Many Users, Multiple Sites
  - Usability for Sporadic Users and Experts
  - Lazy Loading, Partial Model Support
- Integration
  - Requested Import and Export Filters
  - Synchronization with ALM and PLM systems
- Support of IT Requirements
  - Data Migration
  - IT Security
  - User Administration
  - License Management
PREEvision 9.5 Roadmap

PREEvision 9.5 Timeline

01.04.2019

PREEvision 9.5
Start of Development

Q3 2019

PREEvision 9.5
Feature Complete

Q4 2019

PREEvision 9.5
Release

PREEvision 9.5
Service Packs

Legend Planning Status

- Released
- Confirmed
- Planned
- New
Requirements Engineering and Requirements Management

- Requirements and Customer Features
- Variant Management
- RIF Import
- ReqIF Import and Export
- Excel Import and Export
- Generation of Documents and Reports
- For Integrated Requirements Management also the Logical Function, Software, Hardware, Wiring Harness and Communication Layers are used
Introduction of Change Logs

Support for recording, analysis and display of relevant changes

- On commit of an relevant artifact a ticket can be selected, changed artifacts are associated

- Change History allows to view the recorded changes regarding
  - change interval
  - relevant attributes

- Change logs can be displayed in table editors
AUTOSAR System and Software Design

- AUTOSAR Classic Support
- AUTOSAR Adaptive Support
- System Design
- Service Design
- Software Design
- Hardware Network Design
- Software/Hardware Mapping
- Software Library Layer and Software Architecture Layer available
- UML/SysML Diagrams
- AUTOSAR Classic Import and Export
- AUTOSAR Adaptive Import and Export
AUTOSAR Roadmap

- AUTOSAR Adaptive
  - Support for AR 19-03 (schema)
  - Further support for Hybrid System Design (AUTOSAR Classic & AUTOSAR Adaptive)
  - Support of C++ Data Types
- AUTOSAR Classic
  - Support for AR 4.3.1/4.4.0 (schema)
  - Enhancements on ECU Extract and interoperability of the AUTOSAR Vector Toolchain
Diagnostics Design

- Diagnostic Requirements
- Definition of DTCs, DIDs, IO Controls, ...
- Diagnostics Communication
- AUTOSAR Classic Import and Export
- AUTOSAR Adaptive Import and Export
- Documentation
Goals:
- New dedicated modeling layer for diagnostic objects in PREEvision
- Diagnostics requirements and realization in Software both in PREEvision
- Diagnostic data exchange between CANdela Studio and PREEvision
Diagnostics Design (2/2)

- Dedicated Modeling Layer for Diagnostic Objects in PREEvision
  - Data Identifiers (DID)
    - DID Parameters / Data Objects
  - Diagnostic Trouble Codes (DTC)
  - Routines

- Link between Diagnostic Objects and Software Artifacts
  - Details of Diagnostics are derived from Software Layer
    - Data Types
    - Intervals
    - Computation Methods
    - AUTOSAR References

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**DID**
- Readable
- Writeable

**DTC**
- Startable
- Stopable
- ResReqable

**Data Object**
- DataObject1:DID_SRI
  - SWC_DID
    - Type: SWC_StoredData / -;R+1 (Application S...)

**Routine**
- Routine1:Routine
  - SWC_Routine_1
    - Type: SWC_Routine / -;R+1 (Application SW Co...)

**Diagnose**
- DiagMon_DTC2:DiagnosticMonitor
- DiagInfo_DTC2:DiagnosticInfo
  - Type: SWC_DTC / -;R+1 (Application SW Co...)

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PREEvision 9.5 – Wiring Harness Design

Wiring Harness Design

- HW Network and Schematics Layer
- Wiring Harness and Geometry Layer
- Power, Fuses and Grounding Concepts
- Connectors, Cavities, Slots and Pins
- Wiring Harness Optimization
- Variant Management
- Generation of Specification Documents
- Export of Diagrams with Wiring Harness Designs
- KBL Import and Export
- VEC Import and Export
Improvements for Fuse and Relay Boxes

- Modeling of Fuse and Relay Boxes (FRB) will become more easy in terms of variants
  - Component Slots will be introduced to the FRB
  - Various Hardware Devices can be assigned to Component Slots
  - Also a more easy variant management of e. g. Fuses is achieved.

Hardware Device Slot
  e. g. Type „ATO“
Introduction of Color and Color Combinations of Insulations

- For **Wire Type**, **Cable Type** and **Wire Type Family** the Insulation Colors can be defined
  - Colors and
  - Color Combinations
- Color Combinations can be assigned to Wire Type, Cable Type and Wire Type Family
- Identical Color Combinations of Wire Insulations are defined just once
KBL Export Extensions

- The PREEvision KBL 2.4 Export will support
  - A metadata header with the following tags:
    > Generating_system_name
    > Generating_system_version
    > Generating_system_process
    > Generating_system_environment
    > Generating_date_time
    > Generating_user

- A new length type for the <General_wire_occurrence>
  > Not routed wires will receive "not routed" in the KBL attribute <Length_Type>.

- Customer specific values for empty attributes are supported:
  > Some attributes are relevant for schema validation and they must not be empty
  > If they are not filled by the customer, a customer specific value can be defined
  > PREEvision will write automatically the defined value to the KBL file
Product Line Engineering

- All Product Line Layers supported
- Product Lines
- Feature Model and Alternatives
- Concept Space and Concept Template
- Sets and Systems
- Variant Highlighting
- Variant Propagation Rules
- Variant Export
- AUTOSAR Variant Management Concepts
New Variant Point Wizard

Open Wizard with F2 on Label of Artifact „Single Wire W1“

This area shows existing variation Points of the artifact.

This area shows existing variation points of other artifacts.

This area shows the set content

This area shows the System Constants and Literals in the Library

(Literal X1 || Literal X2) || (Literal X1&&Literal X2)||(Literal X3||Literal X4)

Single Wire W1
Test Engineering and Test Management

- Requirements
- RIF Import, ReqIF Import and Export
- Test Specification
- Manual Test Implementation
- Automatic Test Implementation
- Test Planning, Execution and Analysis
- Integration with vTESTstudio and CANoe
- Excel Import and Export
- Documentation
- Change Management
Improvements for Test Specification Editor

Harmonization of the Look & Feel of
  ▶ Test Specification Editor with the
  Requirements Text Editor
E/E Backbone, Collaboration Platform, File Management

- All Product Line Layers supported
- File Management
- Productlines and Libraries
- Reuses and Assets
- Branches and Revisions
- Big Data
- Many Users
- Multiple Sites
- Server API
**Goal:** Enable collaboration of several users on one (reused) artifact

- Full and Shared Lock will become attribute/relation granular
- Locks will be extended to manage reuse, revisions and branches
Server API with Write Access

- **Write capability**
  - Create and Delete Artifacts
  - Modify Attributes and Relations
  - Modify Rich Texts and Files
  - Change Lifecycle States
  - Execute Model changing Metrics
  - Check-out and Check-in

- **Read capability**
  - Execute Model Search
  - Improved Read API (Paging, Batch Read)
Usability Improvements

- Support of Sporadic and Expert Users
- Usability of Diagrams
- Usability of Table Views and Table Editors
- Usability of Model View and Property Editors
- Search, Highlighting and Validations
- Metrics, Rules and Automation Interfaces
- Usability and Performance in general
Multi Language Support for String and Rich Text Attributes
RC2  PE ist falsch daher ersetzt  
Reichmann, Clemens; 15.03.2019

RC3  Alias ist mit ___ was soll das bedeuten?  
Reichmann, Clemens; 15.03.2019
Administration Improvements

- User Administration
- Roles & Rights Administration
- License Management
- Life Cycles & Custom Attributes
- Client Rollout and Preferences
- Operation and Maintenance
- Data Migration to next Release
PREEvision 9.5 – Administration

PREEstore: Distribution Workflow of Apps

Diagram showing the distribution workflow of PREEstore, including configuration model, customer model, and PREEvision client.
RC1  filter machen was? habe ich rausgenommen
Reichmann, Clemens; 15.03.2019
PREEvision JAVA strategy

- Oracle JAVA Runtime (JRE)
  - Oracle has changed the license model for JAVA
    - License fees for releases, patches and support starting with updates of JAVA 8 in April 2019 for productive use
    - We are not allowed to ship oracle Java any more
  - Oracle has changed the release cycles
    - Releases every 6 months
    - Long Time Support Versions with paid support > 6 months

- PREEvision Java strategy (since 03/2019)
  - Future PREEvision will bundle free Amazon Corretto JRE
  - PREEvision is independent of JRE provided by Oracle
## Strategic Roadmap (successive 9.5)

### Functional Capabilities

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RE/RM/TDM</td>
<td>Template Support, Interfaces, ...</td>
</tr>
<tr>
<td>Systems/Service</td>
<td>MSC-, Activity-Diagrams, <strong>Simulation</strong>, Security, ...</td>
</tr>
<tr>
<td>Software/UML</td>
<td>Adaptive AUTOSAR, AUTOSAR-Timing, <strong>V-IDE</strong>, ...</td>
</tr>
<tr>
<td>Network Design</td>
<td>Ethernet, AUTOSAR-Compliance, Bandwidth Analysis, User Interface Improvements, ...</td>
</tr>
<tr>
<td>HW/Wiring System</td>
<td>Central Computer, Backend, KBL 2.5, VEC-Compliance, WH-Synthesis, ...</td>
</tr>
</tbody>
</table>

**Further stabilization and improvement of existing functionality**

### Collaboration and Backbone Capabilities

<table>
<thead>
<tr>
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<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;1.000 User&quot;/Big Data</td>
<td>Big Commits, Archiving, Improved User Interface for System Feedback, ...</td>
</tr>
<tr>
<td>Change-Management</td>
<td>Impact Analysis, Patch Mechanism, Huge files, Review of Diagrams, Interfaces, ...</td>
</tr>
<tr>
<td>Product Line &amp; Variants</td>
<td>Exploration of History, ...</td>
</tr>
<tr>
<td>Operating</td>
<td>Auto Update, Worldwide, ...</td>
</tr>
<tr>
<td>Data Access/Server-API</td>
<td>Web Client, ...</td>
</tr>
</tbody>
</table>

**Further stabilization and improvement of existing functionality**
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