AP242 XML for the exchange of PDM data-structures in OEM COOPs

An insight into the day-to-day operations

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Our daily business...

Challenge: Each partner has his own IT world – it is not planned to give system access to partner → complex PDM structures have to be exchanged

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Current OEM cooperations

Various vehicle and powertrain cooperation projects which all use STEP AP 242 XML

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Usage of STEP AP242 XML in OEM cooperation

STEP AP242 XML - combined with JT - is used to exchange engineering structures, geometry and meta data in all projects of the OEM cooperation with RENAULT and NISSAN

- Vehicle projects
- Powertrain projects

Common Exchange Data Model: Project to define common Content and Implementation of STEP AP 242 XML among all three partners
Initial situation

Cooperation between OEM partner – possible tasks and data flows

- Development of own Interior and Exterior
- Development of Body and White for all
- Packaging for all partners
- Final assembly for all partners

Partner A

Partner B

Partner C

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AP242 XML for the exchange of PDM data-structures in OEM COOPs. | Daimler AG | 17.10.2018
Understanding & Mapping of partner structures / configuration / instantiation are one of the biggest challenges in PDM structure data exchange.
Results

- Complex process work with all OEM partners to develop a Common Exchange Data Model (CEDM) based on STEP AP242 XML aligned with all three OEM
- Implementation of STEP AP242 XML interfaces for all involved PDM systems
- Regular weekly data exchanges of various structures between all partners
- Exchange of complex vehicle and powertrain structures of different sizes (from small assembly to almost complete car)
- Automated sending of several thousand packages per year from Daimler to RENAULT and NISSAN
- Semi-automated import of hundreds of RENAULT or NISSAN packages per year
Challenges

• n PDM systems with different elements and classes, dynamic & static structures, variation where transformation information is located and further more differences

• “Young“ standard AP 242 XML changes more often (Rec. Practices, TC, …) which leads to a frequent re-implementation of interfaces

• Standardization of attribute name and harmonization of attributes is not a real benefit for productive PDM data exchange

• Usage of STEP AP 242 XML as a standard does NOT solve the problem of incompatible EDM philosophies
Any questions?

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  Engineering Data Exchange Methods
  System integration International Partners

• Jörg Katzenmaier – IT/DP
  Supplier integration tools and systems
  Interface for Product Structure Exchange

• Rolf Bosse – IT/DI
  Engineering Collaboration
  Concepts & Standards