

DEIXWG Digital Viewpoint Model (DVM) Concept Model – PDR Team

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Objectives

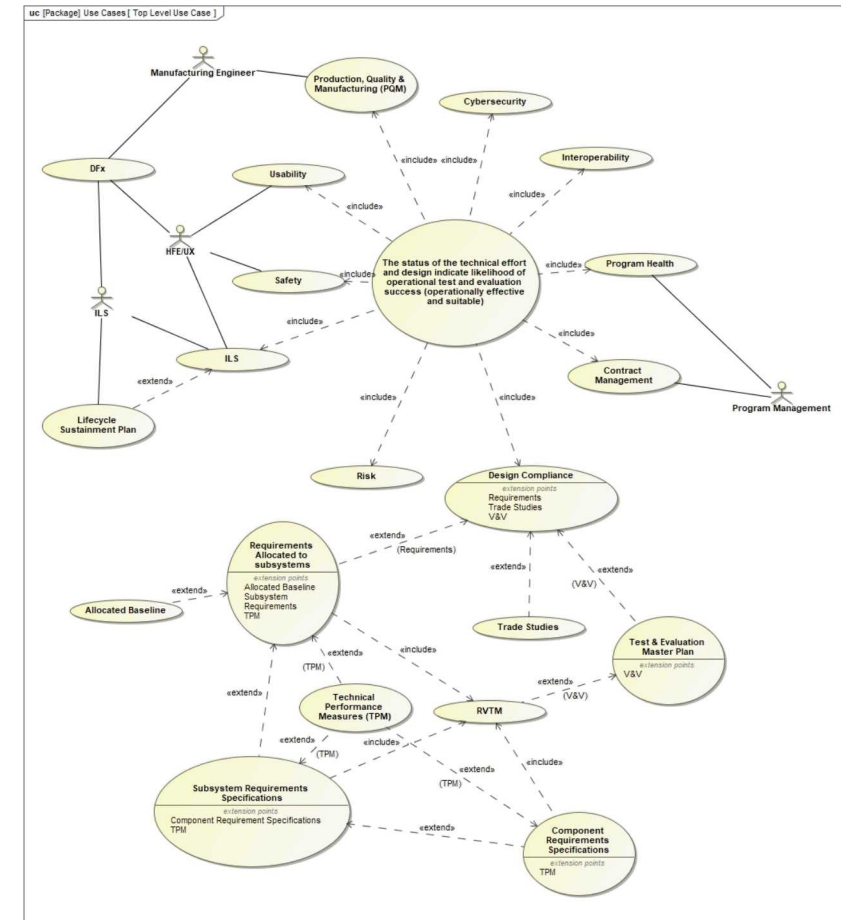


- Summarize PDR task team accomplishments
 - Identify user stories required for PDR milestone
 - Identify/Elaborate representative User Stories (Use Cases)
 - Identify types of digital products that can contribute to user stories
 - Define Digital Views attributes

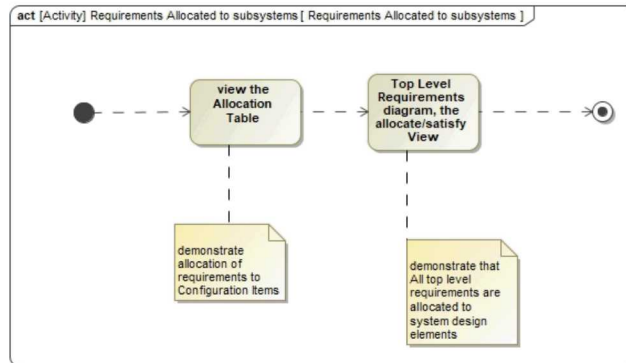
(Examples/screenshots of DVM concept model from design of Mid-sized Car)

PDR Task Team Accomplishments

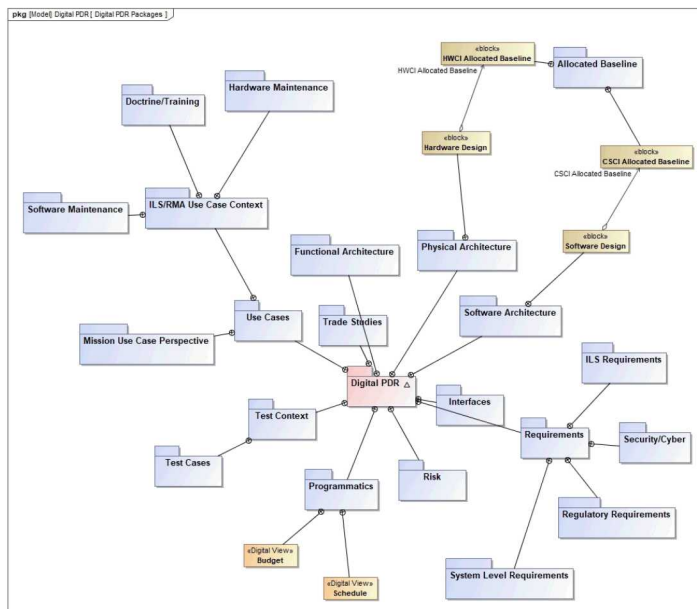
- Identify user stories required for PDR milestone
 - Based on Systems Engineering Standards (ISO/IEC/IEEE 15288, IEEE 15288.1, and IEEE 15288.2) typically referenced on Contracts for Department of Defense Acquisition Programs
 - Systems Engineering Technical Review (SETR Event) entry/exit criteria are elaborated as stakeholder “needs” and captured as Use Cases
 - Need = “why am I doing this?” perspective of entry/exit criteria



PDR Task Team Accomplishments



- Identify/Elaborate representative User Stories (Use Cases)
 - Conceptualize the User Story as a “Digital PDR Storyboard”. The Storyboard walks us through the digital information and describes the set of views for the Review.
- Elaborate User Story as an Activity Diagram
 - Activities elicit the information necessary in a “view” and capture it in a model specific context



- Identify Packages of digital products that collect user stories and digital information
- User stories packaged according to and aligned with Stakeholder, Perspective, Discipline, Domain, IPT, etc. E.g.
 - Program, Safety, Cyber...
 - Requirements, Architecture, Risk...
 - Logistics, Allocated Baseline...
 - Sub-system, Component...

PDR Task Team Accomplishments



View Attributes – Levels of View Fidelity associated with Digital Reviews



Low Fidelity – Initial Views/concepts.

Help's Design Team think through architecture and design options.
Are for “designers” eyes only, so only the owner has to be able to tell what the things drawn are. (i.e., they can look like crud, not be e.g. fully SysML compliant, etc., and that's okay.)



Medium Fidelity - More complete views - may be accompanied with additional metadata.

Usually for a design review (but not SETR event), with direct supervisors or colleagues.
Are to communicate with colleagues. The views must be clear enough to showcase the information being conveyed, but they don't have to be perfect.
Are usually accompanied by a verbal explanation, rather than a written one.



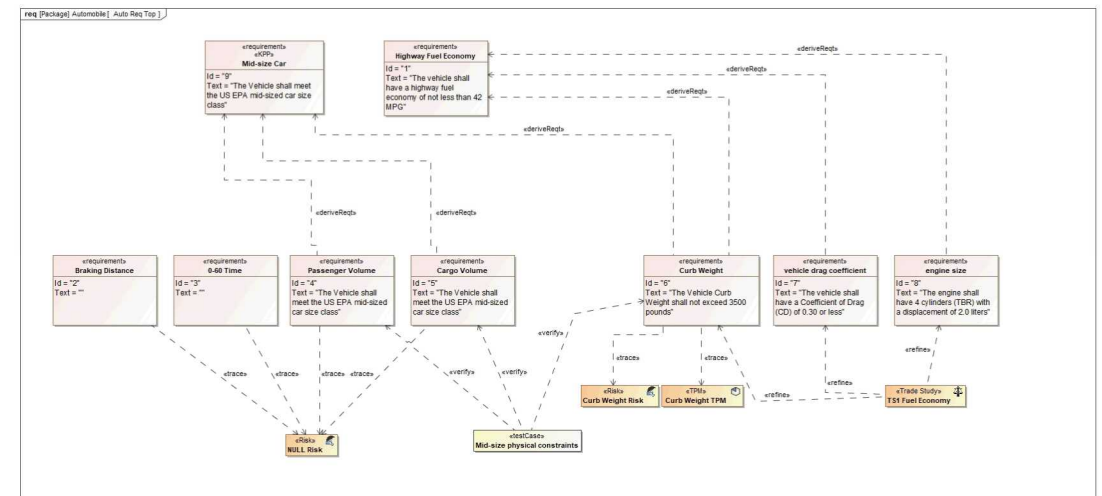
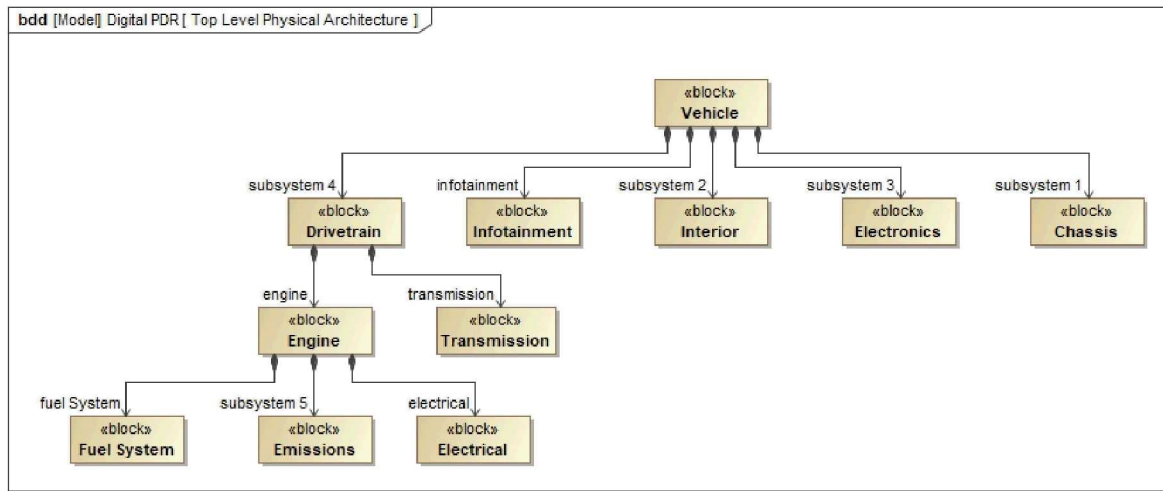
High Fidelity - 80/20 Rule for completeness. Metadata captured for all relationships. Significant documentation in the model/view.

Are for customers, investors, important presentations, etc. (SETR Events)
Are an evolution of Low or Medium Fidelity Views, revised, adjusted, extended and elaborated.
Are aligned with baselines (Functional, Allocated, Product) and under full CM
Will be accompanied by verbal descriptors during the review but has significant written documentation embedded.
Meets model language syntax (e.g. SysML syntax compliant).

PDR Task Team Accomplishments

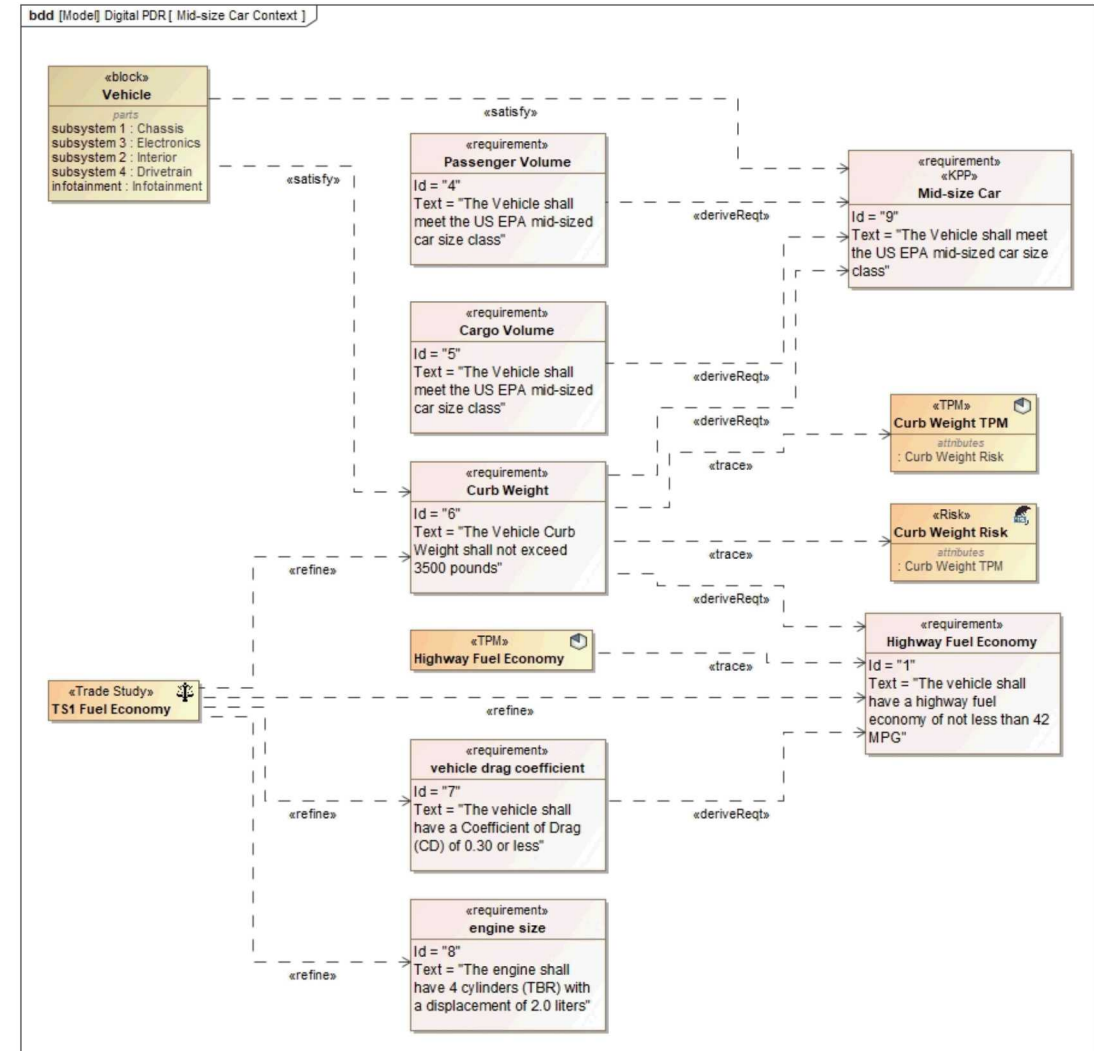


- Example Typical (expected) views
 - Physical Architecture
 - Requirements Allocations



Example Derived View & Traceability

- Top Level “PDR” View that includes
 - Risk
 - Trade Study Allocations
 - Technical Performance Measures (TPM)



PDR Task Team Accomplishments

Digital Views & Perspectives

- Fluid / Flexible
- View is a Generated Perspective; a path through the model based on information and relationships.

