Data Model for the Exchange of Geometrical Information

Version 1.0

VDA AK CAD/CAM
WG Car Electric
2007-12-05

VDA

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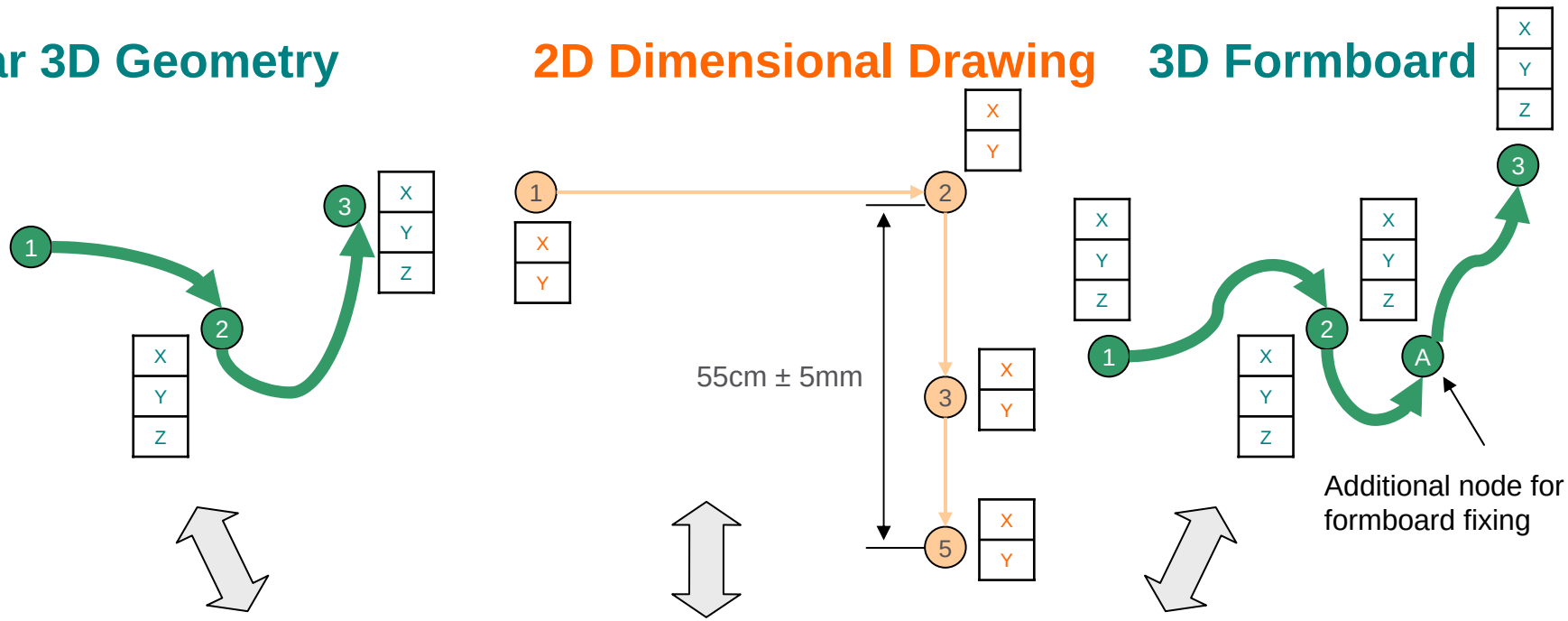
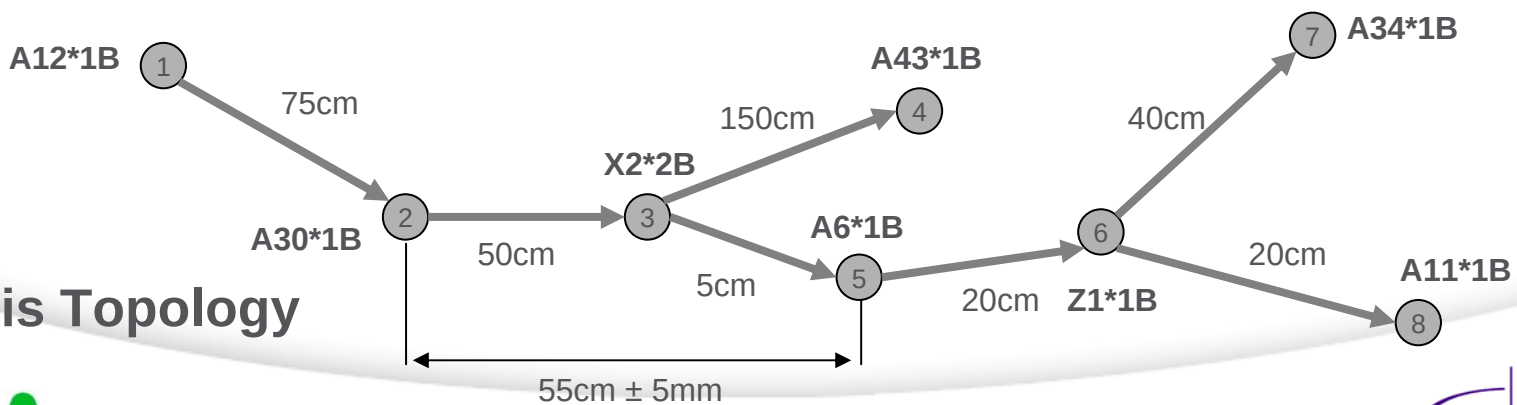
Principal sketch

Car 3D Geometry

2D Dimensional Drawing

3D Formboard





Basis Topology

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Overview

- The Geometry model is composed of several views:
  - harness in the car, on the form board, …
  - a 2D geometry is always associated unambiguously with a 3D geometry
- There is a basis topology (nodes, segments, part usages, attributes) where all views are related to
  - It is possible to exchange the basis topology, only (without view information)
- The 3D geometry is divided into geometric modules
  - geometric modules separate the harness into partitions defined by a configuration
  - a geometric module is assigned to exactly one zone and exactly one harness
- 2D drawings may contain several configurations (150% view) and may exceed zone limits
  - Basis of contract for manufacturing

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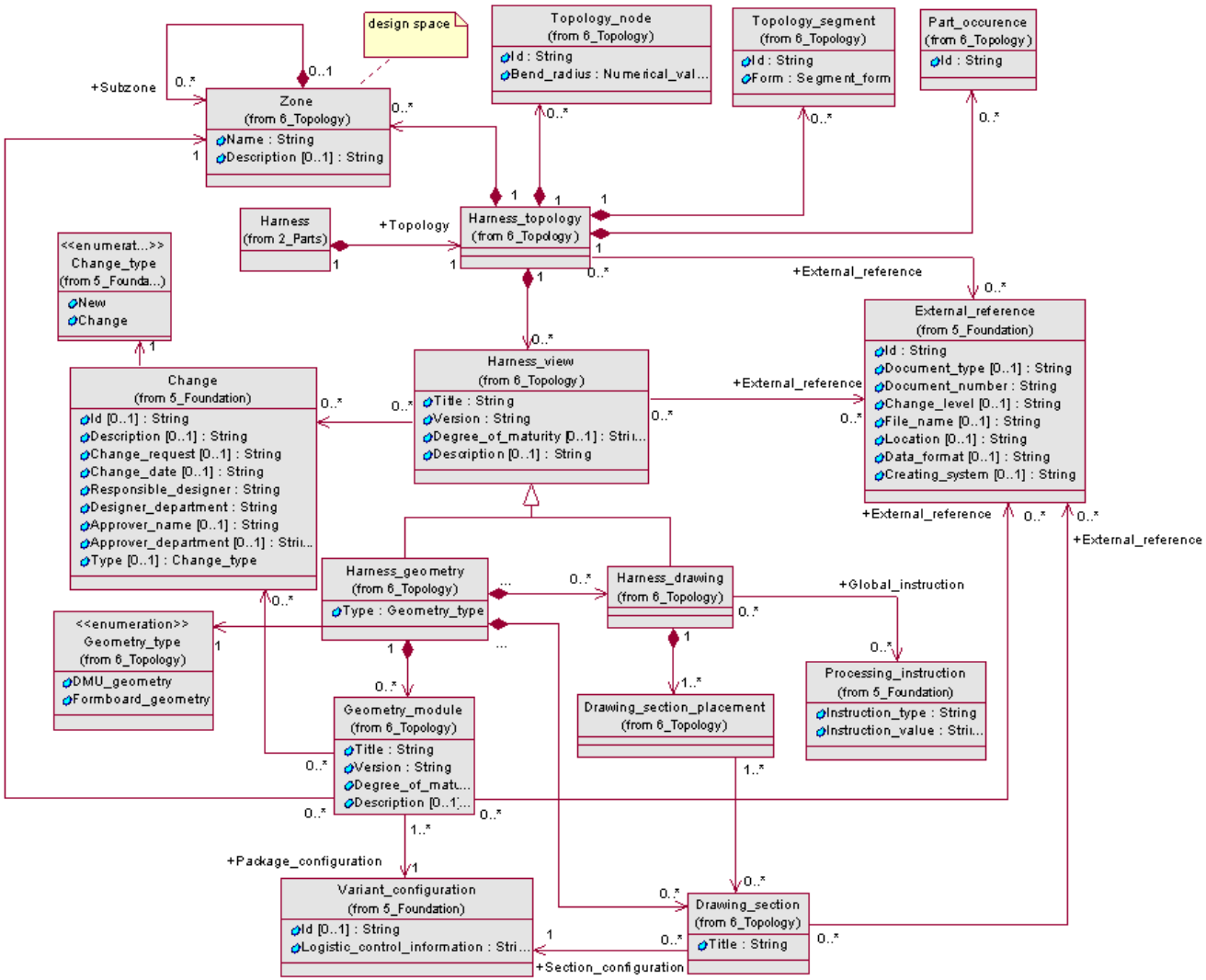
Harness Topology and Configuration



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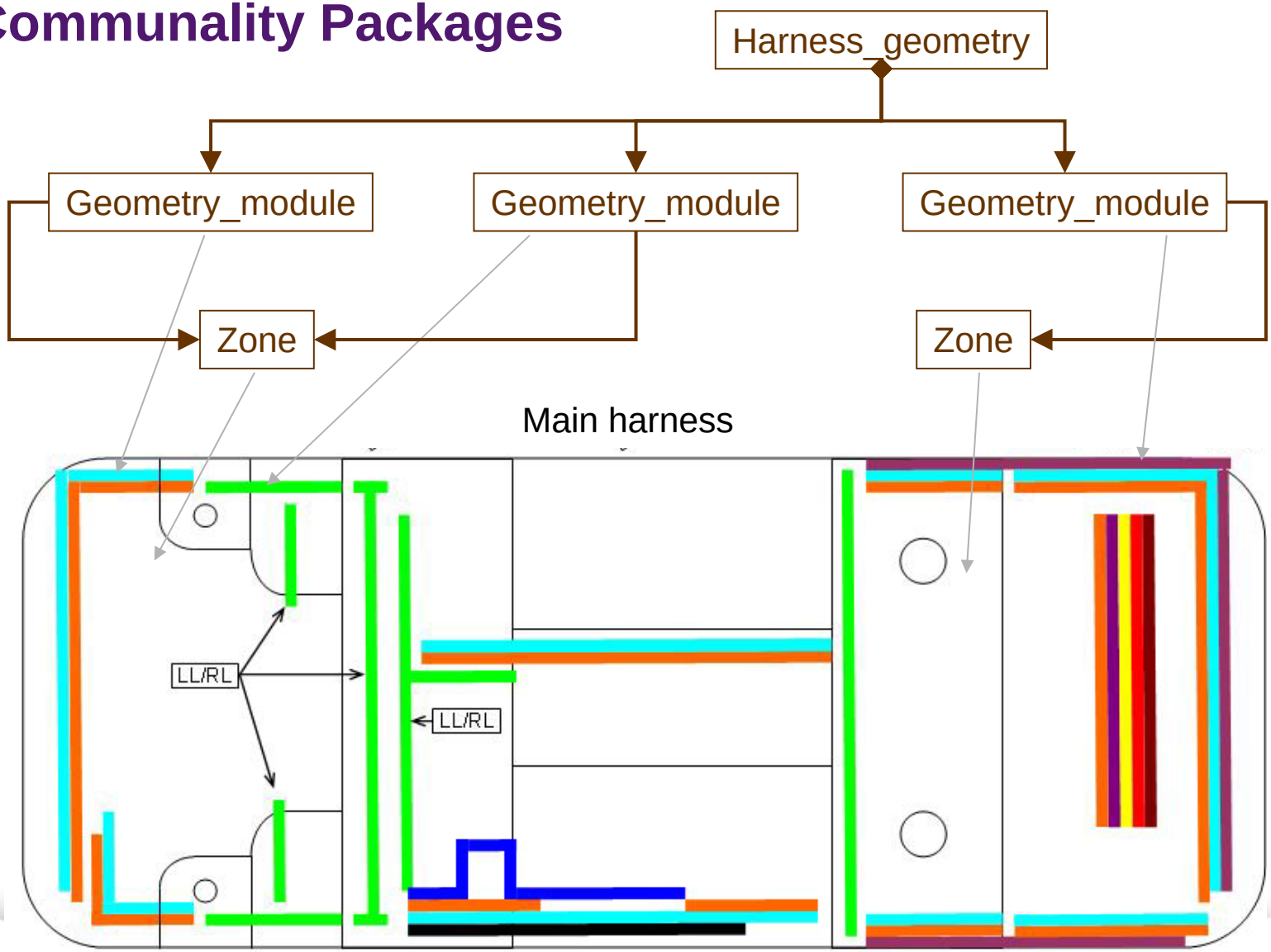
Communality Packages



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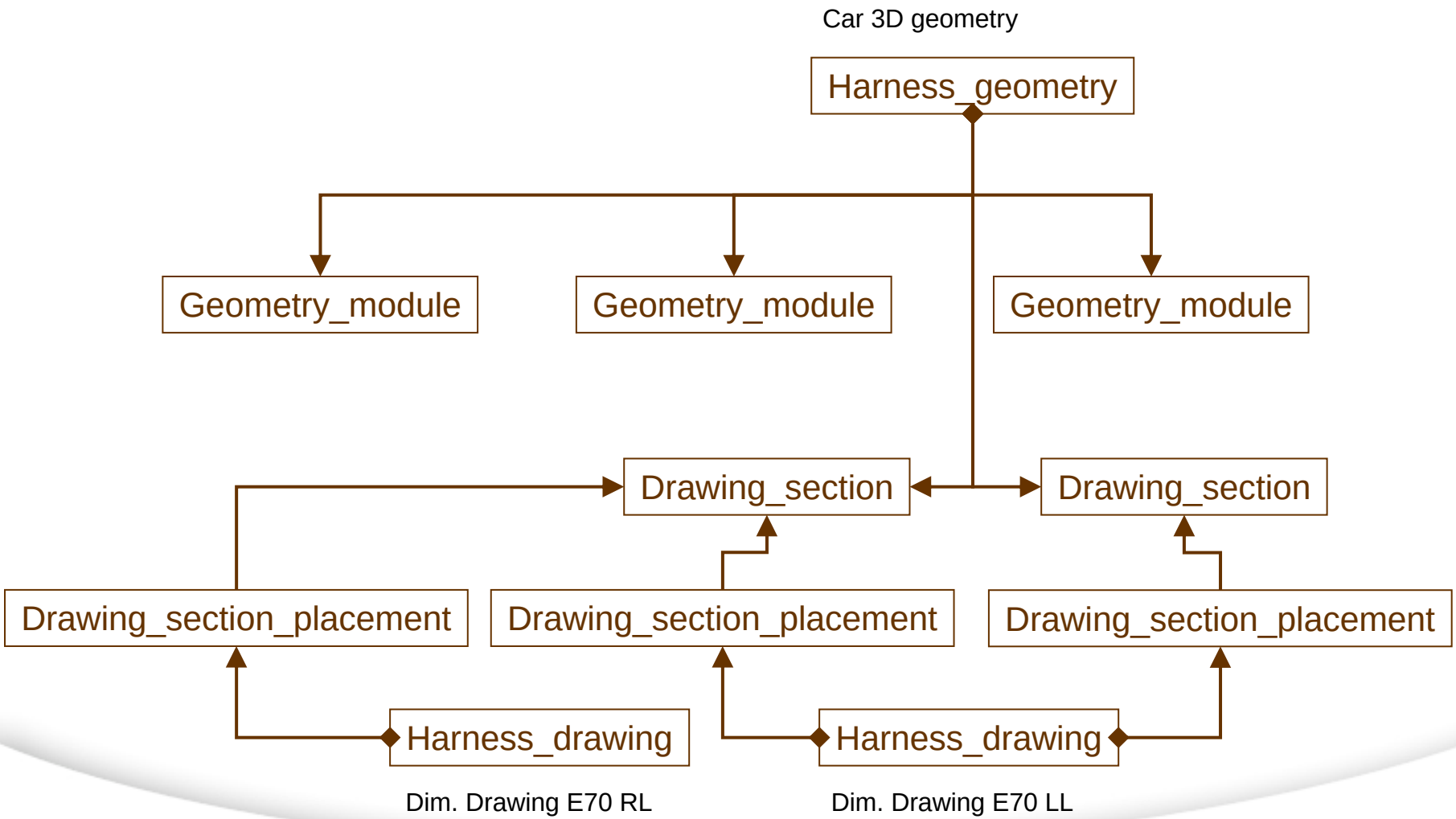
Communality Packages and Dimensional Drawings



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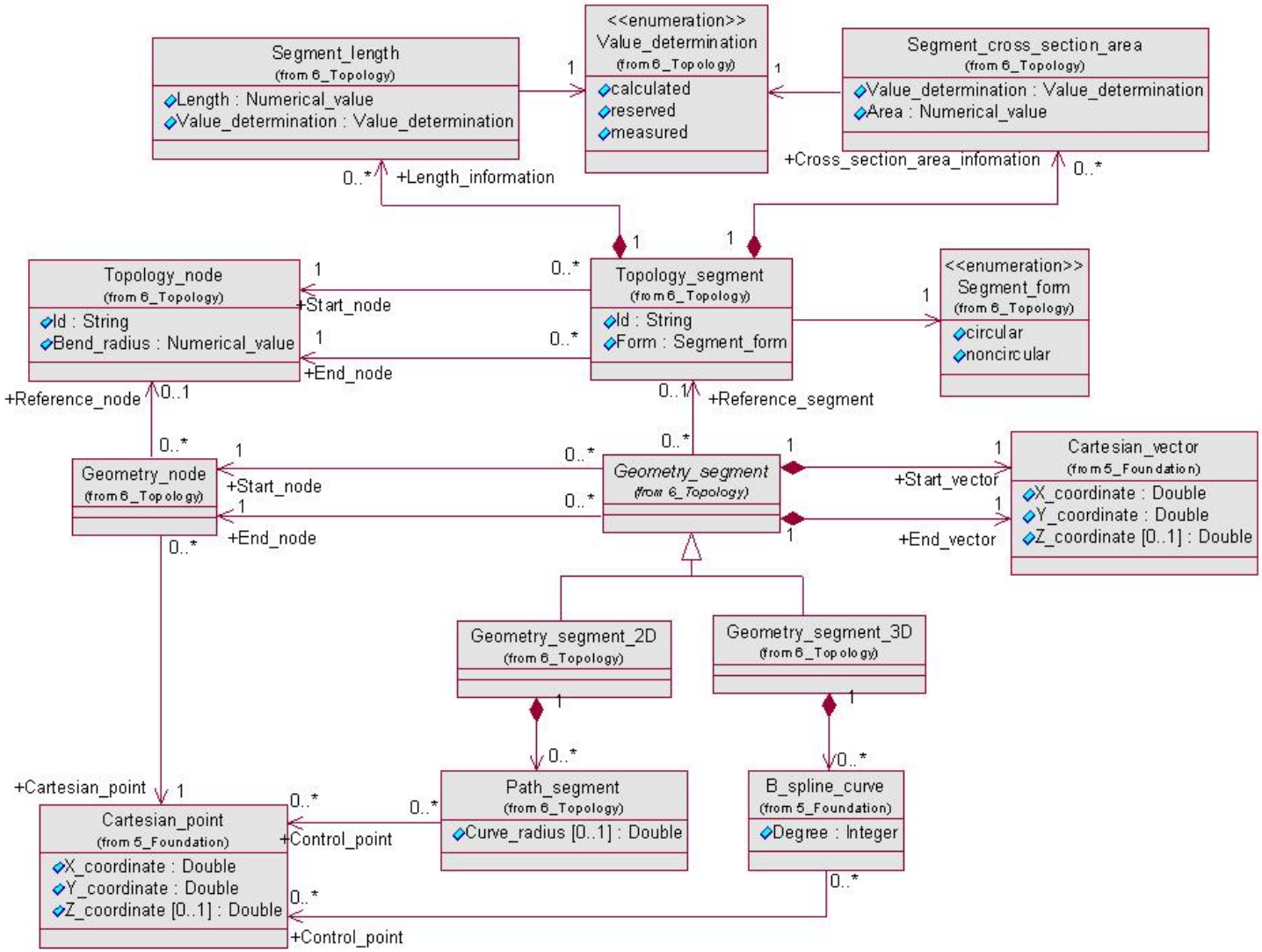
Topology vs. Geometry



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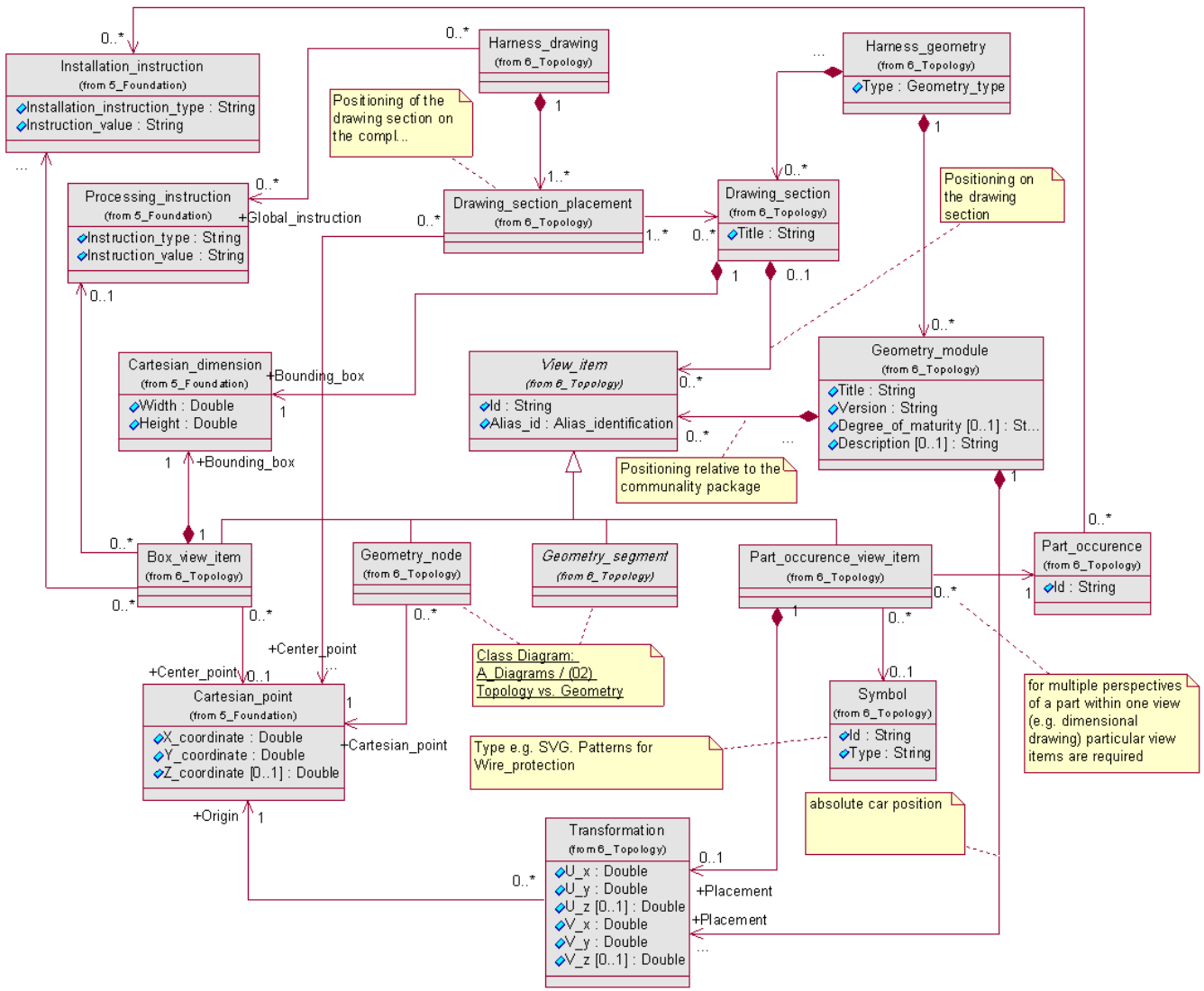
Harness View



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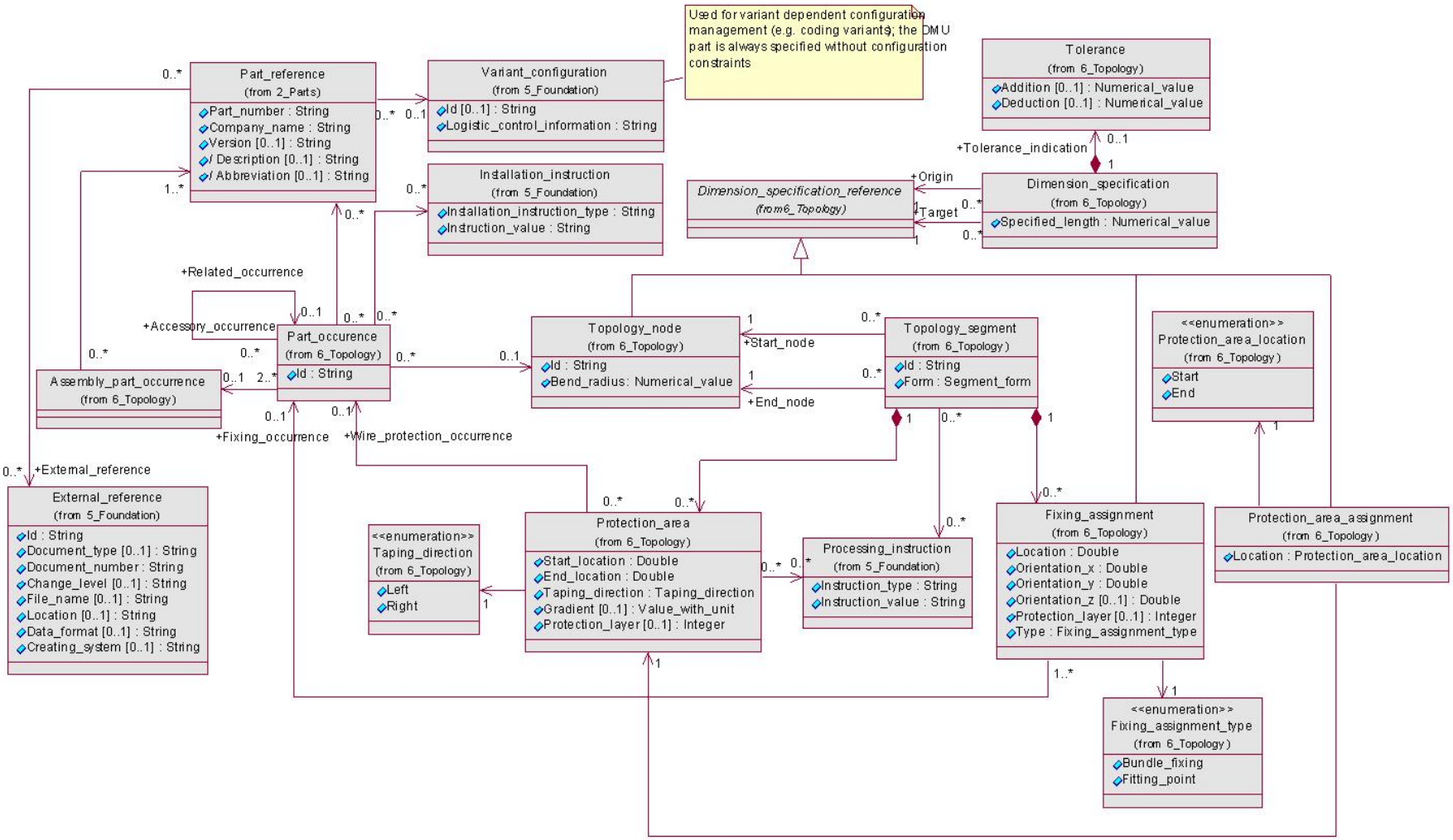
Part Occurrences



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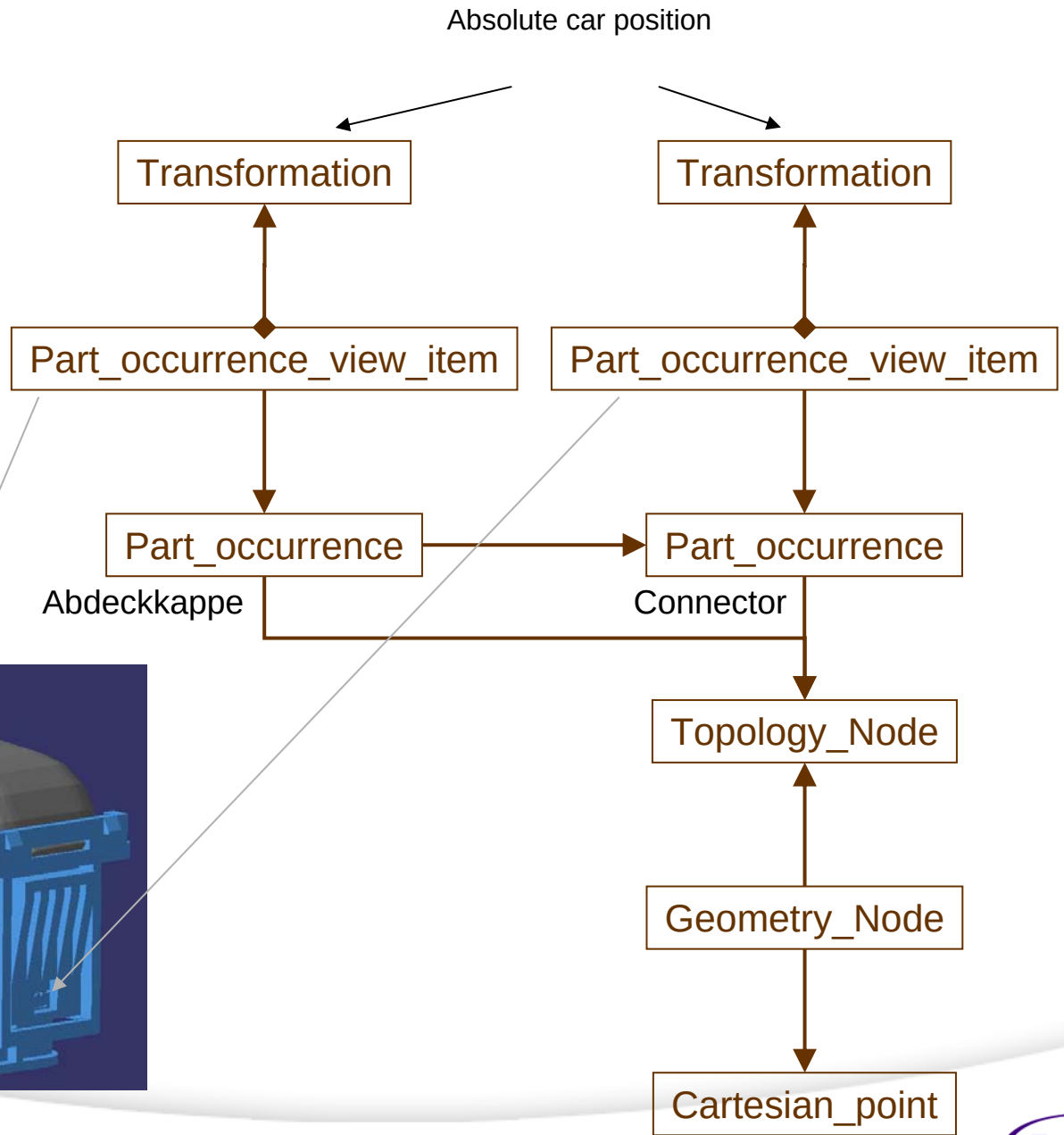
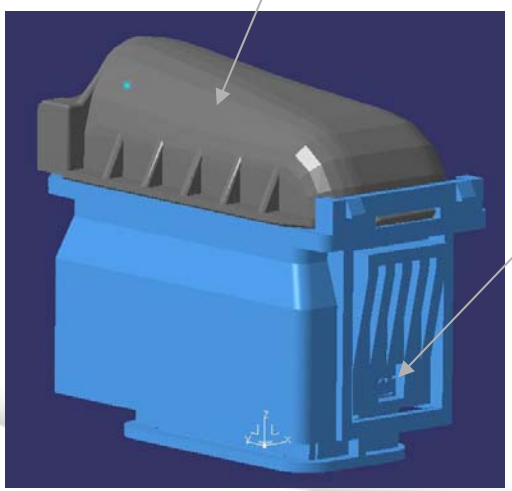
Connector





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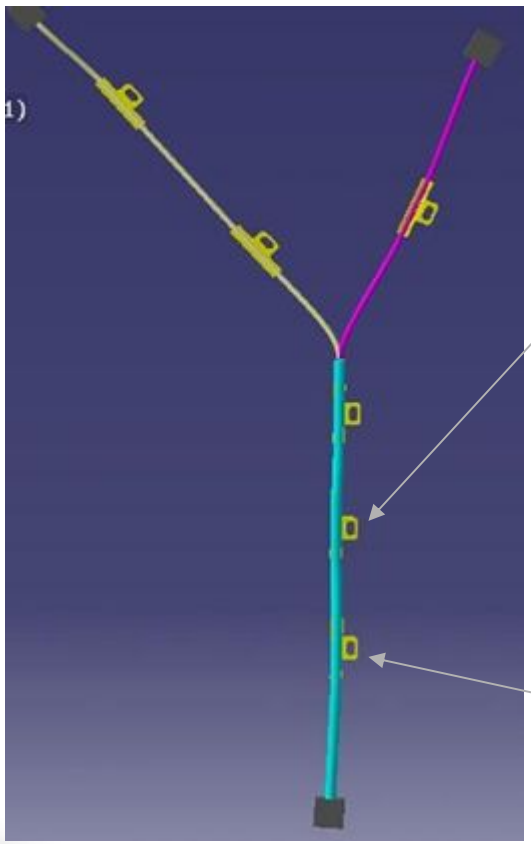
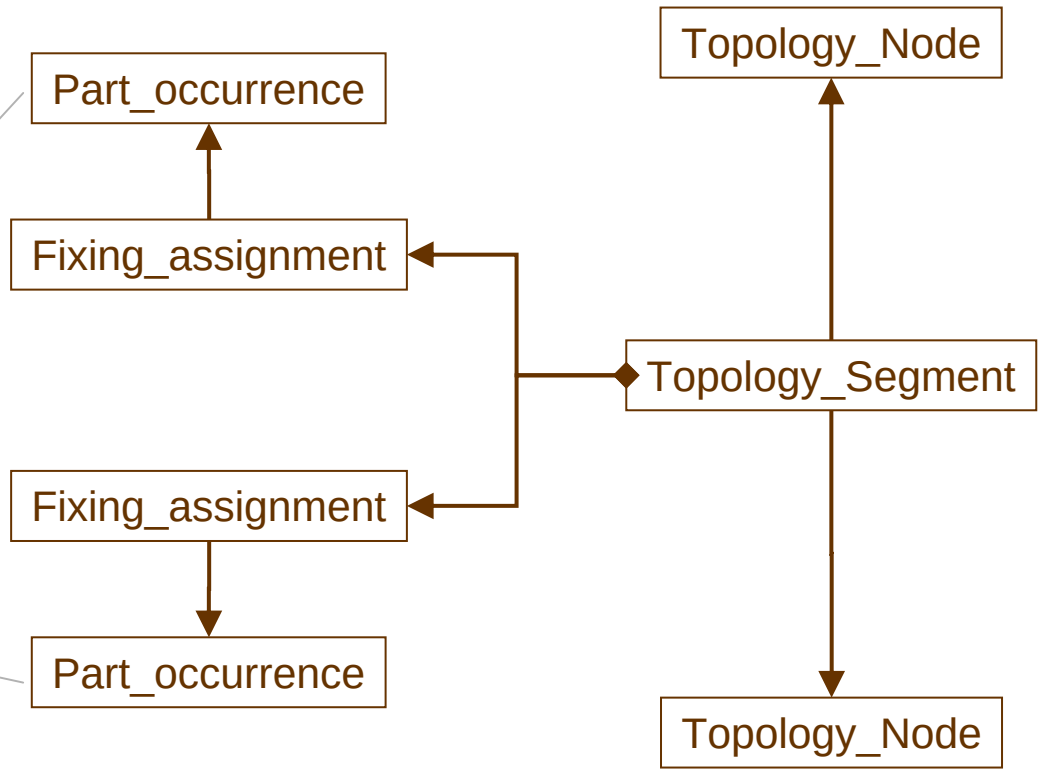
Fixing





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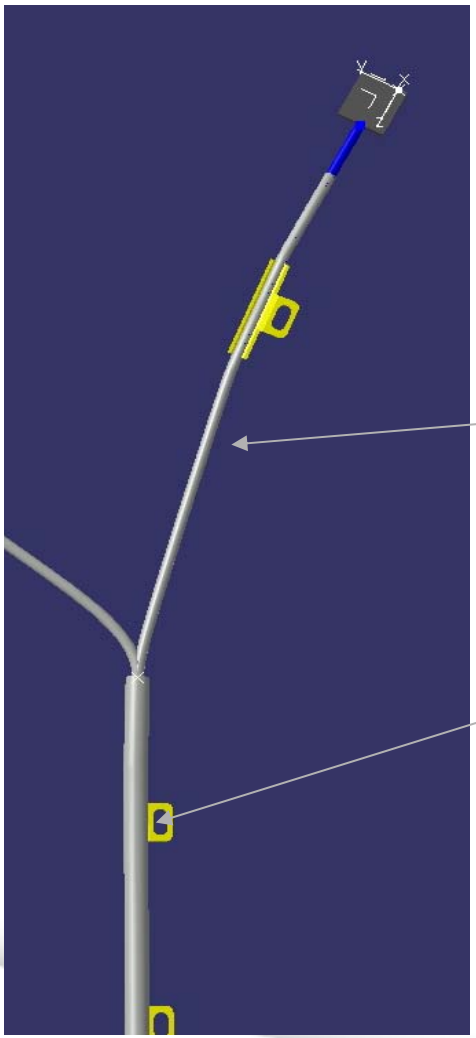
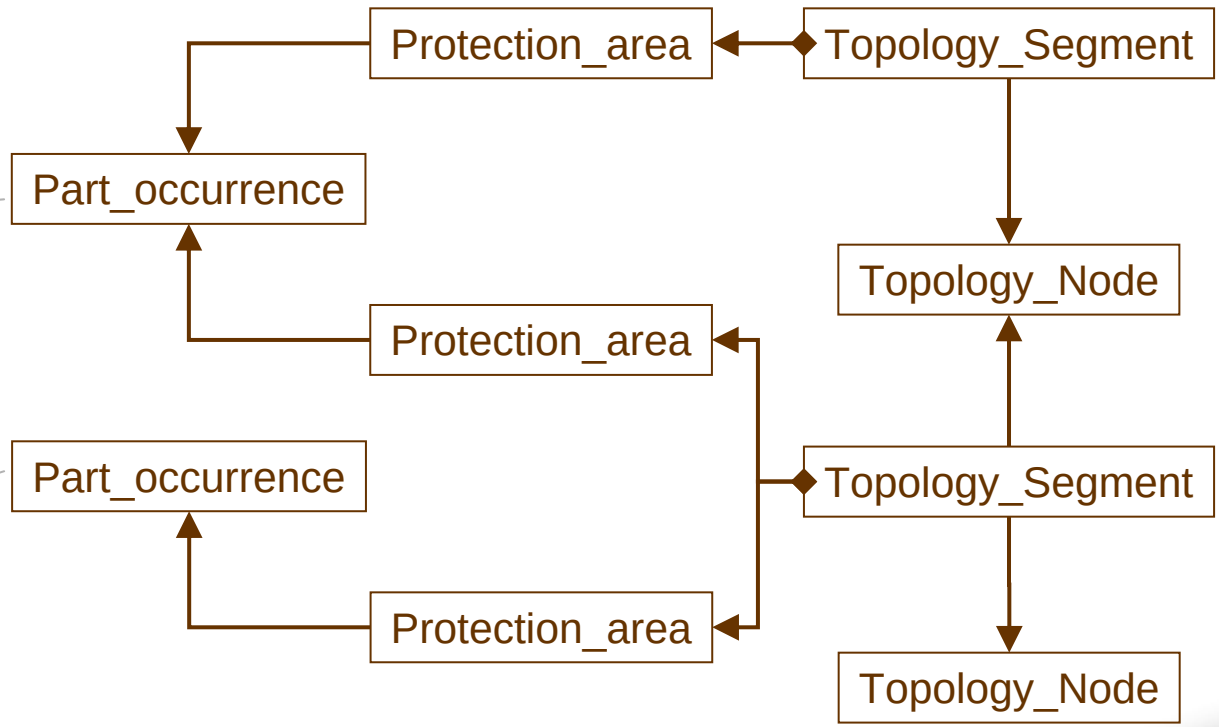
Wire Protection





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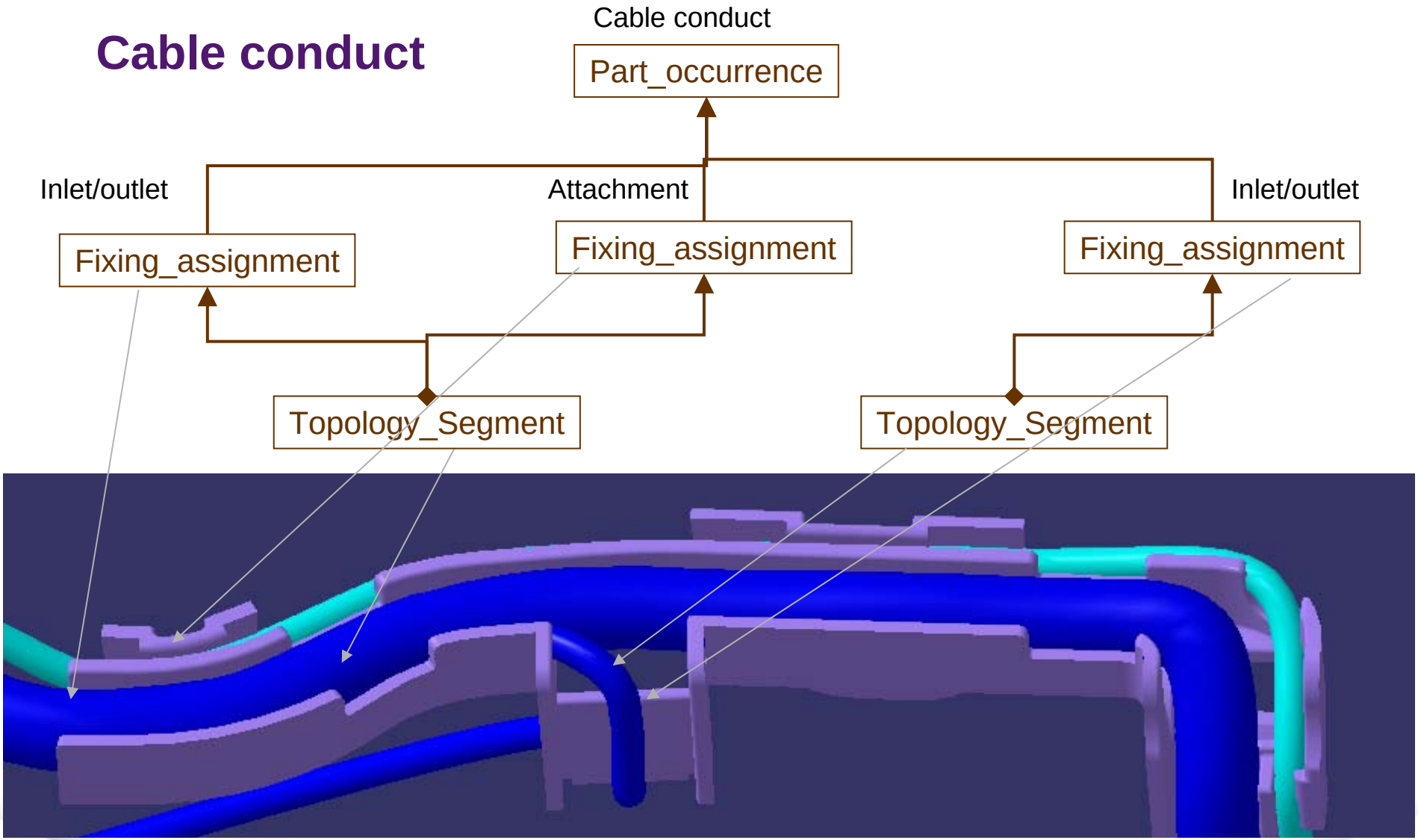
Cable conduct



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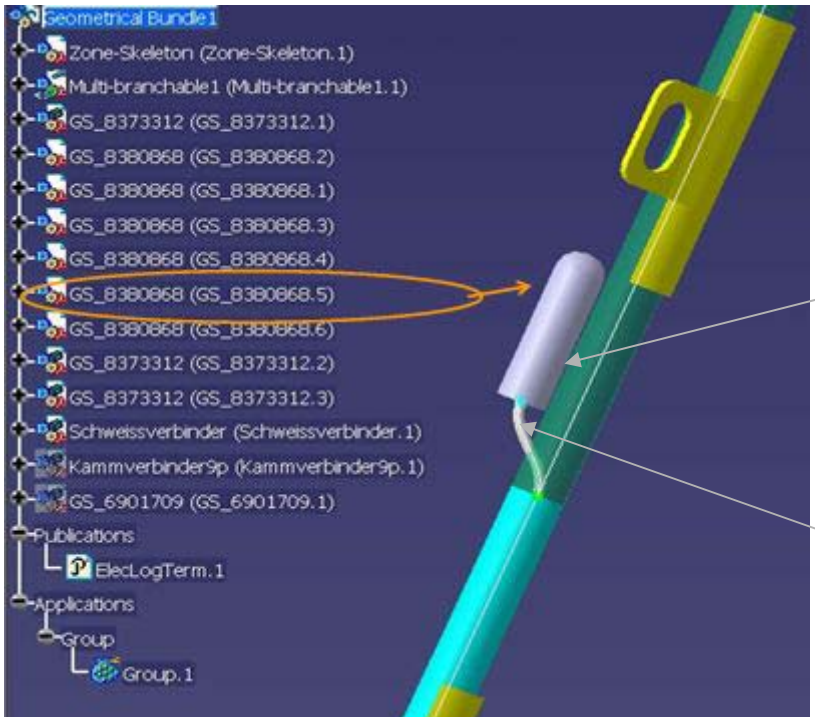
Splice



Transformation

Part_occurrence_view_item

Part_occurrence

Topology_Node

additional small Segment

Topology_Segment

additional node, unstitching the segment

Topology_Node

Topology_Node

Topology_Node

Topology_Segment

Topology_Segment

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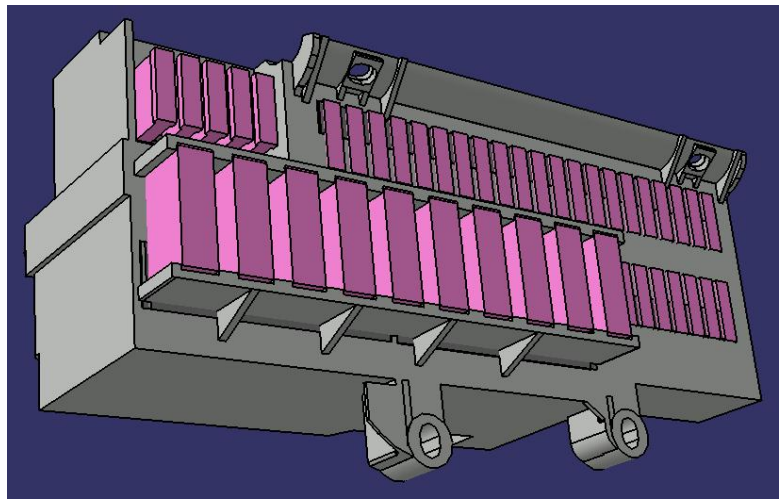
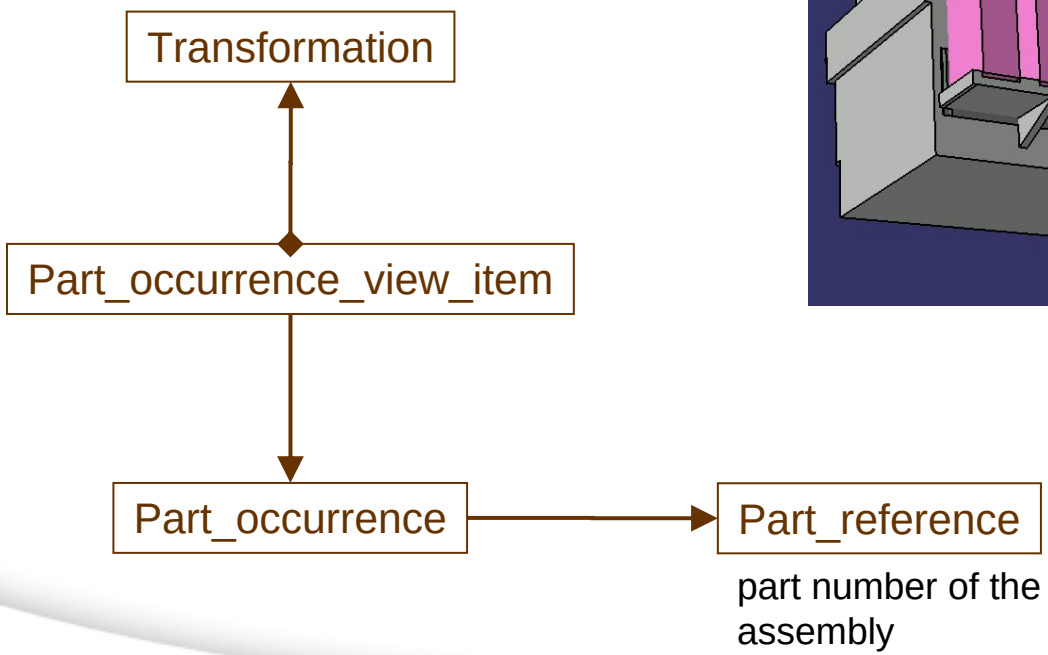
Assembly (1)
Placement as a single object





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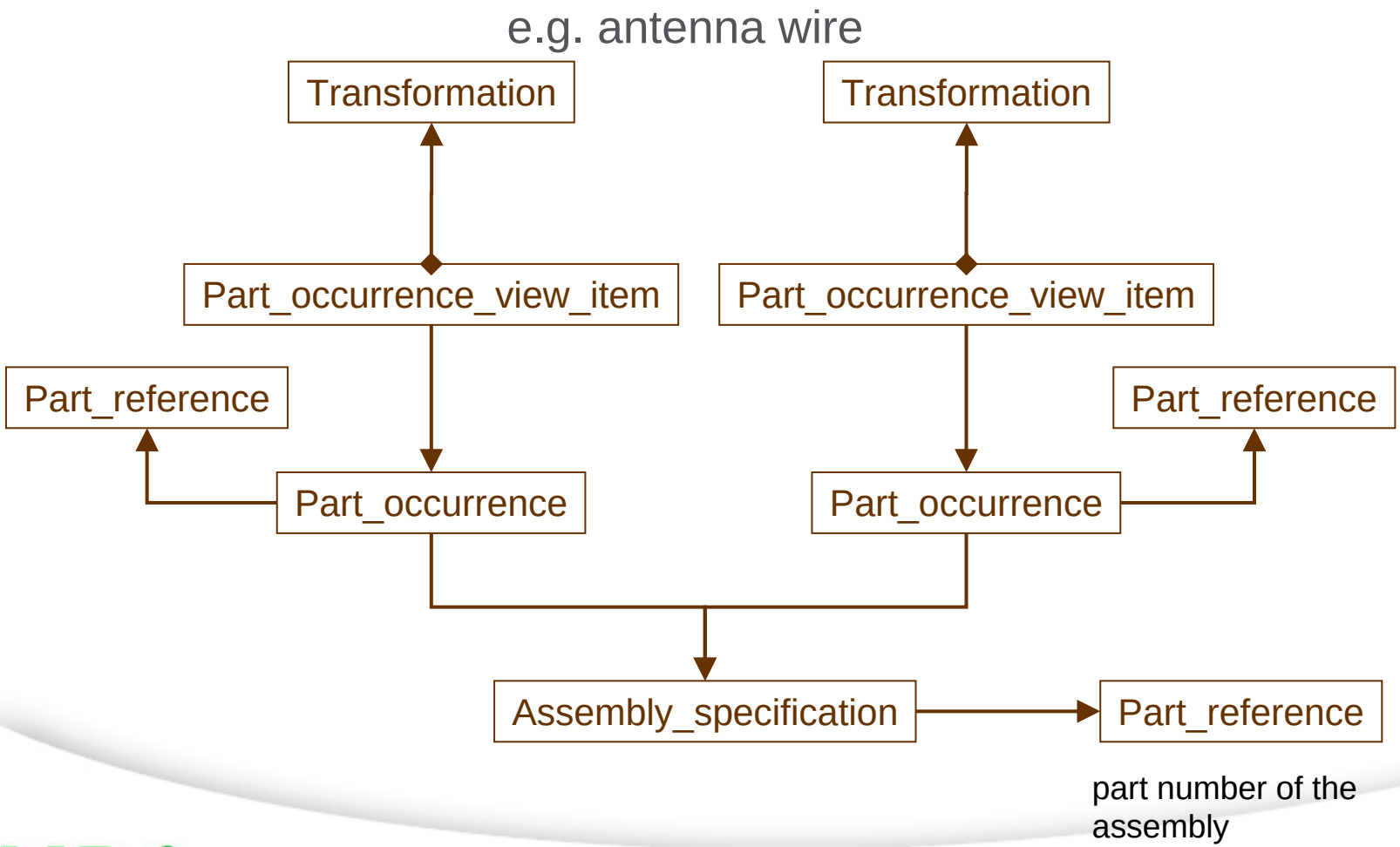
Assembly (2)
Placement of the individual components



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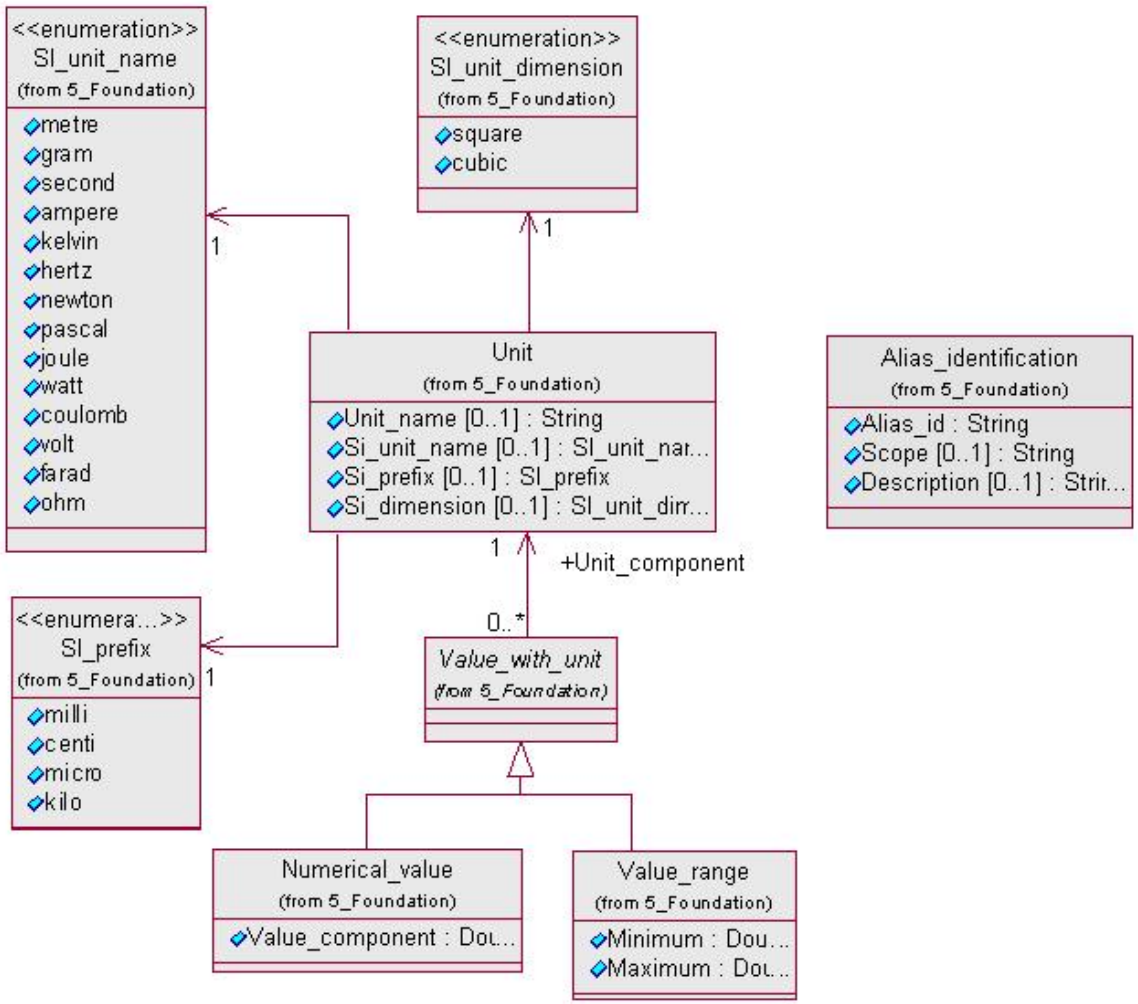
Miscellaneous



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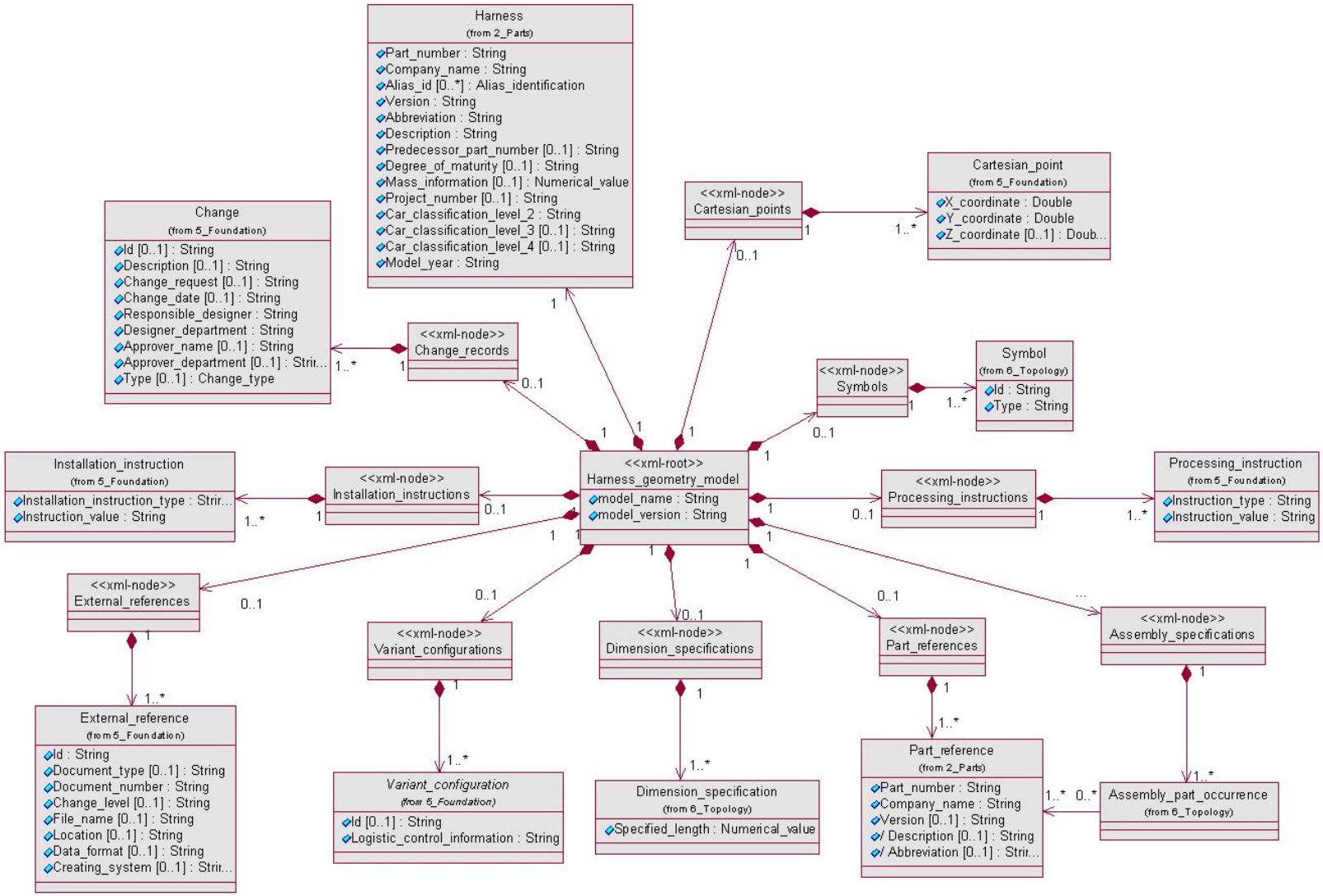
XML-Structure



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