Motivation

- Architecture decisions are the most important choices an architect has to make.
- Benefits of explicit decision documentation: avoiding knowledge vaporization, supporting change impact estimation, increasing system understanding, improving knowledge sharing, and facilitating architecture evaluation.
- Architecture decisions are often not documented because existing tools often do not meet the expectations and needs of the industry.
- We developed a decision documentation tool that aims to ensure industrial applicability.

Decision Architect

- Developed as an extension for Enterprise Architect, a widely-accepted UML modeling platform (Fig 3).
- Five decision viewpoints, each framing different concerns with respect to decision documentation.
- The five viewpoints are decision relationship viewpoint (Fig 3), dec. detail viewpoint (Fig 1), dec. chronology viewpoint, stakeholder involvement viewpoint, and dec. forces viewpoint.
- Enrich documentation by linking decisions to other model elements (Fig 2).
- Export decision reports in Word, PowerPoint and Excel, for example, for architecture reviews or stakeholder meetings.

Approach towards Industrial Applicability

- Compatible with existing architecture specification approaches (ISO/IEC/IEEE 42010).
- Based on an empirically validated conceptual decision documentation framework [2,3].
- Developed in close collaboration with experienced software architects.
- Integration into existing tool-chains and software development process.

Is Decision Architect applicable for decision documentation in industrial projects?

- Decision Architect has been evaluated in multiple industrial projects and is actively being used within ABB.
- Decision Architect is perceived as useful.
- The features have a high relevance for the software architects.
- The tools improve quality of decision documentation and increases productivity of architects.

References