SAF User Documentation : Logical Internal Interaction Viewpoint

Domain	Aspect	Maturity
Logical	Interaction & Collaboration	✅ released

Example

Purpose

The Logical Internal Interaction Viewpoint describes System internal behavior based on the exchange between the Logical SOI Elements Usage. It depicts the sequence of interactions between the Logical SOI Elements and the Exchanged Domain Item Kinds needed to accomplish a System Partial Function.

Applicability

The Logical Internal Interaction Viewpoint supports the "Develop Architecture Viewpoints", and the "Develop Models and Views of Candidate Architectures" activity included in the "Architecture Definition process" activities of the INCOSE SYSTEMS ENGINEERING HANDBOOK 2015 [§ 4.4] and contributes to the System Architecture description.

Presentation

A sequence diagram featuring the flow of control between Internal Logical Elements of the SOI. Note: This diagram depicts the sending and receiving of messages between the interacting entities called lifelines where time is represented along the vertical axis. The lifeline representatives are part properties typed by Logical System Elements.

Stakeholder

- Acquirer
- Customer
- Hardware Developer
- IV&V Engineer
- Operator
- Regulation Authority
- Safety Expert
- Security Expert
- Software Developer
- System Architect
- User

Concern

- How do internal system elements interact with each other to provide the system function or service?
- How does the system or a system element interact with the test environment?
- What additional information the system or a system element needs to generate to enable testing?
- What are the connections between the major system elements?
- What are the items exchanged between the logical system elements during the interaction?
- What is the necessary response time for an interface or a service?
- What kind of information is exchanged and processed within the system?

Profile Model Reference

The following Stereotypes / Model Elements are used in the Viewpoint:

- Interaction [UML_Standard_Profile]
- Lifeline [UML_Standard_Profile]
- Message [UML_Standard_Profile]

- SAF_LogicalInternalRole
- SAF_SLV04a_View

Input from other Viewpoints

Required Viewpoints

- Logical Structure Viewpoint

Recommended Viewpoints

- System Process Viewpoint
- System Functional Refinement Viewpoint