




SAF User Documentation : System Requirement Traceability Viewpoint

Domain	Aspect	Maturity
Functional	Traceability & Mapping	 released

Example

Legend

- SAF_SystemFunctionalRequirementRefinement
- SAF_SystemRequirementDerivation

Diagram

The diagram illustrates the relationship between requirements and their supporting artifacts. It is organized into two main sections: a left pane showing a hierarchical tree of requirements and a right pane showing a matrix of relationships.

Left Pane: Requirements Tree

- FFDS_Requirement
 - Fire Detection
 - SYS-REQ-002 Forest Fire Detection
 - Fire Monitoring
 - SYS-REQ-003 Forest Fire Evolution Monitoring
 - Fire Prediction
 - SYS-REQ-004 Forest Fire Spread Prediction

Right Pane: Relationship Matrix

The matrix shows the relationship between requirements (rows) and artifacts (columns). The artifacts are: Detect and Report Fire (context FFD), Request sensor data (context FFDS), Analyze FF data (context FFDS Cont...), Stakeholder Requirement [CONOPS, Capability [CEO FFDS Vendor, CPBLTY-11 Fire Detection, CPBLTY-12 Fire Monitoring, Capability [Fire Operations Expe, CPBLTY-25 Propagation Estim...].

The matrix cells contain values (1 or 2) and icons (pink arrow for SAF_SystemFunctionalRequirementRefinement, blue arrow for SAF_SystemRequirementDerivation). The relationships are as follows:

Requirement	Detect and Report Fire (context FFD)	Request sensor data (context FFDS)	Analyze FF data (context FFDS Cont...)	Stakeholder Requirement [CONOPS	Capability [CEO FFDS Vendor	CPBLTY-11 Fire Detection	CPBLTY-12 Fire Monitoring	Capability [Fire Operations Expe	CPBLTY-25 Propagation Estim...
SYS-REQ-002 Forest Fire Detection	1	2				1	1		1
SYS-REQ-003 Forest Fire Evolution Monitoring						1			
SYS-REQ-004 Forest Fire Spread Prediction							1		

Relationships (arrows) are shown between requirements and artifacts:

- SYS-REQ-002 to Detect and Report Fire (context FFD) (Pink arrow)
- SYS-REQ-002 to Request sensor data (context FFDS) (Blue arrow)
- SYS-REQ-002 to Stakeholder Requirement [CONOPS (Blue arrow)
- SYS-REQ-002 to Capability [CEO FFDS Vendor (Blue arrow)
- SYS-REQ-002 to CPBLTY-11 Fire Detection (Blue arrow)
- SYS-REQ-002 to CPBLTY-12 Fire Monitoring (Blue arrow)
- SYS-REQ-002 to Capability [Fire Operations Expe (Blue arrow)
- SYS-REQ-002 to CPBLTY-25 Propagation Estim... (Blue arrow)
- SYS-REQ-003 to Stakeholder Requirement [CONOPS (Blue arrow)
- SYS-REQ-003 to Capability [CEO FFDS Vendor (Blue arrow)
- SYS-REQ-003 to CPBLTY-11 Fire Detection (Blue arrow)
- SYS-REQ-003 to CPBLTY-12 Fire Monitoring (Blue arrow)
- SYS-REQ-003 to Capability [Fire Operations Expe (Blue arrow)
- SYS-REQ-003 to CPBLTY-25 Propagation Estim... (Blue arrow)
- SYS-REQ-004 to Stakeholder Requirement [CONOPS (Blue arrow)
- SYS-REQ-004 to Capability [CEO FFDS Vendor (Blue arrow)
- SYS-REQ-004 to CPBLTY-11 Fire Detection (Blue arrow)
- SYS-REQ-004 to CPBLTY-12 Fire Monitoring (Blue arrow)
- SYS-REQ-004 to Capability [Fire Operations Expe (Blue arrow)
- SYS-REQ-004 to CPBLTY-25 Propagation Estim... (Blue arrow)

Purpose

The System Requirement Traceability Viewpoint specifies for every System Requirement the traceability to the functional domain level

- System Use Case
- System Capability
- System Context Definition
- System Context Exchange
- System Context Interaction
- System Process

- [System State](#)

Applicability

The System Requirement Traceability Viewpoint supports the "System Requirements Definition Process" activities of the INCOSE SYSTEMS ENGINEERING HANDBOOK 2015 [§4.3] and contributes to the System Requirements Traceability. The System Requirement Traceability Viewpoint also contributes to the System Requirements Verification and Traceability Matrix (RVTM).

Stakeholder

- [Project Manager](#)

Concern

- What is the rationale for this system requirement?
- Which Stakeholder Requirements are addressed by System Requirements?
- Which system interface is addressed by a system requirement?

Presentation

A dependency matrix featuring relationships for every System Requirement to the functional domain level

- System Use Case
- System Capability
- System Context Definition
- System Context Exchange
- System Context Interaction
- System Process
- System State

Profile Model Reference

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

- [SAF_SFV08b_View](#)
- [SAF_SystemFunctionalRequirement](#)
- [SAF_SystemFunctionalRequirementConstraint](#)
- [SAF_SystemFunctionalRequirementRefinement](#)
- [SAF_SystemNonFunctionalRequirement](#)
- [SAF_SystemRequirement](#)
- [SAF_SystemRequirementDerivation](#)
- [SAF_SystemRequirementDerivation](#)
- [SAF_SystemRequirementRefinement](#)

- [SAF_SystemRequirementRefinement](#)
- [SAF_SystemRequirementRefinement](#)

Input from other Viewpoints

Required Viewpoints

- [Stakeholder Requirement Viewpoint](#)
- [System Requirement Viewpoint](#)

Recommended Viewpoints

- [System Use Case Viewpoint](#)
- [System Capability Viewpoint](#)
- [System Context Exchange Viewpoint](#)
- [System Context Interaction Viewpoint](#)
- [System Process Viewpoint](#)
- [System Functional Refinement Viewpoint](#)
- [System State Viewpoint](#)