SAF User Documentation : System Capability Mapping Viewpoint

Domain	Aspect	Maturity
Functional	Traceability & Mapping	released

Example

#	Name	Documentation	Capability Supporting	Capability Supported BY	Refining System Requirement
1	Fire Alert Reporting	This capability demonstrates that the system has the power of [tbd]	Detect and Report Fire	Alert fire (context FFDS Context) Manage Operator warning (context FFDS Context)	
2	Fire Situation Analysis	This capability demonstrates that the system has the power of [tbd]	Detect and Report Fire	Analyze FF data (context FFDS Context)	
3	Fire Situation Reporting	This capability demonstrates that the system has the power of [tbd]	Detect and Report Fire	Analyze FF data (context FFDS Context)	
4	Forest Fire aerial-based Data Acquisition	This capability demonstrates that the system has the power of [tbd]	Detect and Report Fire		
5	Forest Fire terrestrial-based Data Acquisition	This capability demonstrates that the system has the power of [tbd]	Detect and Report Fire	Provide Sensor Data (context FFDS Context) Retrieve sensor data (context FFDS Context) Request sensor data (context FFDS Context)	
6	Meteo Forecast Data Acquisition	This capability demonstrates that the system has the power of [tbd]	Detect and Report Fire	Acquire metadata (context FFDS Context)	
7	Research Analysis Data Acquisition	This capability demonstrates that the system has the power of [tbd]	Detect and Report Fire		
8	Resource Management	This capability demonstrates that the system has the power of [tbd]	Add a Sensor Node Ping a Sensor Node Remove a Sensor Node		
9	Satellite Image Data Acquisition	This capability demonstrates that the system has the power of [tbd]	Detect and Report Fire	Acquire metadata (context FFDS Context)	
10	Test & Maintenance	This capability demonstrates that the system has the power of [tbd]	Run Observation Test Switch to Maintenance Mode Switch to Test Mode		
11	User Management	This capability demonstrates that the system has the power of [tbd]			

Purpose

The System Capability Mapping Viewpoint describes the relationships of System Capabilities. The reasoning for System Capabilities as support for System Use Cases and the contribution of System Processes to Capabilities are described. Furthermore, the mapping of System Capabilities to Operational Capabilities are identified.

Applicability

The System Capability Mapping Viewpoint supports the "Stakeholder Needs and Requirements Definition Process", and "System Requirements Definition Process" activities of the INCOSE SYSTEMS ENGINEERING HANDBOOK 2015 [§4.2 & §4.3] and contributes to the identification of System Functions, and definition of System Requirements.

Presentation

A tabular format listing the relationships of System Capabilities to Operational Capabilities, System Use Cases, System Process Activities, and System Requirements.

Stakeholder

Concern

Profile Model Reference

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

- SAF_SFV08a_View
- SAF_StakeholderRequirement
- SAF_SystemCapabilityComposition
- SAF_SystemCapabilityDependency
- SAF_SystemCapabilityEnabling
- SAF_SystemCapabilityGeneralization
- SAF_SystemCapabilitySupport
- SAF_SystemCapability
- SAF_SystemFunctionSupport
- SAF_SystemFunction
- SAF_SystemProcessEnabling
- SAF_SystemProcess
- SAF_SystemRequirement
- SAF_SystemUseCase

Input from other Viewpoints

Required Viewpoints

- System Capability Viewpoint

Recommended Viewpoints

- Operational Capability Viewpoint
- System Use Case Viewpoint
- System Process Viewpoint