

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)  Analyze FF data(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)  Acquire metadata(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  Detect and Report Fire |  Acquire metadata(context FFDS Context) | |
| 9 |  Satellite Image Data Acquisition | This capability demonstrates that the system has the power of [tbd] |  Detect and Report Fire | | |
| 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](#)