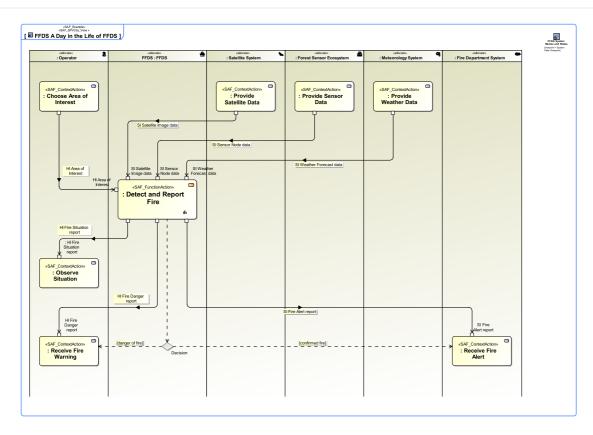


# **SAF User Documentation : System Process Viewpoint**

Domain	Aspect	Maturity
Functional	Process & Behavior	released

# **Example**



## **Purpose**

The System Process Viewpoint provides the functional representation of the system using a black-box approach

- the representation of the SOI and all Context Elements
- the System Functions the SOI shall be able to perform

- the Context Functions the Context Elements are expected to perform
- the exchange between SOI System Functions and Context Functions of Context Elements
- the functional flows crossing the boundary between SOI and Context Elements

## **Applicability**

The System Process Viewpoint supports the "System Requirements Definition Process" activities of the INCOSE SYSTEMS ENGINEERING HANDBOOK 2015 [§4.3] and contributes to the System Function Identification and the System Functional Interface Identification.

#### Stakeholder

- Acquirer
- Customer
- · Hardware Developer
- IV&V Engineer
- Operator
- Project Manager
- Safety Expert
- Security Expert
- Software Developer
- Supplier
- System Architect
- User

#### Concern

- How does a system function interact with its environment?
- How is the system interacting with the identified external entities?
- What are necessary inputs for operating the system expected to be provided by other external entitys?
- · What are the functional interfaces of the system?
- What are the scenarios a system function is utilized in?
- What is the functional scope of the system?
- What services are expected from external entities?
- Which functions are out of scope of the system?
- Which functions will the system provide?

#### **Presentation**

An activity diagram featuring the ordered execution of System Process Actions. The activity diagram swim lanes are typed with Context Element usage and SOI usage from the same System Context. Note: In order to

improve the clarity of presentation it may be appropriate to use several activity diagrams for one System Process.

A tabular format listing all identified System Functions, the System Processes in which they appear, and the Comtext Exchange with the Context Functions.

#### **Profile Model Reference**

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

- Allocate [SysML Profile]
- Allocate [SysML Profile]
- ControlFlow [UML\_Standard\_Profile]
- InputPin [UML\_Standard\_Profile]
- ObjectFlow [UML\_Standard\_Profile]
- OutputPin [UML Standard Profile]
- Parameter [UML Standard Profile]
- SAF\_ContextAction
- SAF\_ContextFunction
- SAF FunctionAction
- SAF\_LogicalContextRole
- SAF\_LogicalContextRole
- SAF\_SFV03a\_View
- SAF\_SystemFunction
- SAF SystemProcess

## Input from other Viewpoints

#### **Required Viewpoints**

none

### **Recommended Viewpoints**

- Operational Context Definition Viewpoint
- · Operational Domain Item Kind Viewpoint
- System Context Definition Viewpoint
- System Domain Item Kind Viewpoint