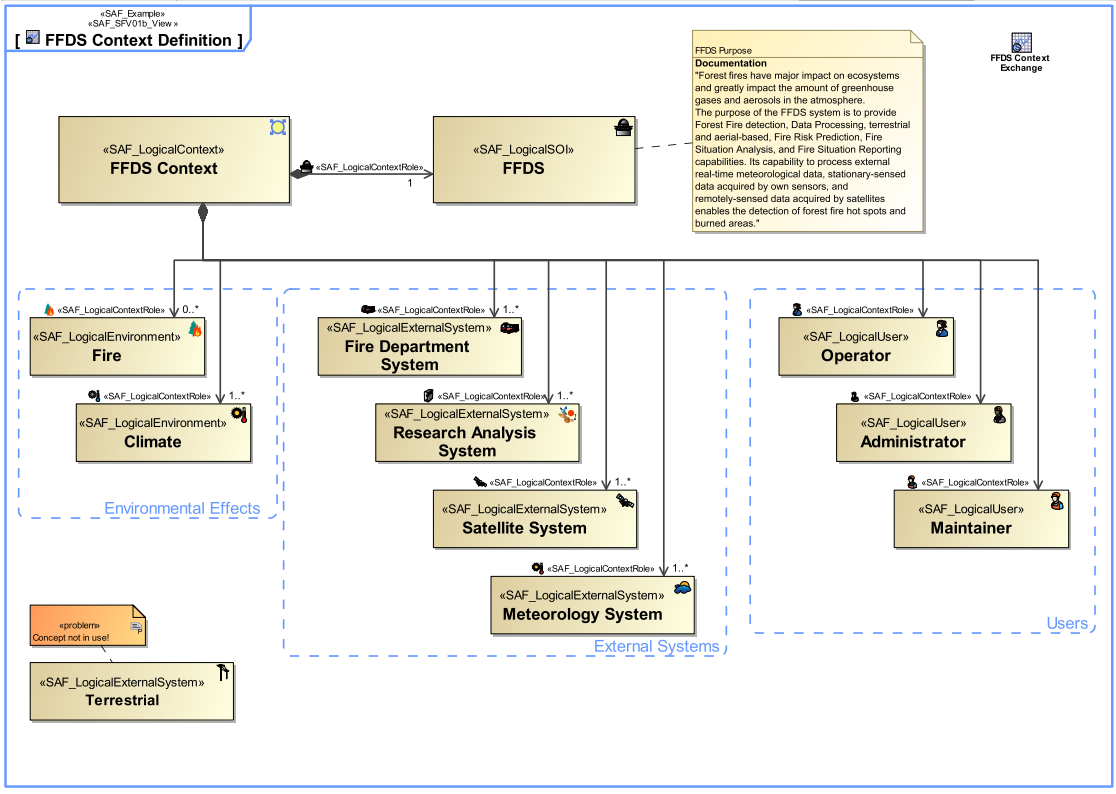
SAF User Documentation : System Context Definition Viewpoint

Domain	Aspect	Maturity
Functional	Context & Exchange	released

Example

#	Name	Type Documentation	Type	Documentation
1		Represents climate conditions like temperature, humidity, and atmospheric pressure.	Climate	
2		The fire to be captured by the FFDS. Local sensors could be affected by the fire.	Fire	
3		Alert system of the fire department responsible for the Area of Interest.	Fire Department System	
4		Provides meterology data for the Area of Interest.	Meteorology System	
5		Requests FFDS data for research work.	Research Analysis System	
6			Administrator	
7			Maintainer	
8			Operator	
9		Forest fire observation from the orbit. Architecture decision The satellite is an external system.	Satellite System	
10	FFDS	Forest fires have major impact on ecosystems and greatly impact the amount of greenhouse gases and aerosols in the atmosphere. The purpose of the FFDS system is to provide Forest Fire detection, Data Processing, terrestrial and aerial-based, Fire Risk Prediction, Fire Situation Analysis, and Fire Situation Reporting capabilities. Its capability to process external real-time meteorological data, stationary-sensed data acquired by own sensors, and remotely-sensed data acquired by satellites enables the detection of forest fire hot spots and burned areas.	FFDS	



Purpose

The System Context Definition Viewpoint defines how the SOI is embedded in its environment, i.e., where the boundary of the SOI is and who the external entities are the SOI interacts with (e.g., users, other external systems, environmental conditions, etc.). The SOI provides and requests context functions. The SOI shall be able handle events and effects from the outside. In addition, the System Context Definition Viewpoint serves as architecture concept to demonstrate how the architecture description defined in the Operational Context Definition Viewpoint is realized.

Applicability

The System Context Definition Viewpoint supports the "prepare for system requirement definition" activity included in "System Requirements Definition Process" activities of the INCOSE SYSTEMS ENGINEERING HANDBOOK 2023 [§2.3.5.3] and contributes to the artifact "System Requirements Definition Report".

Presentation

A block definition diagram (BDD) featuring the following elements

- a Logical element block representing SOI in the logical domain
- a Logical context block representing the addressed context in the logical domain
- Logical context element blocks for each relevant context element
- a composition relationship from context block to each context element used in the context
- a composition relationship from context block to the SOI

A tabular format listing context roles, context elements, and respective descriptions.

Stakeholder

- Acquirer
- Customer
- IV&V Engineer
- Safety Expert
- Security Expert
- Supplier
- System Architect

Concern

- Where and what are the geographical and physical locations of the intended or proposed elements of the solution?
- Which are the external conceptual entities the system interacts with in the given context?
- Which are the given contexts the system is embedded and utilized in?
- Which interface partners does the system have?

Profile Model Reference

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

- SAF_LogicalContextRole contained in SAF_LogicalContext
- SAF_LogicalContext
- SAF_LogicalEnvironment
- SAF_LogicalExternalSystem
- SAF_LogicalSOI
- SAF_LogicalUser
- SAF_SFV01b_View

Input from other Viewpoints

Required Viewpoints

none

Recommended Viewpoints

- Operational Context Definition Viewpoint