



# SAF User Documentation : Logical Functional Mapping Viewpoint

| Domain  | Aspect                 | Maturity     |
|---------|------------------------|--------------|
| Logical | Traceability & Mapping | <br>released |

## Example

| Legend   |  | FFDS Context   |   |   |   |   |   |
|--|--|--|---|---|---|---|---|
| Allocate   |  | : Operator .....<br>: Satellite System [1..*] .....<br>: Forest Sensor Ecosystem [1..*] .....<br>: Meteorology System [1..*] .....<br>: Fire Department System [1..*] .....<br>FFDS : FFDS [1] ..... |   |   |   |   |   |
| FFDS A Day in the Life of FFDS(context FFDS Context) |  | 3  | 1 | 1 | 1 | 1 |   |
| :Choose Area of Interest                             |  | 1  |   |   |   |   |   |
| :Provide Satellite Data                              |  | 1  |   |   |   |   |   |
| :Provide Sensor Data                                 |  | 1  |   |   |   |   |   |
| :Provide Weather Data                                |  | 1  |   |   |   |   |   |
| :Observe Situation                                   |  | 1  |   |   |   |   |   |
| :Receive Fire Warning                                |  | 1  |   |   |   |   |   |
| :Receive Fire Alert                                  |  | 1  |   |   |   |   |   |
| :Detect and Report Fire                              |  | 1  |   |   |   |   | 1 |
| :Request image data                                  |  | 1  |   |   |   |   | 1 |
| :Request sensor data                                 |  | 1  |   |   |   |   | 1 |
| :Request weather data                                |  | 1  |   |   |   |   | 1 |
| :Retrieve image data                                 |  | 1  |   |   |   |   | 1 |
| :Retrieve sensor data                                |  | 1  |   |   |   |   | 1 |
| :Retrieve weather data                               |  | 1  |   |   |   |   | 1 |
| :Acquire metadata                                    |  | 1  |   |   |   |   | 1 |
| :Analyze FF data                                     |  | 1  |   |   |   |   | 1 |
| :Visualize FF data                                   |  | 1  |   |   |   |   | 1 |
| :Manage Operator warning                             |  | 1  |   |   |   |   | 1 |
| :Display Operator warning                            |  | 1  |   |   |   |   | 1 |
| :Alert fire  |  | 1  |   |   |   |   | 1 |
| :Report fire   |  | 1  |   |   |   |   | 1 |

## Purpose

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The Logical Functional Mapping Viewpoint specifies the assignment of the System Functions and the System Partial Functions to the Logical SOI and the Logical SOI Elements.

## Applicability

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The Logical Function Allocation Viewpoint supports the "System Architecture Definition process" activities of the INCOSE SYSTEMS ENGINEERING HANDBOOK 2015 .

## Stakeholder

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- [Hardware Developer](#)
- [Software Developer](#)
- [System Architect](#)

## Concern

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- Which (system and system partial) functions are assigned to a logical item and logical item components?  
Note: if allocation of usage is used, then allocation of definition is a derived relationship XOR.

## Presentation

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A Logical Functional Mapping Matrix featuring

- the call behavior action representing usage of System Functions and or System Partial Functions
- the part properties representing usage of Logical SOI Elements
- the allocation relationship between abovementioned elements

## Profile Model Reference

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

- Allocate [SysML Profile]
- [SAF\\_FunctionAction](#)
- [SAF\\_LogicalContextRole](#)
- [SAF\\_LogicalElement](#)
- [SAF\\_LogicalSOI](#)
- [SAF\\_SLV08a\\_View](#)
- [SAF\\_SystemFunction](#)
- [SAF\\_SystemPartialFunction](#)

## Input from other Viewpoints

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## Required Viewpoints

- [Logical Structure Viewpoint](#)
- [System Process Viewpoint](#)
- [System Functional Refinement Viewpoint](#)

## Recommended Viewpoints

- [System Domain Item Kind Viewpoint](#)