SAF User Documentation : Physical Context Definition Viewpoint

Domain	Aspect	Maturity
Physical	Context & Exchange	✅ released

Example
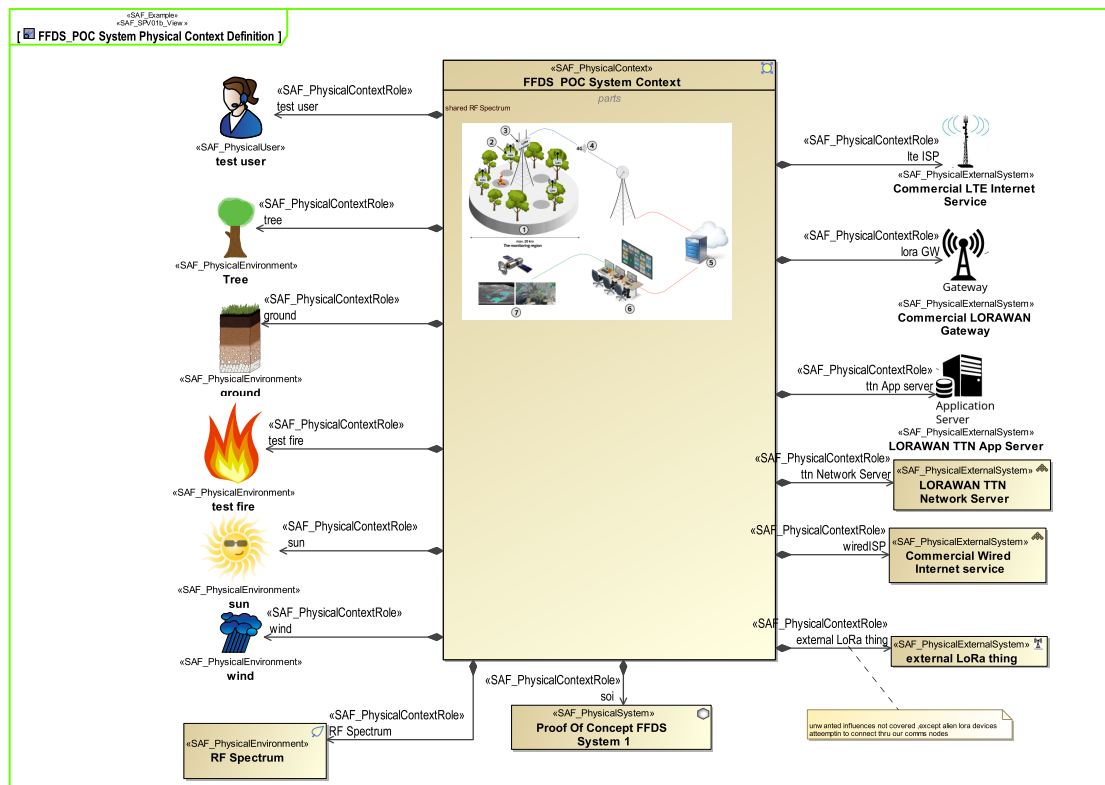
Purpose

The Physical Context Definition Viewpoint identifies the different context the system is used in, along with the associated external entities sharing a physical interface with the system. For each context the applicable environmental conditions shall be defined. The physical context helps in discovering the Interface Requirements needed to integrate a system into its environment in a specific context. Note: For each candidate system architecture, the physical context Viewpoint is elaborated forming the functional baseline for the later assessment of the different system architecture solutions.

Applicability

The Physical Context Definition Viewpoint supports the "System Architecture Definition Process" activities of the INCOSE SYSTEMS ENGINEERING HANDBOOK 2023 [§2.3.5.4] and contributes to the artifacts "System Architecture Description" and "System Interface Definition".

Presentation

A block definition diagram (BDD) depicting the elements available in a specific context. At least one BDD is used per identified context featuring

- one block representing the Physical System, i.e., the system of interest
- one block representing the specific Physical System Context
- several blocks representing Physical Context Elements such as Physical User, Physical External System, and Physical Environment that are present in the Physical System Context
- composition relationships attaching the Physical Context Elements and the Physical System to the Physical System Context block

Stakeholder

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

Concern

- What are the different contexts the system is embedded and utilized in?
- What are the external physical entities the system interacts with in the respective context?
- Which interface partners does the system have?

Profile Model Reference

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

- SAF_PhysicalContextRole
- SAF_PhysicalContext
- SAF_PhysicalEnvironment
- SAF_PhysicalExternalSystem
- SAF_PhysicalSystem
- SAF_PhysicalUser
- SAF_SPV01b_View

Input from other Viewpoints

Required Viewpoints

none

Recommended Viewpoints

none