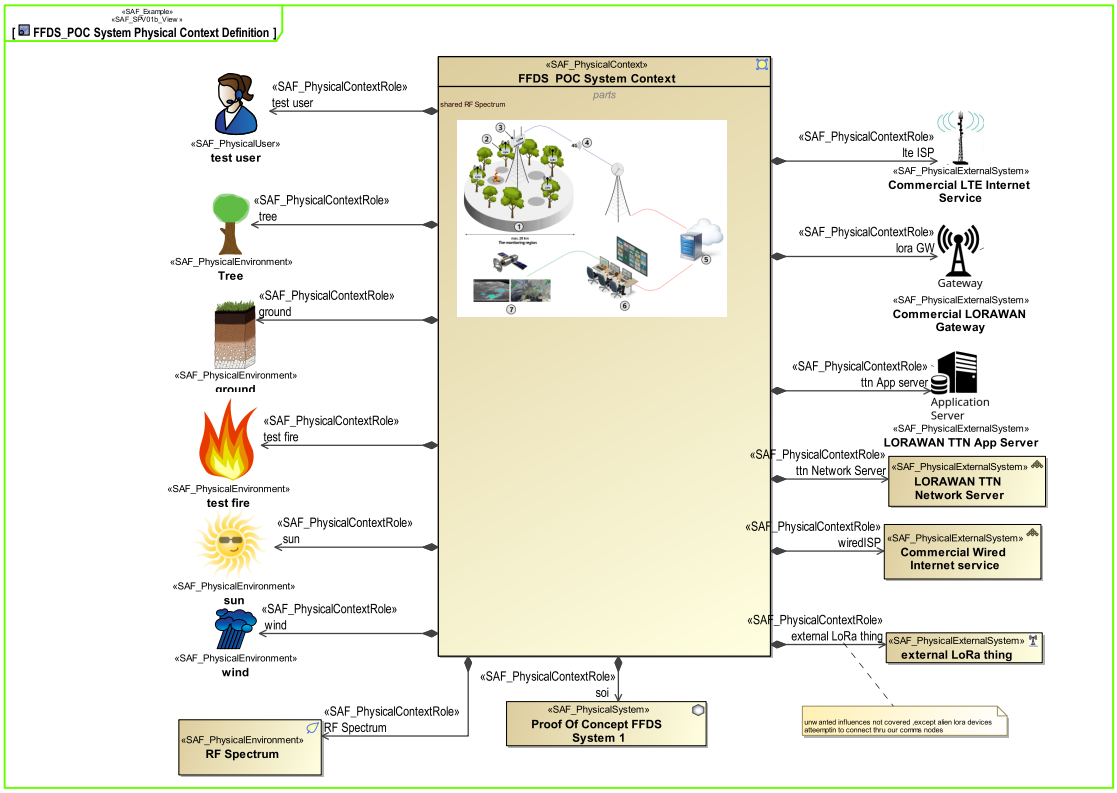
SAF User Documentation : Physical Context Definition Viewpoint

Domain	Aspect	Maturity
Physical	Context & Exchange	under construction

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 may 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 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".

The Viewpoint is used to define context, boundaries, and external interactions of the SOI in the physical domain.

Presentation

The following artifacts support the modeling activities: The physical context definition diagram (BDD) defines the elements available in a specific context. At least one physical context definition diagram 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 present in the systems 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 necessary enabling systems?
- 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?
- What is the system boundary definition?
- What kind of test equipment is necessary to test the system elements?
- 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