

SV-1 Systems Interface Description

Description

The SV-1 addresses the composition and interaction of Systems. For DoDAF V2.0, the SV-1 incorporates the human elements as types of Performers - Organizations and Personnel Types.

The SV-1 links together the operational and systems architecture models by depicting how Resources are structured and interact to realize the logical architecture specified in an OV-2 Operational Resource Flow Description. A SV-1 may represent the realization of a requirement specified in an OV-2 Operational Resource Flow Description (i.e., in a "To-Be" architecture), and so there may be many alternative SV models that could realize the operational requirement. Alternatively, in an "As-Is" architecture, the OV-2 Operational Resource Flow Description may simply be a simplified, logical representation of the SV-1 to allow communication of key Resource Flows to non-technical stakeholders.

A System Resource Flow is a simplified representation of a pathway or network pattern, usually depicted graphically as a connector (i.e., a line with possible amplifying information). The SV-1 depicts all System Resource Flows between Systems that are of interest. Note that Resource Flows between Systems may be further specified in detail in SV-2 Systems Resource Flow Description and SV-6 Systems Resource Flow Matrix.

Sub-System assemblies may be identified in SV-1 to any level (i.e., depth) of decomposition the architect sees fit. SV-1 may also identify the Physical Assets (e.g., Platforms) at which Resources are deployed, and optionally overlay Operational Activities and Locations that utilize those Resources. In many cases, an operational activity and locations depicted in an OV-2 Operational Resource Flow Description model may well be the logical representation of the resource that is shown in SV-1.

The intended usage of the SV-1 includes:

- Definition of System concepts.
- Definition of System options.
- System Resource Flow requirements capture.
- Capability integration planning.
- System integration management.
- Operational planning (capability and performer definition).

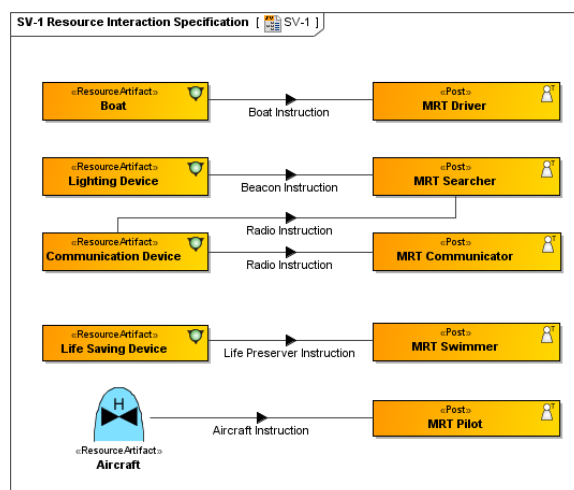
The SV-1 is used in two complementary ways:

- Describe the Resource Flows exchanged between resources in the architecture.
- Describe a solution, or solution option, in terms of the components of capability and their physical integration on platforms and other facilities.

Implementation

SV-1 can be represented using:

- A SV-1 diagram which is based on the UML Class diagram.
- A SV-1 diagram which is based on the UML Composite Structure diagram.
- A UML Class diagram.
- A UML Composite Structure diagram.
- A SysML Block Definition diagram.
- A SysML Internal Block diagram.



An SV-1 can optionally be adorned with performers originally specified in an OV-2. In this way, traceability can be established from the logical OV structure to the physical SV structure.

Related procedures

- [Creating SV-1 diagram](#)
- [Creating Resource Interaction in SV-1 diagram](#)
- [Applying military symbols](#)

An interaction, as depicted in the SV-1, is an indicator that information passes from one performer to another. In the case of systems, this can be expanded into further detail in an [SV-2](#). Resource Flows are summarized in a Systems-Systems Matrix ([SV-3](#)).

The System Functions performed by the Performers are specified in an [SV-4 System Functionality Description](#), but may optionally be overlaid in the SV-1.

An Operational View (OV) suite may specify a set of requirements – either as a specific operational plan, or a scenario for procurement. As [OV-2](#) and [OV-5](#) specify the logical structure and behavior, SV-1 and [SV-4](#) specify the physical structure and behavior (to the level of detail required by the architectural stakeholders).

Related elements

- System
- Software
- Capability Configuration
- Organization Type
- Person Type
- Resource Port
- Resource Role
- Resource Interface
- Capability
- Capability Of Performer
- Resource Interaction
- Exchange Element
- Energy
- Geo Political Extent Type
- Performer
- Fielded Capability
- Service
- Request