

SV-5a Operational Activity to Systems Function Traceability Matrix

Description

The SV-5a addresses the linkage between system functions described in [SV-4 Systems Functionality Description](#) and Operational Activities specified in [OV-5a Operational Activity Decomposition Tree](#) or [OV-5b Operational Activity Model](#). The SV-5a depicts the mapping of system functions and, optionally, the capabilities and performers that provide them to operational activities. The SV-5a identifies the transformation of an operational need into a purposeful action performed by a system or solution.

During requirements definition, the SV-5a plays a particularly important role in tracing the architectural elements associated with system function requirements to those associated with user requirements.

The intended usage of the SV-5a includes:

- Tracing functional system requirements to user requirements.
- Tracing solution options to requirements.
- Identification of overlaps or gaps.

Implementation

SV-5a can be represented using a SV-5a diagram which is an editable Dependency Matrix. System functions are used as row elements and Operational Activities are used as column elements.

| | Find Victim | Monitor Health | Process Warning Order | Provide Medical Assistance(Status Out : Medical Condition) | Receive Distress Signal | Recover Victim(Track Info Out : Updated Location) | Send Distress Signal | Send Warning Order | Transit To SAR Operation |
|------------------------------------|-------------|----------------|-----------------------|--|-------------------------|---|----------------------|--------------------|--------------------------|
| SV-4 | | | | | 1 | 2 | 2 | | |
| Broadcast Message | | | | | | | ↗ | | |
| Interact in the marine environment | | | | | | | | | |
| Receive Distress Signal | | | | | | | | | |
| Receive Message | | | | | ↗ | | | | |
| Receive TDM | | | | | | | | | |
| Receive Track Information | | | | | | | | | |
| Recover Victim | | | | | | ↗ | | | |
| Send Message | | | | | | | ↗ | | |
| Send TDM | | | | | | | | | |
| Send Track Information | | | | | | | | | |
| Transmit Distress Signal | | | | | | | | | |
| Transport | | | | | | ↗ | | | |

DoDAF uses the term Operational Activity in the OVs and the term system function in the SVs to refer to essentially the same kind of thing; both activities and functions are tasks that are performed, accept inputs, and develop outputs. The distinction between an Operational Activity and a Function is a question of what and how.

The Operational Activity is a specification of what is to be done, regardless of the mechanism used. A system function is specifies how a resource carries it out. For this reason, SV-5a is a significant model, as it ties together the logical specification in the OV-5a with the physical specification of the [SV-4 Systems Functionality Description](#). System functions can be carried out by Functional Resources (systems, performers executing activities, and performers).

Related elements

- [Function](#)
- [Operational Activity](#)
- [Implements](#)

Related procedures

- [Creating SV-5a matrix](#)
- [Resources to Capabilities Mapping matrix](#)
- [Using Implied Relations](#)