

# SWIM-SERV-025 Service behaviour

- [Requirement](#)
- [Guidance](#)
  - [Examples](#)
- [Guidance for JSON service description](#)
  - [Schema](#)
  - [Guidance](#)
    - [Interface - additional attribute](#)
    - [Behaviour - Mandatory](#)
    - [Behaviour document - Optional](#)
- [Example](#)

## Requirement

<b>Title</b>	Service behaviour
<b>Identifier</b>	SWIM-SERV-025
<b>Requirement</b>	A service description <b>shall</b> include information on the behaviour of the service including: <ul style="list-style-type: none"><li>• the sequence of service operations; and</li><li>• the handling of unexpected behaviour.</li></ul>
<b>Rationale</b>	This requirement facilitates the understanding of the service behaviour, including the sequencing of service operations to support operational processes, and the error handling.
<b>Verification</b>	Completeness: Verify that the behaviour information is included and covers the errors handling as well.  Consistency: Verify that the names of the interfaces, service operations and exchanged information are consistent with the interface definitions.  Correctness: Not Applicable.
<b>Examples /Notes</b>	Examples of behaviour specification: <ul style="list-style-type: none"><li>• The behaviour under normal conditions;</li><li>• The behaviour with incorrect input data (e.g., out of range or incorrect data type);</li><li>• The use of error messages, and error handling in general;</li><li>• The list of error codes and expected effects.</li></ul> Note: The service behaviour can be captured in formal modelling notations such as a Unified Modeling Language (UML) sequence diagram, and/or expressed as textual description in plain language.
<b>Level of Implementation</b>	Mandatory

## Guidance

### Examples

See the [Service behaviour section](#) within the [Donlon TOBT Setting Service Description](#).

## Guidance for JSON service description

Unable to render {include}

 The included page could not be found.

### Schema

The guidance concerns JSON Schema v0.0.3 (see [Schema releases](#)).

```
    "Interface" :
    {
        "description" : "The means by which the underlying capabilities of a service are
accessed. [SWIM-SERV-016]",
```

```

        "type": "object",
        "additionalProperties": false,
        "required": ["name", "description", "interfaceProvisionSide",
"tiPrimitiveMessageExchangePattern", "endPoint", "serviceInterfaceBinding", "networkInterfaceBinding",
"interfaceBindingDescription", "operation", "behaviour"],
        "properties":
        {
            "behaviour":
            {
                "description" : "The manner in which a service operates under
normal and unexpected conditions. [SWIM-SERV-025]",
                "type" : "array",
                "items" : { "$ref": "#/definitions/ServiceBehaviour" },
                "minItems": 1
            },
        }
    }

    "ServiceBehaviour" :
    {
        "description" : "The manner in which a service operates under normal and
unexpected conditions. [SWIM-SERV-025]",
        "type": "object",
        "additionalProperties": false,
        "required": ["name", "description"],
        "properties":
        {
            "description":
            {
                "description" : "The description of the service behaviour. [SWIM-
SERV-025]",
                "type" : "string",
                "minLength":1
            },
            "name":
            {
                "description" : "The name of the service behaviour. [SWIM-SERV-
025]",
                "type" : "string",
                "minLength":1
            }
        }
    }

    "serviceDocument":
    {
        "description" : "A document that relates to the information service.",
        "type" : "array",
        "items" : { "$ref": "#/definitions/Document" },
        "minItems": 1
    }

    "Document" :
    {
        "description" : "A piece of written, printed, or electronic matter that provides
information or evidence or that serves as an official record.",
        "type": "object",
        "additionalProperties": false,

        "properties":
        {
            "documentType":
            {
                "description" : "The type of document.",
                "$ref" : "#/definitions/CodeDocumentType"
            },
            "title":
            {

```

```

        "description" : "The name by which the document is formally
known. [SWIM-SERV-005;SWIM-SERV-010]",
        "type" : "string"
    },
    "version":
    {
        "description" : "The current version or revision level of the
document.",
        "type" : "string"
    },
    "description":
    {
        "description" : "The description of the document.",
        "type" : "string"
    },
    "reference":
    {
        "description" : "An external reference at which the document can
be retrieved or consulted.",
        "type" : "string"
    }
}

```

Rules expressed for the cases as defined in Registry URD.

case	rules
COMPLIANT	mandatory
CANDIDATE	same
DEFINITION	same

## Guidance

Additional attributes to Interface type as described in [SWIM-SERV-016 Service interfaces](#).

In JSON the service behaviour is expressed per service interface.

This may be complemented by a service SERVICE\_BEHAVIOUR\_DESCRIPTION document.



### tip

The service behaviour can be captured in formal modelling notations such as a Unified Modeling Language (UML) sequence diagram, and /or expressed as textual description in plain language.

In the latter case, whether for a model file or for a document with diagrams, use a SERVICE\_BEHAVIOUR\_DESCRIPTION document.

## Interface - additional attribute

Additional attribute to Interface type as described in [SWIM-SERV-016 Service interfaces](#).



### service vs interface

In the Schema the service behaviour is **split** per interface.

- This is often ok, as the behaviour often concerns closely related operations in the same interface.
- When behaviour concern relate operations from various interfaces, feel free to describe it in one of the concerned interface.



### Behaviour document

Service behaviour may be made available as a service document.

- This allows in particular to add (sequence) diagrams.

attribute name	description	type	guidance	rule
behaviour	The manner in which a service operates under normal and unexpected conditions.	Service Behaviour	<p>Provide <b>one or more</b> behaviours.</p> <p>Rationale: This requirement facilitates the understanding of the service behaviour, including the sequencing of service operations to support operational processes, and the error handling.</p> <p>Note: The behaviour description may refer to a SERVICE_BEHAVIOUR_DESCRIPTION document.</p>	Mandatory, minItems =1

## Behaviour - Mandatory

It is mandatory to provide **one or more** service behaviour(s) for each interface.

Notes:

- Service behaviour often concerns closely related operations in the same interface. When service behaviour relate operations from different interfaces, feel free to describe it in one of the concerned interfaces.
- When service behaviour is made available in a document, make this clear in the behaviour.description of each interface

attribute name	description	type	guidance	rule
name	The name of the service behaviour.	string	Provide a short name for the behaviour	Mandatory
description	The description of the service behaviour.	string	<p>Describe the behaviour as</p> <ul style="list-style-type: none"><li>• the sequence of service operations; and</li><li>• the handling of unexpected behaviour.</li></ul> <p>And / or make reference to a SERVICE_BEHAVIOUR_DESCRIPTION document.</p>	Mandatory

## Behaviour document - Optional

Service behaviour may be provided as a document of type SERVICE\_BEHAVIOUR\_DESCRIPTION.

See [Guidance on serviceDocument](#) on how to fill in documents.

## Example

### behaviour without document

```
"serviceInterface": [
  {
    "behaviour": [
      {
        "name": "nominal behaviour",
        "description": "Each operation of the interface can be called independently.\r\nThe following diagram illustrates the interaction between the service consumer and the service"
      }
    ]
  }
]
```

#### behaviour with document

```
"serviceInterface": [
  {
    "behaviour": [
      {
        "name": "behaviour document",
        "description": "The service behaviour is fully described in the
SERVICE_BEHAVIOUR_DESCRIPTION document"
      }
    ]
  }
]

"serviceDocument": [
  {
    "documentType": "SERVICE_BEHAVIOUR_DESCRIPTION ",
    "title": "Service Behaviour",
    "version": "1.0",
    "description": "",
    "reference": "... ..",
  }
]
```

A complete JSON example is available in page [JSON example - Donlon TOBT Setting service description](#).