



# ReqIF-Stakeholder Request Clarification (SRC)

prostep ivip Implementation Guideline for Use Case

ReqIF-Stakeholder Request Clarification (SRC)

Minimum Requirements

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## Content

Table of Content	
Content .....	III
1 Purpose of this document.....	1
2 Overview from a business perspective.....	1
3 Process Overview.....	2
4 Overview from a ReqIF tool vendor perspective .....	3
Figures	
Figure 1: Stakeholder Request Clarification Process Overview.....	2
Tables	
Table 1: Overview ReqIF tool requirements.....	3

## 1 Purpose of this document

This document describes a minimal exchange process for requirements specifications between 2 exchange partners, to clarify stakeholder requests.

The partners exchange the specifications by exporting and importing them in the OMG ReqIF XML format (<https://www.omg.org/spec/ReqIF/>).

As a convention, special terms used in this document are formatted in *italic*.

When terms from the ReqIF standard document are used, they are written in Courier New font.

Sentences containing **MUST** represent requirements that must be satisfied by a ReqIF importing or exporting tool to comply with the Stakeholder Request Clarification (SRC) process.

Sentences containing **MUST NOT** represent conditions that are not allowed to be fulfilled in a ReqIF importing or exporting tool, to comply with the Stakeholder Request Clarification (SRC) process.

## 2 Overview from a business perspective

The *exchange partners* create and edit the specifications using *requirements authoring tools*.

They export ReqIF compliant XML documents from a source requirements authoring tool and/or imports them in a target requirements authoring tool.

A *conversation* is an exchange of ReqIF files or archives between 2 exchange partners.

Each conversation includes at least one *specification*.

For each specification in the conversation:

- exactly one partner acts as the *specification owner*
- the other partner acts as the *specification contributor*

For each attribute of the specification, the specification owner defines if the attribute is either *owned* by the specification owner, or by the specification contributor. The specification owner agrees which attribute is owned by whom with the specification contributor. How this agreement happens is out of scope of the process described in this document.

Concerning the specifications that are part of the conversation, and their exchanged contents, the user of a requirements authoring tool editing a specification for which she is ***specification owner*** is only allowed to do the following changes in the requirements authoring tool / ReqIF exporting tool:

- Define the attributes and their types before starting the conversation
- Add attributes to the conversation
- Remove attributes from the conversation
- Add enumeration literals to enumeration types
- Change the specification structure (i.e. add, delete and move requirements)
- Change the attribute values of attributes she owns

Concerning the specifications that are part of the conversation, and their exchanged contents, the user of a requirements authoring tool editing a specification for which she is ***specification contributor*** is only allowed to do the following changes in the requirements authoring tool:

- Change attribute values of attributes she owns, for example, her comment on the requirement.

The user acting as specification contributor

- is allowed to add additional attributes for internal usage, but only if they don't get added to the conversation (i.e. it doesn't affect the ReqIF file exported by the contributor),
- isn't allowed to delete requirements, change the specification structure or change attribute types.

### 3 Process Overview

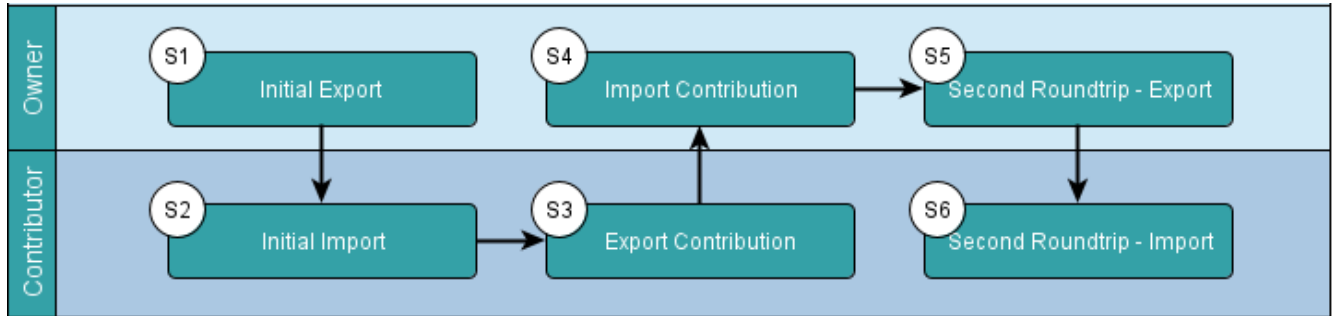


Figure 1: Stakeholder Request Clarification Process Overview

## 4 Overview from a ReqIF tool vendor perspective

In order to support the default process, a ReqIF tool must at least fulfil the requirements stated in the „ReqIF Tool Requirements“ column of the following table. A ReqIF tool may provide further options in its user interface to support other kinds of processes.

**Table 1: Overview ReqIF tool requirements**

Process Step and Description	Role	ReqIF Tool Feature	ReqIF Tool Requirements
<p><b>S1 "Initial Export"</b></p> <p>The specification owner creates the specification(s) in her requirements authoring tool.</p> <p>She defines which attributes that are part of the exchanged specifications are owned by the specification owner, and which are owned by the specification contributor. She agrees it with the specification contributor.</p> <p>She exports a ReqIF file or archive containing the specification(s).</p> <p>NOTE:</p> <ul style="list-style-type: none"> <li>The exported attributes include both the attributes she owns, and the attributes owned by the contributor.</li> </ul>	Specification Owner	Selective Export	<p>REQ1.1 The tool must enable the user to select the <code>Specifications</code> to export and export them to ReqIF.</p> <p>REQ1.2.1 The tool must enable the user to export all <code>SpecObjects</code> of each selected <code>Specification</code>, together with the <code>SpecHierarchy</code> elements and <code>SpecRelations</code> referencing them.</p> <p>REQ1.2.2 The tool must enable the user to export a subset of the <code>SpecObjects</code> of each selected <code>Specification</code>, together with the <code>SpecHierarchy</code> elements and <code>SpecRelations</code> referencing them.</p> <p>REQ1.3 The tool must only export the <code>SpecObjectTypes</code>, <code>SpecificationTypes</code> and <code>SpecRelationTypes</code> that are referenced by at least one <code>Specification</code>, <code>SpecObject</code> or <code>SpecRelation</code> that is exported.</p> <p>REQ1.4 The tool must enable the user to select the attributes to export for each <code>SpecificationType</code>, <code>SpecObjectType</code> and <code>SpecRelationType</code> that is exported. The tool must only export the values and definitions of attributes that have been selected.</p>

Process Step and Description	Role	ReqIF Tool Feature	ReqIF Tool Requirements
<p><b>S2 "Initial Import"</b></p> <p>The specification contributor imports the specification in the ReqIF file or archive.</p>	Specification Contributor	Selective Import	<p>REQ2.1 The tool must enable the user to select which <code>Specifications</code> contained in the ReqIF file/archive to import and import them.</p> <p>REQ2.2 The tool must enable the user to import all <code>SpecObjects</code> of each imported ReqIF <code>Specification</code>, together with the <code>SpecHierarchy</code> elements and <code>SpecRelations</code> referencing them.</p> <p>REQ2.3 The tool must either</p> <ul style="list-style-type: none"> <li>import all <code>SpecTypes</code> referenced by <code>SpecObjects</code>, <code>Specifications</code> and <code>SpecRelations</code> that the user selected to be imported, or</li> <li>allow the user to map the <code>SpecTypes</code> to types in the target requirements authoring tool.</li> </ul> <p>REQ2.4 The tool must enable the user to select which attributes to import (or map), for each <code>SpecType</code> available in ReqIF. For these attributes, the tool must import/map the attribute definitions and datatypes, and import their attribute values.</p>
<p><b>S3 "Export Contribution"</b></p> <p>The specification contributor only changes values of attributes she owns and exports the specifications.</p>	Specification Contributor	Selective Export	<p>REQ3.1 The tool must enable the user to select the <code>Specifications</code> to export and export them to ReqIF.</p> <p>REQ3.2 The tool must enable the user to export all <code>SpecObjects</code> of each selected <code>Specification</code>, together with the <code>SpecHierarchy</code> elements and <code>SpecRelations</code> referencing them.</p> <p>REQ3.3 The tool must only export the <code>SpecObjectTypes</code>, <code>SpecificationTypes</code> and <code>SpecRelationTypes</code> that are referenced by at least one <code>Specification</code>, <code>SpecObject</code> or <code>SpecRelation</code> that is exported.</p> <p>REQ3.4 The tool must enable the user to select the attributes to export for each <code>SpecificationType</code>, <code>SpecObjectType</code> and <code>SpecRelationType</code> that is exported. The tool must only export the values and definitions of attributes that have been selected.</p>

Process Step and Description	Role	ReqIF Tool Feature	ReqIF Tool Requirements
<p><b>S4 "Import Contribution"</b></p> <p>The specification owner imports the changes to attributes values (of attributes owned by the specification contributor).</p>	Specification Owner	Update of attribute values only	<p>REQ4.0 The tool must enable the user select which <code>Specifications</code> contained in the ReqIF file/archive to import and import them.</p> <p>REQ4.1 The tool must enable the user to select which attributes to update based on the attributes in ReqIF, for each <code>SpecType</code> available in ReqIF, and update the values of these attributes.</p> <p>REQ4.2 The tool must make sure that the only changes in the requirements authoring tool are to the attribute values of the selected attributes and that there are no other changes (for example no addition/removal of <code>AttributeDefinitions</code>, <code>SpecObjects</code>, and <code>SpecRelations</code>).</p>
<p><b>S5 "Second Roundtrip - Export"</b></p>	Specification Owner		<p>REQ5.1 Same requirements apply as for <b>S1 "Initial Export"</b>.</p>
<p><b>S6 "Second Roundtrip - Import"</b></p> <p>The specification contributor imports the updated specification from the ReqIF file or archive.</p>	Specification Contributor		<p>REQ6.0 The tool must enable the user select which <code>Specifications</code> contained in the ReqIF file/archive to import and import them.</p> <p>REQ6.1 The tool must rearrange the requirements in the target requirements authoring tool according to the structure provided by the specification owner.</p> <p>REQ6.2a The tool must enable the user to select which attributes to import/map, for each <code>SpecType</code> available in ReqIF.</p> <p>REQ6.2b For selected attributes that are present in the ReqIF file, but not in the target requirements authoring tool, the tool must import/map the attribute definition, and import the datatype and attribute values.</p> <p>REQ6.2c For selected attributes that are present in the ReqIF file, and also in the target requirements authoring tool, the tool must update the attribute values.</p> <p>REQ6.3 For selected attributes, the tool must either</p> <ul style="list-style-type: none"> <li>• add new enumeration literals of changed enumeration attribute types of the Specification Owner in the target requirements authoring tool, or</li> <li>• inform the user about the new enumeration literal, for the user to adapt the mapping</li> </ul>



Process Step and Description	Role	ReqIF Tool Feature	ReqIF Tool Requirements
			<p>REQ6.4 The tool must provide an option to automatically mark each requirement that is present in the target requirements authoring tool, but is absent in the current ReqIF file, as “deleted” in the requirements authoring tool specification – instead of actually deleting the requirement.</p> <p>REQ6.4 applies only to the specifications that are part of the import.</p> <p>Note on the implementation: the requirement can have a boolean attribute set to “deleted”, or it can be “soft-deleted” if the requirements authoring supports it, or some other way to show that this requirement is deleted within the specification, without actually deleting it.</p>
SX “General Requirements”	ReqIF exporting tool	Identifiers that are immutable	<p>REQX.1 Each <code>SpecObject</code>, <code>AttributeDefinition</code>, <code>EnumValue</code> and <code>SpecType</code> instance in the ReqIF XML must preserve its immutable ReqIF identifier during the whole conversation (as required by the ReqIF standard). This identifier must be used as basis to identify the elements in the target requirements authoring tool during import (though the identifier in the requirements authoring tool may be different).</p> <p>As a consequence, the name of any of these elements must not be used to identify elements in the target requirements authoring tool (since it may change in the conversation).</p>