

FAQAS Framework

RB - Requirements Baseline

SSS - Software Systems Specifications

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ITT-1-9873-ESA-FAQAS-SSS

Issue 1, Rev. 1

October 26, 2020

Revisions

Issue Number	Date	Authors	Description
ITT-1-9873-ESA-FAQAS-D2 Issue 1 Rev. 1	November 4th, 2020	Fabrizio Pastore, Oscar Cornejo	Initial release.

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Chapter 1

Software system specification

1.1 Introduction

This document is the deliverable SSS of the ESA activity ITT-1-9873-ESA. Following the structure described in the SoW *AO9873-ws00pe_SOW.pdf* it provides the structured requirements baseline for the FAQAS framework according to ECSS-E-ST-40C.

Requirements are univocally identified with the paragraph id appearing on the left.

1.2 Applicable and reference documents

- D2 - Mutation testing survey
- D2 - Study of mutation testing applicability to space software

1.3 Terms, definitions and abbreviated terms



1.4 General description - Code Driven Mutation Testing Component

1.4.1 Product perspective

1.4.1.1 The code-driven mutation testing component implements the Mutation Testing Process for code-driven mutation testing described in D2.

1.4.2 General capabilities

1.4.3 General constraints

1.4.4 Operational environment

1.4.5 Assumptions and dependencies

1.5 Specific requirements

1.5.1 Capabilities requirements

1.5.2 System interface requirements

1.5.3 Adaptation and missionization requirements

1.5.4 Computer resource requirements

1.5.5 Security requirements

1.5.6 Safety requirements

1.5.7 Reliability and availability requirements

1.5.8 Quality requirements

1.5.9 Design requirements and constraints

1.5.10 Software operations requirements

1.5.11 Software maintenance requirements

1.5.12 System and software observability requirements

1.6 Verification, validation and system integration

1.6.1 Verification and validation process requirements

1.6.2 Validation approach

1.6.3 Validation requirements

1.6.4 Verification requirements

1.7 System models

1.8 General description - Data-driven Mutation Testing Component

1.8.1 Product perspective

1.8.1.1 The data-driven mutation testing component implements the Mutation Testing Process for code-driven mutation testing described in D2.

1.8.2 General capabilities





1.8.3 General constraints

1.8.4 Operational environment

1.8.5 Assumptions and dependencies

1.9 Specific requirements

1.9.1 Capabilities requirements

1.9.2 System interface requirements

1.9.3 Adaptation and missionization requirements

1.9.4 Computer resource requirements

1.9.5 Security requirements

1.9.6 Safety requirements

1.9.7 Reliability and availability requirements

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1.10.1 Verification and validation process requirements

1.10.2 Validation approach

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