

FAQAS Framework SReID Software Release Document

O. Cornejo, F. Pastore, E. Viganò

Interdisciplinary Centre for Security, Reliability and Trust

University of Luxembourg

ITT-1-9873-ESA-FAQAS-SCF

Issue 1, Rev. 1

September 17, 2021

Revisions

Issue Number	Date	Authors	Description
ITT-1-9873-ESA-FAQAS-SReID Issue 1 Rev. 1	September 20th, 2021	Oscar Cornejo, Fabrizio Pastore, Enrico Viganò.	Initial release.

Contents

1	Introduction	4
1.1	Applicable and reference documents	4
2	Terms, definitions and abbreviated terms	5
3	Software Release Overview	6
4	Status of the Software Configuration Item	7
5	Advice for Use of the Software Configuration Item	8
6	On-going Changes	9

Chapter 1

Introduction

This document is the Software Release Document (SReID) of the software delivered by the ESA activity ITT-1-9873-ESA (i.e., the *FAQAS framework*). The SReID is a constituent of the Design Definition File (DDF). Its purpose is to describe the released software version in terms of known problems, limitations or restrictions with respect to its approved baseline. The FAQAS framework consists of the following software: a toolset implementing code-driven mutation analysis (*MASS*), a toolset implementing code-driven test generation (*SEMuS*), a toolset implementing data-driven mutation analysis (*DAMAt*).

This document follows the structure described in ECSS-E-ST-40C Annex B. Chapters' titles indicate the name of the software referred to.

1.1 Applicable and reference documents

- D1 - Mutation testing survey
- D2 - Study of mutation testing applicability to space software

Chapter 2

Terms, definitions and abbreviated terms

- FAQAS: activity ITT-1-9873-ESA
- FAQAS-framework: software system to be released at the end of WP4 of FAQAS
- D2: Deliverable D2 of FAQAS, *Study of mutation testing applicability to space software*
- KLEE: Third party test generation tool, details are provided in D2.
- MLFS: Mathematical Library for Flight Software
- SUT: Software under test, i.e, the software that should be mutated by means of mutation testing.
- WP: Work package
- CI: Configuration Item
- SCF: Software Configuration File

Chapter 3

Software Release Overview

Chapter 4

Status of the Software Configuration Item

Chapter 5

Advice for Use of the Software Configuration Item

Chapter 6

On-going Changes