

# Software Reuse File (SRF)

Open Data Interface (ODI)  
ESTEC/Contract No. 21964/08/NL/AT

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**Document status sheet**

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## 1 Introduction

The software reuse file is a constituent of the design justification file (DJF). Its purpose is to document the analysis to be performed on existing software intended to be reused.

The global objectives of the software reuse file are to document all the information used to decide about the reuse (or not) of existing software and to plan the specific actions undertaken to ensure that the reused software meets the project requirements.

The SRF is also used to document software developed for intended reuse, such that it is ready when the software is actually reused.

## 2 Applicable and reference documents

**ODI/SOW** ODI Statement of Work

**ODI/SSS** ODI Software System Specification

**ODI/TN/DB** Technical Note on the ODI Database

**ODI/TN/SSS** TN on SAAPS/SEDAT/SPENVIS adaption for ODI

**ODI/AG** ODI Administrator Guide

**ODI/UG** ODI User Guide

**E401B** ECSS-E40 Part 1B

**E402B** ECSS-E40 Part 2B

**M40C** ECSS-M-ST-40C Rev. 1

## 3 Terms, definitions and abbreviated terms

**CDF** Common Data Format

**ODI** Open Data interface

**PRBEM** Panel on Radiation Belt Environment Modeling

**SAAPS** Satellite Anomaly Analysis and Prediction System

**SCF** Software Configuration File

**SEDAT** Space Environment Data Analysis Tool

**SOW** Statement of Work for ESTEC/Contract No. 21964/08/NL/AT

**SPENVIS** Space Environment Information System

**SQL** Structured Query Language

## 4 Presentation of the software intended to be reused

The ODI system builds on software such as MySQL and PHP. The ODI system is a new system and thus there is no software to be reused. However, as part of this project three existing systems shall be adapted to use the ODI system.

### 4.1 SAAPS

The *Satellite Anomaly Analysis and Prediction System* (SAAPS) was developed by the *Swedish Institute of Space Physics* under the ESA Contract 11974/96/NL/JG(SC). An overview of the project can be found at <http://www.lund.irf.se/saaps/>. SAAPS is written in Java.

### 4.2 SEDAT

The *Space Environment Database and Analysis Tools* (SEDAT) was developed by the *Science and Technology Facilities Council* under the ESA Contract 12854/98/NL/NB. An overview of the project can be found at <http://www.wdc.rl.ac.uk/sedat/>. SEDAT is written in IDL and Perl.

### 4.3 SPENVIS

The *Space Environment Information System* (SPENVIS) was developed by the *Belgian Institute for Space Aeronomy* (BIRA-IASB) under the ESA Contracts 11711/95/NL/-JG(SC)-WO1 and 19786/05/NL/GLC/jk. An overview of the project can be found at <http://www.wdc.rl.ac.uk/sedat/>. SPENVIS is written in IDL.

## 5 Compatibility of existing software with project requirements

Each software system (SAAPS, SEDAT, SPENVIS) shall be reused unmodified except for the code accessing data. Those parts shall be updated to access data from the ODI system. Any code in the three systems that writes data to the database shall not be implemented.

## 6 Software reuse analysis conclusion

See ODI/TN/SSS.

## 7 Detailed results of evaluation

See ODI/TN/SSS.

## **8 Corrective actions**

None.

## **9 Configuration status**

Status of the reused software baseline.

### **9.1 SAAPS**

Version 1.2 as delivered June 14, 2001.

### **9.2 SEDAT**

Revisions 1.2-1.6 as delivered December 15, 2004.

### **9.3 SPENVIS**

[ TBD ]