

# Migration Plan (MP)

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

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## 1 Introduction

This document describes the migration of data and software for the ODI system.

## 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

**SVR** Software Verification Report

## 4 Migration of data

The original data that shall be stored in the ODI system comes from different sources. The original file types of the datasets that are currently implemented in ODI are CDF, HDF or plain text. All files that are imported to the hard disk on the ODI server are stored under the folder given by the environment variable `$ODI_RAWDATA`. Various tools converts the original files for their ingestion into the ODI MySQL database. They are described in ODI/TN/DB and ODI/AG.

All data and metadata are stored in MySQL tables on the ODI server. The data are thus accessible in many ways through a database connector.

The data in the database can be copied to another database on the same machine or to another machine over the network. The commands are described on the MySQL manual pages at

<http://dev.mysql.com/doc/>

The commands works for cross-platform migration of the data.

## 5 Migration of software

The major parts of the ODI code are written in PHP and MySQL. These languages are supported by most platforms. The ODI system can thus be easily migrated to another server or platform. Currently it has been operated on Linux, Windows, and Mac OS X.

The scripts for ingesting CDF data rely on the CDFExport program (<http://cdf.gsfc.nasa.gov/>). Binaries for Linux and Windows are included with the ODI system.

The scripts for ingesting HDF data rely on the hdp program (<http://www.hdfgroup.org/>). Binaries for Linux and Windows are included with the ODI system.

The parser function (`GOES_SEM.php`) for the GOES datasets calls the function `goes_b1` to calculate the magnetic fields. This function is written in Fortran and needs to be compiled for the specific platform. It also needs the IRBEM (<http://sourceforge.net/projects/irbem/>) and CDF libraries. The codes have been compiled for Linux and Windows and compile scripts are available for Linux and Windows (gfortran and Portland Group compilers), which have been added to the ODI system.