THE D-SDA REPORTING SYSTEM: REPORTING AND USER ACCESS AT DLR-EOC

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Earth Observation Data

The Earth Observation Centre (EOC) of the German Aerospace Centre (DLR) operates the German Satellite Data Archive (D-SDA), which provides archiving and access services to national and international space-borne and airborne Earth Observation (EO) missions, campaigns, and scientific projects. The technological basis is the Data and Information Management System (DIMS) which manages ingestion, cataloguing, archiving, and delivery of the EO data and products. Data discovery and access are provided through standardized interfaces via portals such as the EOWEB Geoportal.

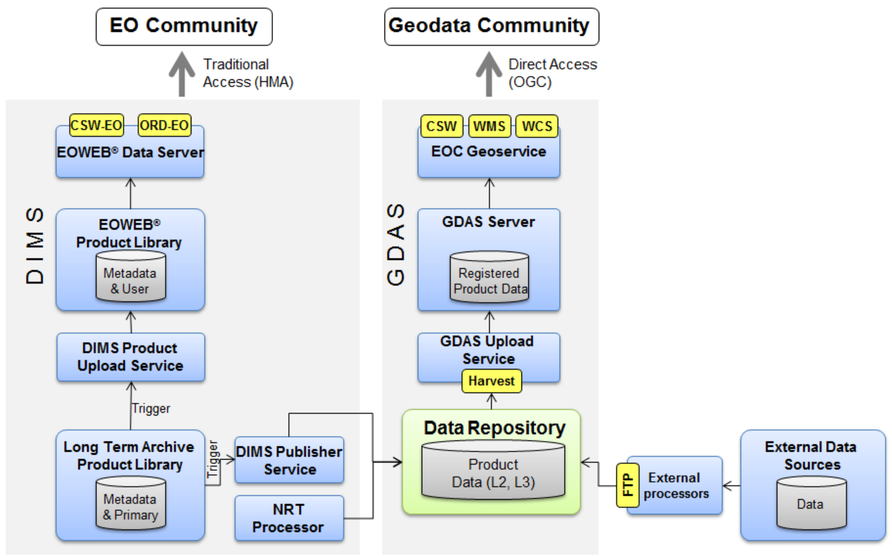

Figure 1. Earth observation data management and access at DLR-EOC.

Challenges for Reporting and Statistics

- ✓ **Input data** for the D-SDA reporting system
  - Spread over a variety of different servers and systems
  - Wide structural diversity: plain-text log-files, XML journal-files, database extraction
  - Different timeliness: real-time, offline logging information in different time scales (days, hours, months)
- ✓ **Different user needs**
  - Periodic, routine reports: same information, same manner at regular time intervals
  - Ad-hoc special interest reports, flexible content
- ✓ **Variability in aggregation level** of report data
  - Highly aggregated reports with only few statements (i.e. management reports, archive statistics)
  - Large amount of data for further flexible handling of information
- ✓ **Various report delivery** and archiving channels
- ✓ **Security and confidentiality** of information
- ✓ **Easy-to-use graphic user interface**

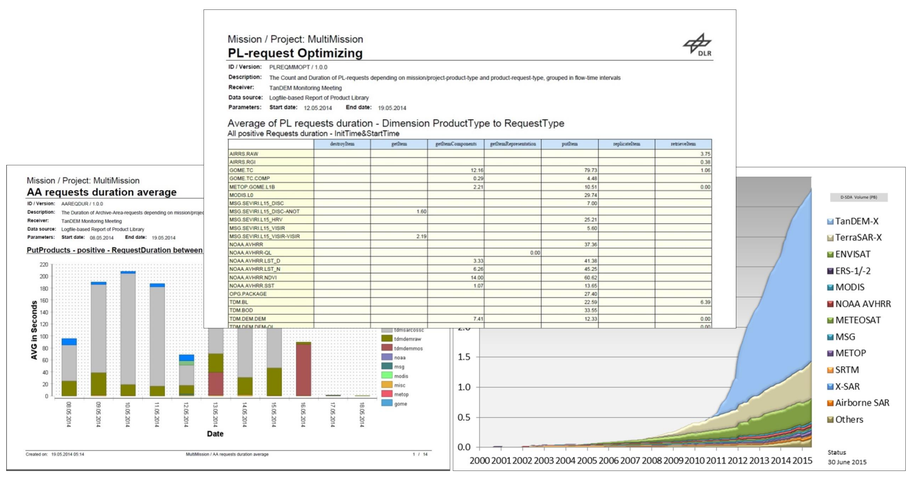

Figure 2. Examples of different reports generated by the D-SDA Reporting System.

Reporting System Architecture

The D-SDA Reporting System at DLR-EOC is subdivided in three major components:

- Customer component: specifies user groups and the user interface
- Reporting Production component: report assembly, dissemination, archiving
- Reporting Data Services: data warehouse and data collection tools

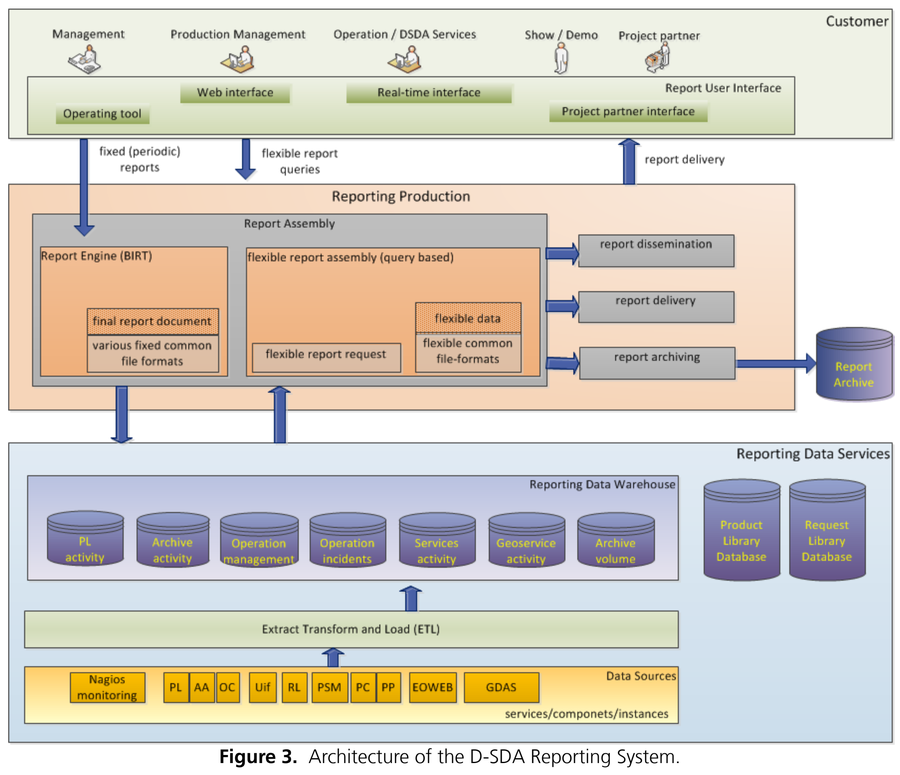

Figure 3. Architecture of the D-SDA Reporting System.

Data Collection

The ETL component is responsible for gathering the input data. The process consists of data extraction, transformation and load into the reporting data warehouse.

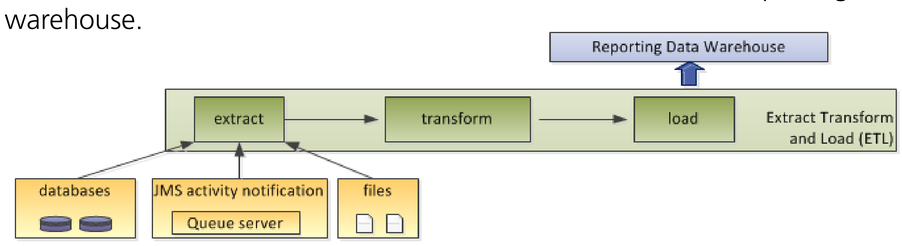

Figure 4. Data collection of the D-SDA Reporting System.

- ✓ **From databases**
  - Triggered by schedulers
  - ETL component actively triggers requests
  - Used to collect temporary processing data
  - Data aggregation from different databases in one source
- ✓ **JMS Activity Notification**
  - Each system sends notification about own activity
  - ETL Component passively waits for messages
  - Notifications are integrated as data sets
  - Offers the possibility to route messages to other systems
- ✓ **From files**
  - Various file categories
  - ETL component actively parses and extracts information
  - Offers the possibility to integrate older data

Selected References

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