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EUMETSAT REPORT ON INTEROPERABILITY AND STANDARDISATION FOR ARCHIVED DATA ACCESS

In response to CGMS action/recommendation 38/49

Working Paper Abstract

Data Dissemination from the EUMETSAT Data Centre has strongly increased in the last years. In this context improved interoperability and cooperation between partner organisations can be helpful to meet the growing user demand and facilitate easy access at the same time, e.g. by sharing global data sets to improve data access and increase redundancy.

Several programmatic, standardised interfaces including a collection discovery service, EO product search and ordering have been implemented in the EUMETSAT EO-Portal to enable Interoperability with Partner Organisations. Further standards and interfaces can be added to the available Interoperability infrastructure at EUMETSAT.

Regarding the sharing or mirroring of Archive data to support improved user access, EUMETSAT and NOAA NCDC plan to cooperate on the exchange of user relevant data sets, such as Climate Data Records, between their Archives.

EUMETSAT Report on Interoperability and Standardisation for Archived Data Access

1 INTRODUCTION

The EUMETSAT Data Centre is a large multi-mission facility located at EUMETSAT headquarters, which stores all the organisation's satellite data and derived products extending back to 1981 and helps users to access the archived data. Data Centre ordering is free of charge and amongst many other features allows the ordering of large amounts of data (bulk ordering) which is delivered online or on media. The EUMETSAT Data Centre is also the central node in a network of Archives encompassing the Satellite Application Facilities (SAF)

User access to and orders for EUMETSAT data from the Data Centre are increasing continually and an exponential growth of the data to be ingested, archived and provided to the user community is expected. From a user point of view the easy access to the historic data, often in large amounts and across organisations plays an important role.

Efficient, standardised discovery, search and ordering of the data are very relevant in this context as well as interoperability and data sharing between partner organisations.

2 INTEROPERABILITY AND STANDARDISATION FOR ARCHIVED DATA ACCESS AT EUMETSAT

Several implementations have been carried out or are in progress at EUMETSAT to provide easy access to data and Interoperability with other partners.

As the central node in the existing Data Centre network, the EUMETSAT Data Centre provides a central catalogue comprising all entries of products generated in the SAFs and the Central Application Facility at EUMETSAT. Central ordering of all products, whether hosted in the Archive at EUMETSAT or in the local SAF Archives, is possible from the EUMETSAT Data Centre and a user-transparent order delivery process is ensured.

EUMETSAT initiated the Earth Observation Portal to improve data access for the users of EUMETSAT data and products. For a detailed of the EUMETSAT EO Portal description please **refer to EUM-WP-38/36**.

Through the use of industry standards (e.g. OGC, INSPIRE), it aims to provide partner agencies with interoperable access to these data.

The current objectives of the EUMETSAT Earth Observation Portal (EO Portal) are:

1. To implement a central service point to provide EUMETSAT users a single point of online access to all EUMETSAT data and dissemination services. Thus, the EUMETSAT Earth Observation Portal will allow users to discover, search and order EO data or subscribe to data access services.

2. To allow partner agencies to discover, search, order and subscribe to EUMETSAT data and dissemination services via a set of programmatic, interoperable services.

The collection discovery service (known as Product Navigator) is a EUMETSAT provided service for the discovery of EO Products and Data. This service is operational, since 2008.

At the beginning of 2011, the Data Centre User registration was integrated into the EO-Portal. Furthermore, the EO Product search and ordering, including federated user management, has been developed. This now provides the interface for the standardised, web-based, programmatic access to archived data from the Data Centre, however, with limited functionality compared to the Online Ordering system (e.g. a limited choice of product retrieval formats). Standards employed include OAIS, ISO19115/19119, OGC WMS/WCS and various OGC HMA interfaces.

The next foreseen step is the integration of these services with ESAs Heterogeneous Mission (HMA) project, allowing participating partner agencies to perform a round trip from discovery, search and ordering using interoperable standards.

Using interoperable interface specifications, future evolutions of the EO Portal could allow EUMETSAT users to discover, search, order/subscribe earth observation data from partner agencies such as CNES Altimetry products, NOAA data, ECMWF data, GMES, etc.

3 DATA SHARING WITH PARTNER ORGANISATIONS

Another way to facilitate easy data access for users is to share or mirror data sets between Archives of partner organisations. This can help to allow improved access, reduce bottlenecks and promote data to a wider audience.

In this context, EUMETSAT and NOAA NCDC plan to cooperate on the exchange of user relevant data sets between their Archives. This agreement was made in a recent Archive Exchange visit. Shared data sets could encompass global Climate Data Records, relevant to users on both side of the Atlantic.

4 CONCLUSIONS

Data Dissemination from the EUMETSAT Data Centre has strongly increased in the last years. In this context improved interoperability and cooperation between partner organisations can be helpful to meet the growing user demand and facilitate easy access at the same time, e.g. by sharing global data sets to improve data access and increase redundancy.