Status update from the EPOS WP6 and 7 IT Team

Kuvvet Atakan, Daniele Bailo, Matthew Harrison, Keith Jeffery, Jan Michalek and Karen Tellefsen

of WP6 - WP7

The EPOS infrastructure is now well over half way in its Implementation Phase (2014-2019). 2017 has been a busy year in terms of ICS (Integrated Core Service) developments and the TCS (Thematic Core Service) metadata activities and integration. This includes:

- Interactions with the TCS IT contacts in order to support and guide the metadata description process.
- Collecting TCS metadata description in EPOS-DCAT-AP XML format through GitHub (a software development platform).
- Collecting TCS technical feedback about EPOS-DCAT-AP XML model through meetings and also via GitHub. This feedback is important to ensure sufficient metadata description and compatibility.
- Extending and refactoring the EPOS-DCAT-AP model, on the basis of gained experience and the TCS feedback.

Collecting metadata is important for getting knowledge about individual entities (datasets, organizations, etc.) and making them discoverable in the main catalogue via EPOS GUI (Graphical User Interface – see figure). In the first round of implementation, the focus was on “person”, “organization” and “web-service” entities of the EPOS metadata reference model, implemented as EPOS-DCAT-AP XML. However, it was found necessary to improve the EPOS-DCAT-AP representation taking into account the issues encountered and suggestions by TCS IT technical persons. This, in fact, brings the DCAT version of the EPOS metadata baseline closer to CERIF, the eventual target for the catalog. The metadata descriptions provided so far are a success story for EPOS: through them, the IT team was able to provide a prototype where integration of the described services is shown (see preliminary snapshot in the figure).
Consequently, since the October 2017 Bucharest meeting, WP6/7 have been looking at a different way of representing the web service metadata. The current EPOS-DCAT-AP was used for TCS metadata and is based on XML descriptions of TCS web services (and person, organization). WP6/7 have been looking at a Resource Description Framework (RDF) implementation of EPOS-DCAT-AP, now available in a preliminary version on GitHub, as a branch of the initial official repository[2].

The advantage of RDF is that it allows creating metadata to better express relationships between objects. It also allows more sophisticated description of the constraints on an attribute, which means better and richer representation of TCS assets. During the December workshop for WP6/7 (Keyworth, UK, December 2017) work started with agreeing to develop an RDF version of EPOS-DCAT-AP. It is expected that this RDF version will be available for the TCSs to comment on and start working with by March/April 2018.

These recent developments can be summarized as follows:

- The RDF version of EPOS-DCAT-AP will replace the XML metadata that was created for the webservices in the summer of 2017.
- The design team for the RDF metadata will try to ensure that all issues raised for the XML metadata are taken into account when designing the new system.
- This work is being led by KNMI and INGV.
- There is likely to be support (perhaps a tool) for converting existing XML metadata files to RDF.

These developments will be presented in more detail at the Validation workshop in March 2018, where the developers may interact more closely with the TCSs.
