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EPOS e-infrastructure and EUDAT: the development of a Collaborative Data Infrastructure

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The EUDAT project aims to contribute to the development of a Collaborative Data Infrastructure (CDI). The project's target is to provide a pan-European solution to the challenge of data proliferation in Europe's scientific and research communities, and at the core of e-infrastructures under construction within (and across) the different communities. EUDAT addresses the development of basic core services which include, but not limited to, the replication, the staging, the access control and the description of scientific data sets. These services are of great interest for the EPOS community as they can be employed to expand or replace existing ones and to form a more reliable and robust infrastructure upon which build new and better services. Within the EUDAT consortium, EPOS is represented by INGV partnering primarily with CINECA for the design and implementation of the collaborative data infrastructure.

During the first year of activity, EUDAT has been focusing on five main service cases: a) safe replication of data among different sites to allow communities to replicate reliably data to selected data centers for long term preservation. This service includes the adoption of an effective PID system that can be used within and among the communities to uniquely identify and retrieve data; b) staging of data to enable communities to transfer data between EUDAT resources and HPC/HTC resources for computational purposes; c) the introduction and use of common Authentication and Authorization Infrastructure to provide users a federated access to available services; d) the development of a joint meta-data domain, including a searchable catalogue, for all data which are stored by EUDAT data centers; e) an easy-to-use service to enable researchers and scientists to upload, store and share smaller data which are not part of the officially-managed data sets of the research communities.

The poster will describe the EUDAT project as a whole while focusing on the services which are currently employed either for production or testing purposes within the EPOS community, including the requirements being addressed during the development process. Further details will be presented from the initial prototyping of these services towards their adoption within the EPOS e-infrastructure.