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# A geospatial data life cycle services framework

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We present an OGC standards based framework enabling the stepwise development and integration of data life cycle management services. We concentrate on data life cycle steps after the data generation: data identification, replication, publication and distribution. The framework exposes various data transport, data checking and metadata generation functionalities as individual services. These services can be chained to support users in cross institutional data management activities. The framework is currently being deployed as part of a distributed climate and environmental data life cycle lab initially supporting the following data management activities:
- data transport and replication between home institute and a data center
- data quality control at a remote compute site or remote data center
- assignment of persistent identifiers to data entities
- publication of quality results as well as data at a data portal
A concrete application scenario is shown, where climate model data is transported to a data center and checked and published as part of a worldwide data federation.
From a technology perspective the following basic services are integrated in the application scenario:
- iRods middleware based data transport
- Handle based persistent identifier assignment
- domain specific quality control software
- data publication services provided by the worldwide earth system grid data federation (ESGF).
All these basic services are wrapped as OGC web processing services and integrated in the presented framework. Next steps include the integration of data services provided by the European EUDAT data infrastructure as well as supporting specific observational data application scenarios.