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Efficient discovery and access to seismological waveform data in ORFEUS EIDA

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EIDA is the distributed, federated data centre in ORFEUS, which provides secure archival and transparent access to seismic waveform data and related metadata gathered by European research infrastructures.

The distributed infrastructure poses new challenges to explore and retrieve waveform data with optimised data transfer, and to supply clients and tools with well-defined interfaces (API's) to the data.

Within EIDA we developed WFCatalog, a webservice based interface, for requesting data quality metrics and waveform derived parameters to facilitate the discovery and access to high-quality waveform data.

In particular our contribution includes a) the specification of a set of QC metrics and their definitions, b) a data model and JSON schema for encoding the waveform metadata, c) methods to compute the QC metrics for integration in ObsPy (www.obspy.org) and d) a webservice API definition and implementation.

WFCatalog will be implemented as one of the Next Generation (NG) core services in EIDA. The NG services are currently being developed within EPOS TCS Seismology (EPOS-S) and will be soon available in all seismological data centres in EIDA.