



NERIES: Web portal developments for European scale observational seismological services.

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Within the NERIES EC-project (www.neries-eu.org) an internet Service Oriented Architecture (SOA) and a web portal as the uppermost layer providing rendering capabilities for the underlying sets of web services are developed. The portal will offer tools and services related to earthquake data to the broad earth science community and the public.

The portal has to fulfil the need of the end users, one point of access, and suit the existent distributed data and information archives. The Euro Mediterranean seismological institutes and organizations, e.g. data providers of seismological community, maintain large data archives spread geographically, while the NERIES portal needs to be able to retrieve data directly from, preferably, one portal.

The web services currently being designed and implemented will deliver the data adopting the appropriate formats. Event parametric information are delivered using a seismological specific XML format called QuakeML (www.quakeml.org), that has been formalized and implemented largely within the NERIES project itself and in coordination with global earthquake agencies. QuakeML will use Uniform Resource

Identifiers (URIs) to identify seismic events and resources; the URI's can be described either in QuakeML or, in many cases, by a data model using the Resource Description Framework (RDF). To facilitate the implementation in Europe, the EMSC has implemented a UNID (Unique event Identifier) that will form the events URIs together with the QuakeML services, while the RDF data model and services are part of the developments at ORFEUS in a close collaboration with the ETHZ.

Also access to data such as waveforms (broadband waveform and accelerometric data) will be provided through a dedicated set of web services implemented on top of specific middleware hosted in the authoritative observatories.

In order to achieve at the same time all the advantages of a GUI and of a programmatic access to the data, all the web services will be mashed up to create different interactive applications, developed using the JSR-168 portlet and displayed within the final NERIES portal, also thanks to the WSRP technology for presentation oriented web services, that will allow in specific case to distribute the portlets among the data provider (approach actually implemented between EMSC and ORFEUS).