The NERIES Data Portal : building a distributed heterogeneous data search, access, and processing tool set

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The NERIES project (NEtwork of Research Infrastructures for European Seismology) is an EC-funded Integrated Infrastructure Initiative (I3) under the 6th Framework Programme developed to integrate data and service resources for the seismological community. The NERIES data portal (http://www.seismicportal.eu) provides a single integrated point of access to distributed data sets available from several of the NERIES activities. The data portal aggregates data search and access tools from several NERIES participants within a unified access point. These tools operate in a coordinated manner to provide a cohesive distributed search environment, linking data search and access across multiple data providers. In addition, the portal provides a platform from which to integrate access to external tools and processing centers.

The NERIES data portal is architected as a collection of JSR-168-compliant web portlets operating at the respective data centers, and supported by a distributed collection of web services. The portlets access both local and remote web data services. The data services are exposed through standard HTTP access mechanisms and are thus available for direct access by other external clients. This allows the creation of independent applications that access the data center holdings directly through these exposed web data services. The nature of the portlet standard allows the NERIES portlets to be included, using remote portlet technologies, in outside portal efforts, offering an opportunity to leverage and reuse existing tools.

Ongoing efforts will continue to build on the successes and building-blocks of the NERIES project to further develop an integrated data access model to provide a foundation on which to build access to external processing resources and data utilities, and to broaden the range of data sets accessible through the portal. With an integrated data access model, a data workbench is built in which users can define custom personalized data sets, and then operate on these data sets using processing services or utilities that are available as services. The results of these processing steps are themselves managed within the data workbench. In this way, users are able to build workflows, with automatic metadata and data set provenance tracking.