



Web-based display and interaction with high density waveform data recorded by seismic networks as a tool for network diagnostics: the Waveform Server

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Providing anonymous web-based access to both near real-time and archived time-series data recorded by instruments in a seismic network is an easy and efficient way for network operators and scientists to determine network-wide data return rates and quality. The Waveform Server, a Python Twisted application integrated and built on the popular Boulder Real Time Technologies Antelope Environmental Monitoring System allows rapid access and interactivity with multi-station, multi-sensor and multi-channel data stored in Center for Seismic Studies (CSS) 3.0 schema relational databases (Lindquist et al., 2008, Newman et al., 2009, Reyes et al., 2010). The application uses web 2.0 technologies (JSON-based data exchange, AJAX functionality, and HTML5 elements) and standardized libraries (jQuery and jQueryUI) to quickly display large volumes of data in a user-friendly format as either a stand-alone application or remote (iframe) display.

The interface is easily customizable for any regional network using simple configuration files on the server side and cascading style-sheets for the client-side interface. The application has been thoroughly tested using broadband (1 and 40Hz) seismic data from the NSF Earthscope Transportable Array (TA) at UC San Diego and strong motion (200Hz) seismic data from the Network for Earthquake Engineering Simulation (NEES) at the University of California at Santa Barbara.

References:

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