



DataPool: Towards a centralized Real-Time Data Acquisition and Distribution System for Treaty Verification

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The International Data Centre (IDC) of the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) is receiving data from all International Monitoring System (IMS) monitoring facilities. The data are transmitted to the IDC via the Global Communications Infrastructure (GCI) in continuous data (CD) mode in near real-time using client-server direct connection or in segmented data mode using electronic mail (E-mail).

In the current environment, the waveform data from IMS auxiliary seismic stations are requested more than once for the three processing environment: Operational, Testing and Development. In the Operations environment, the auxiliary seismic data are retrieved in segments based on the location and time of a detected event in Standard Event Lists (SEL). While in Test bed, all available auxiliary seismic waveform data are requested. The data retrieval approach in the Development LAN is similar to Operations but uses the Test bed as data source. This approach creates a duplication of traffic on the GCI and forces extra load at the auxiliary stations.

An alternative approach was prototyped, DataPool project, where all data from auxiliary stations were requested by the DataPool system. Requests from other systems (Operations, Test Bed and Development) addressed their requests to the DataPool system, hence avoiding the duplication of traffic on the GCI and the extra load on the

auxiliary station. It would also be possible to change the delivery mode from email to continuous mode, hence further saving network resources. The DataPool approach offers a significant reduction