In 2013 the International Federation of Digital Seismograph Networks (FDSN) approved a specification for web service interfaces for accessing seismological station metadata, time series and event parameters. Since then, many seismological data centers began offering FDSN service interfaces, and more are in development. With these standardized access mechanisms in place the challenge remains: how to efficiently and seamlessly find and collect globally distributed data sets.

Solution: the IRIS Federator, a system we have developed that leverages this standardization and provides the scientific community with a service for easy discovery of and access to seismological data across FDSN data centers.

The 14 data centers included in our Federator are geographically distributed in North America, South America and the European Union. The catalog is refreshed once a day by requesting and storing a complete list of all channels from each data center.

The service interface is designed to support client-side federated data access, a model in which the client (software run by the user) queries the catalog and then collects the data from each identified center. The DMC has built support for the Federator into some of our popular tools, making it simple to perform federated data collection. We will present details of this system along with examples of common usage.

The IRIS Federator: http://service.iris.edu/irisws/fedcatalog/1/
Data centers with FDSN web services: http://www.fdsn.org/webservices/