IFREE data center: New seismic wavefom data collecting application using web service technology

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http://www.jamstec.go.jp/pacific21/

We have developed new application for collecting broadband seismic waveform data using web service technology.

Broadband seismic observation data is distributed by various data centers in the world. These data are distributed by each data center's web user interface. The user interfaces are usually different from each other, so user should change the way of access for each data center. If an user can achieve various data center's data in an unified interface in one time, it is preferable for any users. From the user's view, various data center is look like an unified ``networked data center''. But, on the other hand, such user friendly system might deprive each data center's independence.

We have developed new data collecting application using web service technology, which is worked on the user's PC. Our new application directly access each data center from an unified interface, so the independence of each data center is not deprived.

The feature of the technology of web service is as follows: (1)The description of procedures for the access to the data centers by using WSDL(Web Service Description Language), (2) Using SOAP (Simple Object Access Protocol) for the protocol, (3) Active searching system of service using UDDI (Universal Description, Discovery, and Integration)

Our goal is developing application by integrating these web service technologies, but this time we have developed provisional application uses limited features. Our application uses HTTP to communicate each data center instead of SOAP. We have described the procedure of the communication between user and data center in WSDL. This time, we do not use UDDI.

WSDL is described in XML(eXtend Markup Language). ``Integrated data model'' is also described in XML. XML has large extensibility, so it is easy to extend the procedures of data center access and the data model itself. The ``integrated data model'' has information of search condition (e.g. date, station, network, component) and data (URL of data or XML data itself).

Now, our application can access to following data centers' user interface. (1) IFREE DC (http://www.jamstec.go.jp/pacific21) event data and continuous data, (2) OHP DMC (http://ohpdmc.eri.u-tokyo.ac.jp) event data and continuous data, (3) IRIS (http://www.iris.edu) Wilber II, Webrequest