

Minutes FDSN Working group II- Data Centers and Formats
July 9, 2003, 12:00-14:30

Present: T. Ahern, R. Benson, B. Dost, Paul Earle, J. Lyons, M. Olivieri, G. Roullet, J.C. Lepine, C. Trabant, S. Tsuboi,

1. SEED Issues

- a. CalTech asked if they could have a permanent network assigned to their portable networks. After some discussion it was agreed to assign a temporary network code for an extended period (99 years).
- b. The station naming problem, that was addressed last meeting, may be solved within a further development of XMLSEED.
- c. Other potential changes, like the inclusion of a reference to the agency that distributes the data or an extension of the fixed data header, could also be solved in XML.
- d. In the Quanterra Q330 blockette 500 is used and channel name is ACE. This is the first time a manufacturer uses this blockette. Blockette 2000 is also used by the Q330 (channel name is OCF). The description in the manual on these blockettes should be updated to prevent confusion on its correct usage. The blockette itself will not be changed. It was decided to define two new data family types (blockette 30): 90, indicating "Opaque data" and 91, Blockette-only information as proposed by Doug Neuhauser.
It is strongly advised not to extend miniSEED with information that can be put in the full SEED structure. Use e.g. blockette 70 for distributing event information with the data.
- e. In the SEED manual it will be defined what characters are meant by Punctuation (blockette 31 and 33). Due to some new usage it is important that P includes the underscore (_) character if it does not already do so.
- f. It was decided to recommend that the DDL must be in big endian order. This decision is supported by the Quanterra Users Group.
- g. Blockette 52. If negative elevations are less than -9999 m, the decimal value should not be used. The same convention holds for the local depth. The SEED manual will be adapted.

2. Real time data exchange

- a. The WG members did not see a need for a standardization of exchange protocols, but thought it was worthwhile to set-up a web page on the FDSN site where an overview is given of dataloggers and existing protocols to enable real time transmission. Data suppliers can see if they can use existing protocols and the developers can see what is still missing. So a matrix of protocols against dataloggers is foreseen with a reference to developers to contact.

- b. A minimum functionality for exchange protocols was discussed. Two main issues are: a. latency and b. buffering. It was strongly recommended to go for a minimum latency combined with a sufficiently large buffering to allow for a minimum of loss of data.

3. NetDC/AutoDRM/Wilber

- a. NetDC will not change much, but at IRIS a Web portal will be developed for NetDC to ease data requests. From GEOSCOPE full SEED volumes are delivered, the IRIS BUD system delivers miniSEED. In both cases dataless SEED files can be obtained. NetDC is currently implemented at GEOSCOPE, Berkeley and IRIS DMC. At ORFEUS the connection to the data is not yet done. It is intended to use PDCC-3.0 that can make the connection to NETDC. MedNet has installed NetDC but has not yet released it for use. GEOFON has turned NetDC off. China and Japan are currently not using NetDC although it has been installed there.
- b. AutoDRM. No further developments.
- c. Wilber-II. Plotting of data has changed from pre-formed giffs to using a PHP dynamic method.

4. XML developments

- a. A new document was distributed by Seiji Tsuboi at the meeting. The XML scheme presented at last meeting has been further developed and two programs were presented: *seedconv* to convert SEED volumes to XML and *xrdseed* to read an XML-seed volume. FDSN members will use these programs to test them on real data. Issues in the discussion were: the implementation of CM6 compression; the ability to overcome limitation of the current SEED definition. It was foreseen to gradually move over to XML-SEED over a 5 year period, provided the XML implementation survives the testing. Chad Trabant brought up the issue of modification of the Fixed data header and was asked to make a proposal. Further evaluation and discussion will be possible at the ORFEUS workshop on Object oriented programming in Athens in September.
- b. The QuakeML proposal by Schorlemmer, Maraini and Baer, that was received just prior to the meeting, was briefly discussed. It was proposed to organize a workshop on this issue within a larger group of people that also deals with parametric data.

Working Groups II and III met together. The topics of interest to WG III included the SEED XML issues as well as the issue of standardized quality control. Further to the minutes of the WGII presented above, in WG III we decided that the move to XML-SEED will take a long time to happen, on the order of five years. The focus during the next year should be for all FDSN networks to begin testing the Japanese implementation and identify areas

where it does not work or where it fails. In particular a much broader set of data needs to be tested.

In the area of quality control the following was considered. The IRIS Quack system seems to be a promising start but Ahern explained that it would probably remain in a development phase for up to another year. WG III decided that all FDSN members should be surveyed to see what QA algorithms are currently implemented or needed within the various operating networks. Some discussion was centered around insuring that algorithms are always publicly available so that they might be implemented even if the Quack framework is not used.

At the second FDSN plenary meeting the next issue was brought up:
The incompatibility of WDC and IR network codes starts to provide problems to some FDSN members. It was suggested to start a coordination group. Members of this group to be contacted may be:
Ray Willeman (ISC), Remy Bossu (EMSC), Winfried Hanka (GEOFON), Ray Buland (NEIC), Tim Ahern (IRIS).