

# Federation of Digital Seismographic Networks

Minutes of Meeting in Seattle, WA, USA  
IRIS DMC, December 4-6, 1992

The following participants were present during most or all of the sessions:

<i>Name</i>	<i>Institution - Network</i>	<i>Country</i>
<u>Members:</u>		
A. Dziewonski	Chairman, Harvard Univ	USA
R. E. Engdahl	LASPEI, USGS	USA
B. Romanowicz	ILP, UC Berkeley	USA
B. Dost	Acting Secretary, ORFEUS	The Netherlands
W. Hanka	GRSN, GFZ	Germany
R. Buland	NEIC, USGS	USA
T. Ahern	IRIS	USA
B. North	CNSN, GSC	Canada
A. Morelli	MedNet, ING	Italy
Z. Gong Wei	CDSN, SSB	China
S. Tsuboi	POSEIDON, Un. Tokyo	Japan
D. Novelo	MNN, UNAM	Mexico
H. Given	IDA, IGPP/SIO, UCSD	USA
<u>Observers:</u>		
R. Butler	IRIS	USA
J. Filson	NEIC, USGS	USA
J. Hyong	GSC	Canada
B. Hutt	ASL	USA
S. Ingate	IGPP/SIO, UCSD	USA
D. Weill	EAR-NSF	USA
D. Shuster	Sandia Nat. Lab.	USA
D. Simpson	IRIS	USA
E. Bergman	ISOP, NEIC, USGS	USA

The following summarizes the discussions held by the Federation over three days. A joint summary is given here, which does not attempt to be a detailed record of all the discussions. Notes for the meeting were taken by B. Dost, acting-secretary in the absence of D. Giardini.

#### 1. Adoption of Agenda

It is proposed to include point 8 (Station book) in point 5 and to introduce as point 8 a presentation on long-term prospects for the FDSN by NSF representative Dan Weill (NSF program director).

The Agenda is further adopted.

#### 2. Approval of Minutes of 1991 Vienna Meeting

It is noted that confusion exists on the naming of WG-III on pag. 4 of the minutes. The name is changed to: "Data Exchange". Minutes are adopted without further changes.

#### 3. New Networks and Federation Members

Mexico is welcomed as a new member.

There is interest from the side of Iran to become a member; the Federation agrees on the condition that Iran intends to contribute to the Federation archive.

A need was felt to develop more formal procedures for organisations to become a member of the Federation. Further discussion on this topic is reported under point 12.

#### 4. Reports of Members on Network status and Data Distribution

Oral reports were given by representatives from Canada, China, France (GEOSCOPE), Germany (GRSN, GEOFON), Italy (MedNet), Japan (POSEIDON), Mexico, Orfeus, USSR, Switzerland and US (IRIS, USGS). Most of these contributions have been received in written form and are added to the minutes (Appendix A).

A problem was signalled concerning the continuation of the availability of data on CD-ROM from stations that are now covered by the NEIC. The FDSN CD-ROM, that will be produced by the NEIC, will not cover all stations and it is expected that the magnitude threshold for the FDSN CD-ROM will be much higher than the present threshold (4.9). It makes sense that remaining data will be covered by "regional" data centers.

John Filson (USGS) made the following written statement:

"The United States Geological Survey (USGS) intends to produce CD-ROMs containing data from the Federation of Digital Seismographic Networks (FDSN). This effort will be carried out in cooperation with the Incorporated Research Institutes for Seismology (IRIS) and participating FDSN stations. The USGS may produce additional CD-ROMs with data from other stations it supports."

The question was raised of how many FDSN CD-ROMs the USGS/NEIC is willing to produce per (data) year. A number of 6 is thought to be possible and even more if the number of stations and occurrence of significant events would require it.

Reports of the Working groups and ad-hoc Committees

Of concern is the availability of software to read SEED volumes on a PC. Presently, there is a (non-graphical) GEOSCOPE SEED reader for a PC. Although much effort has been devoted in upgrading SONIC to accept SEED I/O, a stable version has yet to be developed. Within ISOP work is done to make PITSA software accept SEED I/O.

#### 7. Station Book

See point 5.

#### 8. Long-term prospects for the FDSN

Dan Weill (Manager for Instruments and Facilities at NSF) stressed the fact that large projects can only be successful through international cooperation. As a result these projects need a close coordination and the question arises: How strong is the commitment of each participant. The IRIS facility did receive a high priority for long term support. IRIS is in the 2nd year of a five year period (1991-1996).

#### 9. ISOP

An overview of ISOP was given by Eric Bergman. ISOP is currently developing software for routine observatory analysis. Both the GSE and FDSN are interested in these developments.

In view of the discussion on the FDSN CD-ROM, the need was felt to investigate the possibility to create a regional data center for Northern America. A small working group consisting of Bob North, John Filson and David Novelo-Casanova was created. Bob Engdahl mentioned that there may be a special section at the SSA meeting in April.

#### 10. OSN report

Drilling of OSN-2 was not approved. In order to proceed in this field, there is a need to have a long term plan and it should be international. Adam Dziewonski identified areas on the globe that are suitable for experiments: 1. NW Pacific (Aleut./Kuriles); 2. off western USA (halfway Hawaii-USA mainland); 3. Middle Nazca plate; 4. Middle mid-Atlantic ridge; 5. Indian Ocean (off Australia/90 East Ridge).

There was a discussion at the GEOSCOPE meeting last September and all groups presently involved in the deployment of ocean bottom seismographs agreed to cooperate (Japan, GEOSCOPE, USA). The question was raised whether the FDSN supports this continuation of effort. J. P. Montagner presented results from a recent GEOSCOPE experiment, intended to investigate the feasibility of the deployment of broad-band seismometers. The USA is preparing a pilot project in OSN-1 (close to Hawaii); Woods Hole and Scripps submitted a proposal to install a Geotech KS-5400 VBB seismometer and 2 STS-2 borehole instruments and compare recording from seismometers (a) in a borehole, (b) buried and (c) at the ocean bottom. These instruments should record for a period of 3 months. Dan Weill stressed the importance of international communication in this experiment; there should be a meaningful technical exchange.

#### 11. Open stations

- **WG-I:**  
report is enclosed (Appendix B);
- **WG-III:**  
the SEED WG is absorbed in WG-III on data exchange; report is enclosed (Appendix C).
- **Federation Archive Advisory Committee:**  
there was some confusion during 1992 on the membership of this committee; Dost attended as chairman of this committee a meeting of the IRIS DMC Standing Committee in early 1992. A new committee is formed, consisting of Winfried Hanka (Chairman), Tim Ahern, Bernard Dost, Jean-Paul Montagner, Bob North and Seiji Tsuboi. The group will communicate by e-mail and will report to the FDSN standing committee.
- **Station Book:**  
Tim Ahern reported on the status of the station book and distributed a preliminary version that was very well received.  
A few specific problems related to the station book were discussed. Most important is the presentation of the noise curves. It was recommended that each station/network contributes noise data of their stations to the IRIS DMC. One independent person will then calculate noise curves for all stations. Also, the definition of a template for the lay-out of the poles and zeroes, based on the SEED definitions, was recommended. In the station book all stations that are operated by Federation Networks should be included.  
Time table: all noise data should be sent to the IRIS DMC by March 31, 1993. The goal is to have the book produced prior to the Wellington meeting.  
Bob North offered to provide an algorithm in use at ASL to Tim Ahern and will prepare a proposal before the end of 1992. This proposal will be circulated and the final proposal will be ready before January 31st, 1993.

## 5. Federation Archive

Since the FDSN CD-ROM will be produced from the IRIS archive (see item 7), the status of data collection was presented. The first SEED FDSN CD-ROM will contain data from FDSN stations for the first two months of 1990. For this period data from IRIS, MedNet and GEOSCOPE are already in the IRIS database. Other stations will be requested to submit their data.

The IRIS DMC requests continuous data from LP channels and triggered (V)BB channels for all FDSN stations.

## 6. FDSN CD-ROM

Data collection and subsequent CD-ROM production is now straightforward. The USGS makes requests from the IRIS archive and the collected SEED volumes are provided with event information (either at the IRIS DMC or at the NEIC). The pre-mastering and mastering/replication will be done by the USGS/NEIC. All data for the first two months of 1990 should be in the IRIS archive by March 31st. At that time also event and time-window criteria should be specified. For the definition of these criteria WG-III will involve S. Sipkin of NEIC.

It was argued that the FDSN should make a more formal liaison with the GSE group, since both organisations are following a similar development in the usage of open stations. Bob North is active in both groups.

#### 12. By-laws task group

A group was formed to develop a draft of FDSN by-laws. It consists of: Bob Engdahl (chairman), Jean-Paul Montagner, J. Fukao e B. Dost. This group is expected to come up with a set of by-laws that should be circulated before the next FDSN meeting in Wellington.

#### 13. Next meeting

The next FDSN meeting will take place in Wellington during the IASPEI General Assembly in January 1994. Proposed dates are: January 11 (a full-day session) and January 18 (an afternoon session).

Adam M. Dziewonski  
Chairman

Bernard Dost  
Acting-Secretary

Domenico Giardini  
Secretary

#### List of Attachments

- A) Member Reports:
  - (1) ORFEUS, (2) ETH Zürich, (3) MedNet, (4) GRSN, (5) GEOFON, (6) CDSN, (7) POSEIDON, (8) GEOSCOPE, (9) CNSN, (10) IRIS GSN, (11) MNN, (12) IRIS DMS.
- B) Report of WG-I: global distribution of digital stations and Federation Network 1992.
- C) Reports of WG-III on data exchange.