DRAFT 2005 FDSN Minutes
October 2, 2005
Santiago, Chile

First Plenary

Opening of Plenary I

The first plenary was called to order at 15:18 on 2 October 2005 by the Chairman, Domenico Giardini. He briefly introduced himself and the secretary, Tim Ahern and briefly discussed the organization of the FDSN. The schedule for the second plenary was changed to the following day in the evening. Working Group V on portable instrumentation will need to meet sometime during the day on Monday. Giardini briefly summarized the agenda. The agenda is attached.

The Executive Committee will meet tomorrow during the day to make recommendations and discuss issues before the second plenary.

The Minutes from the 2004 FDSN meeting in Potsdam were approved without change.

Chairman's Remarks

GEOSS and the CTBTO are making seismology more global. The FDSN has both global and international coverage and the character of the FDSN is changing with a greater regional and national focus. To a large degree, the FDSN is assuming the coordinating role of seismology. There are about 2000 broadband stations worldwide and about 200 broadband stations in the FDSN backbone. In other words the FDSN is a Global Framework with a national and regional enhancement.

The FDSN is also seeing advanced networks of data centers, an open data policy and other improvements in data access. The FDSN is now officially a part of the Global Earth Observing System of Systems (GEOSS).

At the last meeting the FDSN expanded its priorities to include

- Improvements in data availability with a preference for real time data sharing
- Complete global distribution
- Enhance regional participation by having meetings distributed globally. In the past few years we had meetings in Potsdam

where eastern European countries joined the FDSN in large numbers. This year the assembly is in South America with a specific desire to increase S. American and Central American participants in the FDSN. Next year our goal is to have the meeting in SE Asia where we can reach out to networks in that part of the world.

- Maintenance of high quality standards in FDSN data streams.
- GEOSS

Giardini highlighted the enhanced membership from Europe, Africa, Asian and the Americas as an example of the new directions of the FDSN being obvious. This year we will see new members from Europe with Spain, the United Kingdom and the reinstatement of Russia as an active member. In Asia we see Tajikistan, Thailand and Indonesia as desirable new members. In Africa, the FDSN can work closely with AfricaArray. Giardini highlighted this year's memberships and next year's focal points for new members.

Giardini discussed the role of the Working Groups and asked the Steering Committee members if they thought there should be a GEOSS working group. He mentioned that the FDSN now has official representatives to all the GEOSS working groups.

He highlighted Open Issues the FDSN must still discuss

- Regional versus global
- What is the FDSN today?
- Should the FDSN change its name?
- What should the FDSN contributions to GEOSS be?
- How can the impact of the FDSN be increased?
- Should the FDSN backbone of high quality stations be increased from 200 to perhaps 300?
- Are there specific areas where the station density should be increased, such as Thailand?

What is the FDSN today? There is an increasing role of regional networks resulting in some cases with less strict adherence to standards. We need to identify the political role of the FDSN in the CTBTO and GEOSS frameworks. Giardini discussed what GEOSS is and what the current status of GEOSS is. He summarized the overall objectives of GEOSS in his PowerPoint presentation. He highlighted what the FDSN can contribute to the GEOSS effort.

In conclusion, the chairman summarized the ways to increase the impact of the FDSN such as

- Active participation in international organizations

- Better communication to its members
- Lobbying for regional and global seismology
- A presence at major scientific assemblies
- Enhancing Education and Outreach efforts

And two questions

- Should we attempt to gain governmental recognition
- Should we have a budget?

This ended the chairman's report.

Tsuboi next discussed the FDSN station list and some ways needed to improve the existing spreadsheet to better represent the FDSN stations. He stressed the need for networks to improve the way they report station information to him. He proposed to have WGI meet Monday at 9AM and report back at the second plenary.

Ahern then gave a brief summary of the FDSN archive. He indicated that most networks that were FDSN members before 2004 had contributed data recently to the FDSN archive at IRIS. Members that had joined since 2004 had in general not contributed and data yet and so it is time to press the newer members to make their contributions. He indicated that data archiving from the FDSN continue to grow and the FDSN archive at IRIS continues to support distribution of data to the international community. Of the 200,000 shipments that are projected this year, roughly 60,000 of them will go outside the United States primarily to FDSN member countries. France has become the country making the most requests from the FDSN outside the United States.

Butler raised the question directed toward whether or not the FDSN should standardize the communication protocols used to access data in real time.

New Network Reports

Christa von Hillebrandt gave a report about MIDAS as she showed the current status of Middle America stations. 9 new Caribbean stations are to be installed as part of the tsunami initiative within the Caribbean region. There could be up to 70 broadband stations in the region by the end of 2006.

Ecuador will have 25 new stations and will make 3 BB stations available to the FDSN. The funding for this effort came from JICA in Japan and Canada. Updated information was made for Nicaragua indicating that El Salvador, Guatemala and Panama are actively improving their networks.

The following countries and organizations were then approved for FDSN membership:

- Ecuador,
- Costa Rica
    - The Costa Rican Electric Utility was accepted as an FDSN member.
- Nicaragua (Instituto Nicaragüense Estudios Territoriales (INETER), Nicaraguan Geosciences Institute was accepted. They run SEEDlink and hopes to make all stations open.
- Jamaica was accepted as a new member. They currently run 12 short period stations but they hope to make them digital soon. They will have one BB station as a result of the tsunami initiative.
- Berkeley Digital Seismographic Network (BDSN). They have 27 stations either STS1 or STS2. They have GPS at all stations and some stations have electro-magnetic sensors. Romanowicz highlighted the processing system, mentioned the collaboration with the California Integrated Seismic Network (CISN) and mentioned their contributions to the USArray effort and to the ANSS backbone in the United States. The BDSN was accepted as an FDSN member.
- Columbia-
    - Ingeomenus was accepted.
    - OSSO the observatory in Cali was accepted.
- The BGS in the United Kingdom was accepted as a member. The have 150 short period stations and 4 broadband stations. Their goal is to have 40 broadband stations.
- Spain (ROA, Royal Naval Institute and Observatory) running the Western Mediterranean was accepted for membership.
- Malaysia was accepted for membership and they are already submitting data to the FDSN Archive from three stations.
- Thailand was accepted for membership
- Indonesia was accepted for membership
- South Africa was accepted for membership and they will nominate two stations for submission to the FDSN archive.
- Tajikistan was accepted for membership.

We deferred action on the following two organizations either because a real request had not yet been received or the situation was unclear.

- Costa Rica
    - RSN will have 10 stations coming in real time soon but the University did not yet request to join the FDSN.
    - Trinidad and Tobago

It was mentioned that it would be important to contact Cape Verde Islands to see if they might wish to join the FDSN.

Tsuboi reported that there has been little action in the area of synthetic seismograms.

Butler encouraged the engagement of the FDSN members with their national GEOSS efforts. The involvement of FDSN members in GEOSS was also stressed by the chairman.

It was agreed that we should establish an email list server for distribution of GEOSS documents. We will also link key GEOSS documents on the FDSN web site for FDSN members.

On the topic of the name of the FDSN, Gregersen felt that it was important to keep the FDSN acronym. Many members felt that we should keep our broadband focus. Schweitzer wanted to table the issue. Giardini said that the FDSN executive committee would discuss the issue of the FDSN name and we would revisit this at the 2nd Plenary.

On the topic of the FDSN backbone the issues to be considered were the expansion of the backbone in terms of the number of stations, the goal of making this a real time network, maintain the high quality of the network and to insure that the FDSN backbone was properly documented with metadata in FDSN SEED format. This issue was referred to the WG I for consideration.

A brief summary of a suggested FDSN information strategy was presented by Ahern. It included the idea of email list servers that should be coordinated with other groups such as the ISC, a quarterly Newsletter in electronic format might also be used to promote and inform others of FDSN activities. Ahern indicated that the IRIS DMC webmaster could assume the coordinating role for this Newsletter.

It was determined that the 2nd Plenary would be held in the convention center at 6PM. The room should be in M2 but users were encouraged to check at the meeting. The Executive Committee will meet at 12:00 on Monday to discuss a variety of issues. It was also determined that those interested in participating in WG V should meet at 12:30 in the Foyer of the Convention Center.

The meeting was adjourned at approximately 18:00.

Second Plenary Meeting
Chairman Giardini called the second plenary session of the FDSN to order at 18:05 on 3 October 2005. Giardini acknowledged the presence of the IASPEI president Bob Engdahl and noted that Sergio Barrientos of the CTBTO would give an update on some CTBTO issues.

Giardini reviewed the agenda and no modifications were made to it.

Working Group Reports
Tsuboi reviewed the work of the WG I. He noted that it was important to put the station information into a relational database so that it would be easier to update information as well as producing the variety of maps needed.

He reminded all new FDSN members that they should select at least one broadband station from their network for inclusion in the FDSN backbone.

Dost reported that WG II did not meet at the meeting but noted that a new version of the SEED manual (Version 2.4) is nearly ready for printing. He commented that there might be a need for the FDSN to consider standardization of data exchange protocols.

Ahern reported that WG III did not meet either due to the shortness of the meetings. He noted that the DHI was currently being installed at ORFEUS and will soon be installed at ISC to provide event services.

Lyons noted that WG IV would become an inactive working group but that the Excom of the FDSN will continue to discuss CTBTO issues. He mentioned that we will continue with bilateral data exchange and mentioned previous efforts in Canada, GERESS, Australia and Korea. Data from three of these four efforts was flowing to the FDSN archive.

Alex Brisbourne noted that only two people were involved in the discussions of WG V, Portable Instrumentation. Therefore not much progress was made.

Hillebrandt mentioned that the PASSCAL policy of one station per experiment should become open and that the FDSN should consider adopting this policy as well. Giardini wants to insure that the primary contacts for all the portable equipment groups are on the FDSN web site. The biggest challenge will be to coordinate activities across the various portable data centers. Giardini asked Brisbourne, working with

Fowler, to lead the efforts of the Portable Working Group V over the next period.

NEIRIES Update

Giardini presented a NERIES update. This was possible to integrated infrastructure initiative funding in Europe. They achieved significant funding at roughly $10million dollars over 4 years that will support a variety of activities. Activities such as data mining, development of a European reference model, Shakemap and hazard warning are covered in the NEIRIES proposal. One of the key activities is the development of a set of hierarchical data centers within Europe that will include GFZ, INGV, GEOSCOPE and ORFEUS and this should help Europe move ahead in data management at a significant pace.

EarthScope Update

Butler quickly reviewed activities within the US effort called EarthScope. This is a roughly $200 million dollar effort over 10 years to better understand the earth structure beneath the United States. EarthScope components include

- SAFOD, the San Andreas Fault Observatory at Depth. This project has already drilled a hole through the San Andreas Fault and instrumentation will be installed to monitor a variety of geophysical parameters including seismic sensors within the borehole.
- PBO, the Plate Boundary Observatory. This involves the installation of a large number of GPS instruments in the western US augmented with seismic sensors.
- USArray. This component of EarthScope involves the installation and operation of a huge number of seismic stations across the US over a ten-year period. Butler mentioned that there are MT components of both the permanent and portable parts of USArray.

The PowerPoint presentation is available on the FDSN web site.

Tsunami Efforts

Giradini quickly reviewed some of the activities taking place in the tsunami community. The International Ocean Commission (IOC) is heading the planning in the Indian Ocean region. There are also very active efforts taking place in the Mediterranean and Caribbean regions. GEOSS is active in the tsunami efforts and Butler is involved in those discussions for the FDSN. Butler added how the variety of working groups addressing the tsunami problem is working and how international their role is.

Butler mentioned that there is a tsunami meeting taking place in Vina del Mar on Tuesday and others are welcome to attend in addition to Ahern, Barrientos and Butler.

Executive Committee Deliberations

The Executive committee recommended and the Steering Committee supported the idea for the FDSN to remain an organization without a membership fee and to remain independent from any other organization.

The Information Strategy (email list servers, Quarterly Newsletters, and links to important information such as GEOSS) was accepted by the FDSN.

Romanowicz recommended that the FDSN adopt a clear FDSN strategy for GEOSS. Giardini responded that the FDSN is currently engaged in an active and appropriate manner but it is still important for all FDSN members to remain involved in their national GEOSS efforts. While the FDSN members should not expect funding, participation is essential.

The Excom recommends that the WG IV become inactive.

Working Group I issues discussed lead the Excom to recommend that the expansion of the FDSN backbone is a desirable thing especially when one considers all of the new members. Each member should designate at least one new station to be become part of the FDSN network. The focus of the backbone is still to be broadband when possible, geographically appropriate and if possible a station that delivers data in real time.

Butler proposes that we identify which stations provide data in real time and we put that in the inventory.

The Excom encourages WG V to begin its work very soon. It should self-organize and identify a chair as soon as possible.

The Executive Committee recommends that we add the name International and remove the broadband from the name of the FDSN. The acronym should remain FDSN. The Executive committee recommendation to officially change the name of the FDSN to the International Federation of Digital Seismic Networks was approved by the Steering Committee.

Members of the Steering Committee were encouraged to send names of possible new FDSN chairs to Giardini for consideration. The chairman and the secretary should change at the next meeting. Members should remember that the geographic location of the chair and the secretary should not be the same and that the new chair should not be from the part of the world recently providing the chairs.

The location of the next annual meeting received a lot of discussion. There was some resistance to meeting with the ASC in Bangkok due to the amount of travel involved. Others felt that since the FDSN will next attempt expansion in SE Asia the Bangkok meeting offers tremendous opportunities and travel to Bangkok is much less difficult that other places. Other options are the Western Pacific AGU in July in Beijing or the tsunami meeting this coming summer in Bali. We will determine the next venue by email.

CTBTO

Sergio Barrientos brought FDSN members up to date on a few issues related to the CTBTO and the IMS. The CTBT can now share data with UNESCO recognized tsunami centers. At the present time this includes PTWC and the Japanese Tsunami Center. This is an important development since these tsunami centers are not National Data Centers of the CTBTO and yet data is being shared with them.

Barrientos also mentioned that some auxiliary stations are now sending data in a continuous mode at the request of the Japanese Tsunami Center. At this time, this release of data to the tsunami centers is the only release of data from the IDC.

Chairman Giardini closed the second plenary meeting at 19:40.

Minutes respectfully submitted by

Tim Ahern
FDSN Secretary

	2005 FDSN Meeting		Attendance	Santiago, Chile	2Oct05	3Octo5
					Plenary	Plenary
	Name	Last Name	Institution	Country	1	2
1	John	Adams	GSC Ottawa	Canada	Y	
2	Tim	Ahern	IRIS	USA	Y	Y
3	Sergio	Barrientos	CTBTO/IMS	UN	N	Y
4	Lucas	Barros	UNB	Brazil	Y	
5	Maira Luisa	Bermudez	INGEOMINAS	Columbia	N	Y
6	Illeana	Boschini	RSN	Costa Rica	Y	Y
7	Alex	Brisbourne	SEIS UK	UK	Y	Y
8	Rhett	Butler	IRIS	USA	Y	
9	Yun-Tai	Chen	CEA	China	N	Y
10	Peter	Davis	UCSD	USA	Y	Y
11	Jim	Dewey	USGS	USA	Y	Y
12	Bernard	Dost	KNMI/ORFEUS	Netherlands	Y	
13	Adam	Dziewonski	Harvard	USA	Y	
14	Bob	Engdahl	IASPEI	USA	N	Y
15	Joao	Fonseca	IST, Portugal	Portugal	Y	Y
16	Jim	Fowler	IRIS	USA	Y	Y
17	Domenico	Giardini	ETH-Zurich	Switzerland	Y	Y
18	Soren	Gregersen	GEUS	Denmark	Y	
19	Jens	Haskov	U. of Bergen	Norway	N	Y
20	Mizuho	Ishida	NIED	Japan	Y	
21	Steinunn	Jakobsdottin	IMO	Iceland	Y	Y
22	Brian	Kennett	ANU	Australia	Y	
23	Rainer	Kind	GFZ Potsdam	Germany	Y	Y
24	Ogie	Kuraica	Kinemetrics	USA	N	Y
25	Wolfgang	Lenhardt	ZAMG	Austria	Y	Y
26	Mark	Leonard	Geosciences Australia	Australia	Y	
27	Ruifeng	Lui	CE Network Center	China	N	Y
28	Jim	Lyons	GSC	Canada	Y	
29	Peter	McGinty	GNS-Geonet	New Zealand	Y	
30	Lars	Ottemoller	BGS	UK	Y	Y
31	Ronnie	Quintero	OVSICORI	Costa Rica	Y	
32	Barbara	Romanowicz	UC Berkeley	USA	Y	Y
33	Johannes	Schweitzer	NORSAR	Norway	Y	Y
34	Avi	Shapira	ISC	United Kingdom	Y	
35	Wilfred	Strauch	IMETER	Nicaragua	Y	
36	Paula	Teves Costa	CGUL	Portugal	Y	Y
37	Seiji	Tsuboi	JAMSTEC	Japan	Y	Y
38	Christa	Von Hillebrandt	PRSN	Puerto Rico	Y	Y
39	Margaret	Wiggins-Grandison	Jamaica Seismic Net	Jamaica	Y	Y
40	Kevin	Wilbanks	Geotech Instruments	USA	N	Y
41	Ray	Willemann	IRIS	USA	N	Y