

MedNet: Status and Plans.

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The MEDiterranean NETwork presently counts 16 operating stations with the cooperation of 11 Institutes. Three more stations will be added this year and a few more are planned for the next year. All the stations are equipped with Quanterra digitisers (Q4120 and Qx80); sensors are mainly Streckeisen STS2, with a few STS1.

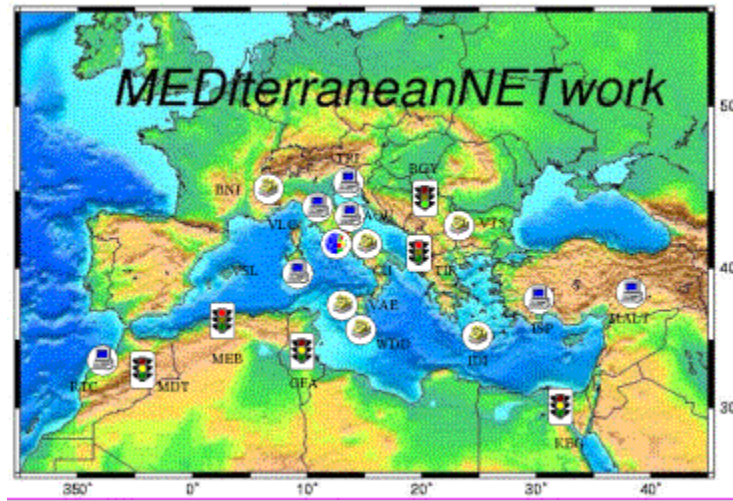


Figure 1: Map showing the distribution of MedNet stations. RTC is under installation at present. Symbols represent the connection type: phone-line or TCP-IP. Traffic lights indicate closed stations.

Operations started with off-line field data collection. Dial-up capabilities were gradually added at later stages at selected sites. Since 1997 an automatic system (MUSCLES) interacts with those stations that can be reached by conventional telephone lines.

The present efforts are toward real-time acquisition and automated processing. Stations are linked by direct phone lines through the Internet, or by VPN. IN the framework of the European Community MEREDIAN Project (EVR1-2000-40007), GEOFON SeedLink protocol has been adopted for transmission,

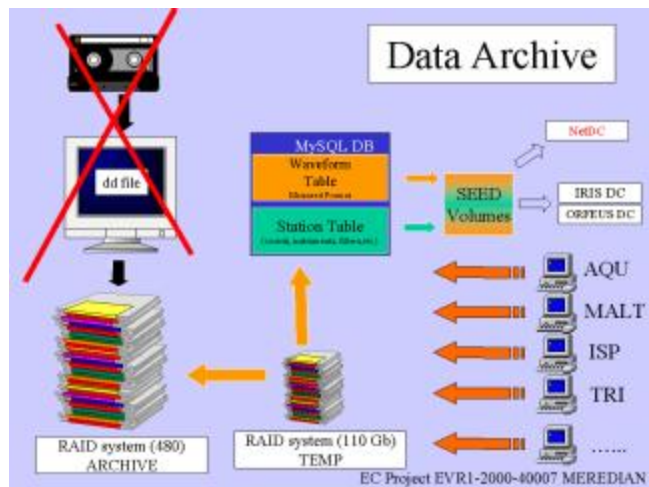


Figure 2: this sketch shows the data flow from data-loggers to the database. We are now rapidly moving from tape archiving and mail shipment to seedlink connections and realtime data transfer and archiviavtion.

As for data archiving and distribution, a faster system for retrieving data has been developed. Continuous data streams, collected both from field data tapes and from real time transfer, are stored at the Data Center and are directly available to users requests. Data and station information database is managed through PdccToolkit. SEED Volumes are routinely produced and distributed.

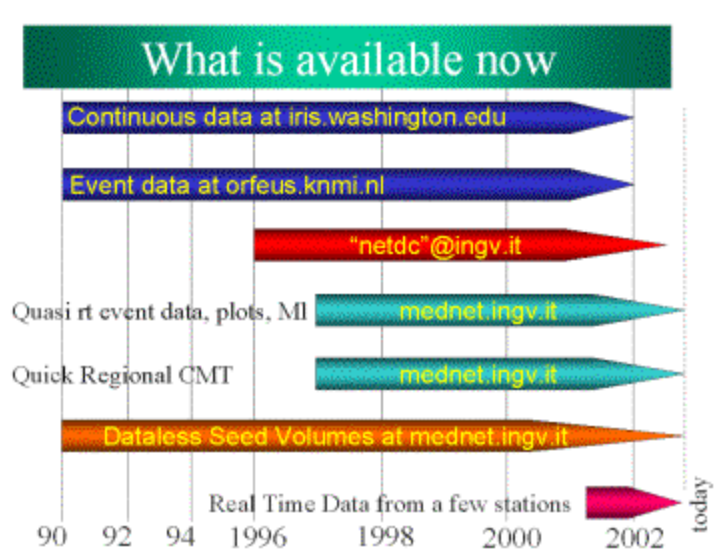


Figure 3: here is shown the status of the data distribution from 1990 to present.

Fully automatic functions include now: daily monitoring of state-of-health, triggered retrieval of event waveforms (with magnitude- and region- specific selection criteria), local magnitude determination, and update of web pages (<http://mednet.ingv.it>). Rapid semiautomatic moment tensor solutions are calculated, by means of a modified Harvard program, which lowers the Mw threshold down to 4.0 for regional events.

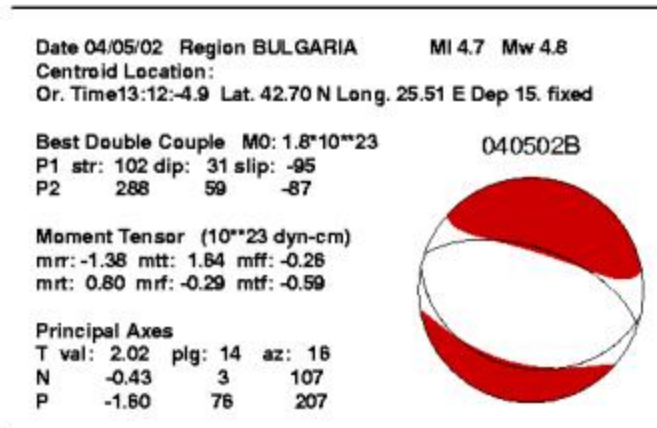


Figure 4: an example of quick RCMT solution as published on the MedNet web site. Data are automatically retrieved as soon as the event occurrence is notified by any of the trusted agencies.

The results achieved can be summarised as follows:

- Quicker assessment and diagnosis of technical failures for stations linked by phone line;
- Prompt access to very-broadband data by the seismological community;
- Reliable and real time Local Magnitudes in Countries where they are extremely valuable;
- Robust Quick Regional Centroid Moment Tensor determinations, in a region where large magnitude events are rare.

Present plans include:

- The installation of a new station in Rabat (Morocco) with real-time connection (SeisComP) plus 3 station in Calabria (South Italy) and one station in Divcibare (Yugoslavia);
- Connect in real time VSL, CLTB BNI and VAE in Italy plus IDI (Greece), WDD (Malta), and VTS (Bulgaria);
- Distribute the whole dataset in real time;
- Restart GFA, (Tunisia);
- Complete the implementation of NetDC and distribute data from 1990 to present;
- Determine in real time the source parameters for relevant earthquakes in the Mediterranean Area.