INTERNATIONAL TELECOMMUNICATION UNION
TELECOMMUNICATION

DEVELOPMENT BUREAU
ITU-D STUDY GROUPS
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SECOND MEETING OF STUDY GROUP 1: GENEVA, 22 - 25 SEPTEMBER 1997
SECOND MEETING OF STUDY GROUP 2: GENEVA, 29 SEPTEMBER - 2 OCTOBER 1997

Question 6/2: Impact of telecommunications in health-care and other social services
STUDY GROUP 2
Working Party B/2
SOURCE: RAPPORTEURS' GROUP
TITLE: TELEMEDICINE AND DEVELOPING COUNTRIES
Comments on and contributions to the *Report on Telemedicine and Developing Countries* are welcome. They should be sent to the Rapporteur for Question 6: David Wright, Inmarsat, 99 City Road, London, EC1Y 1AX, England, fax: + 44 171 728 1778, e-mail: david_wright@inmarsat.org. A copy can also be sent to Leonid Androuchko, ITU-BDT, Place des Nations, 1211 Geneva 20, Switzerland, fax: + 41 22 730 5484.

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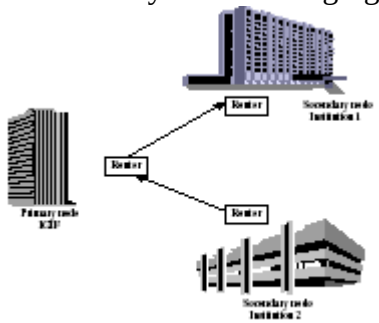
PORTUGAL

IGIF is a public (governmental) institute with a financial and informatic for health care departments. One of the main responsibilities of the IGIF is introducing, co-ordinating, supporting, advising and promoting the informatics and technology information in health care systems. The Institute of Informatic and Financial Management of Health (IGIF) has a central department in Lisbon and regional departments in Oporto in the north and Coimbra near the centre of the country.

IGIF is implementing a national network for the connection of all Portuguese health institutions (hospital and health centres). This network uses ISDN technology for the exchange of information in all kinds of format (data, images and sounds). The network can be illustrated by the following figure:

The primary nodes of the network are located in Lisbon, Oporto and Coimbra and form the backbone of the communication system. This backbone comprises a router (Cisco 7000) which controls the communication and one primary access ISDN (30B+D) circuit. With this system, we can obtain a data rate of 2Mbit/s. In the health institutions are installed a smaller router which manages the communications to and from the institution. The communication configuration between two institutions can be illustrated by the following figure:



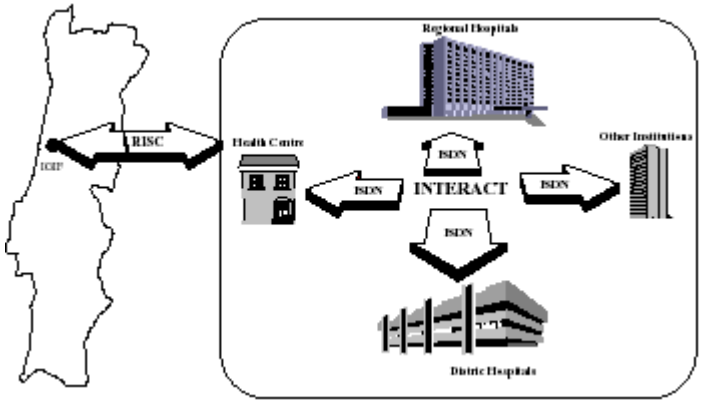
This network has access to international networks (e.g., Internet and other European and world-wide networks), located in Lisbon and provides Portuguese institutions the

informatic contact with other institutions.
All three points in the backbone network support regional sub-networks with basic ISDN access (2*64 kbit/s). A connection between two institutions in the same region uses the regional network to avoid congestion of the national backbone network.
The use of the ISDN technology and the possibility of migration to a faster technology (e.g., ATM) will facilitate the provision of the following services:
Telemedicine:
- Remote booking
- Remote access to the health care or administration information
- Remote monitoring
- Videoconferencing
- Teleconferencing
- Distance learning and training
- Access to international data bases
- Efficient connection between primary and secondary care centres
- Connection between the hospital information systems (SONHO) and health care centres (SINUS)
- Remote maintenance of informatic system

Implementation of services using this network has begun. The first application provides teleworking and a mechanism for exchange of files containing medical information (CT, X-ray, MRI, reports, etc.). Fourteen institutions use this application. These institutions are:
- Co-ordinator - regional department of IGIF for the centre region
- 3 central hospitals
- 4 district hospitals
- 7 primary health care centres

They are equipped with the following:
- multimedia workstation
- scanner for paper documents
- scanner for radiology film
- digital telephone
- laser printer
- ISDN.

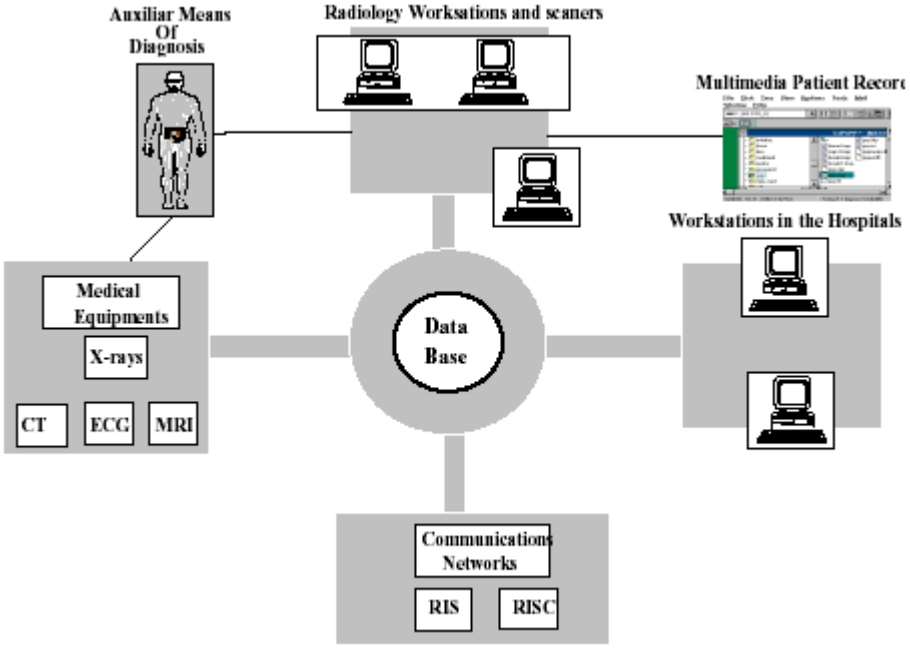
The system implementation can be depicted as follows:



: We use a software application (INTERACT) developed by a Portuguese

institution of research (INESC). The system has the following architecture:
The main objectives of the telemedicine project are:
1. Creation of one co-operative work environment for the visualisation, manipulation and storing of medical images and other associated information.
2. Rapid transfer of all kinds of information (data, images and audio) between the health care institutions.
3. Creation of an efficient system that provides the possibility for teleconferences and remote access to information no matter where that information is located.
4. Rapid access to medical expertise.
The main benefits expected from the project are:
- the better accessibility of the patients to the health care.
- cost reductions in the provision of health care
- support for the diagnostic, prognostic and follow-up of patients.

The project is structured as follows:



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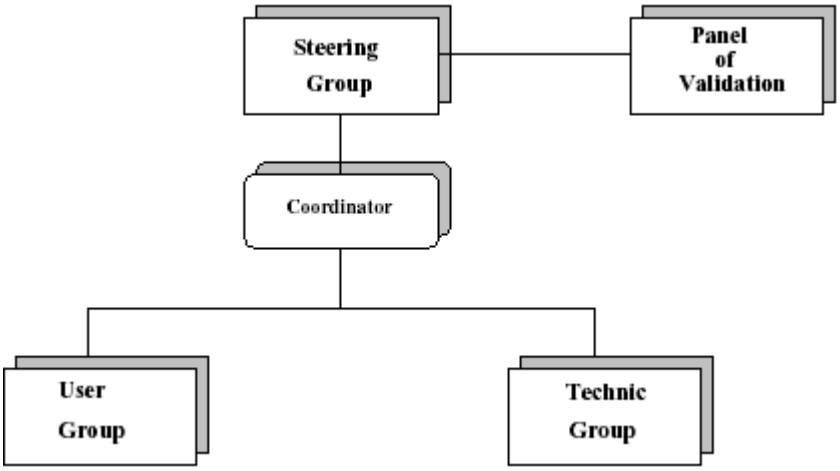

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