Networks 1978–2008: Personal Notes

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By 1978, the digital transmission was already widespreadly used in telecommunication networks; standards were accepted and maintenance methods were established. After a long period of experimentations, the first stored-program time-division switches were introduced. The attenuation of optical cables gradually decreased and it became already possible to transmit signals of several hundreds of Mbps at less than 5 dB/km. These new technologies required new recommendations and new planning methods.

CCITT, the predecessor of the International Telecommunication Union, recognized this demand and prepared the "General Network Planning Handbook" to facilitate the development and planning. Recommendations related to the applications of the new technologies were prepared by several committees for the 1980 General Assembly at a joint meeting in early fall 1978. Here, one of the leaders of the Paris institute CNET, A. Spizzichino, proposed the idea of organizing a series of symposia in order to permanently follow the new results in research and technology.

He invited a small group of specialists to become members of the organizing committee, and thus the new conference series called Networks was founded. At the first meeting, participants were also Chris Nivert (Sweden), W.E. Falconer (USA), F. Alvarez Casals (Spain), Keith Ward (UK), Anthon Mullen (Ireland), J.C. Lutcheford (Canada), Prof. D. Cagliardi (Italy) and N. Noort (The Netherland). It was decided to hold the conferences tri-annually at different locations. There was also an agreement to keep away business-type presentations and also that the number of participants shall be limited to 400 to make possible an efficient exchange of ideas. The next meeting was scheduled to the following year, with the objective to discuss the program of the first conference to be held in 1980. We started its organization via intense correspondence and a preparation meeting was held where, in addition to the above people also H. Ikeda (Japan) and R. Meisel (Germany) took part.

After the success of the *First International Network Planning Symposium* held in Paris, it was decided to organize the second one in Brighton, England. Its host was Keith Ward, who did an excellent job with the help of the organizing committee, whose members became good friends by that time.

The third conference was held in Florida, USA, in a small holiday village. One of the most important lessons I learned at this conference was that, due to the decreasing prices of the electronics and increasing real estate prices, not only the equipment costs should be optimized but also the installation costs have to be taken into account and the latter can be the key cost component. This trend later continued and had an increasing role in network design.

The 1989 conference was organized by the Spanish team lead by the highly energetic Pietro Caballero who replaced F. Alvarez Casals in the International Scientific Committee. France was represented by M. Peyrade because of Spizzichino's health problems and Germany replaced Meisel by Peter Heuer. This team then continued to work together for a long time and had many interesting technical discussions on topics that otherwise were not publicly discussed.

Then Japan volunteered to host the 1992 conference, also the preparatory meeting was held in Japan which was a good opportunity to get acquainted with some Japanese information technology laboratories and see how much investment was done in research and development, which, according to the hosts, was supposed to have a short return. At this conference we were witnessing the penetration of the computing technologies which influenced the network design, operation and equipment technologies. Here we could first encounter with the virtual reality, with presentation technology that demonstrated the status of the worldwide network and with real-time planning methods that adjusted the traffic routing to the actual traffic and technical conditions.

After a conference which was considered to be highly successful in every respect, our task was to organize the 1994 conference in Budapest. The opening ceremony was held in the historic building of the Pesti Vigadó. With the support of HTE, the Hungarian Scientific Society for Telecommunications, an excursion was organized to Visegrád, a medieval royal town not far from Budapest, and the conference banquet with a folk dance program was held in the building of the National Gallery. There were changes in the organizing committee: W.E. Falconer and Chris Nivert from the original team unfortunately could not be there and Noort was also missing because of his long-term travelling. The USA was therefore represented by Steve Chen and The Netherlands by Mr. Harmsen. The most significant technical event of the conference was the talk of Steve Chen, who showed that tariffs influence the design to the greatest extent due to the continuing decrease of equipment prices. Therefore the capacities should be determined using risk assessment so that all calls are transmitted with a high probability and thus the revenues are maximized.

In 1996 the conference was organized in Sydney, Australia. By that time it became clear that the organization cannot be successful without industrial support. Therefore, an exhibit was organized as a parallel event with 10-12 booths demonstrating telecommunication products. Here we could feel the first time that telecom industry and services are not country-specific and the world is open to international competition, therefore companies showed new product in a very careful way to avoid disclosure of information to their competitors. Thus instead of public announcements some pieces of sensitive information could only be obtained during lunches and coffee breaks.

Next time Italy organized the event in 1998, and the conference was held in the South Italian city of Sorrento. By that time, after 20 years, the international organizing committee was almost renewed, only a few members of the original committee were present, some of them only as presenters or participants. I too transferred my place in the committee to Gyula Sallai in 1994.

The 2002 event was organized in Munich, Germany, by Mr. Gross, the head of application technology at Deutsche Telekom. Here the number of participants hardly reached 300, and it became obvious that the series cannot be continued based on the 1978 principles only. That's why or maybe also for other reasons that there was not enough application to host the meeting overseas, and it was decided to break the tradition of alternating sites in Europe and overseas. The German Electrotechnical Society VDE volunteered to organize the 2004 event in Vienna, Austria. Here the trend of decreasing participation continued but the event nevertheless was useful as well as pleasant.

Unfortunately it became more and more difficult to organize international conferences due to the high competition and there was a feeling that there would be no volunteer for the organization from Europe or North America beyond 2006 as the countries of both continents have already fulfilled their obligations. Therefore, at the organization meeting after the Vienna conference in 2004, it was decided that India would host the next event with the support of the international community. Here the participation was the lowest so far mostly due to the high travel expenses.

Now we arrived to 2008 when a country, Hungary, will host the conference second time.