

MANAGING THE NETWORK:

A look at Telecommunications Management in Canada

In Canada, two national telecommunications systems, Telecom Canada and CN/CP Telecommunications, account for 91 per cent of the \$10 billion telecommunications markets. The larger one, Telecom Canada, now presents its views on how it manages nation-wide telecommunications.

THE INTERNATIONAL TELECOMMUNICATION UNION (ITU) is composed of independent public and private telecommunications organizations. In Canada, the structure of the telecommunications system is similar. Rather than obtaining service from a single national entity, Canadians across the country rely on independent, regional telecommunications carriers. However, ten of these carriers have cooperated for over 50 years to provide a nationwide network that today offers a range of voice, data and image services.

These carriers are the member companies of Telecom Canada, a nationwide association that operates through voluntary participation, a committee structure and decision-making based on unanimity. In essence, Canadian telephone companies work individually in planning and operating the local and intra-provincial parts of the network, and co-operatively for the long distance network.

This co-operative approach can be traced back to the original trans-Canada open-wire carrier system, installed in the early 1930's to route national traffic through Canada instead of the United States. Today the same companies are working on a 7,000 km optical fibre transmission system from coast to coast.

This way of doing business nationally has not inhibited the members from innovating or evolving in the way they provide service. In fact, the progress in Canadian telecommunications could not have occurred without their commitment to co-operation in pursuit of a common goal.

As a result of this co-operation, today's Telecom Canada network is a \$24 billion resource, growing at over \$2 billion annually and serving 15 million telephones.

Management of this resource requires a full range of activities from the fundamental plans which decide the shape of the network for the next 20 years, to minute-by-minute decisions in response to network crises. The planning process starts with Telecom Canada's fundamental (or long range) planners.

FUNDAMENTAL PLANNING

Working three to 20 years in advance of requirements, the fundamental planners are responsible for the application of new technology; for planning new routes and additions to existing routes; for the location of intelligent nodes within the network; and for locating special equipment for network services other than voice. Their job is to work with the member companies to ensure that the whole long distance network is planned as a single entity. Every decision is backed by economic studies of the possible alternatives.

Current major projects include the deployment of common channel signalling; the timing of the next new route across Canada, especially in terms of competing technologies; and deciding the location of databases for credit card verification and for 1-800, "inward calling" service. Also underway are a range of projects associated with the overall evolution to the Integrated Services Digital Network (ISDN).

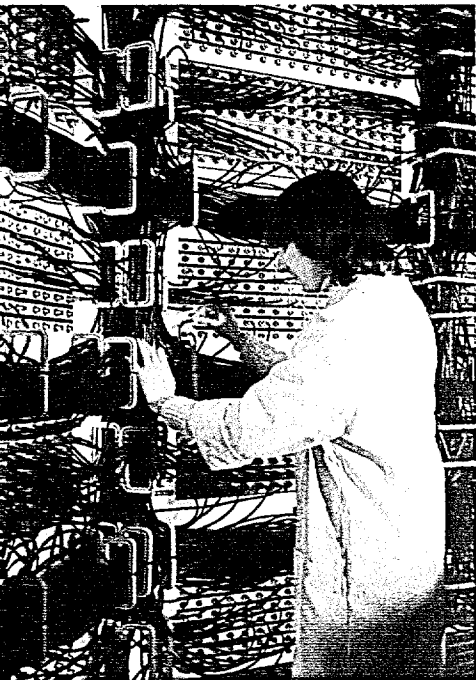
TECHNICAL PLANNING & STANDARDS

All of this planning work must take into account a whole series of standards that ensure national and international integration, and the best possible network performance. At present, standards work at Telecom Canada is concentrated mainly on digital technology.

Equipment standards are written to ensure that purchases from different manufacturers are compatible and achieve similar performance. Other standards cover areas such as placement for optical fibre cables.

In addition, Telecom Canada representatives are involved in several international standards bodies, such as the ITU, the American National Standards Institute and the International Standards Organization. Here Telecom Canada delegates make proposals based on Canadian consensus, and ensure the Telecom Canada network is integrated with similar networks around the world.

As a complement to the standards activity, technical planning covers diverse items such as specifications of the common channel signalling system, and an audio bridge for conference service, among others.



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