

between a country's authorities and the rest of the Organization. There were 147 NCBs and 5 Sub-Bureaus. The second level was formed by the Regional Stations, each of which had the task of transmitting intraregional traffic to the NCBs in its region and of grouping and relaying traffic between its region and the rest of the Organization. There were six Regional Stations: the General Secretariat (Europe-Mediterranean/North America/Middle East), Nairobi (East Africa), Abidjan (West Africa), Buenos Aires (South America), Tokyo (Asia) and Puerto Rico (Caribbean/Central America; currently being set up). The third level was the Central Station which was responsible for inter-regional traffic via the Regional Stations and also served as the Regional Station for the Europe-Mediterranean/North America/Middle East network.

The Organization's current telecommunications requirements could be summed up in one sentence: "To enable NCBs to exchange messages in a secure, reliable and rapid manner, using a wide variety of methods". This basic requirement was far from being attained for various reasons: messages could be intercepted easily, and the continuing use of manual procedures at the Regional Stations and the shortcomings of the network had an adverse effect on both the reliability and the rapidity of performance.

It was pointed out that at present, 46 % of the NCBs used telex, 30% used radio (of which 10% were still using Morse), 15% had no means of communication and, finally, 10% were using more sophisticated means such as Teletex. Only the Central Station was equipped with an AMSS which was now operating with total satisfaction. It was expected that the majority of NCBs would be using modern sophisticated media by the end of 1989.

The plan which had been adopted at the General Assembly session in 1986 was being implemented at a satisfactory pace notably by:

- Using more sophisticated communications media, by discontinuing ARQ (radioteletype) as the main form of communication, at least in the Europe-Mediterranean region, and replacing it by Teletex or micro-computers (radioteletype would nevertheless be retained in the long term as a back-up method);
- Reducing the use of telex as far as possible since it was extremely costly;
- Gradually eliminating Morse;
- Gradually extending the use, within the Organization, of the X.400 international message-handling standard;
- Extending encryption to all communications media;
- Modernizing equipment at the NCBs;
- Integrating those NCBs not yet equipped;
- Implementing a policy of regular, well-planned equipment replacement.

Among the Organization's immediate requirements for its current activities was a system for handling messages transmitted between its members. There was now an international message handling standard: the X.400 standard, and an associated series of CCITT Recommendations. More and more message-handling services, both private and public, were conforming to the standard so that it was now possible to define an equipment strategy for the Regional Stations, equipping each with a mini-AMSS based on standard hardware, thereby avoiding expensive research and development. The AMSS at the General Secretariat would obviously have to be adapted to that standard to enable it to be integrated into the general network. This was planned for 1989.

Another priority was the modernization of the Europe-Mediterranean network which, like the North American network, was seriously overloaded. It was therefore important to ease congestion by introducing Teletex in the immediate

future and microcomputers on the X.25 network or the telephone network at 2400 b/s, as soon as the AMSS at the Central Station could integrate them, probably during 1989. It was worth bearing in mind that a single Teletex link, at 2400 b/s, was capable of replacing 48 ARQ channels. In addition to solving the problem of traffic flow, such a modification would make it possible to reduce the General Secretariat's telex costs, provided that the NCBs were equipped with Teletex or microcomputers.

Within five years, the Regional Stations would have to acquire standard X.400 mini-AMSS equipment. The need for the equipment, and its value, could be deduced from the fact that most countries throughout the world had found it necessary to change from manual to automatic telephone installations. The public networks would be used as communications supports: the telephone network, the X.25 packet-switching network, the telex network and radio channels. Each NCB would therefore be free to choose the most suitable system for its station in the light of its own specific needs. Only one means of communication, namely Morse, was incompatible with automatic operation, and would have to be gradually phased out.

It was also stressed that communications would have to be protected against interception. ARQ

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