Inland and International Inquiry Services

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1 Purpose of international inquiry services

Subscribers connected to the telephone network of Switzerland and the Principality of Liechtenstein can apply to the international inquiry service on any questions concerning automatic telephone traffic with foreign countries. Service number 191 has been allocated to these calls and is already being used in the heavy traffic networks. Moreover, for placing calls, for information on charges and for claims, the numbers 114 (14) for the manual switching service, 115 (15) for the inquiry service on charges for international traffic and 119 (19) for the supervisor for international service are available to subscribers. The international inquiry service also answers questions from foreign operators.

2 Regional distribution of services

The international inquiry service is generally attached to manual international centres. This solution has been adopted because the staff of the manual switching service have a better knowledge of languages and greater experience of international traffic than operators in the inland inquiry service.

Nineteen manual centres are now in use for the inland inquiry service. The manual international centres, with their international inquiry services, are situated in the following places:
- Geneva and Lausanne in the French-language region
- Lugano in the Italian-language region
- Berne, Basle, St. Gall and Zurich in the German-language region.

3 Categories of information

The international inquiry service gives the following information:
- telephone numbers of subscribers in foreign telephone networks
- country codes (including the international prefix)
- trunk codes for foreign localities
- availability of automatic telephone service
- basic charges for international automatic traffic
- miscellaneous information.

4 Personnel

The personnel of the international inquiry service is recruited among operators trained by the Swiss PTT Administration. In addition to a good knowledge of international telephone traffic, fluency in several languages is required.

5 Languages

In addition to the three main languages of Switzerland – German, French and Italian – questions are also answered in English. Naturally, all other languages known by the operators on duty are also accepted.

6 Documents for the international inquiry service

61 Telephone directories

The directories of the administrations concerned are used for inquiries about foreign telephone numbers. A disadvantage of these directories is that they are not always up to date, since many of them are not issued annually. The fact that the presentation and size of these directories are not uniform is not a serious inconvenience. On the other hand, the books take up a considerable amount of room, and this causes some delay in supplying the information requested. Telephone directories in languages with non-Latin alphabets cannot be used by the inquiry service.

62 Microfilm

Switzerland exchanges microfilms with the Federal Republic of Germany, France and Austria; they offer considerable advantages over telephone directories. Microfilms are exchanged several times a month and thus cover most of the changes occurring in lists of subscribers. Handling is simpler and the microfilm library takes up less room than directories.

63 Special documents

In addition to the above-mentioned documents, the following lists are used and are partly prepared by the Swiss PTT Administration.
- *List of country codes* for automatic calls from Switzerland
- *List of trunk codes* in the telephone networks of foreign administrations.
- *Tariff documents* for telephone call charges.
- List of categories of calls and special services admitted in manual telephone traffic.
- Table of time differences, national holidays, etc.

7 Number of calls, time to answer

Over the whole territory of Switzerland and the Principality of Liechtenstein, about 3,850,000 calls were recorded during 1975 on number 191 of the international inquiry service or on 6-digit service call numbers. The number of information items was greater, as several inquiries can be dealt with in one call.

The average time needed to answer subscribers' questions is 148.5 seconds: 20 seconds for the subscriber's inquiry, 105.5 seconds to find the answer and 23 seconds to give the information to the caller.

8 Guidance for subscribers

The call numbers of the international inquiry services and the relevant explanations are found on the blue and green

pages of all the telephone directories of the Swiss PTT Administration. They also give the necessary information on other service numbers.

9 Inland inquiry service and special instructions service

91 General

The inland inquiry service, number 111 (11), gives callers the telephone numbers of subscribers in Switzerland and in the Principality of Liechtenstein and answers all inquiries relating to the PTT services. It assists subscribers in case of need, giving them the call number or, in cases of distress, switching the call to an emergency organization. A branch of this information service is the special instructions service, number 145, which takes note of requests for the transfer or blocking of calls and deals with announcements by companies. It also answers questions concerning these facilities.

92 Regional distribution of services

As already stated, the Swiss telephone network has 19 manual centres providing inquiry and instruction services. The location of these centres is practically the same as that of the headquarters of the regional telephone directorates.

Although the limits of groups of networks are dictated more or less by economic and geographical considerations, the network is divided among the 18 telephone directories in accordance with the frontiers of the Swiss cantons.

93 Documents for the inland inquiry service
931 Microfilms

A few years ago, Swiss PTT introduced the Flexoprint system (transparencies from scale-file manuscripts) for the production of telephone directories and the documents required for the inquiry service. Most of the inquiry services thus now use microfilms to find subscribers' numbers according to their names and addresses. The other documents – the list of call numbers, the list of streets and special numbers, such as those of emergency services – were not adapted to the Flexoprint system because of project TERCO for a computer-assisted information system.

932 Changes in alphabetical lists of subscribers

Before the introduction of the microfilm system, changes were inserted in the corresponding lines and columns of directories by the inquiry service and the pages were then multicopied and circulated. This procedure is still used for some inquiry services which have not yet adopted the new system for various reasons. At these centres, the changes are limited to the subscribers in the district concerned, but microfilms are also used for other regions.

94 Number of calls, time to answer

The inland inquiry service, number 111 (11), answers about 38 million calls a year. The average time to answer questions is 69.7 seconds for the microfilm system, according to an earlier inquiry. With the former method, 91.6 seconds were needed to provide the same information.

The constant growth of requests for information and of the amount of information required at each centre led the Swiss PTT Administration to replace the existing system by a computer system some years ago.

95 TERCO project
TERCO = **TE**lefon-**R**ationalisierung durch **CO**mputer

As a first step, it is proposed to use the system from mid-1977 for directory editing and the inland inquiry service. At future stages, the intention is also to connect the subscriber service and the installation and repairs services.

951 Structure

The inland inquiry service will be linked to an interconnected system of computers, consisting, in the first stage, of three 370/158 IBM machines operating on the OS-VS (Operating System – Virtual Storage) principle. The «terminals» used for the inquiry service, with a total of about 600 display units, will be of the Thomson T-VT 6000 type, with 24 lines of 80 characters each. Between 12 and 16 «terminals» can be connected per control unit. About 30 Diabolo Type 1200 printers can be used instead of one display unit. These devices will be connected to the computer network by modems of the Racal Milgo 27 LSI type.

952 Characteristics

Data corresponding to entries in the telephone directory are transmitted «on-line» by the editorial service by means of «terminals» at the data centre (data bank). The inquiry service can then look for data in this bank under the following headings:

– name
– address
– call number
– place
– street
– emergency services
– subscriber and profession
– professional category.

Data concerning special instructions and emergency services are kept up to date by

– the special instructions service and
– the inquiry service.

An inquiry to the computer consists of one or more research items. Each item must be given a characteristic code, obtained by selecting a specific key at the «terminal». Data can also be introduced into the system by the exclusive use of lower-case lettres.

Data output is divided into two parts:

– acknowledgment of the inquiry
– required data.

If the information is available, the required data are received in upper and lower-case characters, according to the recording of this information in the data bank. The data format on the display unit is independent of the printing in the telephone directory and, moreover, can include additional information, such as background data and information on the service status of the line (active or lapsed subscriber, etc.).

Changes call for a working code and a grid or mask for the introduction of data. It is possible to arrange the data to be recorded, i. e., in hierarchical order of titles, sub-titles, etc., and in alphabetical or non-alphabetical order. According to the placing of display units, the grids appear in the language of the region in question.

The relatively high number of 96 characters is due to the 4 national languages. The following characters have been adopted for the TERCO system:

– 26 upper-case letters, A–Z
– 26 lower-case letters, a–z
– 10 digits, 0–9
– 17 accented letters, ä, à, â, ç, é, è, ê, ë, í, î, ï, ò, ô, ö, ù, û, ü
– 17 special characters and punctuation signs, . , : ; / ( ) & ' = + – * ⊘ ? % and space.

Example of an inquiry

Input: Surname*, place of residence*
Output (Acknowledgment): Place of residence*, surname* if necessary with additional information or references (Data): Surname, first name, profession, telephone number, address.

The specified average response time is 2.6 seconds and the maximum for 95% of inquiries is 5 seconds.

A very high degree of reliability has been specified for the security of the service.

The working methods of the staff, and hence the quality of the service, can be monitored by special display units.

The number of calls for each category is recorded at regular intervals; these figures represent operational statistics.

10 Use of the computer for the international inquiry service

There are as yet no plans for connecting Swiss international information offices to the TERCO system, or for giving foreign administrations access to this system. Experience will first have to be gained in the national network.

However, Swiss PTT is prepared to examine with foreign inquiry services already using computers the possibility of establishing a joint experimental operational service.