

COUNCIL RECOMMENDATION

of 22 December 1986

on the coordinated introduction of the integrated services digital network (ISDN) in the European Community

(86/659/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community,

Having regard to the proposal from the Commission ⁽¹⁾,

Having regard to the opinion of the European Parliament ⁽²⁾,

Having regard to the opinion of the Economic and Social Committee ⁽³⁾,

Whereas recommendation 84/549/EEC ⁽⁴⁾ calls for the introduction of services on the basis of a common harmonized approach in the field of telecommunications;

Whereas the resources offered by the telecommunications networks should be utilized to the full to maintain the Community's worldwide competitiveness in the light of the rapid pace of development in the telecommunications sector;

Whereas the technical resources afforded by the integrated services digital network (ISDN) make it possible to provide a range of harmonized and compatible services for all Community users and to create new means of communication using sound, the written word and images;

Whereas current investment in digital switching and digital transmission equipment in the Member States makes it possible to envisage the development of the integrated services digital network;

Whereas a coordinated policy for the introduction of the ISDN will make possible the establishment of a European market in telephone and data-processing terminals capable of creating, by virtue of its size, the indispensable development conditions which will enable the European telecommunications industries to maintain and increase their share of world markets;

Whereas it is appropriate to implement Council Directive 83/189/EEC of 28 March 1983 laying down a procedure for the provision of information in the field of technical standards and regulations ⁽⁵⁾;

Whereas consideration should be given to Council Directive 86/361/EEC of 24 July 1986 on the initial stage of the

mutual recognition of type approval for telecommunications terminal equipment ⁽⁶⁾ and to Council Regulation (EEC) No 3300/86 of 27 October 1986 instituting a Community programme for the development of certain less-favoured regions of the Community by improving access to advanced telecommunications (STAR programme) ⁽⁷⁾;

Whereas it is appropriate to make use of the potential of the Community's financial instruments in order to promote the development of the Member States' infrastructure;

Whereas the implementation of such policy should pay proper attention to user privacy protection;

Whereas the implementation of such a policy will lead to closer cooperation, at Community level, between the telecommunications industry and the administrations and the recognized private operating agencies offering telecommunications services, hereinafter referred to as 'telecommunications administrations';

Whereas a favourable opinion has been delivered by the senior officials group on telecommunications (SOGT) according to which the detailed recommendations drawn up by the analysis and forecasting group (GAP) provide a strategic basis for the development of an ISDN that will truly enable European users to communicate efficiently and economically;

Whereas favourable opinions on these recommendations have been delivered by the telecommunications administrations, by the European Conference of Postal and Telecommunications Administrations (CEPT) and by the telecommunications equipment manufacturers in the Member States,

HEREBY RECOMMENDS:

1. that the telecommunications administrations implement the detailed recommendations concerning the coordinated introduction of the integrated services digital network (ISDN) in the Community, as described in the Annex;
2. that implementation of these recommendations focuses particularly on:
 - (a) standardization and implementation of the S/T interface;
 - (b) the timetable set out;
 - (c) the network-penetration objectives, as compatible with commercial strategies;

⁽¹⁾ OJ No C 157, 24. 6. 1986, p. 3.

⁽²⁾ Opinion delivered on 12 December 1986 (not yet published in the Official Journal).

⁽³⁾ Opinion delivered on 17 September 1986 (not yet published in the Official Journal).

⁽⁴⁾ OJ No L 298, 16. 11. 1984, p. 49.

⁽⁵⁾ OJ No L 109, 26. 4. 1983, p. 8.

⁽⁶⁾ OJ No L 217, 5. 8. 1986, p. 21.

⁽⁷⁾ OJ No L 305, 30. 10. 1986, p. 1.

3. that the telecommunications administrations continue the harmonization work within the CEPT, particularly concerning the objectives and timetable drawn up in the Annex for those specifications on ISDN which have still to be completed;
4. that the telecommunications administrations undertake all those measures which will facilitate the coordinated introduction of the ISDN, particularly those relating to implementation of CEPT specifications in equipment concerned by ISDN;
5. that the Community financial instruments take this recommendation into account within the framework of their interventions, particularly as regards the investment required for ISDN implementation;
6. the Member State Governments encourage telecommunications administrations to implement this recommendation;
7. that Member State Governments inform the Commission at the end of each year, from the end of 1987, of the measures taken and problems which may be encountered in the course of implementing this recommendation. The progress of work will be actively examined by the Commission and the SOGT set up by the Council on 4 November 1983 in order to ascertain whether the priorities and the implementation of the programme as a whole is satisfactorily achieved. The progress of work will be the subject of an annual report from the Commission to the European Parliament.

Done at Brussels, 22 December 1986.

For the Council

The President

G. SHAW

ANNEX

DETAILED RECOMMENDATIONS CONCERNING THE COORDINATED INTRODUCTION OF THE INTEGRATED SERVICES DIGITAL NETWORK (ISDN) IN THE COMMUNITY**1. RECOMMENDATIONS ESTABLISHED FOR THE RAPID CONVERGENCE OF EUROPEAN ACTIVITY ON THE INTRODUCTION OF ISDN**

All the following recommendations are related and should not be dissociated.

1.1. General philosophy

All Member States are in agreement that ISDN (subscriber access at 144 Kbit/s and 2 Mbit/s) should be considered as a natural evolution of the telephone network, i.e. it should be used by both professional and residential subscribers and the existing structure of the current telephone network should not be fundamentally changed by this evolution. The first decisions must take this into account.

Nevertheless, the speed of market penetration will depend on numerous economic, social and cultural factors and of course, on the impact of the network itself, i.e. the dissemination or actual penetration of the new services at any point in time.

It is clear that in all Member States, the professional sector has significantly greater expectations and requirements for the services than the residential sector.

The professional sector will be penetrated through the supply of multiservice PABXs and of ISDN accesses. In this sector, a major submission is that the terminals connected to ISDN basic access and behind the PABXs should also be compatible, which necessitates the use of a common standard for both public and private networks.

A significant demand from the residential sector will only develop following a sustained policy of anticipated supply launched over such a period as to attain a critical mass of new service penetration and thus creating in effect a 'snowball' reaction.

This policy should be supported by marketing and tariffing activities to help stimulate demand.

1.2. Definition of the interface between the public and private network

A standard physical interface between ISDN terminals and the public network is recommended.

This should be at the CCITT S or T reference point and should be in accordance with CCITT and CEPT recommendations.

In the case of basic access (i.e. 144 Kbit/s) the physical interfaces at the S and T reference points must be identical. This terminal interface should also be offered by PABX manufacturers so that common design of terminals can be achieved.

The above statements imply that for basic access at least the NT1 function is provided by the public network operator.

Agreement is urgently needed between telecommunications administrations, within the framework of CEPT, on a standard physical interface at the T reference point for primary rate access (i.e. 2048 Kbit/s).

Clearly, during a transitional phase of several years PABX multiservices will use different standards but as soon as possible these PABXs ought to be able to offer, in addition to these standards, the S interface. The manufacturers's representatives consulted were in agreement on this point.

2. SERVICES TO BE DEFINED AND SPECIFIED IN DETAIL BY THE END OF 1986 IN ORDER TO BE PROVIDED IN ALL MEMBER STATES STARTING FROM 1988

The following items will have to be specified in detail at the latest by the end of 1986.

(a) *Bearer services*

Circuit switched transparent at 64 Kbit/s;

(b) *Teleservices*

— Telephony 3,1 kHz at 64 Kbit/s,

— Facsimile at 64 Kbit/s (Group IV),

- Teletex at 64 Kbit/s,
- Mixed-mode teletex/facsimile at 64 Kbit/s.

(c) *Supplementary services*

In order to enhance the services, a common set of supplementary services among the Member States should be implemented. These supplementary services are intended to be added to those already available in the telephone network and to those inherent in the definition of ISDN protocols. (Procedures for subaddressing, terminal portability, user to user signalling in call control messages have to be specified, although their implementation is foreseen at a later stage.)

The telecommunications administrations are invited to establish, within the framework of CEPT, the following supplementary services:

- call-waiting,
- calling-line identification,
- closed-user-group (this service might be implemented later by some countries),
- direct-dialling-in.

(d) *Adaptors* (for connection of existing terminals to the ISDN via the S interface)

- adaptor X 21,
- adaptor X 25 on the B channel (for access to packet switched services),
- A/D adaptor specified according to national needs.

Note 1

Special attention should be given to the definition of personal computer use on the bearer service at 64 Kbit/s.

Note 2

Special attention should be given to compatibility between circuit switched and packet switched services, where compatibility may be realized in the terminal or in the network.

3. **SERVICES TO BE SPECIFIED BY THE END OF 1987 AND WHICH MIGHT BE IMPLEMENTED DURING THE PERIOD 1988 to 1993**

(The precise date of introduction of such services will be decided as soon as possible.)

(a) *Bearer service*

Packet bearer service on D channel

The telecommunications administrations are invited to study within the framework of CEPT the usefulness of teleservices, in particular videotex, teletex, message handling and teleaction on packet bearer service.

(b) *Teleservices at 64 Kbit/s*

In order to augment demand, the following list of teleservices should be considered with priority:

- Telephony (7 kHz at 64 Kbit/s,
- Audioconference at 64 Kbit/s,
- Videotex alphageometric at 64 Kbit/s,
- Image transmission and computer communication at 64 Kbit/s. For these two teleservices, the telecommunications administrations are asked to identify, within the framework of CEPT, possible services and produce detailed specifications of first services.

(c) *Adaptors*

- X 21 bis,
- for asynchronous terminals (V 24).

(d) *Supplementary services*

The telecommunications administrations are invited to study, within the framework of CEPT, by the end of 1987, the following list of supplementary services based on CEPT's own list.

- Advice of charge,
- Completion of call meeting busy,

- Conference call,
- Diversion,
- Freephone,
- Malicious call identification,
- Three party call,
- Called user identification.

Note

The provision of these supplementary services assumes the availability of an ISDN user part (ISUP). Should the ISUP not be available, their provision via the telephone user part (TUP) + may be restricted.

4. SERVICES TO BE SPECIFIED BY THE END OF 1990

(a) Teleservices based on packet service

(If the telecommunications administrations agree on the need to specify such packet services, referred to in paragraph 3 (a).

- Teletex,
- Videotex,
- Message handling (see CCITT recommendation X 400,
- Teleaction, set of services providing to the users a reliable transfer of small volumes of packed-sized information. This service may be adapted to several teleservices: tele-alarm, telesupervision, tele-alert, telecommand, telemetry, teleshopping, etc.

(b) Teleservices based on 64 Kbit/s

- Audiography at 64 Kbit/s,
- Alphaphotographic videotex at 64 Kbit/s,
- If possible, viewphone at 64 Kbit/s.

(c) Supplementary services

Work to be continued.

5. NUMBERING, ADDRESSING AND SIGNALLING

The achievement of the full CEPT specifications on ISUP, signalling connection control part (SCCP) and transaction capabilities (TCAP) is recommended to the telecommunications administrations in order to reach a common standard within Europe at the earliest opportunity.

As an interim solution, it is recommended to all telecommunications administrations that, starting from 1988 and when CCITT No 7 is introduced, international digital exchanges (linked by digital circuits or possibly also by analogue circuits) should be interconnected by means of the enhanced telephone user part (TUP +) for both PSTN and ISDN services.

The telecommunication administrations should provide within the framework of CEPT detailed technical specifications on TUP + by the end of 1986.

It is required that interworking with the existing public telephone network is also achieved, including some means for identifying different teleservices and terminals.

Note

The TUP + is based on the red book TUP of CCITT enhanced to meet ISDN requirements, including the supplementary services hereabove.

6. TARIFF CONSIDERATIONS

The issue of tariff levels and structures for the ISDN is fundamental for its rapid take-up.

In the longer term, following an inevitable period of high investment costs, the level of investment per basic access should be comparable with that of the current telephone network, with an investment structure related to the type of transmission and digital switching which may be different from that of today.

Several studies on ISDN tariffs have still to be completed. The telecommunications administrations are invited to study within the framework of CEPT the following proposals:

- In accordance with current trends, tariffs for all services, including telephony, should be less dependant on distance than at present (always bearing in mind the problems of transit costs through other countries).
- In the transitional phase from the analogue network to the ISDN corresponding to the period 1988 to 1993, the telecommunications administrations are requested to study within CEPT the relationship between, on the one hand, the tariff threshold applicable to ISDN services and ISDN basic access and, on the other, tariffs applicable to telephony.
- Tariffs for teleservices which use the same bearer capabilities should be independent of the teleservice. On the contrary, all value added by the network should be charged independently of the utilization of the bearer capabilities.
- An agreement should be obtained on the ratio between the monthly rental for the primary rate access (2 048 Kbit/s) and that for the basic access (144 Kbit/s).

A ratio of the order of 10 might be discussed.

7. INTERWORKING BETWEEN NATIONAL ISDN TRIALS

Those administrations implementing national trials of ISDN before the full implementation of the present recommendations should endeavour, where provided, to interconnect these services in order to increase early experience of ISDN in Europe.

8. LEVEL OF PENETRATION

Forecasts of demand in new fields, such as the services supported by ISDN, do not provide a particularly relevant basis for market planning.

Nevertheless, it is realistic to set objectives attainable over the next eight years, i.e. up to the end of 1993, for a level of penetration of ISDN which permits the market for services and terminals to reach a mature phase.

The objective should be for an adequate geographic coverage and rate of penetration at national level for each country.

The administrations should plan to provide by 1993 ISDN accesses for a number equivalent to 5 % of 1983 subscriber main lines. This figure depends, among other things, on the capability of the industry to offer cost effective ISDN solutions for the infrastructure and the terminal equipments.

The territorial coverage should be sufficient to permit 80 % of customers to have the option of the ISDN access.
