COUNCIL RECOMMENDATION

of 22 Dcccmbcr 1986

on the coordinatcd introduction of the intcgratcd scrvicc digital nctwork (ISDN) in the Europcan Community

(86/659/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNMES,

Having rcgard to the Treu)' cstablishing thc Europcan Economic Community,

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

Having rcgard to thc opinion of the Europcan Parliamcnt (2),

Having rcgard to the opinion of the Economic and Social Comalklee (3),

Whcrcas rccommcndation 84/549/EEC (4) calls for thc introduction of scrvicc on the basis of a common harmonizcd ipproach in the ficld of tciccommunications;

Whcrcas the rcsourcc offered by the tciccommunications ncrworks should bc utilizcd to the full to maintain the Community's worldwide compctitivcncss in the lighc of the rapid pace of dcvclopmcnt in the tclecommunications scctor;

Whcrcas thc tcchnical rcsourcc afforded by thc intcgratcd scrvicc digital nctwork (ISDN) makc it possiblc to provide a rangt of harmonizcd and compatible services for all Community uscrs and to crcatc ncw mcans of communication using sound, the wrirtcn word and images;

Whcrcas currcnt invcstment in digital switching and digital transmission cquipmcnt in the Mcmbes Statcs makcs it possiblc to cnvisagc the dcvclopmcnt of the intcgratcd scrvicc digital nctwork;

Whcrcas a coordinatcd policy for the introduction of the ISDN will makc possiblc the cstablishmcnt of a Europcan markct in tcicphonc and data-proccssing terminals capablc of crcating, by virtuc of ics sizc, the indispcnsablc dcvclopmcnt conditions which will enable the Europcan tciccommunications industrics to maintain and incrcasc thcir sharc of world markets;

Whcrcas it is appropriate to **implcmcnt** Council Dirccttvc 83/189/EEC of 28 March 1983 laying down a proccdurc for thc provision of information in the ficld of tcchnical scandards and rcgulations (5);

Whcrcas considcration should bc givcn to Council Dirccttive 86/361/EEC of **24** July 1986 on thc initial stagc of the mutual rccognition of type approval for telecommunications terminal equipment (6) and to Council Regulation (EEC) No 3300/86 of 27 Octobcr 1986 instituting **a** Community programme for the dcvclopmcnt of ccrtain Icss-favoured rcgions of the Communiry by improving access to advanced tciccommunications (STAR programme) (7);

Whcrcas it is appropriate to makc use of the potential of the Community's financial instruments in ordcr to promote the dcvclopmcnt of the Mcmbcr Stare? infrastructurc;

Whcrcas the implcmentation of such policy should pay proper actcntion to uscr privacy protcction;

Whcrcas the implcmencation of such **a** policy will lead to c.loscr cooperation, at Community levd, berwecn the tciccommunications industry and the administrations and the rccognized private operating agcncics offering tciccommunications services, hereinaftcr referred to as `telecommunication administrations';

Whcrcas a favourablc opinion has been dclivcrcd by the senior officials group on tciccommunications (SOGT) according to which the detailed recommendarions drawn up by the analysis and forecasting group (CAP) provide a strategie basis for the dcvclopmcnt of an ISDN that will truly cnable European uscrs to communicacc cfficicntly and cconomically;

Whcrcas favourablc opinions on thcse rccommcndations havc bccn dclivcrcd by the telecommunications administrations, by thc Europcan Confcrcncc of Postai and Tcic-
communications Administrations (CEPT) and by the tciccommunications cquipmcnt manufacturcrs in the Mcmbcr Statcs,

HEREBY RECOMMENDS:

1. that thc tcic-communications administrations implcmcnt the dctailcd rccommcndations conccrning thc coordinatcd introducrion of thc intcgratcd scrvicc digital nctwork (ISDN) in thc Communicy, as dcscribcd in the Anncx;

2. that iniplcmcntation of thesc rccommcndations focuses • particulorly on:
   (a) scandardization and implemcntation o(the S/T intcrfacc;
   (b) the timctabic sct out;
   (c) thc nctwork-pcnctration objcctivcs, as compatibic with commcrcial stratcgics;

(1) OJ No C 157, 24. 6. 1986, p. 3.
(2) Opinion dclivcrcd on 12 Dcccmbcr 1986 (not yct publishcd in thc O(ficio! Journal).
(3) Opinion dclivcrcd on 17 Scptcmbct-1986 (not yct publishcd in thc Official Journal).
(4) OJ No L 298, 16. 11. 1984, p. 49.
(5) Of No L 109, 26. 4. 1983, p. 8.
(6) OJ No L 217, 5.8.1986, p. 21.
(7) Of No L 305, 30. 10.1986, p. 1.

3. that the tc1CcoMmunications administrotions conrinuc thc hormonization work within thc CEPT, particularly conccrning thc objcctivcs and timctablc drawn up in thc Anncx for thosc specifications on ISDN which havc still to bc complctcd;

4. that thc tciccomrnunications administrations undcrtakc all thosc mcasurcs which will facilitatc thc 000rdinatcd introduction of thc ISDN, particularly thost 1-darindto implcmcntation of CEPT spccifications in cquipmcnt conccrncd by ISDN;

5. that thc Communiry financial instrumcnts takc this rccommcndation into account within thc framcwork of thcir intcrvcations, particularly as rcgards the invcstmcnt rcquircd for ISDN implcmcntation;

6. thc Mcmbcr **Statt** Govcrnmcnts cncouragc tciccommunications administrations to implcmcnt this rccommcndation;

7. that Mcmbcr **Statt** Govcrnmcnts in(orm thc Commission at the cnd o(cach ycar, (rom thc cnd of 1987, of the mcasurcs tokcn and problcms which may be encountercd in the tourst of implcmcming this recommcndation. The progrcss of work will bc activcly cxamincd by the Commission and thc SOGT sct up by the Council on 4 November 1983 in ordcr to ascertain whcthcr the prioritics and the implcmcntation of thc programme as a wholc is satisfactorily achicvcd. Thc progress of work will bc the subject of an annual report from the Commission to thc Europcan Parlament.

Donc at Brusscls, 22 Dcccmbcr 1986.

For the Council

The President

G. SHAW

ANNEX

DETAILED RECOMMENDATIONS CONCERNING THE COORDINATED (NTRODUCTION OF THE INTEGRATED SERVICES DIGITAL NETWORK (ISDN) IN THE COMMUNITY

1. RECOMMENDATIONS ESTABLISHED FOR THE RAPID CONVERCENCE OF EUROPEAN ACTIVITY ON THE INTRODUCT1ON OF ISDN

All thc (ollowing recommendations are rclated and should not bc dissociatcd.

1.1. General philosophy

All Mcmbcr Statcs are in agrccmcnt that ISDN (subscribcr acccss at 144 Kbit/s and 2 Mbit/s) should bc considered as a natural evolution of the telcphone network, i.c. it should bc uscd by both professional and rcsidcncial subscribcrs and the existing struaure of thc currcnt tcicphonc ner.vork should not bc (undamentally changcd by this cvolution. The first decisions muss Lake this into account.

Ncvertheless, the speed of market Knetration will dopend on numcrous ceonomic, social and cultural factors and of coursc„ on the impact of the nctwork itself, i.c. the disscmination or acrual Knetration of thc ncw scrvices at any point in time.

It is dcar that in all Member Statcs, the professional seetot has significantly grcatcr expectations and rcquircmcnts for the scrvices than the rcsidcntial scaor.

The professional scctor will be pcnctrated through thc supply of multiservice PABXs and o(ISDN accesscs., In this scaor, a major submission is that the terminals connectcd to ISDN basic acccss and bchind eise PABXs should also bc compatiblc, which nccessitates the usc of a common standard for both public and private networks.

A significant dcmand from the rcsidcntial scaor will only develop (ollowing a sustaincd policy of anticipatcd supply launchcd ovcr such a period as to main a critical mass of ncw scrvicc pcnctration and thus creacing in effect a "snowball' rcaction.

This policy should be supportcd by marketing and tariffing activities to hclp stimulace dcmand. -

1.2. Definition of the interface betwccn thc public and private nctwork

A standard physical interfacc bawccn ISDN terminals and thc public nctwork is rccommended.

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

In the esse of basic acccss (i e 144 Kbit/s) the physical inccrfaccs at thc S and T *rc(crcnce* points must be idcntical. This tcnninal interface should also be offcred by PABX manufaaurcrs so that common design of tcrminals can bc achicvcd.

Thc abovc statcmcnts imply that for basic acccss at least thc INIT1 funaion is providcd by the public nccwork Operator.

Agreement is urgcntly nccdcd bccwccn tciccommunications administrations, within the framcwork of CEPT, on a standard physical interface ac the T rcfcrcncc point for primary rate acccss (i.e. 2048 Kbic/s).

Clcarly, during a transitional phase of scvcral years PABX multiscrviccs will usc different standards but as soon as possiblc thcsc PABXs ought to bc ablc to offcr, in addition to thcsc standards, thc S intcrfacc. The manufacturers's rcprcsentativcs consulted wert in agrccmcnt on this point.

2. SERVICES TO ßE DEFINED AND SPECIF1ED *IN* DETAIL BY THE END OF 1986 IN ORDER TO BE PROVIDEO IN ALL MEMBER STATES START1NG FROM 1988

The (ollowing itcms will have to bc spccificd in detail at thc lasest by thc cnd 1 986.

(a) *ßearcr aervices*

Circuit switched transparent at 64 Kbit/s;

(b) Tckscrviccs

— Tdcphony 3.1 kHz at 64 Kbit/s,

— *Facsimile ac 64* Kbit/s (Croup IV).

— Tcictcx at 64 Kbil/s.

— Miacd-modc tcictex/facsimilc at 64 Kbit/s.

(c) Supplerreentary services

In ordcr to cnhance the scrviccs, a common sch supplcmcmary scrviccs among the Member Sta(CS should bc implemented. These supplementary scrviccs arc intended to bc added to Chose already available in de tcicphone neswork and to thosc inhcrcnt in thc dcfinition of ISDN Protocols. (Procedurcs for subaddrcssing, tcrminal portability, uscr to user signalling in call control messages have to *bc* specified, alchough thcir impkmcntation is (orcscen at a latcr stagc.)

•The tdccommunications administrations are invited to cscablish, within thc framcwork of CEPT, the (ollowing supplcmcntary scrviccs:

call-waiting,

calling-line identificacion,

+// — doscd-uscr-group (this scrvicc might be implemented laxer by some countrics),

— direct-dialling-in.

(d) Adaptors (for conncction of existing tcrminals to the ISDN via the S intcrfacc)

— adaptor X 21,

— adaptor X 25 on the B channcl ((or *acccss to* packet switchcd scrvices),

— A/D adaptor spccified according to national nccds.

Note 1

Spccial attcntion should bc givcn to the definition of personal computcr use on thc bcater service at 64 Kbit/s.

Note 2

Spcdal attention should bc givcn to comparibiliry bccwccn circuit switchcd and packet swicchcd scrviccs, whcrc compatibility may be rcalized in the terminal or in the network.

3. SERVICES TO BE SPECIFIED BY THE END OF 1987 AND WH[CH MICHT BE IMPLEMENTED DURING THE PERIOD 1988 to 1993

(The precise dacc of introduction of such scrviccs will bc dccidcd as soon as possiblc.)

(a) *Bearer service*

✓ Packcc bcarcr scrvicc on D channcl

The telecommunication administrations arc inviced to study within the framcWork of CEPT thc uscfulness of telcscrviccs, in particular videotcx, tcictex, messagc handling and tdcaction on packet bcarcr scrvicc.

Teleservices at 64 XIgas

In order to augmcnt demand, the (ollowing list of tclescrviccs should be considcrcd wich priority:

— Tclephony (7 kHz at 64 Kbic/s,

— Audioconfcrcncc at 64 Kbic/s,

— Vidcoccx alphageornctric at 64 Kbit/s,

— Image transmission and computer communication at 64 Kbic/s. For thosc rwo tcicserviccs, thc tciccommunications administrations arc askcd to idcncity, within the framcwork of CEPT, possiblc *scrvices* and producc dctailcd spccifications o(uns Services.

(c) *Adaptors*

.X-24 bis.

— (or asynchronous terminals (V 24).

(d) *Supplementary scrujccs*

Theteiceomrnonications administrations arc invitcd w srudy, within thc framcwork o(CEPT, by the cnd 1987, thc (ollowing list o(supplementary services b2sed on CEPT's own list.

— Advice of chargc.

Complccion call mccting busy,

— Con(crcncc can,

— Diversion,

— Frccphonc,

— Malicious can identification,

— Tinte party

— Callcd **user** identification.

Note

The provision of these supplcmcntary scrviccs assumcs thc availabiliry o(an ISDN uscr part (ISUP). Should thc ISUP not bc available, thcir provision via thc tcicphonc uscr part (TUP) + may bc rcscrictcd.

4. SERVICES TO BE SPECIFIED BY THE END OF 1990

(a) ***Teleservices based on packet service***

(If thc tciccommunications administrations agrec on the nccd to spccify such packet scrviccs,rdcrred to in paragraph 3 (a).

— Tclecx,

— Vidcotcx,

— Mcssage handling (sce CCITT recommcndation X 400,

— Tcicaction, sct of scrviccs providing to thc uscrs a reliablc transfer of srnall volumens of packcd-sircd information. This scrvicc may bc adaptcd so scvcral tcicscrviccs: tcle-alarrn, telcsupervision, tcic-alert, tciccommand, tcicmctry, tcicshopping, ccc.

(b) ***Teleservices based on 64 Kbit/s***

— Audiography at 64 Kbit/s,

— Alphaphocographic vidcoccx ac 64 Kbit/s,

— If possiblc, vicwphone ac 64 Kbic/s.

(c) Supplententary services

Work to bc continued.

5. NUMBERINC, ADDRESSING AND SIGNALLING

The ;chicvemcnt of thc full CEPT specifications on ISUP, signalling connection control part (SCCP) and transaction capabilitics (TCAP) is rccommcndcd to the tciccommunications administrations in ***order*** to rcach a cornmon standard within Europc at thc carlicst opportuniry.

As an Interim solution, ii is rccommcndcd to all tciccommunications administrations that, starting from 1988 and whcn CCITT No 7 is introduccd, international digital cxchangcs (linkcd by digital circuits or possibly also by analoguc circuits) should bc inccrconneacd by mcans the cnhanccd tcicphonc uscr part (TUP 4-) for boch PSTN and ISDN scrviccs.

The tciccommunication administrations should provide within thc framcwork of CEPT dctailcd tcchnical specifications on TUP + by chc cnd o(1986.

It is rcquircd that **interworIcing with chc cxisting public tcicphonc nctwork is also achicvcd, induding** somc mcans (or idcncifying different tcicscrviccs and tcrminals.

Note

Thc TUP + is bascd on thc rcd book TUP o(CCITT **cnhanccd to mcct ISDN** rcquircmcnts, induding thc supplcmcntary scrviccs hcreabove.

6. TARIFF CONSIDERAT1ONS

Tbc issuc tariff IcvcIs and structurcs (or chc ISDN is **fundamental (or its rapid talcc-up.**

In the Iongcr (cern, (ollowing an incvit 2 blc period of high **invcstment costs, thc Icvd invcsfmcnt *per* basic acccss should bc** comparahlc wich that o(chc currcnt **tcicphonc nctwork, with an** invcstmcnt structurc rclaccd to the **typt fransmission and digital swicching which** may b.c dalcrcnc from 'hat today.

Scvcral studies on ISDN toriffs havc still to be complctcd. The tciccommunic.ations administrations *Are* invitcd to study within the Iramwork o(CEPT thc following proposals:

— In accordance with currcnt trends,tariffs (or **a**II scrviccs, induding tcicphony, should bc kss dcpcndanc on distoncc than st prcscnt (always bcaring in mind the probkms transit costs through °cher countries).

— In thc transitional phasc (rom thc analoguc nctwork to the ISDN corrcsponding to thc period 1988 to 1993, the tckcommunications administrations arc requatcd to study within CEPT the rclationship bawecn, on thc onc hand, *the* tariff thrc-shold applicable to ISDN scrvices and ISDN basic acccss and, on the othcr, tariffs applicabk to tcicphony.

— Tariffs for tclacrviccs which use the **Same** bcarcr capabilitics should be independent o(the tclescrvice. On the contrary, all valuc addcd by the nctwork should bc charged indcpcndently of the utilization of the bcarcr capabilitics.

— An Agreement should be obtained on the ratio bc ween the monthly rental (or the primary rate access (2 048 Kbit/s) and that (or the basic acccss (144 Kbit/s).

A ratio of the ordcr of 10 might bc discusscd.

7. INTERWORKINC BEV.WEN NATIONAL ISDN TRIALS

Those administrations implcmcnting national trials of ISDN bcfore thc Full implcmcncation of the prescnt rccommcndatioris should cndcavour, whcre providcd, to intcrconnca (1letz scrviccs *in* ordcr to incrcasc carly acperienoc of ISDN in Europo.

8. LEVEL OF PENETRATION

Forccasts of dcmand in new fields, such as the scrviccs supported by ISDN, do not provide a particularly relevant basis for market planning.

Neverthcless, it is rcalistic to sec objcctivcs actainablc ovcr the next cight ycars, i.e. up to thc cnd of 1993, for a level of penctration of ISDN which permics the market for servica and tcrminals to rcach a maturc phasc.

The objcaive should be for an adcquatc gcographic covcrage and rate of pcnctration *at* national levc1 for cach country.

Thc administrations should plan to providc by 1993 ISDN acccsscs for a numbcr cquivalcnt to 5 % of 1983 subscriber main lincs. This figurc dcpcnds, among othcr things, on the capability of thc induscry to offcr cosc cffcctivc ISDN solucions foc the infrastructurc and the terminal cquipmencs.

The territorial covcragc should bc sufficicnt to permic 80 % of cuscomers to havc thc option of the ISDN **acccss.**