

**MEMORANDUM OF UNDERSTANDING  
ON THE IMPLEMENTATION OF AN EUROPEAN ISDN  
SERVICE BY 1992**

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The purpose of this Memorandum of Understanding is to provide a framework agreement for a specific commitment to introduce and interconnect Integrated Services Digital Networks in each of the countries of the parties in accordance with common standards.

The parties,

recognizing:

- the EEC Recommendation 86/659/FF.0 on the coordinated introduction of ISDN;
- that some Telecommunications Administrations<sup>1</sup> have already taken steps to introduce ISDN services;
- that international recommendations for ISDN are being developed by CCITT and there is a continuing need for European organizations to contribute to and proceed within the framework of these recommendations;
- that the introduction of a new technology requires concerted action by a number of parties in order to achieve early economies of scale and reduce the commercial risks;
- that a European service requires the early participation of the greatest possible number of Telecommunications Administrations;
- that such early participation, by the greatest possible number of Telecommunications Administrations acting in concert, is essential in order to ensure both that a widespread service is introduced to meet the needs of international customers and that the new ISDN equipment and application market is created in order to maximize the benefit to European manufacturing industry;
- that the interest and commitment of industry and users would be greatly enhanced by a specific commitment of commitment by several Telecommunications Administrations<sup>1</sup> to offer European ISDN services to common standards by 1992

Agree to the following Articles:

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<sup>1</sup> The term "Telecommunications Administration" throughout the text is used to refer to Administrations and Public Networks Operators

## **Article 1**

The purpose of this agreement is to provide a framework for all the necessary measures to be taken by the parties in concertation to ensure the opening of commercial European public ISDN services in their respective countries by 1992. This shall provide amongst other things standard access interfaces whereby users are provided with common services, supplementary services and access arrangements.

The agreed target for the commencement of the European ISDN services in accordance with this MOU is 1992. All parties, by this MOU, commit themselves to the necessary co-operation activities, in particular the development of the necessary standards by ETSI by December 1989. In order to provide some limited flexibility to complete the necessary development, procurement, installation and interconnection of equipment, it is agreed that this work will be completed and services opened by all parties at December 1993, at the latest

## **Article 2**

This agreement shall initially be open for signature by any Telecommunications Administration and/or any Public Networks Operator within CEPT authorized in his country to provide public telecommunication services. Such Telecommunications Administrations or Public Networks Operators are referred to in this MOU as Telecommunications Administration.

As a later step Telecommunications Administrations outside CEPT could be invited to join the agreement.

## **Article 3**

The parties shall support an evolutionary process taking into account the phases indicated in the annex to the Council Recommendation on ISDN (86/659/EEC). Starting from the basis of the CCITT Recommendations for ISDN the parties shall support the definition of the necessary standards in the open forum provided by ETSI.

The parties shall support the technical content described in the annex 1, which forms an integral part of this Memorandum of Understanding. This includes

- 1) International interfaces to allow international interconnections;
- 2) User-Network interfaces, i.e.,
  - basic access,
  - primary rate access;
- 3) Services and supplementary services.

The parties shall offer the minimum set of services identified in Annex 1. Offering of the additional services is dependent on the development of the market and will be based on commercial considerations. The parties agree that all services, identified in annex 1, when offered, will comply with the agreed relevant ETSI standards.

Furthermore, the parties agree to cooperate in the study of proposals for future services with a view to their inclusion in later phases of ISDN in Europe.

#### Article 4

The parties have as a common goal the objective of enabling the interchangeability of terminals for the services listed in Annex 1 paragraph 3.

Interchangeability in this context implies that any terminal implemented to the required standards (eg. NETs) can be connected to and operate with the ISDN provided by each party.

The development of all the terminal standards (eg. NET's) to achieve this goal is not within the scope of this MOU. However, the parties recognise the importance of actions initiated by the EEC or EFTA and carried out within ETSI for the preparation of:

*referred to be the*

- 1) Common standards for type approval for connection to the Public Networks
- 2) Common conformance testing procedures
- 3) Common technical standards for terminals for connection either to public or private networks.

Note: The objective of a terminal NET is to provide some assurance of end-to-end interworking between compliant terminals

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#### Article 5

The parties shall use the relevant ETSI standards as a basis for procurement of relevant network equipment required to provide European ISDN services.

#### Article 6

The parties shall hold meetings at regular intervals in order to progress the implementation of this MOU. They shall coordinate service plans, network implementation phases and related milestones through these meetings and the relevant CEPT committees/working groups. Such information shall be made known to ETSI as needed for the purpose of achieving timely standards.

#### Article 7

A chairman for these meetings (see Article 6) shall be appointed (Note) by the signatories of this MOU at their first formal meeting and shall hold office for a period to be decided at this first meeting. Thereafter, each party in turn shall nominate a chairman for a period to be decided at their first meeting. The party nominating the chairman shall be responsible for the period for providing the Administrative support needed to implement this MOU unless the parties so decide that certain functions will be funded some other way.

The chairman will also be responsible for organizing and supervising any indicative voting. In case of formal intervention against the results of the indicative voting the chairman shall advise the signatories of these difficulties and ask for a formal meeting of the signatories.

Note: A possible way of appointing the first chairman is to use the alphabetic order as already used in other bodies (the French language being used for

defining the alphabetic order). In case of impossibility by one member to accept the appointment the next in sequence is proposed.

#### Article 8

Every effort shall be made by the parties to assist ETSI to arrive at timely agreement of the content of the standards mentioned in Article 3, based on technical, operational and commercial considerations .

#### Article 9

The parties shall agree within three months of the coming into force of this MOU an Action Plan of activities necessary to support the opening of compatible services by 1992. The parties shall support with the necessary resources the activities being carried out within this agreement and within CEPT and ETSI in pursuance of this Action Plan. This shall include technical requirements for type approval specifications, a compatible approach to numbering, routing, tariff principles and accounting, operational issues and the services/supplementary services to be provided at the beginning of public service by 1992. However this agreement shall not provide for co-operation on the levels of tariffs or any other matter which may be regarded as anti-competitive in countries where network operators are in competition.

#### Article 10

The parties shall, collectively as mutually agreed or individually, make effort through encouragement, advice, consultation and any other means to extend common ISDN services to cover the territories of all CEPT Administrations.

#### Article 11

The parties shall consult on the commercial promotion of the launch of the European ISDN services and take active steps in their respective countries to provide information to the public on the services available and otherwise encourage the take-up of the new service by 1992.

#### Article 12

This Memorandum of Understanding shall be offered for signature to all CEPT Administrations. Within three months of the initial offer, carried out by the chairman of CEPT T Commission, an inaugural meeting will be held for the purpose of signing the MOU and initiating its operation.

Subsequent to the initial signature of this MOU, it will be open for those CEPT administrations who have not yet signed to do so on condition that they accept any decisions or plans made collectively by previous signatories.

#### Article 13

The parties to this MOU will consider proposals for amendments if supported by at least three signatories. Amendments to the text (including any Annex) will only be adopted if agreed unanimously.

## Annex 1 to the Memorandum of Understanding

This annex contains the technical rules to be followed for a coordinated introduction of ISDN between the parties having signed the Memorandum of Understanding.

ISDN-services and supplementary services offered before 1992 may be implemented according to the rules given in appendix 1 to this annex.

The list of services and supplementary services given in paragraph 3 represent the commonly agreed target at the date the MoU was established, however, the real opening of services will be dependant on the market and will be based on a commercial approach, the agreement to the MoU implies that, if open, a service or supplementary service will comply with the agreed standards.

Those services and supplementary services marked with an asterisk (\*) are the ones which will be available in each ISDN of the parties as the minimum service offering.

In order to allow a smooth migration from the existing situation in countries who already provide ISDN services according to earlier versions of specifications (e.g., based on the CCITT Red Book) and to avoid a breakdown in the service provision and to ensure a continuity in the commercial demand for these services, during an interim period of time these ISDN services may still be maintained. Taking into account the above conditions the parties agreed to follow the mies listed hereafter:

### 1 International interface

Two recommended systems based on CCITT Signalling System No. 7 will exist:

- CCITT Signalling System No. 7 ISUP Blue Book version revised by ETSI to include capabilities to support services and supplementary services indicated in paragraph 3 below including those recommended in the European Council Recommendation 86/659/EEC. Such system will be made available by all signatories of the MOU by 1992.
- TUP+ used for early interconnections defined in CEPT and agreed in Europe. TUP+ is defined in CEPT Recommendation T/CS 43-02 issue 2, the message transfer part (MTP) to be used in conjunction with TUP+ is as specified in CEPT Recommendation T/CS 43-01 issue 1. This system allows the provision of services and supplementary services of phase 1 of the European Council Recommendation (86/659/EEC). This system may be used if it has already been implemented prior to 1992 and no request for additional supplementary services is expressed or it may be used by bilateral agreement taking into account the requested services and the relative cost.

NOTE: for some supplementary services other S.S.No.7 protocols may be needed. These are SCCP, TC and related operations.

### 2 User-network interface

- basic access for terminal equipment approved to NET3
- primary rate access for terminal equipment approved to NET 5

NETs including supplementary services will be provided by the end of 1989. The aim of all these NETs is to have a unified access arrangement which will allow terminal interchangeability. The specification of supplementary services marked with an asterisk (\*) should have a first priority; their specification should be available by the end of March 1989.

### 3 ISDN services and supplementary services

The following services and supplementary services were recognized as commercially valid for ISDN and shall therefore be based on uniform standards. Those marked with an asterisk (\*) will be available in the ISDN of each of the parties as a minimum service offering.

#### User services

- Circuit mode Speech bearer service
- Circuit mode 64 kbit/s unrestricted bearer service
- Circuit mode 3.1 kHz audio bearer service
- Circuit mode 2 x 64 kbit/s unrestricted bearer service
- Packet mode bearer services
  - X.31 case A (B-channel)
  - X.31 case B (D-channel)
  - X.31 case B (B-channel)

#### Supplementary services

ADVICE OF CHARGE SERVICES (AOC)  
AOC, Charging Information at Call Setup Time  
AOC, Charging Information **during the** Call  
AOC, Charging Information at the end of the the Call

NUMBER IDENTIFICATION SERVICES  
Calling Line Identification Presentation (CLIP)  
Calling Line Identification Restriction (CLIR)  
Connected Line Identification Presentation (COLP)  
Connected Line Identification Restriction (COLR)

Closed Users Group (CUG)

— Waiting (CW)

Completion of Calls to Busy **Subscriber (CCBS)**

#### **CONFERENCE SERVICES**

Conference call, add-on (CONF)  
Meet-me conference (MMC)

- \* Direct Dialling In (DDI)
  - DIVERSION SERVICES
  - Call Forwarding Unconditional (CFU)
  - Call Forwarding Busy (C1-13)
  - Call Forwarding No Reply (CFNR)
  - Call Deflection
  - Freephone (1-PH)
  - Malicious Call Identification (MCI)
- \* Multiple Subscriber Number (MSN)
  - Sub-addressing (SUB)
- \* Terminal Portability (IP)
  - Three Party Service (3PTY)
  - User User Signalling

**Teleservices**

The ISDN will include bearer capabilities to support the bearer services listed above and, in addition, a number of teleservices including:

- Telephony (3.1 kHz bandwidth)
- Teletex
- Telefax (Group 4)
- Telephony (7 kHz bandwidth)
- Audiographic Teleconferencing
- Videotex (alpha-geometric mode)
- Videotex (photographic mode)
- Teleaction
- Videotelephony (2 x 64 kbitJs)
- Computerized Communication Service

The above list is provisional and the parties will, as a matter of urgency, consider its completion as a definitive list of the teleservices to be provided, together with the precise definition of the support to be provided by the network for each item.

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It is agreed that:

- i) the provision of terminals is outside the scope of this MOU
- ii) the network will not necessarily provide interworking or conversion facilities between teleservices

users may use the bearer services for applications that differ from the defined list of teleservices.



ISDN services and supplementary services offered before 1992 may be implemented according to the following rules.

### 1 International Interface

For early interconnection the only signalling system internationally *Met* recognized and agreed in Europe is based on CCITT Signalling System No. 7 with the user part TUP+ as defined in CEPT Recommendation T/CS 43-02 issue 2 and supported in the annex of the European Council Recommendation 86/659/EEC. The message transfer part (MTP) to be used in combination with TUP+ is as specified in CEPT Recommendation T/CS 43-01 issue 1.

Other signalling systems may be used on a bilateral basis.

### 2 User-network interfaces

- Basic access interface

For early interconnections national versions of the specification may be used, however, NET 3 will be fully available at the beginning of 1989. At that time it will be the recommended European standard.

- Primary rate interface

National versions of the specification in the early stage, a NET 5 is being defined.

### 3 Services and **supplementary service**

The services and supplementary services defined for phase 1 in the annex of the European Council Recommendation 86/659/EEC may be supported.

The term "Telecommunications Administration" throughout the text is used to refer to Administrations and Public Networks Operators