Recommendation T/CAC S 10.5 E
(Cannes 1983, revised in Odense 1986, Vienna 1989(CAC) and Athens 1992)
Formerly Recommendation T/SF 31-05 E

GENERAL SUPPLEMENTARY SERVICE ASPECTS OF AN INTEGRATED SERVICES DIGITAL NETWORK (ISDN)

Recommendation proposed by Working Group T/GT7 "Services and facilities" (SF)
Amendments proposed by Project Team Service Descriptions for the ISDN (SDI)

Text of the recommendation adopted by Commercial Action Committee (CAC)

CONTENT

INTRODUCTION

This recommendation contains a list for supplementary services classified according user conceptions.

After the list follows a brief description of each supplementary service.

The European Conference of Post and Telecommunications Administrations

recommends

1   PROVISION

1.1   General Aspects

That one or more supplementary services can be associated with a basic telecommunication service. This applies to both bearer services and teleservices. Supplementary services cannot be offered to users on a stand alone basis, but must be offered in association with a basic telecommunication service.

Supplementary services are suited to assist users in using bearer and teleservices.

1.2   Provision of New Types of Supplementary Services

That with the introduction of the ISDN separate signalling channel (D channel), network operators would envisage introducing supplementary services which have not been provided with existing networks because:

a) the control procedures were to cumbersome, or

b) the interruption of the call in progress in order to send control signals would have been unacceptable.

An example of such a supplementary service is Number Identification.

1.3 Relevance of Supplementary Services

That the operation of supplementary services should always be relevant to the form of traffic being carried. A matrix relating the relevance of supplementary services to bearer services and a matrix relating to teleservices, see recommendation T/CAC S 10.6E.

1.4 Location of Supplementary Services

That the supplementary service may be located in either the network or the terminal or a combination of both.

When supplementary services are terminal located, some restriction and safeguards will be required on terminal solution, eg.

- they shall not be allowed to influence the control of charging

- they shall not override network security and secrecy requirements

- they shall not abuse the network. For example generation of excessive ineffective traffic due to "Last Number Repetition".

2 LIST OF SUPPLEMENTARY SERVICES

That an agreed list of supplementary services is contained in Annex 1.

3 DEFINITIONS OF SUPPLEMENTARY SERVICES

That agreed definitions of supplementary services are contained in Annex 2.

4 IMPLEMENTATION OF SUPPLEMENTARY SERVICES

That the inclusion of the supplementary services in this Recommendation does not entail any obligation for the network operators to implement the services.

Annex 1

LIST OF SUPPLEMENTARY SERVICES

The following list of supplementary services is grouped with regard to user conceptions. The grouping has been selected to collect alternative solutions to user requirements in one place. A short description is given for each group.

1.   ABBREVIATED ADDRESS SERVICES

Supplementary services used for making calls without application of the full number.

1.1.   **Abbreviated Address**

1.2.   **Fixed Destination Call**

1.3.   **Repeat Last Call**

2.   ADDRESS INFORMATION SERVICES

Supplementary services providing the possibility of using supplementary address information included in or added to the normal number.

2.1.   **Direct Dialling In (DDI)**

2.2.   **Multiple Subscriber Number (MSN)**

2.3.   **Sub-Addressing (SUB)**

3.   ADVICE OF CHARGE SERVICES

Supplementary services providing the possibility of receiving information concerning the charging of calls.

3.1.   **Advice of Charge, Charging Information at Call Setup Time (AOC-S)**

3.2.   **Advice of Charge, Charging Information During the Call (AOC-D)**

3.3.   **Advice of Charge, Charging Information at the End of the Call (AOC-E)**

3.4.   **Provision of Charging Information on Request**

LIST OF SUPPLEMENTARY SERVICES

4. CALL BOOKING SERVICES

Supplementary services providing the possibility of booking calls for later completion.

4.1. **Alarm Call**

4.2. **Booked Call**

5. CALL BARRING SERVICES

Supplementary services limiting the possibilities of calls to or from a certain installation.

5.1. **Closed User Group (CUG)**

5.2. **Incoming Call Barring (ICB)**

5.3. **Outgoing Call Barring (OCB)**

5.4. **Security Screening**

5.5. **Inhibition of Incoming Forwarded Calls (IIFC)**

6. CALL COMPLETION SERVICES

Supplementary services helping to complete calls which cannot immediately be completed, e.g. because the called installation is busy.

6.1. **Call Waiting (CW)**

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

6.3. **Queue Service**

6.4. **Completion of Calls on No Reply**

7. CALL REGISTRATION SERVICES

Supplementary services causing registration of information concerning calls.

7.1. **Date and Time Call Record**

7.2. **Logging of Incoming Calls**

7.3. **Malicious Call Identification (MCID)**

8. CHANGED CHARGING SERVICES

Supplementary services causing changes of the fact that the caller is charged for the call.

8.1. **Freephone (FPH)**

LIST OF SUPPLEMENTARY SERVICES

8.2.   **Reverse Charging (REV)**

8.3.   **Transfer of Charge**

8.4.   **Wide Area Service**

8.5.   **Split Charging**

8.6.   **Premium Rate (PRM)**

9.   **DIVERSION SERVICES**

Supplementary services causing diversion of calls to another address.

9.1.   **Call Forwarding Unconditional (CFU)**

9.2.   **Call Forwarding Busy (CFB)**

9.3.   **Call Forwarding No Reply (CFNR)**

9.4.   **Call Deflection (CD)**

9.5.   **Call Forwarding Unconditional to a Service Centre (CFU-S)**

9.6.   **Call Forwarding Busy to a Service Centre (CFB-S)**

9.7.   **Call Forwarding No Reply to a Service Centre (CFNR-S)**

9.8.   **Selective Call Forwarding Unconditional**

9.9.   **Selective Call Forwarding Busy**

9.10.   **Selective Call Forwarding No Reply**

9.11.   **Sequence Calling**

10.   **HELP SERVICES**

Supplementary services providing help for use or maintenance of telecommunication services and supplementary services.

10.1.   **Fault Reporting**

10.2.   **General Deactivation**

10.3.   **Operator Access to and Control of Supplementary Services**

10.4.   **Remote Control of Supplementary Service (RCSS)**

LIST OF SUPPLEMENTARY SERVICES

11.   **INFORMATION TRANSFER SERVICES**

Supplementary services providing the possibility of information transfer related to current call.

11.1.   **Delivery Confirmation**

11.2.   **Packet Delivery Confirmation**

11.3.   **User-to-User Signalling (UUS)**

12.   **MULTILINE SERVICES**

Supplementary services connecting several terminations and giving them common functions and address possibilities.

12.1.   **Centrex**

12.2.   **Line Hunting (LH)**

12.3.   **Private Numbering Plan (PNP)**

12.4.   **Multilocation Business Group (MBG)**

13.   **MULTIPARTY CALLS**

Supplementary services providing the possibility of having several connections at the same time.

13.1.   **Call Hold (HOLD)**

13.2.   **Three-Party Service (3PTY)**

13.3.   **Call Transfer**

1. Explicit Call Transfer (ECT)
2. Single Step Call Transfer (SCT)

13.4.   **Conference Call, Add On (CONF)**

13.5.   **Meet-Me Conference (MMC)**

13.6.   **Lecture Call**

13.7.   **Predetermined Conference Call**

14.   **NUMBER IDENTIFICATION SERVICES**

Supplementary services providing or restricting identification of the call partner for the current call.

14.1.   **Calling Line Identification Presentation (CLIP)**

14.2.   **Calling Line Identification Restriction (CLIR)**

14.3.   **Connected Line Identification Presentation (COLP)**

14.4.   **Connected Line Identification Restriction (COLR)**

15.   **NUMBERING AND ROUTING SERVICES**

Supplementary services providing the possibility of obtaining numbers which deviate from normal geographic numbering.

15.1.   **Out of Area Lines**

15.2.   **Permanent Subscriber Number**

15.3.   **Universal Access Number (UAN)**

15.4.   **Call Distribution**

15.5.   **Call Volume Distribution**

15.6.   **User Defined Routing**

15.7.   **Temporary Location for Outgoing Calls**

15.8.   **Permanent Circuit Service**

15.9.   **Permanent Virtual Circuit Service**

16.   **PAYMENT CHANGING SERVICES**

Supplementary services providing deviations from the normal payment in current bill.

16.1.   **Credit Card Calling (CRED)**

16.2.   **Payphone**

16.3.   **Account Card Calling**

17.   **PRIORITY SERVICES**

Supplementary services giving priority for the completion of calls.

17.1.   **Priority (PRI)**

17.2.   **Priority Selection**

17.3.   **MultiLevel Precedence and Pre-emption (MLPP)**

LIST OF SUPPLEMENTARY SERVICES

18.   **VARIOUS SERVICES**

         Supplementary services which cannot be placed in the above groups.

18.1.   **Alarm** (Warning)

18.2.   **Change of Service During an Established Call**

18.3.   **Expediting of a Call in Progress**

18.4.   **Interception of Calls**

18.5.   **National Selection and Indication of Throughput Class**

18.6.   **Terminal Portability (TP)**

18.7.   **User Selection of PAD Parameter Settings**

18.8.   **Call Diversion Override**

18.9.   **Incall Modification (IM)**

19.   **OPINION COLLECTING SERVICES**

         Supplementary services providing the possibility to receive mass call for voting.

19.1.   **Televoting**

19.2.   **Teledialogue Service**

19.3.   **Mass Calling**

Annex 2

DEFINITIONS OF SUPPLEMENTARY SERVICES
COMMON TO VOICE AND NON-VOICE SERVICES

1. ABBREVIATED ADDRESS SERVICES

1.1. Abbreviated Address

The possibility for a subscriber to make a call by sending a short code instead of the full number.

1.2. Fixed Destination Call

The possibility for a subscriber to set up a call to a number, nominated by the subscriber, without having to send address signals to the network.

1.3. Repeat Last Call

The possibility for a subscriber to store the last number dialled and to be able to repeat that number by dialling a short code. The user may store the last number dialled either during the call or before releasing the call.

2. ADDRESS INFORMATION SERVICES

2.1. Direct Dialling In (DDI)

The Direct Dialling In (DDI) supplementary service enables a calling party to call a user on an ISPBX or other private systems directly from the public network without attendant intervention. A part of the ISDN number, which is significant to the user, is passed to the called party's premises.

2.2. Multiple Subscriber Number (MSN)

The Multiple Subscriber Number (MSN) supplementary service provides the possibility of assigning multiple ISDN numbers to a single interface. In this way, the addressing of terminals on a basic access may be achieved by applying a set of ISDN numbers to the single basic access.

2.3. Sub-Addressing (SUB)

The Sub-addressing (SUB) supplementary service allows the served user to expand his addressing capacity beyond the one given by the ISDN number. A sub-address, if presented by a calling user, is delivered unaffected to the called (served) user. Only the served user

DEFINITIONS OF SUPPLEMENTARY SERVICES

defines the significance of the sub-address.

3. ADVICE OF CHARGE SERVICES (AOC)

3.1. Advice of Charge, Charging Information at Call Setup Time (AOC-S)

The Advice of Charge, Charging Information at Call Setup Time (AOC-S) supplementary service provides the possibility for a user to receive information about the charging rates at call setup time and about a possible change of charging rates during the call.

3.2. Advice of Charge, Charging Information During the Call (AOC-D)

The Advice of Charge, Charging Information During the Call (AOC-D) supplementary service provides the possibility for a user to receive charging information for a call during the active phase of the call. The service may be invoked manually at any time during a call.

3.3. Advice of Charge, Charging Information at the End of the Call (AOC-E)

The Advice of Charge, Charging Information at the End of the Call (AOC-E) supplementary service provides the possibility for a user to receive charging information for a call when the call is released.

3.4. Provision of Charging Information on Request

The advice of charge supplementary services currently have no mechanism whereby a user can request the charging information for the call in progress.

This could be considered as an enhancement to the AOC-D supplementary service, or as a new supplementary service.

4. CALL BOOKING SERVICES

4.1. Alarm Call

The possibility for a user to cause an alarm call to be made to his line at a time or times specified in advance by him and to receive an appropriate indication, when the call is answered.

4.2. Booked Call

With prior information from a subscriber, a call may be made automatically from his termination to a particular number or services (excluding the Alarm Call Service) at a specified date and time.

DEFINITIONS OF SUPPLEMENTARY SERVICES

5.   **CALL BARRING SERVICES**

5.1.   **Closed User Group (CUG)**

The Closed User Group (CUG) supplementary service enables users to form groups to and from which access is restricted. Members of a specific CUG can communicate among themselves but not, in general, with users outside the group. Specific CUG members can have additional capabilities that allow them to originate calls outside the group and/or to receive calls from outside the group.

5.2.   **Incoming Call Barring (ICB)**

The Incoming Call Barring (ICB) supplementary service provides the user with the possibility to have certain categories of incoming calls barred from its termination.

5.3.   **Outgoing Call Barring (OCB)**

The Outgoing Call Barring (OCB) supplementary service provides the user with the possibility to have certain categories of outgoing calls barred from its termination.

5.4.   **Security Screening**

The Security Screening supplementary service enables a network operator or service provider to screen attempts to access a network system, or an application.

A user must provide the correct identification code before access will be allowed. All attempts to access the network, the system or the application will be recorded whether successful or not.

5.5.   **Inhibition of Incoming Forwarded Calls (IIFC)**

The Inhibition of Incoming Forwarded Calls (IIFC) supplementary service allows a user to prevent all forwarded calls, or just those associated with a specified basic service or class of basic services, from being offered to his access interface.

6.   **CALL COMPLETION SERVICES**

6.1.   **Call Waiting (CW)**

The Call Waiting (CW) supplementary service enables a busy user to be notified of an incoming call in a waiting position. The notification indicates that no interface information channel is available. The user then has the choice of accepting, rejecting or ignoring the waiting call.

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

The Completion of Calls to Busy Subscriber (CCBS) supplementary service allows a calling user A encountering a busy destination B to have the call completed, when the busy

DEFINITIONS OF SUPPLEMENTARY SERVICES

destination B becomes idle without having to make a new call attempt.

6.3.   **Queue Service**

The possibility for a subscriber to have callers placed in a queue when all his lines are busy.

6.4.   **Completion of Calls on No Reply**

The Completion of Calls on No Reply supplementary service allows a calling user A encountering a not answering destination B to be notified, when the destination B becomes available.

7.   **CALL REGISTRATION SERVICES**

7.1.   **Date and Time Call Record**

The possibility for a subscriber to have registered by the network the date and time at the start of each call.

7.2.   **Logging of Incoming Calls**

The possibility for a subscriber to have registered details of all incoming calls to a particular termination, e.g.:

-   Caller's number
-   Time ringing commenced
-   Time and answer or time of abandonment
-   Time of release
-   Advice on transferred charges.

7.3.   **Malicious Call Identification (MCID)**

The Malicious Call Identification (MCID) supplementary service enables a user to request that the source of an incoming call is identified and registered in the network.

8.   **CHANGED CHARGING SERVICES**

8.1.   **Freephone (FPH)**

The Freephone (FPH) supplementary service allows the served user to be reached from all or part of the country with a freephone number and to be charged for this type of calls. The served user may have more installations.

8.2.   **Reverse Charging (REV)**

Reverse Charging is a service allowing a called user to be charged for the actual communication, that is for usage-based calls.

DEFINITIONS OF SUPPLEMENTARY SERVICES

There are three types of reverse charging:

A. Reverse Charging at the beginning of the connection,
B. Reverse Charging during the connection,
C. Reverse Charging unconditional.

8.3.   Transfer of Charge

The possibility for the automatic transfer of call charges either to some other subscriber or to a special account.

8.4.   Wide Area Service

For a flat rate charge a subscriber may make an unlimited number of calls within a prescribed area from a particular termination without the registration of call charges.

8.5.   Split Charging

The Split Charging supplementary service enables a network operator to distribute the charges for a call between the parties involved.

8.6.   Premium Rate

The Premium Rate supplementary service allows a served user to provide value added services to calling users and to receive revenue from them. The calling user will be charged both for the transport and for the value added service . The revenue generated by the call except for the fraction devoted to transport shall be partly or wholly transferred to the served user. The rate to be applied to the calling user shall be determined by the network based on the dialled number.

9.   DIVERSION SERVICES

9.1.   Call Forwarding Unconditional (CFU)

The Call Forwarding Unconditional (CFU) supplementary service permits a served user to have all incoming calls, or just those associated with a specified basic service, addressed to the served user's ISDN number to another number. The served user's outgoing calls are unaffected. If CFU is activated, calls are forwarded no matter what is the condition of the termination.

9.2.   Call Forwarding Busy (CFB)

The Call Forwarding Busy (CFB) supplementary service permits a served user to send to another number all incoming calls, or just those associated with a specified basic service, addressed to the served user's ISDN number and meeting busy. The served user's outgoing calls are unaffected.

DEFINITIONS OF SUPPLEMENTARY SERVICES

9.3.   **Call Forwarding No Reply (CFNR)**

The Call Forwarding No Reply (CFNR) supplementary service permits a served user to send to another number all incoming calls or just those associated with a specified basic service, which meet no reply and are addressed to the served user's ISDN number. The served user's outgoing calls are unaffected.

9.4.   **Call Deflection (CD)**

The Call Deflection (CD) supplementary service allows the served user to respond to an incoming call offered by the network by requesting redirection of that call to another address specified in the response.

This redirection is only allowed before the called user has answered the call.

9.5.   **Call Forwarding Unconditional to a Service Centre (CFU-S)**

The Call Forwarding Unconditional to a Service Centre (CFU-S) supplementary service provides the user with the possibility of having all incoming calls forwarded to a service centre. During the registration phase the service centre has to accept the request from the user.

9.6.   **Call Forwarding Busy to a Service Centre (CFB-S)**

The Call Forwarding Busy to a Service Centre (CFB-S) supplementary service provides the user with the possibility of having incoming calls meeting busy forwarded to a service centre. During the registration phase the service centre has to accept the request from the user.

9.7.   **Call Forwarding No Reply to a Service Centre (CFNR-S)**

The Call Forwarding No Reply to a Service Centre (CFNR-S) supplementary service provides the user with the possibility of having not replied incoming calls forwarded to a service centre. During the registration phase the service centre has to accept the request from the user.

9.8.   **Selective Call Forwarding Unconditional**

The Selective Call Forwarding Unconditional supplementary service enables users to specify the forwarding of their incoming calls to destinations according to:

a) Time of day, day of week etc.
b) Area of call origination
c) Calling line identity of customer
d) Service attributes held against the customer
e) Priority (e.g. from input of an identification)
f) Charging rates applicable for the destination
g) Proportional routing of traffic.

DEFINITIONS OF SUPPLEMENTARY SERVICES

9.9.   **Selective Call Forwarding Busy**

The Selective Call Forwarding Busy supplementary service enables the user to specify that incoming calls can be forwarded to a series of other addresses according to particular criteria, if the served user is busy.

The criteria which may be used to determine whether the call will be forwarded could include the calling line identity, the sub-address, and the time of day.

9.10.   **Selective Call Forwarding No Reply**

The Selective Call Forwarding No Reply supplementary service enables the user to specify that incoming calls can be forwarded to a series of other addresses, according to particular criteria, if they are not answered within a particular period of time.

The criteria which may be used to determine whether the call will be forwarded could include the calling line identity, the sub-address, and the time of day.

9.11.   **Sequence Calling**

Incoming calls may be diverted automatically to a series of numbers. Each of the numbers is called in turn until a call is set up or all the numbers have been tested.

10.   **HELP SERVICES**

10.1.   **Fault Reporting**

A service which enables faults to be identified to the network operator. The fault information may originate either from the customer, or automatically from the customer's terminal or from the network.

10.2.   **General Deactivation**

The possibility for a subscriber to deactivate all supplementary services activated on his line except Abbreviated Address and services requiring keywords.

10.3.   **Operator Access to and Control of Supplementary Services**

The possibility for a network operators operator to be able to control supplementary services on behalf of customers.

10.4.   **Remote Control of Supplementary Services (RCSS)**

The Remote Control of Supplementary Services (RCSS) supplementary service enables the user to control certain supplementary services associated with its access from other accesses.

DEFINITIONS OF SUPPLEMENTARY SERVICES

11. INFORMATION TRANSFER SERVICES

11.1. Delivery Confirmation

The Delivery Confirmation supplementary service provides the originating party with the possibility to request that an explicit notification be returned to it when a submitted message has been successfully delivered to a receiving party.

11.2. Packet Delivery Confirmation

A user facility which will provide information to the sending termination that the receipt of a given packet has been acknowledged by the nominated addressee(s).

11.3. User-to-User Signalling (UUS)

The User-to-User Signalling (UUS) supplementary service allows an ISDN user to send/receive a limited amount of information to/from another ISDN user over the signalling channel in association with a call to the other ISDN user.

11.4. Voice Box

The Voice Box supplementary service enables the user to send voice messages to one or several persons without the necessity of their personal presence. With this supplementary service speech communication is possible covering the temporal and the spatial distance between two persons.
Telephone calls are possible without the immediate presence of a communication partner. Each subscriber, even the mobile one, can be left a message at any time.

12. MULTILINE SERVICES

12.1. Centrex

The provision of customers by means of specially equipped public exchanges of services normally available only in PBXs, e.g. internal connections.

12.2. Line Hunting (LH)

The Line Hunting (LH) supplementary service enables incoming calls to a customer on a pertinent number to be connected to an idle B-channel in a group of interfaces.

12.3. Private Numbering Plan (PNP)

The Private Numbering Plan (PNP) supplementary service allows a subscriber to define and use a PNP for communication across one or more networks between nominated users' access interfaces. A PNP provides a group of users with the capability to place calls by using digit sequences having different structures and meanings than those provided by the public numbering plan.

12.4.   **Multilocation Business Group (MBG)**

The Multilocation Business Group (MBG) supplementary service is a grouping mechanism that allows users belonging to a customer but resident at more locations to subscribe to a variety of business services. The MBG supplementary service enables multilocation customers to coordinate their telecommunication services and to operate uniformly.

13.   **MULTIPARTY CALLS**

13.1.   **Call Hold (HOLD)**

The Call Hold (HOLD) supplementary service allows a user to interrupt communication on an existing call and then subsequently, if desired, re-establish communication.

13.2.   **Three-Party Service (3PTY)**

The Three-Party (3PTY) supplementary service enables a user to establish a three-party conversation, i.e. a simultaneous communication between the served user and two other parties.

13.3.   **Call Transfer**

1. Explicit Call Transfer (ECT)

The Explicit Call Transfer (ECT) supplementary service enables a user who has two calls, each of which can be either an incoming or an outgoing call, to connect the other parties in the two calls.

2. Single Step Call Transfer (SCT)

The Single Step Call Transfer (SCT) supplementary service enables a user to transfer an answered call to a third party without having to set up a new call to the third party first.

13.4.   **Conference Call, Add-on (CONF)**

The Conference Call, Add-on (CONF) supplementary service provides a user with the possibility to have a multi-connection call with simultaneous two-way communication between more than two parties.

13.5.   **Meet-Me Conference (MMC)**

The Meet-Me Conference (MMC) supplementary service provides a user with the ability to arrange for a conference between more than two participants with all participants accessing the conference themselves.

13.6.   **Lecture Call**

A lecture call is an established connection between a caller and two or more parties whereby

DEFINITIONS OF SUPPLEMENTARY SERVICES

information is passed unidirectional from the caller to the other connected parties. The call is set up by an automatic device programmed by the caller from his own terminal.

13.7. Predetermined Conference Call

The Predetermined Conference Call supplementary service allows the served user to order from its termination a conference call with predetermined participants to be set up with a short procedure. The subscriber numbers of the participants are stored in the network.

14. NUMBER IDENTIFICATION SERVICES

14.1. Calling Line Identification Presentation (CLIP)

The Calling Line Identification Presentation (CLIP) supplementary service provides the called party with the possibility to receive identification of the calling party.

14.2. Calling Line Identification Restriction (CLIR)

The Calling Line Identification Restriction (CLIR) supplementary service enables the calling party to restrict presentation of its number to the called party.

14.3. Connected Line Identification Presentation (COLP)

The Connected Line Identification Presentation (COLP) supplementary service enables the calling party to receive at the establishment of the call an indication of the ISDN number of the connected line including possible additional address information.

14.4. Connected Line Identification Restriction (COLR)

The Connected Line Identification Restriction (COLR) supplementary service enables the connected party to restrict presentation of the connected party's ISDN number to the calling party.

15. NUMBERING SERVICES

15.1. Out of Area Line

The Out of Area Line supplementary service enables the user to be connected to a public exchange when he is not located within the area of that exchange.

15.2. Permanent Subscriber Number

The Permanent Subscriber Number supplementary service enables a subscriber having moved from one location to another to retain his access number.

DEFINITIONS OF SUPPLEMENTARY SERVICES

15.3. **Universal Access Number**

The Universal Access Number supplementary service enables a customer with several installations in different parts of the country to be reached from anywhere in the country by dialling one given number. Calls from subscribers on exchanges in predetermined areas of the country will be routed to installations chosen for the area in question by the customer having the service.

15.4. **Call Distribution**

The Call Distribution supplementary service enables a customer to have incoming calls distributed over a number of users according to one of a number of criteria. Thus, calls may be distributed according to area code, time of day, calling line identity, or call volume, e.g. percentage distribution.

15.5. **Call Volume Distribution**

The Call Volume Distribution supplementary service enables a customer to have calls distributed over a number of locations using a defined mechanism.

15.6. **User Defined Routing**

The User Defined Routing supplementary service enables users to specify the routing of their outgoing calls according to the following choices:

a) The type of network to be used (e.g. PSTN, VPN, mobile)
b) The desired network operator
c) The physical bearer (e.g. optical, satellite)
d) The least cost routing (dependent upon time of day, etc.)
e) Region of call (origination/destination)
f) Proportional routing of traffic.

15.7. **Temporary Location for Outgoing Calls**

The Temporary Location for Outgoing Calls supplementary service enables a subscriber to register a location from which that user can originate calls and to make outgoing calls from that location. This can be for a series of calls or on a per call basis.

15.8. **Permanent Circuit**

The Permanent Circuit supplementary service provides the user with the possibility to communicate via the ISDN on a permanent basis. The network operator is responsible for the establishment of the connection. If the connection is interrupted, it is the responsibility of the network operator to re-establish the connection.

15.9. **Permanent Virtual Circuit**

The Permanent Virtual Circuit Service is a supplementary service to packet switched

DEFINITIONS OF SUPPLEMENTARY SERVICES

services giving permanent association between two DTEs which is identical to the information transfer phase of a virtual call. No call setup or clearing procedure is possible or necessary.

16. PAYMENT CHANGING SERVICES

16.1. Credit Card Calling (CRED)

The Credit Card Calling (CRED) supplementary service enables payment of charges by placing a credit card in a specially adapted terminal.

16.2. Payphone

The Payphone supplementary service enables outgoing calls to be made by means of special equipment after insertion of adequate coin(s), token(s) or a coded card.

Outgoing calls to certain services (e.g. the emergency service) may be allowed without payment. Incoming calls may be received without payment.

16.3. Account Card Calling

The Account Card Calling supplementary service enables the served user to make a call from any card reading terminal and to have the charges for the call automatically debited to a domestic or business account number as defined by the card content.

At the invocation of the Account Card Calling supplementary service, the served user enters its personal identification which is then validated and one or more calls can then be made.

17. PRIORITY SERVICES

17.1. Priority (PRI)

The Priority (PRI) supplementary service provides preferential treatment to calls originating from and/or addressed to certain numbers in order of path selection.

17.2. Priority Selection

The Priority Selection supplementary service enables a user to request preference for a call.

17.3. MultiLevel Precedence and Pre-emption (MLPP)

The Multilevel Precedence and Pre-emption (MLPP) supplementary service gives priority in call handling. This service has two parts - precedence and pre-emption. Precedence involves assignments of a priority level to a call. Pre-emption involves the seizing of resources which are in use by a call of a lower precedence by a higher level precedence call in the absence of idle resources.

18.   VARIOUS SERVICES

18.1.   Alarm (Warning)

The Alarm (Warning) supplementary service enables a suitable signalling device (e.g. key or sensor device) at the customer's premises which when operated will cause the network to send information to identify the particular premises to a specified terminal, e.g. to the Police or to a security agency. Signals will be continuously exchanged between the network and the customers' premises to protect against faults or sabotage.

18.2.   Changing of Service During an Established Call

The possibility for a user to change the service during an existing call without disconnecting the call.

18.3.   Expediting of a Call in Progress

Intervention by an operator, interrupting a call in progress, in order to allow another incoming call to be offered.

18.4.   Interception of Calls

Calls which cannot reach the wanted number for reasons such as those listed below may be intercepted and diverted to an operator, an answering machine giving a verbal or written announcement, or a tone to give the callers the appropriate information.

-    Change of a particular number including advice of a new number
-    Re-numbering of a group of numbers or a change of dialling code
-    Wrong information in directory
-    Dialling on an unallocated code
-    Dialling of a number allowed by the numbering plan but not yet allocated or no longer in service
-    Route(s) out of order
-    Route(s) congested
-    Subscriber's line temporarily out of order
-    Suspension of service owing to non-payment.

18.5.   National Selection and Indication of Throughput Class

The National Selection and Indication of Throughput Class supplementary service enables the calling and called terminals to indicate and negotiate a throughput class in bit/s that will not be exceeded on the virtual call.

18.6.   Terminal Portability (TP)

The Terminal Portability (TP) supplementary service allows a user to move a terminal from one socket to another within one given basic access during the active state of a call.

The portability of a terminal during the idle state is part of the basic access capabilities and

DEFINITIONS OF SUPPLEMENTARY SERVICES

does not require any user procedure.

Use of TP in the call establishment and in the call clearing phases is not possible.

18.7.   User Selection of PAD Parameter Settings

The User Selection of PAD Parameter Settings supplementary service enables both the non-packet mode DTE (Data Terminal Equipment) and the packet mode DTE, when communicating via a PAD (Packet Assembler/Disassembler), to select the values of certain PAD parameters. Values may be selected individually or en-bloc, when selecting a specified standard profile.

18.8.   Call Diversion Override

The Call Diversion Override supplementary service enables a calling user to override the call diversion supplementary service at the called destination.

An option can be foreseen where the Call Diversion Override supplementary service is restricted to the user-to-user information, permitting the call be diverted.

18.9.   Incall Modification (IM)

The Incall Modification (IM) supplementary service provides the user with the ability to modify the type of its call on an established connection in terms of bearer capabilities, without changing the end-to-end user relationship.

19.   OPINION COLLECTING SERVICES

19.1.   Televoting

The Televoting supplementary service enables a user to have one or more ISDN numbers activated for a defined period of time. Each time a call is made to one of these numbers the caller will receive an acknowledgement and a count of calls made to this number will be incremented. When the time period ends, the user will be notified and supplied with details of the total number of calls made to each number. The served user can request the count for each or all of the numbers whilst the supplementary service is active.

In addition, it is possible to establish through-connections between callers selected at random and an inquiry station at the customer's premises.

19.2.   Teledialogue

The Teledialogue supplementary service allows bidirectional connections to be set up in the telephony services between callers and the called party who, while producing mass traffic, only inquires for it at its subscriber station(s) to a very limited extent. The traffic not susceptible to inquiry is routed to stand-by stations which are connected to announcement systems provided by the network operator at the network nodes.

19.3.   **Mass Calling**

The Mass Calling supplementary service enables a user to have a single directory number allocated for a period time specified by the served user. Each time a call is made to this number during this time period, the calling user will be prompted for the input of a further digit to indicate a preference. The choice made will be recorded and count incremented. When the time period ends, the Mass Calling supplementary service will be deactivated, and the network operator will supply details of the total votes cast for each preference to the served user.