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Integrated Services Digital Network (ISDN);
Signalling System No.7;
ISDN User Part (ISUP) version 2 for the international interface;
Part 15: Diversion supplementary services

[ITU-T Recommendation Q.732, clauses 2 to 5 (1993), modified]

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ETSI Secretariat

New presentation - see History box

Foreword

This European Telecommunication Standard (ETS) has been produced by the Signalling Protocols and Switching (SPS) Technical Committee of the European Telecommunications Standards Institute (ETSI).

This ETS is part 15 of a multi-part standard covering the ISDN User Part (ISUP) version 2 for the international interface, as described below:

Part 1:   "Basic services";
Part 2:   "ISDN supplementary services";
Part 3:   "Calling Line Identification Presentation (CLIP) supplementary service";
Part 4:   "Calling Line Identification Restriction (CLIR) supplementary service";
Part 5:   "Connected Line Identification Presentation (COLP) supplementary service";
Part 6:   "Connected Line Identification Restriction (COLR) supplementary service";
Part 7:   "Terminal Portability (TP) supplementary service";
Part 8:   "User-to-User Signalling (UUS) supplementary service";
Part 9:   "Closed User Group (CUG) supplementary service";
Part 10:   "Subaddressing (SUB) supplementary service";
Part 11:   "Malicious Call Identification (MCID) supplementary service";
Part 12:   "Conference call, add-on (CONF) supplementary service";
Part 14:   "Explicit Call Transfer (ECT) supplementary service";
Part 15:   "Diversion supplementary services";
Part 16:   "Call Hold (HOLD) supplementary service";
Part 17:   "Call Waiting (CW) supplementary service";
Part 18:   "Completion of Calls to Busy Subscriber (CCBS) supplementary service";
Part 19:   "Three party (3PTY) supplementary service".

  NOTE: Part 13 has been withdrawn.

In accordance with CCITT Recommendation I.130, the following three level structure is used to describe the supplementary telecommunication services as provided by European public telecommunications operators under the pan-European Integrated Services Digital Network (ISDN):

- Stage 1: is an overall service description, from the user's stand-point;

- Stage 2: identifies the functional capabilities and information flows needed to support the service described in stage 1; and

- Stage 3: defines the signalling system protocols and switching functions needed to implement the service described in stage 1.

This ETS details the stage three aspects (signalling system protocols and switching functions) needed to support the diversion supplementary services. The stage 1 and stage 2 aspects are detailed in ETS 300 199 to ETS 300 202 and ETS 300 203 to ETS 300 206, respectively.

Transposition dates	
Date of latest announcement of this ETS (doa):	31 May 1995
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	30 November 1995
Date of withdrawal of any conflicting National Standard (dow):	30 November 1995

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Endorsement notice

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The text of ITU-T Recommendation Q.732, clauses 2 to 5 (1993), was approved by ETSI as an ETS with agreed modifications as given below.

Page 1

Insert the following two clauses (scope and normative references) at the start of clause 2:

Scope

This fifteenth part of ETS 300 356 specifies the stage three of the diversion supplementary services for the pan-European Integrated Services Digital Network (ISDN) as provided by the European public telecommunications operators by means of the Signalling System No.7 protocol for the ISDN User Part (ISUP). Stage three identifies the protocol procedures and switching functions needed to support a telecommunication service (see CCITT Recommendation I.130 [1]).

This ETS does not specify the additional protocol requirements where the service is provided to the user via a telecommunications network that is not an ISDN.

This ETS does not specify the additional protocol requirements for the national signalling interface.

Although this ETS applies only to the international section, the specification of functions, formats and codes of messages and signals, and actions performed at originating and destination local exchanges are retained. All formats, codes and procedures, if any, marked for national use are included for informative purposes only.

> NOTE: In the case where a national signalling system behaves differently, the international gateway exchange is to support both the concerned national and the international network and the services and equipment supported by both the concerned national and the international network.

The diversion supplementary services are applicable to all circuit-switched telecommunication services.

Normative references

This ETS incorporates by dated and undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this ETS only when incorporated in it by amendments or revision. For undated references the latest edition of the publication referred to applies.

[1]   CCITT Recommendation I.130 (1988): "Method for the characterisation of telecommunication services supported by an ISDN and network capabilities of an ISDN".

[2]   ETS 300 121 (1992): "Integrated Services Digital Network (ISDN); Application of the ISDN User Part (ISUP) of CCITT Signalling System No.7 for international ISDN interconnections (ISUP version 1)".

[3]   ETS 300 199 (1994): "Integrated Services Digital Network (ISDN); Call Forwarding Busy (CFB) supplementary service; Service description".

[4]   ETS 300 200 (1994): "Integrated Services Digital Network (ISDN); Call Forwarding Unconditional (CFU) supplementary service; Service description".

[5]   ETS 300 201 (1994): "Integrated Services Digital Network (ISDN); Call Forwarding No Reply (CFNR) supplementary service; Service description".

[6]   ETS 300 202 (1994): "Integrated Services Digital Network (ISDN); Call Deflection (CD) supplementary service; Service description".

[7]   ETS 300 203 (1994): "Integrated Services Digital Network (ISDN); Call Forwarding Busy (CFB) supplementary service; Functional capabilities and information flows".

[8]   ETS 300 204 (1994): "Integrated Services Digital Network (ISDN); Call Forwarding Unconditional (CFU) supplementary service; Functional capabilities and information flows".

[9]   ETS 300 205 (1994): "Integrated Services Digital Network (ISDN); Call Forwarding No Reply (CFNR) supplementary service; Functional capabilities and information flows".

[10]   ETS 300 206 (1994): "Integrated Services Digital Network ISDN); Call Deflection (CD) supplementary service; Functional capabilities and information flows".

[11]   ETS 300 207-1 (1994): "Integrated Services Digital Network (ISDN); Diversion supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[12]   ETS 300 356-1 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 1: Basic services [ITU-T Recommendations Q.761 to Q.764 (1993), modified]".

[13]   ETS 300 356-2 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 2: ISDN supplementary services [ITU-T Recommendation Q.730 (1993), modified]".

[14]   ETS 300 356-3 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 3: Calling Line Identification Presentation (CLIP) supplementary service [ITU-T Recommendation Q.731, clause 3 (1993), modified]".

[15]   ETS 300 356-4 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 4: Calling Line Identification Restriction (CLIR) supplementary service [ITU-T Recommendation Q.731, clause 4 (1993), modified]".

[16]   ETS 300 356-5 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 5: Connected Line Identification Presentation (COLP) supplementary service [ITU-T Recommendation Q.731, clause 5 (1993), modified]".

[17]   ETS 300 356-6 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 6: Connected Line Identification Restriction (COLR) supplementary service [ITU-T Recommendation Q.731, clause 6 (1993), modified]".

[18]   ETS 300 356-18 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 18: Completion of Calls to Busy Subscriber (CCBS) supplementary service".

[19]   ETS 300 403-1: "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1); User-network interface layer 3 specification for basic call control; Part 1: Protocol specification [ITU-T Recommendation Q.931 (1993), modified]".

Throughout the text of ITU-T Recommendation Q.732, clauses 2 to 5

Replace references as shown below.

Reference in ITU-T Recommendation Q.732, clauses 2 to 5	Modified reference
CCITT Recommendation I.252.2	ETS 300 199 [3]
CCITT Recommendation I.252.3	ETS 300 201 [5]
CCITT Recommendation I.252.4	ETS 300 200 [4]
CCITT Recommendation I.252.5	ETS 300 202 [6]
ITU-T Recommendation Q.82, clause 2	ETS 300 203 [7], ETS 300 204 [8], and ETS 300 205 [9]
ITU-T Recommendation Q.82, clause 3	ETS 300 205 [10]
ITU-T Recommendation Q.730	ITU-T Recommendation Q.730 as modified by ETS 300 356-2 [13]
ITU-T Recommendation Q.761	ITU-T Recommendation Q.761 as modified by ETS 300 356-1 [12]
ITU-T Recommendation Q.762	ITU-T Recommendation Q.762 as modified by ETS 300 356-1 [12]
ITU-T Recommendation Q.763	ITU-T Recommendation Q.763 as modified by ETS 300 356-1 [12]
ITU-T Recommendation Q.764	ITU-T Recommendation Q.764 as modified by ETS 300 356-1 [12]
ITU-T Recommendation Q.767	ETS 300 121 [2]
ITU-T Recommendation Q.931	ITU-T Recommendation Q.931 as modified by ETS 300 403-1 [19]
ITU-T Recommendation Q.952	ETS 300 207-1 [11]

Page 5, subclause 2.4.1

Delete the Redirection number parameter from the Answer message and Connect message.

Page 7, subclause 2.5.2.1.1, last sentence

Modify the last sentence as follows:

In these cases the ACM will contain an optional backward call indicator set to "call diversion may occur" <u>which indicates that the call is not yet in a stable state</u>.

Page 8, subclause 2.5.2.3.1

Replace the complete text by:

An outgoing international gateway exchange checks the following number parameters received in the IAM:

- original called number;

- redirecting number.

The procedure for the Original called number and the Redirecting number are the same as for the Calling party number as specified in the CLIP/CLIR supplementary service (see ETS 300 356-3 [14] and ETS 300 356-4 [15].

Page 8, subclause 2.5.2.4.1

Replace the complete text by:

An incoming international gateway exchange checks the following number parameters received in the IAM:

- original called number.

The procedure for the Original called number and the Redirecting number are the same as for the Calling party number as specified in the CLIP supplementary service (see ETS 300 356-3 [14]).

The passing of the Redirection number is subject to bilateral agreement.

If a Redirection number restriction parameter is received and a Redirection number has been discarded, then the Redirection number restriction parameter is also discarded.

If a network supports the CPG as the first backward message, then the incoming international gateway exchange has to map the CPG into an ACM and the following ACM into CPG.

If the national network supports CPG with event information indicating CFB, CFNR or CFU (see note in subclause 2.4.2), then when the incoming international gateway exchange receives such a CPG without either the generic notification indicator or the call diversion information, it will generate the missing parameters using the event information. If the received CPG is then mapped into a CPG on the international side, then the event information will be set to indicate progress unless bilateral agreements exist permitting the call forwarding codes in event information to be passed (see note in subclause 2.4.2).

Page 9, subclause 2.5.2.5.1.1

Replace the complete text by:

When a destination local exchange receives a diverted call, the destination exchange shall include in the Address complete message, Call progress message, Answer message or Connect message the Redirection number restriction parameter set according to the COLR supplementary service of the called user (see ETS 300 356-6 [17]).

Page 9, subclause 2.5.2.5.1.2, item b)

Insert after the first list of five parameter values under item b):

The Address presentation restricted indicator for the original called number and the redirecting number shall be set according to the subscription option "Served user releases his/her number to the diverted-to user".

Page 11, subclause 2.5.2.5.1.2, item c), sub-item 2), option B, second sentence

Modify the second sentence as follows:

The incoming circuit or line is connected to the chosen outgoing circuit in both directions immediately or, as a network option, through-connection can be performed at the receipt of the ACM or CON messages.

Page 12, subclause 2.5.2.5.1.2, item e), sub-item i)

Replace the complete text by:

i)   Receipt of address complete, call progress, answer or connect message

If an address complete message is received in a diverting exchange, the parameters of the received ACM are transferred in a call progress message. Table 2-4 shows the correct mapping of the information.

In case of CFNR and CD during alerting (option A), if an ACM (no indication) is received, then the information contained in the received ACM is not mapped into CPG but stored until a CPG (alerting) or ANM message is received. It is then passed on in a CPG.

If a call progress message is received in a diverting exchange, the action to be taken depends on the service causing the diversion:

1)   In case of the CFU, CFB, CD immediate response and in case of CFNR (option B) and CD during alerting (option B), the call progress message is passed on.

2)   In the case of CFNR and CD during alerting (option A), the information contained in the CPG is stored until an ACM (subscriber free) or CPG (alerting) is received. If subsequent CPG messages with call diversion information are received, the previously stored redirection reason is overridden. The notification subscription option field is analyzed and the most severe restriction is retained.

If an answer message is received, the previously stored information is sent in a CPG (alerting) message followed by the ANM message transferred as received.

Page 12, subclause 2.5.2.5.1.2, item e), sub-item ii), first paragraph

Delete "automatic congestion level".

Page 14, subclause 2.5.2.5.2.2

Delete "*In Option B:*   If it would, the call is cleared."

Add the following note:

NOTE: Option A and option B described in this subclause are completely independent from options A and B in subclause 2.5.2.5.1.2.

Page 14, subclause 2.6.2

Replace the complete text by:

No impact on ISUP.

Page 14, subclause 2.6.3, last sentence

Delete the last sentence "The same setting (...)".

Add the following note:

> NOTE: The diverting exchange shall divert the Connected number and the Generic number (additional connected number, if present) parameters.

Page 14, subclause 2.6.4, last sentence

Delete the last sentence "The same setting (...)".

Page 14, subclause 2.6.5, note

Replace "additional connected number" by "additional calling party number".

Page 16, subclause 2.6.19

Replace the complete text by:

Interactions are described in ETS 300 356-18 [18].

Annex ZA (normative): Coding of the compatibility information

The parameter compatibility information parameter for the call diversion information parameter shall be coded as follows:

a) N^{th} upgraded parameter
   0011 0110   call diversion information parameter

b) Instruction indicators

   bit A: Transit at intermediate exchange indicator
   0   transit interpretation

   bit B: Release call indicator
   0   do not release call

   bit C: Send notification indicator
   0   do not send notification

   bit D: Discard message indicator
   0   do not discard message (pass on)

   bit E: Discard parameter indicator
   0   do not discard parameter (pass on)

   bits GF: Pass on not possible indicator
   10   discard parameter

c) Extension indicator
   1   last octet

The parameter compatibility information parameter for the generic notification parameter shall be coded as follows:

a) N^{th} upgraded parameter
   0010 1100   generic notification parameter

b) Instruction indicators

   bit A: Transit at intermediate exchange indicator
   0   transit interpretation

   bit B: Release call indicator
   0   do not release call

   bit C: Send notification indicator
   0   do not send notification

   bit D: Discard message indicator
   0   do not discard message (pass on)

   bit E: Discard parameter indicator
   0   do not discard parameter (pass on)

   bits GF: Pass on not possible indicator
   10   discard parameter

c) Extension indicator
   1   last octet

The parameter compatibility information parameter for the redirection number restriction parameter shall be coded as follows:

a)   Nth upgraded parameter
0100 0000   redirection number restriction parameter

b)   Instruction indicators

    bit   A: Transit at intermediate exchange indicator
        0   transit interpretation

    bit   B: Release call indicator
        0   do not release call

    bit   C: Send notification indicator
        0   do not send notification

    bit   D: Discard message indicator
        0   do not discard message (pass on)

    bit   E: Discard parameter indicator
        0   do not discard parameter (pass on)

    bits GF: Pass on not possible indicator
        10   discard parameter

c)   Extension indicator
1   last octet

History

Document history	
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