EN 300 899-1 V1.1.2 (1998-09)

European Standard (Telecommunications series)

Integrated Services Digital Network (ISDN); Signalling System No.7; Interworking between ISDN User Part (ISUP) version 2 and Digital Subscriber Signalling System No. one (DSS1); Part 1: Protocol specification

[ITU-T Recommendation Q.699, modified]

European Telecommunications Standards Institute

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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Signalling Protocols and Switching (SPS).

The present document is part 1 of a multi-part standard covering the interworking between Integrated Services Digital Network (ISDN) User Part (ISUP) version 2 of Signalling System No.7 and Digital Subscriber Signalling System No. one (DSS1), as described below:

Part 1: "Protocol specification [ITU-T Recommendation Q.699 Modified]";

Part 2: "Protocol Implementation Conformance Statement (PICS) proforma specification";

Part 3: "Test Suite Structure and Test Purposes (TSS&TP) specification";

Part 4: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification.

National transposition dates	
Date of adoption of this EN:	6 March 1998
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Endorsement notice

The text of ITU-T Recommendation Q.699 was approved by ETSI as an EN with agreed modifications as given below.

NOTE 1: New or modified text is indicated using sidebars. In addition, underlining and/or strike-out are used to highlight detailed modifications where necessary.

NOTE 2: ITU-T Recommendation Q.699 was not yet published by ITU-T at the time of adoption of the present document. Publication by ETSI was delayed until ITU-T Q.699 became available.

subclause 1.1

Replace subclause 1.1 by:

1.1 Scope

This first part of ETS 300 899 specifies the interworking between Signalling System No.7 ISDN User Part (ISUP) version 2 as specified in [19] to [36] and Digital Subscriber Signalling System No. one (DSS1) as specified in [1] to [18] and [37] to [39].

The interworking between subsequent versions of the ISUP signalling protocol (ISUP version 3, etc.) and the DSS1 protocol shall be in accordance with the requirements as contained in this ETS unless explicitly specified otherwise in subsequent versions of the ISUP signalling protocol. This also applies to new services specified in the DSS1 signalling protocol (e.g. the Selective Call Forwarding services) that make use of the existing procedures in the ISUP protocol

The interworking between the above signalling protocols occurs in an exchange with ISDN local exchange functionality and is specified in the context of a typical call in a pure ISDN or mixed ISDN/non-ISDN environment.

In case of contradictions between the mapping described in the present document and the requirements specified in the corresponding ISUP and DSS1 standards, the procedures in the ISUP and DSS1 standards apply.

subclause 1.2

Replace subclause 1.2 by:

1.2 Normative references

References may be made to:

a) specific versions of publications (identified by date of publication, edition number, version number, etc.), in which case, subsequent revisions to the referenced document do not apply; or

b) all versions up to and including the identified version (identified by "up to and including" before the version identity); or

c) all versions subsequent to and including the identified version (identified by "onwards" following the version identity); or

d) publications without mention of a specific version, in which case the latest version applies.

A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

[1] ETS 300 052-1: "Integrated Services Digital Network (ISDN); Multiple Subscriber Number (MSN) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[2] ETS 300 055-1: "Integrated Services Digital Network (ISDN); Terminal Portability (TP) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[3] ETS 300 058-1: "Integrated Services Digital Network (ISDN); Call Waiting (CW) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[4] ETS 300 061-1: "Integrated Services Digital Network (ISDN); Subaddressing (SUB) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[5] ETS 300 064-1: "Integrated Services Digital Network (ISDN); Direct Dialling In (DDI) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[6] ETS 300 092-1: "Integrated Services Digital Network (ISDN); Calling Line Identification Presentation (CLIP) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[7] ETS 300 093-1: "Integrated Services Digital Network (ISDN); Calling Line Identification Restriction (CLIR) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[8] ETS 300 097-1: "Integrated Services Digital Network (ISDN); Connected Line Identification Presentation (COLP) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[9] ETS 300 098-1: "Integrated Services Digital Network (ISDN); Connected Line Identification Restriction (COLR) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[10] ETS 300 130-1: "Integrated Services Digital Network (ISDN); Malicious Call Identification (MCID) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[11] ETS 300 138-1: "Integrated Services Digital Network (ISDN); Closed User Group (CUG) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[12] ETS 300 141-1: "Integrated Services Digital Network (ISDN); Call Hold (HOLD) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[13] ETS 300 185-1: "Integrated Services Digital Network (ISDN); Conference call, add-on (CONF) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[14] ETS 300 188-1: "Integrated Services Digital Network (ISDN); Three-Party (3PTY) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[15] ETS 300 196-1: "Integrated Services Digital Network (ISDN); Generic functional protocol for the support of supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

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

[17] ETS 300 210-1: "Integrated Services Digital Network (ISDN); Freephone (FPH) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[18] ETS 300 286-1: "Integrated Services Digital Network (ISDN); User-to-User Signalling (UUS) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[19] 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]".

[20] 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]".

[21] 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]".

[22] 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]".

[23] 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]".

[24] 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]".

[25] ETS 300 356-7 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 7: Terminal Portability (TP) supplementary service [ITU-T Recommendation Q.733, clause 4 (1993), modified]".

[26] ETS 300 356-8 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 8: User-to-User Signalling (UUS) supplementary service [ITU-T Recommendation Q.737, clause 1 (1993), modified]".

[27] ETS 300 356-9 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 9: Closed User Group (CUG) supplementary service [ITU-T Recommendation Q.735, clause 1 (1993), modified]".

[28] ETS 300 356-10 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 10: Subaddressing (SUB) supplementary service [CCITT Recommendation Q.731, section 8 (1992), modified]".

[29] ETS 300 356-11 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 11: Malicious Call Identification (MCID) supplementary service".

[30] ETS 300 356-12 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 12: Conference call, add-on (CONF) supplementary service [ITU-T Recommendation Q.734, clause 1 (1993), modified]".

[31] ETS 300 356-14 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 14: Explicit Call Transfer (ECT) supplementary service".

[32] ETS 300 356-15 (1995): "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]".

[33] ETS 300 356-16 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 16: Call Hold (HOLD) supplementary service [ITU-T Recommendation Q.733, clause 2 (1993), modified]".

[34] ETS 300 356-17 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 17: Call Waiting (CW) supplementary service [CCITT Recommendation Q.733, section 1 (1992), modified]".

[35] 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".

[36] ETS 300 356-19 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 19: Three party (3PTY) supplementary service [ITU-T Recommendation Q.734, clause 2 (1993), modified]".

[37] ETS 300 359-1: "Integrated Services Digital Network (ISDN); Completion of Calls to Busy Subscriber (CCBS) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[38] ETS 300 369-1: "Integrated Services Digital Network (ISDN); Explicit Call Transfer (ECT) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

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

[40] ETS 300 485: "Integrated Services Digital Network (ISDN); Definition and usage of cause and location in Digital Subscriber Signalling System No. one (DSS1) and Signalling System No.7 ISDN User Part (ISUP) [ITU-T Recommendation Q.850 (1993), modified]".

subclause 1.4

Add the following abbreviations to subclause 1.4 as appropriate:

CCBS	Completion of Calls to Busy Subscriber
ECT	Explicit Call Transfer
MCID	Malicious Call Identification
FPH	Freephone

Throughout the text of ITU-T Recommendation Q.699

Replace references as shown below.

Reference in ITU-T Recommendation Q.699	Modified reference
ITU-T Recommendation Q.731.3	ITU-T Recommendation Q.731.3 as modified by ETS 300 356-3 [21]
ITU-T Recommendation Q.731.4	ITU-T Recommendation Q.731.4 as modified by ETS 300 356-4 [22]
ITU-T Recommendation Q.731.5	ITU-T Recommendation Q.731.5 as modified by ETS 300 356-5 [23]
ITU-T Recommendation Q.731.6	ITU-T Recommendation Q.731.6 as modified by ETS 300 356-6 [24]
ITU-T Recommendation Q.732.2	ITU-T Recommendation Q.732.2 as modified by ETS 300 356-15 [32]
ITU-T Recommendation Q.732.3	ITU-T Recommendation Q.732.3 as modified by ETS 300 356-15 [32]
ITU-T Recommendation Q.732.4	ITU-T Recommendation Q.732.4 as modified by ETS 300 356-15 [32]
ITU-T Recommendation Q.732.5	ITU-T Recommendation Q.732.5 as modified by ETS 300 356-15 [32]
ITU-T Recommendation Q.733.2	ITU-T Recommendation Q.733.2 as modified by ETS 300 356-16 [33]
ITU-T Recommendation Q.733.4	ITU-T Recommendation Q.733.4 as modified by ETS 300 356-7 [25]
ITU-T Recommendation Q.734.1	ITU-T Recommendation Q.734.1 as modified by ETS 300 356-12 [30]
ITU-T Recommendation Q.734.2	ITU-T Recommendation Q.734.2 as modified by ETS 300 356-19 [36]
ITU-T Recommendation Q.735.1	ITU-T Recommendation Q.735.1 as modified by ETS 300 356-9 [27]
ITU-T Recommendation Q.737.1	ITU-T Recommendation Q.737.1 as modified by ETS 300 356-8 [26]
ITU-T Recommendation Q.761	ITU-T Recommendation Q.761 as modified by ETS 300 356-1 [19]
ITU-T Recommendation Q.762	ITU-T Recommendation Q.762 as modified by ETS 300 356-1 [19]
ITU-T Recommendation Q.763	ITU-T Recommendation Q.763 as modified by ETS 300 356-1 [19]
ITU-T Recommendation Q.764	ITU-T Recommendation Q.764 as modified by ETS 300 356-1 [19]
ITU-T Recommendation Q.850	ITU-T Recommendation Q.850 as modified by ETS 300 485 [40]
ITU-T Recommendation Q.931	ITU-T Recommendation Q.931 as modified by ETS 300 403-1 [39]
ITU-T Recommendation Q.932	ETS 300 196-1 [15]
ITU-T Recommendation Q.951.1	ETS 300 092-1 [6]
ITU-T Recommendation Q.951.2	ETS 300 093-1 [7]
ITU-T Recommendation Q.951.3	ETS 300 097-1 [8]
ITU-T Recommendation Q.951.4	ETS 300 098-1 [9]
ITU-T Recommendation Q.952	ETS 300 207-1 [16]
ITU-T Recommendation Q.953.2	ETS 300 141-1 [12]
ITU-T Recommendation Q.954.1	ETS 300 185-1 [13]
ITU-T Recommendation Q.954.2	ETS 300 188-1 [14]
ITU-T Recommendation Q.957	ETS 300 286-1 [18]

subclause 2.1.1.1, table 1/Q.699

Replace table 1/Q.699 by:

SETUP→		**IAM→**
Bearer capability information element		Transmission medium requirement parameter
Information transfer capability	Information transfer rate	
Speech	(NOTE)	*Speech*
3,1 kHz audio	(NOTE)	*3,1 kHz audio*
unrestricted digital information	*64 kbit/s unrestricted*	*64 kbit/s unrestricted*
unrestricted digital information with tones/announcements	*multirate: 2 × 64 kbit/s*	*2 × 64 kbit/s*
	multirate: 6 × 64 kbit/s	*384 kbit/s*
	multirate: 24 × 64 kbit/s	*1 536 kbit/s*
	multirate: 30 × 64 kbit/s	*1 920 kbit/s*
NOTE - A grey coloured cell means that the value is not significant.		

subclause 2.1.1.1, Called party number, note

Delete the note.

subclause 2.1.1.1, MLPP precedence

Delete the item about MLPP precedence.

subclause 2.1.2.5

Insert the following note at the beginning of subclause 2.1.2.5:

NOTE: Depending on national regulations, some networks may define categories of subscribers that have the ability to override the presentation restriction and have the connected party's ISDN number, and subaddress information (if any) presented (e.g. the police). The ability to override the presentation restriction and the protocol to support such a service is a national matter.

subclause 2.1.2.5, table 27/Q.699, sixth row and note 1

Delete note 1 and modify the sixth row as follows:

connected number i.e. ~~***option 1:***~~ ~~Type of number as received~~ ~~Numbering plan as received~~ ~~Presentation ind. *presentation restricted*~~ ~~Screening ind. as received~~ ~~Number digits no digit~~ ~~***option 2:***~~ Type of number *unknown* Numbering plan *unknown* Presentation ind. *presentation restricted* Screening ind. *network provided* Number digits no digit	*presentation restricted* ~~(NOTE 1)~~	(NOTE 2)

subclause 2.1.2.5, table 30/Q.699, note

Delete the note and all references to it.

subclause 2.1.2.12.1, table 41/Q.699, last row

Modify the last row as follows:

No message sent	100 1011 *Conference floating*

subclause 2.1.2.12.2, table 42/Q.699, last three rows

Modify the third row from the bottom ("Terminate the conference") as follows:

Terminate the conference	DISCONNECT	REL

Delete the two last rows ("Disconnect the served user" and "Call clearing by served user").

subclause 2.1.2.12.3, table 44/Q.699, last row

Delete the last row (receipt of the notification *Conference floating* in a NOTIFY message).

subclause 2.1.2.14, table 49/Q.699, note

Modify the note as follows:

NOTE: The above table provides examples of mapping. Another example of mapping is described in ETS 300 138-1 [11], annex C.

subclause 2.1.2.15.1, table 50/Q.699, note 1

Modify note 1 as follows:

NOTE 1: If there is no User-user information element in the SETUP message, the exchange ~~should~~ shall discard the user to user information possibly received afterwards from the access or from the ISUP side.“

subclause 2.1.2.15.2, table 54/Q.699

Replace table 54/Q.699 by:

DSS1 messages	**ISUP messages**
←DISCONNECT	←REL
Cause information element Value as received Facility information element UserUserService return error component *rejectedByUser*	Cause parameter Value *69 (requested facility not implemented)* or *29 (facility rejected)* Diagnostic *UUI indicators parameter's name*
←DISCONNECT (NOTE)	←ANM, CON, or REL prior active phase
Cause information element Value *69 (requested facility not implemented)* Facility information element UserUserService return error component *rejectedByUser*	No rejection or acceptance indication is received in the ANM, CON or REL message and No rejection or acceptance indication has already been received in a previous backward message (ACM or CPG)
NOTE - In case of receipt of an answer message (ANM) or a connect message (CON), a release message (REL) with the cause value No. 31 (*normal unspecified*) is sent to the remote exchange.	

subclause 2.1.2.15.3, table 59/Q.699

Replace table 59/Q.699 by:

DSS1 messages	ISUP messages
←DISCONNECT	←REL
Cause information element Value as received Facility information element UserUserService return error component *rejectedByUser*	Cause parameter Value *69 (requested facility not implemented)* or *29 (facility rejected)* Diagnostic *UUI indicators parameter's name*
←DISCONNECT	←REL
Cause information element Value *69 (requested facility not implemented)* Facility information element UserUserService return error component *rejectedByUser*	Cause parameter Value *88 (incompatible destination)* Diagnostic *UUI indicators parameter's name*
←DISCONNECT (NOTE)	←ACM, CPG with an alerting indication or REL prior active phase
Cause information element Value *69 (requested facility not implemented)* Facility information element UserUserService return error component *rejectedByUser*	No rejection or acceptance indication is received in the ACM, CPG or REL message and No rejection or acceptance indication has already been received in a previous backward message (ACM or CPG)
NOTE - In case of receipt of an address complete message (ACM) or a call progress message (CPG), a release message (REL) with the cause value No. 31 (*normal unspecified*) is sent to the remote exchange.	

subclause 2.1.2.15.4, table 68/Q.699

Replace table 68/Q.699 by:

DSS1 messages	ISUP messages
←DISCONNECT	←REL
Cause information element Value as received Facility information element UserUserService return error component *rejectedByUser*	Cause parameter Value *69 (requested facility not implemented)* or *29 (facility rejected)* Diagnostic *UUI indicators parameter's name*
←DISCONNECT (NOTE)	←ANM or CON
Cause information element Value *69 (requested facility not implemented)* Facility information element UserUserService return error component *rejectedByNetwork*	No rejection or acceptance indication is received in the ANM or CON message and No rejection or acceptance indication has already been received in a previous backward message (ACM or CPG)
←DISCONNECT (NOTE)	←REL prior active phase
Cause information element as received	No rejection or acceptance indication is received in the REL message and No rejection or acceptance indication has already been received in a previous backward message (ACM or CPG)
NOTE - In case of receipt of an answer message (ANM) or a connect message (CON), a release message (REL) with the cause value No. 31 (*normal unspecified*) is sent to the remote exchange.	

subclause 2.1.2.15.4, table 69/Q.699

Replace table 69/Q.699 by:

DSS1 messages	ISUP messages
←CONNECT, DISCONNECT (NOTE 1)	←ANM, CON or REL prior active phase
Facility information element UserUserService return error component *rejectedByUser* (NOTE 2)	User to user indicators parameter Type *response* Service 1 *not provided*
←CONNECT, DISCONNECT (NOTE 1)	←ANM, CON
Facility information element UserUserService return error component *rejectedByNetwork*	No rejection or acceptance indication is received in the ANM or CON message and No rejection or acceptance indication has already been received in a previous backward message (ACM or CPG)
←DISCONNECT (NOTE 1)	←REL prior active phase
Cause information element as received	No rejection or acceptance indication is received in the REL message and No rejection or acceptance indication has already been received in a previous backward message (ACM or CPG)
NOTE 1 - The correspondence between the ISUP message received and the DSS1 message sent to the calling user is described in § 2.1.1. Basic call. NOTE 2 - Since it is not possible to know if the rejection is due to the network or to the remote user, the default value *RejectedByUser* is used.	

subclause 2.1.2.15.4, table 71/Q.699

Modify table 71/Q.699 as follows:

DSS1 messages	ISUP messages
FACILITY→	FRJ (NOTE 1)→
Facility information element UserUserService return error component *rejectedByUser*, or *rejectedByNetwork* (NOTE 3)	User to user indicators parameter Type *response* Service 1 *no information* Service 2 *no information* Service 3 *not provided* Cause parameter Value *29 (facility rejected)* ~~*69 (requested facility not implemented)*~~
T1 expiry (NOTE 2)	FRJ (NOTE 1)→ User to user indicators parameter Type *response* Service 1 *no information* Service 2 *no information* Service 3 *not provided* Cause parameter Value *69 (requested facility not implemented)*
NOTE 1 - FRJ: Facility reject message. NOTE 2 - T1 start and normal stop are described in ETS 300 286-1 [18] ~~subclause 1.5.2.3/Q.957 [19]~~. NOTE 3 - The receipt of the error value *RejectedByNetwork* is only applicable at the T reference point.	

subclause 2.1.2.15, end

Add the following new subclause:

2.1.2.16 Malicious Call Identification (MCID)

There is no interworking requirement relating to the Malicious Call Identification (MCID) supplementary service.

2.1.2.17 Completion of Call to Busy Subscriber (CCBS)

Conditions for the transfer of CCBS information are described in ETS 300 359-1 [37] and are supposed to be satisfied hereafter.

NOTE: This subclause does not cover all interworking aspects of the service between UNI and NNI protocols. It is limited to the mapping of information between DSS1 and ISUP.

2.1.2.17.1 Coincident S and T reference point

- Receipt from the network of a CCBS available indication:

←DISCONNECT	**←REL**
Cause information element Cause value *17 (user busy)*, or *34 (no circuit/channel available)* Facility information element CallInfoRetain invoke component	Cause parameter Cause value *17 (user busy)*, or *34 (no circuit/channel available)* Diagnostic *CCBS possible*

- Table 1/CCBS -
Receipt of a CCBS available indication

- CCBS call establishment:

SETUP→	**IAM→**
Facility information element CCBSCall invoke component	Forward call indicators parameter ISDN user part preference indicator *ISDN user part required all the way* CCBS parameter CCBS call indicator *CCBS call*

- Table 2/CCBS -
CCBS call establishment

- Receipt of a REL message for the CCBS call:

<table>
<tr><th>←Message sent to the access</th><th>←Message received from the network</th></tr>
<tr><td>CCBS request retention option supported:
←DISCONNECT
Cause information element
Cause value
17 or 34 as received</td><td rowspan="2">←REL
Cause parameter
Cause value
17 (user busy), or
34 (no circuit/channel available)
Diagnostic
CCBS possible</td></tr>
<tr><td>CCBS request retention option not supported:
←DISCONNECT
Cause information element
Cause value
17 or 34 as received
Facility information element (NOTE 1)
CallInfoRetain invoke component</td></tr>
<tr><td>←DISCONNECT
Cause information element
Cause value
17 or 34 as received</td><td>←REL
Cause parameter
Cause value
17 (user busy), or
34 (no circuit/channel available)
No Diagnostic, or
Diagnostic
CCBS not possible</td></tr>
<tr><td>←DISCONNECT
Cause information element
Cause value
as received
←FACILITY (NOTE 2)
Facility information element
CCBSErase invoke component
eraseReason: basic-call-failed</td><td>←REL
Cause parameter
other coding than above</td></tr>
<tr><td colspan="2">NOTE 1 - The Facility information element with the CallInfoRetain invoke component is not sent if the conditions to activate the service are not satisfied (see ETS 300 359-1 [37] subclause 9.1.1).
NOTE 2 - The FACILITY message is sent using a bearer-independent transport mechanism (see ETS 300 359-1 [37] subclause 9.4.4.1)</td></tr>
</table>

- Table 3/CCBS -
Receipt of a call failure indication

2.1.2.17.2 T reference point

- Receipt from the network of a CCBS available indication:

←DISCONNECT	←REL
Cause information element Cause value *17 (user busy)*, or *34 (no circuit/channel available)* Facility information element CCBS-T-Available invoke component	Cause parameter Cause value *17 (user busy)*, or *34 (no circuit/channel available)* Diagnostic *CCBS possible*

- Table 4/CCBS -
Receipt of a CCBS available indication

- CCBS call establishment:

SETUP→	IAM→
Facility information element CCBS-T-Call invoke component	Forward call indicators parameter ISDN user part preference indicator *ISDN user part required all the way* CCBS parameter CCBS call indicator *CCBS call*

- Table 5/CCBS -
CCBS call establishment

2.1.2.18 Explicit Call Transfer (ECT)

For this service, the separation "outgoing call" and "incoming call" does not apply.

This subclause describes the interworking at the originating local exchange (i.e. the exchange where the served user is connected to).

The terminology used in this subclause is defined in ETS 300 356-14 [31] and ETS 300 369-1 [38].

2.1.2.18.1 Coincident S and T reference point

2.1.2.18.1.1 Loop prevention procedure

Message sent to the access	Message received from the network
←FACILITY - Facility information element EctExecute return result component or ExplicitEctExecute return result component	←LOOP PREVENTION (response) *Call Transfer Reference* Response indicator: Call A-B with *no loop exists* and Call A-C with*:* *insufficient information* or *no loop exists* or *simultaneous transfer* or Call A-C with *no loop exists* and Call A-B with*:* *insufficient information* or *no loop exists* or *simultaneous transfer*
←FACILITY - Facility information element EctExecute return error component *notAvailable* or ExplicitEctExecute return error component *notAvailable*	←LOOP PREVENTION (response) *Call Transfer Reference* Response indicator: Call A-B with*:* *insufficient information* or *simultaneous transfer* and Call A-C with: *insufficient information* or *simultaneous transfer* or Call A-C with*:* *insufficient information* or *simultaneous transfer* and Call A-B with: *insufficient information* or *simultaneous transfer*

Table 1/ECT
Loop prevention procedure

2.1.2.18.1.2 Service invocation

- Case 1: Both calls A-B and A-C are in active phase:

Message received from the served user (user A)	Message sent to the remote user B Call A-B in active phase	Message sent to the remote user C Call A-C in active phase
FACILITY→ Facility information element EctExecute invoke component or ExplicitEctExecute invoke component	FAC (NOTE)→ Service activation *call transfer* Generic notification indicator *call transfer, active*	FAC (NOTE)→ Service activation *call transfer* Generic notification indicator *call transfer, active*
NOTE - The Facility message (FAC) sent to the remote users B and C may contain the call transfer number parameter as well: see ETS 300 356-14 [31] subclause 9.2.1.		

- Table 2/ECT -
ECT invocation

- Case 2: Call A-B is in active phase and call A-C is in alerting phase:

Message received from the served user (user A)	Message sent to the remote user B Call A-B in active phase	Message sent to the remote user C Call A-C in alerting phase
FACILITY→ Facility information element EctExecute invoke component or ExplicitEctExecute invoke component	FAC→ Service activation *call transfer* Generic notification indicator *call transfer, alerting*	CPG (NOTE)→ Generic notification indicator *call transfer, active*
NOTE - The Call Progress message (CPG) sent to the remote user C may contain the call transfer number parameter as well: see ETS 300 356-14 [31] subclause 9.2.1.		

- Table 3/ECT -
ECT invocation

2.1.2.18.2. T reference point

2.1.2.18.2.1. Loop prevention procedure

- Invocation of the loop prevention procedure by the private network:

Message received from the access	Message sent in the network
FACILITY→ Facility information element EctLoopTest invoke component *CallTransferIdentity*	LOOP PREVENTION (request)→ *Call Transfer Reference*

- Table 4/ECT -
Invocation of the loop prevention procedure by the private network

- Response of a loop prevention procedure invocation by the public network:

Message sent to the access	Message received from the network
←FACILITY	←LOOP PREVENTION (response)
-	*Call Transfer Reference*
Facility information element EctLoopTest return result component *insufficientInformation* or *noLoopExists* or *simultaneousTransfer*	Response indicator: *insufficient information* or *no loop exists* or *simultaneous transfer*

- Table 5/ECT -
Response of a loop prevention procedure invocation by the public network

2.1.2.18.2.2. Service invocation

- Receipt of a notification from the access:

Message received from the access	Message sent in the network
FACILITY→ Facility information element EctInform invoke component *alerting*	***- Call in alerting phase:*** **CPG→** Event information parameter *Progress* Generic notification indicator parameter *Call transfer, alerting*
	- Call in active phase: **FAC→** Service activation parameter *Call transfer* Generic notification indicator parameter *Call transfer, alerting*
FACILITY→ Facility information element EctInform invoke component *active* redirectionNumber (NOTE 1) Facility information element (NOTE 2) SubaddressTransfer invoke component	***- Call in alerting phase:*** **CPG→** Event information parameter *Progress* Generic notification indicator parameter *Call transfer, active* Call transfer number parameter (NOTE 1) Access transport parameter (NOTE 2) Facility information element SubaddressTransfer invoke component
	- Call in active phase: **FAC→** Service activation parameter *Call transfer* Generic notification indicator parameter *Call transfer, active* Call transfer number parameter (NOTE 1) Access transport parameter (NOTE 2) Facility information element SubaddressTransfer invoke component
NOTE 1 - The Call transfer number parameter is not sent if the EctInform invoke component does not contain the redirectionNumber parameter. NOTE 2 - The Access transport parameter is not sent if the SubaddressTransfer invoke component is not received.	

- Table 6/ECT -
Receipt of a notification from the access

- Receipt of the remote user's subaddress from the network:

←FACILITY	←FAC
Facility information element SubaddressTransfer invoke component	Service activation parameter *Call transfer* Access transport parameter Facility information element SubaddressTransfer invoke component

- Table 7/ECT -
Receipt of the remote user's subaddress from the network

- Receipt of the remote user's subaddress from the access:

FACILITY→	FAC→
Facility information element SubaddressTransfer invoke component	Service activation parameter *Call transfer* Access transport parameter Facility information element SubaddressTransfer invoke component

- Table 8/ECT -
Receipt of the remote user's subaddress from the access

subclause 2.2

Delete subclause 2.2. It is outside the scope of this ETS.

subclause 3.1.1.3, OPTIONAL PARAMETERS, Optional backward call indicators, bit D

Delete bit D (MLPP user indicator).

subclause 3.1.2.3

Insert the following note at the beginning of subclause 3.1.2.3:

NOTE: Depending on national regulations, some networks may define categories of subscribers that have the ability to override the presentation restriction and have the calling party's ISDN number, and subaddress information (if any) presented (e.g. the police). The ability to override the presentation restriction and the protocol to support such a service is a national matter.

subclause 3.1.2.3, table 92/Q.699, sixth row, notes 1 and 2

Delete note 2 and modify the sixth row as follows:

presentation restricted ~~(NOTE 2)~~	NOTE 3	calling party number i.e. ~~***option 1:***~~ ~~Type of number as received~~ ~~Numbering plan as received~~ ~~Presentation ind. *presentation restricted*~~ ~~Screening ind. as received~~ ~~Number digits no digit~~ ~~***option 2:***~~ Type of number *unknown* Numbering plan *unknown* Presentation ind. *presentation restricted* Screening ind. *network provided* Number digits no digit

Modify note 1 as follows:

NOTE 1: If the two calling party number delivery option does not apply:
only one Calling party number information element is sent on DSS1 side~~. If the generic number is used~~, see table 94/Q.699.

If the two calling party number delivery option applies:
two Calling party number information elements are sent on DSS1 side: the first one coded according to the generic number parameter (see table 94/Q.699), the second one according to the calling party number parameter (see table 93/Q.699).~~ The order in which the Calling party number information elements appear in the SETUP message is a network option.~~

subclause 3.1.2.5.2, table 97/Q.699, eleventh row, third column

Modify eleventh row, third column as follows:

Connected number parameter				*subscriber nbr*		
Number provided by the user	001 *ISDN numbering plan*	~~As received~~ 000 0011 *national nbr*, or 000 0100 *international nbr*	01 *user provided, verified and passed*	*national nbr* or	*ISDN/telephony numbering plan* or	Correct complete number
No generic number parameter indicating *additional connected number* is sent				*international number*	*unknown*	

subclause 3.1.2.3, table 95/Q.699, note

Delete the note and all references to it.

subclause 3.1.2.8.2

Replace "For further study" by the following text:

IAM→	SETUP→
Redirection information parameter	**Content**
Redirection counter = 1	Redirecting number information element (see table 2/CD)
Redirection counter > 1	1st Redirecting number information element (see table 2/CD) 2nd Redirecting number information element (see table 3/CD)

- Table 1/CD -
Redirecting number information element sent to the called user

Original called number parameter	**Redirecting number**
Address presentation restricted indicator	**information element**
presentation allowed	Type of number (NOTES 1, 5) Numbering plan identification (NOTES 2, 5) Presentation indicator: *presentation allowed* Reason of diversion: (NOTE 3) Number digits: (NOTES 4, 5)
presentation restricted	Type of number: *unknown* Numbering plan identification: *unknown* Presentation indicator: *presentation restricted* Reason of diversion: (NOTE 3) No Number digits
address not available or No Original called number parameter	Type of number: *unknown* Numbering plan identification: *unknown* Presentation indicator: *number not available due to interworking* Reason of diversion: (NOTE 3) No Number digits

NOTE 1 - *National* or *international* as received in the Nature of address indicator of the Original called number parameter.

NOTE 2 - *ISDN numbering plan* as received in the Numbering plan indicator of the Original called number parameter.

NOTE 3 - If the redirection counter is set to 1:
as received in the Redirecting reason indicator of the Redirection information parameter.

If the redirection counter is greater than 1:
unknown.

NOTE 4 - According to the Address signals of the Original called number parameter.

NOTE 5 - As a network provider option the prefix is added to the number. In this case the Numbering plan identification and the Type of number are coded *unknown.*

- Table 2/CD -
Coding of the first Redirecting number information element

Redirecting number parameter **Address presentation restricted indicator**	**Redirecting number** **information element**
presentation allowed	Type of number (NOTES 1, 5) Numbering plan identification (NOTES 2, 5) Presentation indicator: *presentation allowed* Reason of diversion: (NOTE 3) Number digits: (NOTES 4, 5)
presentation restricted	Type of number: *unknown* Numbering plan identification: *unknown* Presentation indicator: *presentation restricted* Reason of diversion: (NOTE 3) No Number digits
address not available or No Redirecting number parameter	Type of number: *unknown* Numbering plan identification: *unknown* Presentation indicator: *number not available due to interworking* Reason of diversion: (NOTE 3) No Number digits

NOTE 1 - *National* or *international* as received in the Nature of address indicator of the Redirecting number parameter.

NOTE 2 - *ISDN numbering plan* as received in the Numbering plan indicator of the Redirecting number parameter.

NOTE 3 - As received in the Redirecting reason indicator of the Redirecting number parameter.

NOTE 4 - According to the Address signals of the Redirecting number parameter.

NOTE 5 - As a network provider option the prefix is added to the number. In this case the Numbering plan identification and the Type of number are coded *unknown*.

- Table 3/CD -
Coding of the second Redirecting number information element (if any)

subclause 3.1.2.12.1, table 107/Q.699, last row

Modify the last row as follows:

100 1011 *Conference floating*	No message sent

subclause 3.1.2.12.2, table 108/Q.699, last three rows

Modify the third row from the bottom ("Terminate the conference") as follows:

REL	DISCONNECT	**Terminate the conference**

Delete the two last rows ("Disconnect the served user" and "Call clearing by served user").

subclause 3.1.2.12.3, table 109/Q.699, last row

Delete the last row (receipt of the notification *Conference floating* in a NOTIFY message).

subclause 3.1.2.14, note

Modify the note as follows:

NOTE: The above table provides examples of mapping. Another example of mapping is described in ETS 300 138-1 [11],annex C.

subclause 3.1.2.15.1, last paragraph

Modify note 1 as follows:

If there is no User-user information element in the SETUP message, the exchange ~~should~~ shall discard the user to user information possibly received afterwards from the access or from the ISUP side.“

subclause 3.1.2.15.2, table 120/Q.699

Modify table 120/Q.699 as follows:

ISUP messages	DSS1 messages
←REL	←DISCONNECT or RELEASE COMPLETE
Cause parameter Value *29 (facility rejected)* ~~*69 (requested facility not implemented)*~~ Diagnostic *UUI indicators parameter's name*	Cause information element Value *29 (facility rejected)* ~~*69 (requested facility not implemented)*~~ Facility information element UserUserService return error component *rejectedByUser*, or *rejectedByNetwork* (NOTE 4)
←REL	DISCONNECT, RELEASE or RELEASE COMPLETE prior active state ←
Cause parameter Value as received User to user indicators parameter Type *response* Service 1 *not provided* Service 2 *no information* (NOTE 1) Service 3 *no information* (NOTE 1)	Cause information element Value other than *29 (facility rejected)* ~~*69 (requested facility not implemented)*~~ Facility information element UserUserService return error component *rejectedByUser*, or *rejectedByNetwork* (NOTE 4)
Service 1 preferred: ←ACM, CPG, ANM, or CON (NOTE 2) User to user indicators parameter Type *response* Service 1 *not provided* Service 2 *no information* (NOTE 1) Service 3 *no information* (NOTE 1)	←ALERTING or CONNECT (NOTE 3) Facility information element UserUserService return error component *rejectedByUser*, or *rejectedByNetwork* (NOTE 4)
Service 1 required: ←REL Cause parameter Value *69 (requested facility not implemented)* Diagnostic *UUI indicators parameter's name*	
NOTE 1 - This field may be coded in a different way if a service 2 (respectively service 3) acceptance or rejection indication have to be carried: see tables 122, 124, 126, 132/Q.699. NOTE 2 - The correspondence between the DSS1 message received from the called user and the DSS1 message sent is described in subclause 3.1.1. NOTE 3 - In case of call contention, only the indication possibly received in the CONNECT message is taken into account. NOTE 4 - The receipt of the error value *rejectedByNetwork* is only applicable at the T reference point.	

subclause 3.1.2.15.3, table 124/Q.699

Modify table 124/Q.699 as follows:

ISUP messages	DSS1 messages
←REL	←DISCONNECT or RELEASE COMPLETE
Cause parameter Value *29 (facility rejected)* ~~*69 (requested facility not implemented)*~~ Diagnostic *UUI indicators parameter's name*	Cause information element Value *29 (facility rejected)* ~~*69 (requested facility not implemented)*~~ Facility information element UserUserService return error component *rejectedByUser*, or *rejectedByNetwork* (NOTE 4)
←REL	DISCONNECT, RELEASE or RELEASE COMPLETE prior active state ←
Cause parameter Value as received User to user indicators parameter Type *response* Service 1 *no information* (NOTE 1) Service 2 *not provided* Service 3 *no information* (NOTE 1)	Cause information element Value other than *29 (facility rejected)* ~~*69 (requested facility not implemented)*~~ Facility information element UserUserService return error component *rejectedByUser*, or *rejectedByNetwork* (NOTE 4)
Service 2 preferred: ←ACM or CPG (NOTE 2) User to user indicators parameter Type *response* Service 1 *no information* (NOTE 1) Service 2 *not provided* Service 3 *no information* (NOTE 1)	←ALERTING Facility information element UserUserService return error component *rejectedByUser*, or *rejectedByNetwork* (NOTE 4)
Service 2 required: ←REL Cause parameter Value *69 (requested facility not implemented)* Diagnostic *UUI indicators parameter's name*	
Service 2 required ←REL Cause parameter Value 88 *(destination incompatible)* Diagnostic *UUI indicators parameter's name*	point-to-multipoint arrangement
Service 2 preferred ←ACM or CPG (NOTE 3) User to user indicators parameter Type *response* Service 1 *no information* (NOTE 1) Service 2 *not provided* Service 3 *no information* (NOTE 1)	

NOTE 1 - This field may be coded in a different way if a service 1 (respectively service 3) acceptance or rejection indication have to be carried: see tables 118, 120, 126, 132/Q.699.

NOTE 2 - The mapping of an ALERTING message into an Address Complete (ACM) or a Call Progress (CPG) message is described in subclause 3.1.1.

NOTE 3 - Message sent upon receipt of the first ALERTING message from the called user.

NOTE 4 - The receipt of the error value *rejectedByNetwork* is only applicable at the T reference point.

subclause 3.1.2.15.4, table 132/Q.699

Modify table 132/Q.699 as follows:

ISUP messages	DSS1 messages
←EL	←DISCONNECT or RELEASE COMPLETE
Cause parameter Value *29 (facility rejected)* ~~*69 (requested facility not implemented)*~~ Diagnostic *UUI indicators parameter's name*	Cause information element Value *29 (facility rejected)* ~~*69 (requested facility not implemented)*~~ Facility information element UserUserService return error component *rejectedByUser*, or *rejectedByNetwork* (NOTE 3)
←REL	DISCONNECT, RELEASE or RELEASE COMPLETE prior active state ←
Cause parameter Value as received User to user indicators parameter Type *response* Service 1 *no information* (NOTE 1) Service 2 *no information* (NOTE 1) Service 3 *not provided*	Cause information element Value other than *29 (facility rejected)* ~~*69 (requested facility not implemented)*~~ Facility information element UserUserService return error component *rejectedByUser*, or *rejectedByNetwork* (NOTE 3)
Service 3 preferred: ←ANM or CON (NOTE 2) User to user indicators parameter Type *response* Service 1 *no information* (NOTE 1) Service 2 *no information* (NOTE 1) Service 3 *not provided*	←CONNECT Facility information element UserUserService return error component *rejectedByUser*, or *rejectedByNetwork* (NOTE 3)
Service 3 required: ←REL Cause parameter Value *69 (requested facility not implemented)* Diagnostic *UUI indicators parameter's name*	
NOTE 1 - This field may be coded in a different way if a service 1 (respectively service 2) acceptance or rejection indication have to be carried: see tables 118, 120, 122, 124/Q.699. NOTE 2 - The mapping of a CONNECT message into an Answer (ANM) or a Connect (CON) message is described in subclause 3.1.1. NOTE 3 - The receipt of the error value *rejectedByNetwork* is only applicable at the T reference point.	

subclause 3.1.2.15.4, table 133/Q.699

Modify table 133/Q.699 as follows:

<table>
<tr><th>ISUP messages</th><th>DSS1 messages</th></tr>
<tr><td>←FRJ (NOTE 1)</td><td>←FACILITY</td></tr>
<tr><td>User to user indicators parameter
Type response
Service 1 no information
Service 2 no information
Service 3 not provided
Cause parameter
Value <u>29 (facility rejected)</u>
<s>69 (requested facility not implemented)</s></td><td>Facility information element
UserUserService return error component
rejectedByUser<u>, or
rejectedByNetwork (NOTE 3)</u></td></tr>
<tr><td>←FRJ (NOTE 1)
User to user indicators parameter
Type response
Service 1 no information
Service 2 no information
Service 3 not provided
Cause parameter
Value 69 (requested facility not implemented)</td><td>T1 expiry (NOTE 2)</td></tr>
<tr><td colspan="2">NOTE 1 - FRJ: Facility reject message.
NOTE 2 - T1 start and normal stop are described in ETS 300 286-1 [18] <s>subclause 1.5.2.3/Q.957 [19]</s>.
<u>NOTE 3 - The receipt of the error value rejectedByNetwork is only applicable at the T reference point.</u></td></tr>
</table>

subclause 3.1.2.15, end

Add the following new subclauses:

3.1.2.16 Malicious Call Identification (MCID)

There is no interworking requirement relating to the Malicious Call Identification (MCID) supplementary service.

3.1.2.17 Completion of Call to Busy Subscriber (CCBS)

Conditions for the transfer of CCBS information are described in ETS 300 359-1 [37] and are supposed to be satisfied hereafter.

NOTE: This subclause does not cover all interworking aspects of the service between UNI and NNI protocols. It is limited to the mapping of information between DSS1 and ISUP.

3.1.2.17.1 Coincident S and T reference point

- Receipt of a user busy indication:

←REL	←Call clearing message
Cause parameter Cause value *17 (user busy)*, or *34 (no circuit/channel available)* Diagnostic *CCBS possible*	Cause information element Cause value *17 (user busy)*, or *34 (no circuit/channel available)*

- Table 6/CCBS -
Receipt of a user busy indication

- CCBS call establishment:

IAM→	SETUP→
CCBS parameter CCBS call indicator *CCBS call*	Coded as for basic call (see subclause 3.1.1)

- Table 7/CCBS -
CCBS call establishment

3.1.2.17.2 T reference point

- Receipt from the user of a CCBS available indication:

←REL	←Call clearing message
Cause parameter Cause value *17 (user busy)*, or *34 (no circuit/channel available)* Diagnostic *CCBS possible*	Cause information element Cause value *17 (user busy)*, or *34 (no circuit/channel available)* Facility information element CCBS-T-Available invoke component

- Table 8/CCBS -
Receipt of a CCBS available indication

- CCBS call establishment:

IAM→	SETUP→
CCBS parameter CCBS call indicator *CCBS call*	Facility information element CCBS-T-Call invoke component

- Table 9/CCBS -
CCBS call establishment

3.1.2.18 Explicit Call Transfer (ECT)

For this service, the separation "outgoing call" and "incoming call" does not apply.

This subclause describes the interworking at the destination local exchange (i.e. the exchange where the remote user(s) is(are) connected to).

The terminology used in this subclause is defined in ETS 300 356-14 [31] and ETS 300 369-1 [38].

3.1.2.18.1 Coincident S and T reference point

3.1.2.18.1.1 Messages received from the network

3.1.2.18.1.1.1 Receipt of a FAC message

Upon receipt of a Facility message (FAC) with the Service Activation parameter coded *Call transfer*, three cases are possible:

a) FAC with the Generic notification indicator parameter coded *Call transfer, alerting*;

b) FAC with the Generic notification indicator parameter coded *Call transfer, active*;

c) FAC without the Generic notification indicator parameter, but with the Access Transport parameter containing a Facility information element with a SubaddressTransfer Invoke component.

a) FAC with the Generic notification indicator parameter coded *Call transfer, alerting*:

Message received from the network	**Message send to the user**	
	Call in active phase	**Call in alerting phase (NOTE)**
FAC→ Service activation parameter *Call transfer* Generic notification indicator parameter *Call transfer, alerting*	**FACILITY→** Notification indicator information element *Call transfer, alerting* Facility information element RequestSubaddress invoke component	**NOTIFY→** Notification indicator information element *Call transfer, alerting*
NOTE: This can only occur in case of interaction of ECT with ECT.		

- Table 9/ECT -
FAC with a "Call transfer, alerting" notification

The user can send his subaddress in reply to the request contained in the FACILITY message. It is then received in a FACILITY message: see subclause 3.1.2.18.1.2.

b) FAC with the Generic notification indicator parameter coded *Call transfer, active*:

Upon receipt of such a message, two cases are possible:

- this notification completes a previous *Call transfer, alerting* notification (see table 10/ECT);
- this notification does not complete a previous *Call transfer, alerting* notification (see table 11/ECT).

<table>
<tr><th colspan="2">FAC completing a Call transfer, alerting notification→</th><th>Message sent to the user→
Call in active or
alerting (NOTE 1) phase</th></tr>
<tr><td rowspan="2">Service activation parameter
Call transfer

Generic notification indicator parameter
Call transfer, active</td><td>Call transfer number parameter
Address presentation restricted indicator
presentation allowed

Access Transport parameter
Connected Subaddress information element
or
Facility information element
SubaddressTransfer invoke component</td><td>FACILITY→
Notification indicator information element
Call transfer, active

Redirection nb. information element (cf. table 12/ECT)

Facility information element
SubaddressTransfer invoke component</td></tr>
<tr><td>Other cases
(NOTE 2)</td><td>NOTIFY→
Notification indicator information element
Call transfer, active

Redirection nb. information element (cf. table 12/ECT)</td></tr>
<tr><td colspan="3">NOTE 1: This can only occur in case of interaction of ECT with ECT.

NOTE 2: Other cases:
- no subaddress in the Facility message (FAC); or
- Address presentation restricted indicator of the Transfer number parameter coded presentation restricted; or
- no Transfer number parameter present in the Facility message (FAC).</td></tr>
</table>

- Table 10/ECT -
FAC with a "Call transfer, active" notification completing a "Call transfer, alerting" notification

FAC not completing a	**Message sent to the user**	
***Call transfer, alerting* notification**	**Call in active phase**	**Call in alerting phase (NOTE 1)**
FAC→	**FACILITY→**	**NOTIFY→**
Service activation parameter *Call transfer* Generic notification indicator parameter *Call transfer, active* Call transfer number parameter (NOTE 2)	Notification indicator information element *Call transfer, active* Facility information element RequestSubaddress invoke component Redirection number information element (see table 12/ECT)	Notification indicator information element *Call transfer, active* Redirection number information element (see table 12/ECT)
NOTE 1: This can only occur in case of interaction of ECT with ECT. NOTE 2: The Call transfer number parameter may be absent.		

- Table 11/ECT -
FAC with a "Call transfer, active" notification not completing a "Call transfer, alerting" notification

The user can send his subaddress in reply to the request contained in the FACILITY message. It is then received in a FACILITY message: see subclause 3.1.2.18.1.2.

The coding of the Redirection Number information element sent in the NOTIFY or FACILITY message (see tables 10/ECT and 11/ECT) is described in table 12/ECT:

Call transfer number parameter	Redirection number information element
absent	Type of number *unknown* Numbering plan *unknown* Presentation indicator *not available due to interworking* Number digits No digit sent
Address presentation restricted indicator coded *presentation restricted*	Type of number *unknown* Numbering plan *unknown* Presentation indicator *presentation restricted* Number digits No digit sent
Address presentation restricted indicator coded *presentation allowed*	Type of number (NOTE) as received in the Nature of address indicator Numbering plan as received in the Numbering plan indicator Presentation indicator *presentation allowed* Number digits digits received in the Call transfer number
NOTE: As a network option, the type of number may be coded *unknown* when a prefix is added to the number.	

- Table 12/ECT -
Coding of the Redirection number information element

c) FAC with the remote user's subaddress:

Message received from the network	Message sent to the user Call in active or alerting phase
FAC→	**FACILITY→**
Service activation parameter Call transfer Access transport parameter Facility information element SubaddressTransfer invoke component	Facility information element SubaddressTransfer invoke component

- Table 13/ECT -
FAC with the remote user's subaddress

NOTE: The case of a Facility message (FAC) with a subaddress and a "Call transfer, active" notification is described in table 10/ECT.

3.1.2.18.1.1.2 Receipt of a CPG message

This subclause applies only for a call in alerting phase.

Two cases are possible:

a) CPG with the Generic notification indicator parameter coded *Call transfer, active*;

b) CPG with the Generic notification indicator parameter coded *Call transfer, alerting*.

a) CPG with the Generic notification indicator parameter coded *Call transfer, active*:

Upon receipt of such a message, two cases are possible:

- this notification completes a previous *Call transfer, alerting* notification (see table 14/ECT);
- this notification does not complete a previous *Call transfer, alerting* notification (see table 15/ECT).

<table>
<tr><th colspan="2">CPG completing a Call transfer, alerting notification→</th><th>Message sent to the user→
Call in active (NOTE 1) or alerting phase</th></tr>
<tr><td rowspan="2">Generic notification indicator parameter
Call transfer, active</td><td>Call transfer number parameter
Address presentation restricted indicator
presentation allowed

Access Transport parameter
Connected Subaddress information element
or
Facility information element
SubaddressTransfer invoke component</td><td>FACILITY→
Notification indicator information element
Call transfer, active

Redirection nb. information element (see table 12/ECT)

Facility information element
SubaddressTransfer invoke component</td></tr>
<tr><td>Other cases
(NOTE 2)</td><td>NOTIFY→
Notification indicator information element
Call transfer, active

Redirection nb. information element (see table 12/ECT)</td></tr>
<tr><td colspan="3">NOTE 1: This can only occur in case of interaction of ECT with ECT.

NOTE 2: Other cases:
- no subaddress in the Call Progress message (CPG); or
- Address presentation restricted indicator of the Transfer number parameter coded presentation restricted; or
- no Transfer number parameter present in the Facility message (FAC).</td></tr>
</table>

- Table 14/ECT -
CPG with a "Call transfer, active" notification completing a "Call transfer, alerting" notification

CPG not completing a *Call transfer, alerting* notification	**Message sent to the user Call in alerting phase**
CPG→	**NOTIFY→**
Generic notification indicator parameter *Call transfer, active*	Notification indicator information element *Call transfer, active*
Call transfer number parameter (NOTE)	Redirection number information element (see table 12/ECT)
NOTE: The Call transfer number parameter may be absent.	

- Table 15/ECT -
CPG with a "Call transfer, active" notification not completing a "Call transfer, alerting" notification

The coding of the Redirection number information element is described in table 12/ECT.

b) CPG with the Generic notification indicator parameter coded *Call transfer, alerting*:

Message received from the network	**Message send to the user Call in alerting phase**
CPG→	**NOTIFY→**
Generic notification indicator parameter *Call transfer, alerting*	Notification indicator information element *Call transfer, alerting*

- Table 16/ECT -
CPG with a "Call transfer, alerting" notification

3.1.2.18.1.2 Messages received from the local user

The user can send his subaddress in reply to the request contained in the FACILITY message sent by the network. It is then received in a FACILITY message:

Message sent in the network	**Message received from the user**
←FAC	**←FACILITY**
Service activation parameter *Call transfer* Access transport parameter Facility information element SubaddressTransfer invoke component	Facility information element SubaddressTransfer invoke component

- Table 17/ECT -
FACILITY with the local user's subaddress

3.1.2.18.2 T reference point

3.1.2.18.2.1 Loop prevention procedure

- Invocation of the loop prevention procedure by the public network:

Message received from the network	Message sent to the access
LOOP PREVENTION (request) →	FACILITY→
Call Transfer Reference	Facility information element EctLoopTest invoke component CallTransferIdentity

- Table 18/ECT -
Invocation of the loop prevention procedure by the public network

- Response of a loop prevention invocation by the private network:

Message sent in the network	Message received from the access
←LOOP PREVENTION (response) *Call Transfer Reference* Response indicator: *insufficient information* or *no loop exists* or *simultaneous transfer*	←FACILITY - Facility information element EctLoopTest return result component *insufficientInformation* or *noLoopExists* or *simultaneousTransfer*
←LOOP PREVENTION (response) *Call Transfer Reference* Response indicator: *insufficient information*	←FACILITY - Facility information element EctLoopTest return error component *notAvailable*
-	←FACILITY Facility information element EctLoopTest reject component

- Table 19/ECT -
Response of a loop prevention invocation by the private network

3.1.2.18.2.2 Service invocation: Messages received from the network

3.1.2.18.2.2.1 Receipt of a FAC message

Upon receipt of a Facility message (FAC) with the Service Activation parameter coded *Call transfer*, three cases are possible:

a) FAC with the Generic notification indicator parameter coded *Call transfer, alerting*;

b) FAC with the Generic notification indicator parameter coded *Call transfer, active*;

c) FAC without the Generic notification indicator parameter, but with the Access Transport parameter containing a Facility information element with a SubaddressTransfer Invoke component.

a) FAC with the Generic notification indicator parameter coded *Call transfer, alerting*:

FAC→	FACILITY→
Service activation parameter *Call transfer* Generic notification indicator parameter *Call transfer, alerting*	Facility information element EctInform invoke component *alerting*

- Table 20/ECT -
FAC with a "Call transfer, alerting" notification

b) FAC with the Generic notification indicator parameter coded *Call transfer, active*:

FAC→		FACILITY→
Service activation parameter *Call transfer* Generic notification indicator parameter *Call transfer, active*	Call transfer number parameter Address presentation restricted indicator *presentation allowed* Access Transport parameter Connected Subaddress information element or Facility information element SubaddressTransfer invoke component	Facility information element EctInform invoke component *active* redirectionNumber Facility information element SubaddressTransfer invoke component
	Other cases (NOTE)	Facility information element EctInform invoke component *active* redirectionNumber

NOTE: Other cases:
- no subaddress in the Facility message (FAC); or
- Address presentation restricted indicator of the Transfer number parameter coded *presentation restricted*; or
- no Transfer number parameter present in the Facility message (FAC).

- Table 21/ECT -
FAC with a "Call transfer, active" notification

c) FAC with the remote user's subaddress:

FAC→	FACILITY→
Service activation parameter *Call transfer* Access transport parameter Facility information element SubaddressTransfer invoke component	Facility information element SubaddressTransfer invoke component

- Table 22/ECT -
FAC with the remote user's subaddress

NOTE: The case of a Facility message (FAC) with a subaddress and a "Call transfer, active" notification is described in table 21/ECT.

3.1.2.18.2.2.2 Receipt of a CPG message

This subclause applies only for a call in alerting phase.

Two cases are possible:

a) CPG with the Generic notification indicator parameter coded *Call transfer, active*;

b) CPG with the Generic notification indicator parameter coded *Call transfer, alerting*.

a) CPG with the Generic notification indicator parameter coded *Call transfer, active*:

CPG→		**FACILITY→**
Generic notification indicator parameter *Call transfer, active*	Call transfer number parameter Address presentation restricted indicator *presentation allowed* Access Transport parameter Connected Subaddress information element or Facility information element SubaddressTransfer invoke component	Facility information element EctInform invoke component *active* redirectionNumber Facility information element SubaddressTransfer invoke component
	Other cases (NOTE)	Facility information element EctInform invoke component *active* redirectionNumber
NOTE: Other cases: - No subaddress in the Call Progress message (CPG); or - Address presentation restricted indicator of the Transfer number parameter coded *presentation restricted*; or - No Transfer number parameter present in the Call Progress message (CPG).		

- Table 23/ECT -
CPG with a "Call transfer, active" notification

b) CPG with the Generic notification indicator parameter coded *Call transfer, alerting*:

CPG→	**FACILITY→**
Generic notification indicator parameter *Call transfer, alerting*	Facility information element EctInform invoke component *alerting*

- Table 24/ECT -
CPG with a "Call transfer, alerting" notification

3.1.2.18.2.3 Service invocation: Messages received from the local user

A subaddress can be received in response to the notification sent by the network. It is then received in a FACILITY message:

←FAC	←FACILITY
Service activation parameter *Call transfer* Access transport parameter Facility information element SubaddressTransfer invoke component	Facility information element SubaddressTransfer invoke component

- Table 25/ECT -
FACILITY with the local user's subaddress

subclause 3.2

Delete subclause 3.2. It is outside the scope of this ETS.

annex A

Annex A has the status of an informative annex.

clause A.3

Delete clause A.3. It is outside the scope of this ETS.

clause A.4

Delete clause A.4. It is outside the scope of this ETS.

History

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