
ND1007:2007/01

TSG/SPEC/007
ISDN User Part (ISUP)

0.0.2 Normative Information

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0.0.4 History

Revision	Date of Issue	Updated By	Description
Issue 2.1	April 1998	PNO-ISC Editors	Approved by PNO-IG
Issue 2.2	March 1999	Simon Sporton, Vodafone	New §§6,14,21,24,26 and 27 included Inclusion of items from Corrigendum 1 to Issue 2.1 Corrected ETSI modifications to ITU-T Align with new CLI CoP Minor editorial changes
Issue 2.3	December 1999	Simon Sporton, Vodafone	New §23 included
Issue 2.4	July 2000	Simon Sporton, Vodafone	Revised §§2,3 and 8
Issue 3.0	July 2001	Simon Sporton, Vodafone	Updated throughout to refer to latest ITU-T recommendations and ETSI ISUP Specifications, and various technical enhancements to the protocol. New §9 for ACR New §12 for CCNR New §20 for Indirect Access New §22 for Carrier Preselection
Issue 3.1	October 2004	Eric Rogers BT	Section 4: Alignment of the text describing Automatic Congestion Control with that contained in the UK BICC Specification Section 7: Clarification of the handling of the Presentation Number parameter. Section 8: Incorporation of previously agreed changes. Section 9: Additional clarifications Other Sections: Minor editorial changes
Issue 3.2	April 2006	Dave Maple, BT	Added new Section 25, and modified Sections 0 & 1 to show this.
Issue 3.3	January 2007	Eric Rogers BT	New section 24 added and Sections 0 & 1 modified to show this change Section 25 Annex A incorporated into Section 3 Section 25 Annex B moved to TSG/SPEC/008 Section 10.4.2.2.1, updated References to PNO-ISC replaced by TSG throughout document Other Sections: Minor editorial changes

0.0.5 Issue Control

Section	Issue	Date
0	Issue 3.3	January 2007
1	Issue 3.3	January 2007
2	Issue 3.1	November 2004
3	Issue 3.3	January 2007
4	Issue 3.1	November 2004
5	Issue 3.1	November 2004
6	Issue 3.1	November 2004
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8	Issue 3.1	November 2004
9	Issue 3.1	November 2004
10	Issue 3.3	January 2007
11	Issue 3.1	November 2004
12	Issue 3.1	November 2004
13	Issue 0	

Section	Issue	Date
14	Issue 3.1	November 2004
15	Issue 3.1	November 2004
16	Issue 3.1	November 2004
17	Issue 3.1	November 2004
18	Issue 3.1	November 2004
19	Issue 3.1	November 2004
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21	Issue 3.1	November 2004
22	Issue 3.1	November 2004
23	Issue 3.1	November 2004
24	Issue 3.3	January 2007
25	Issue 3.3	January 2007
26	Issue 3.1	November 2004
27	Issue 3.1	November 2004

NOTE: Sections that are revised in this issue are shown in this table as **bold**.

0.0.6 References

- [1] ETSI EN 300 356-1 v4.2.1 (2001-07) - Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 4 for the international interface; Part 1: Basic Services
- [2] ETSI EN 300 356-2 v4.2.1 (2002-07) - Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 4 for the international interface; Part 2: ISDN supplementary services
- [3] ETSI EN 300 356-3 v4.2.1 (2001-07) - Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 4 for the international interface; Part 3: Calling Line Identification Presentation (CLIP) supplementary service
- [4] ETSI EN 300 356-4 v4.2.1 (2001-07) - Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 4 for the international interface; Part 4: Calling Line Identification Restriction (CLIR) supplementary service
- [5] ETSI EN 300 356-5 v4.1.2 (2001-07) - Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 4 for the international interface; Part 5: Connected Line Identification Presentation (COLP) supplementary service
- [6] ETSI EN 300 356-6 v4.1.2 (2001-07) - Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 4 for the international interface; Part 6: Connected Line Identification Restriction (COLR) supplementary service
- [7] ETSI EN 300 356-7 v4.1.2 (2001-07) - Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 4 for the international interface; Part 7: Terminal Portability (TP) supplementary service
- [8] ETSI EN 300 356-8 v4.1.2 (2001-07) - Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 4 for the international interface; Part 8: User-to-User Signalling (UUS) supplementary service
- [9] ETSI EN 300 356-9 v4.1.2 (2001-07) - Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 4 for the international interface; Part 9: Closed User Group (CUG) supplementary service
- [10] ETSI EN 300 356-10 v4.1.2 (2001-07) - Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 4 for the international interface; Part 10: Subaddressing (SUB) supplementary service

- [11] ETSI EN 300 356-11 v4.1.2 (2001-07) - Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 4 for the international interface; Part 11: Malicious Call Identification (MCID) supplementary service
- [12] ETSI EN 300 356-12 v4.2.1 (2001-07) - Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 4 for the international interface; Part 12: Conference call, add-on (CONF) supplementary service
- [13] Not Used
- [14] ETSI EN 300 356-14 v4.2.1 (2001-07) - Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 4 for the international interface; Part 14: Explicit Call Transfer (ECT) supplementary service
- [15] ETSI EN 300 356-15 v4.2.1 (2001-07) - Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 4 for the international interface; Part 15: Diversion supplementary service
- [16] ETSI EN 300 356-16 v4.1.2 (2001-07) - Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 4 for the international interface; Part 16: Call Hold (HOLD) supplementary service
- [17] ETSI EN 300 356-17 v4.1.2 (2001-07) - Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 4 for the international interface; Part 17: Call Waiting (CW) supplementary service
- [18] ETSI EN 300 356-18 v4.1.2 (2001-07) - Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 4 for the international interface; Part 18: Completion of Calls to Busy Subscriber (CCBS) supplementary service
- [19] ETSI EN 300 356-19 v4.2.1 (2001-07) - Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 4 for the international interface; Part 19: Three-party (3PTY) supplementary service
- [20] ETSI EN 300 199 (2001-06) - Integrated Services Digital Network (ISDN); Call Forwarding Busy (CFB) supplementary service; Service description
- [21] ETSI ETS 300 200 (1994-12) - Integrated Services Digital Network (ISDN); Call Forwarding Unconditional (CFU) supplementary service; Service description
- [22] ETSI EN 300 201 (2001-05) - Integrated Services Digital Network (ISDN); Call Forwarding No Reply (CFNR) supplementary service; Service description
- [23] ETSI ETS 300 202 (1994-12) - Integrated Services Digital Network (ISDN); Call Deflection (CD) supplementary service; Service description (see also [89])
- [24] ETSI ETS 300 203 (1994-12) - Integrated Services Digital Network (ISDN); Call Forwarding Busy (CFB) supplementary service; Functional capabilities and information flows
- [25] ETSI ETS 300 204 (1994-12) - Integrated Services Digital Network (ISDN); Call Forwarding Unconditional (CFU) supplementary service; Functional capabilities and information flows
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- [28] ETSI ETS 300 050 (1991-10) - Integrated Services Digital Network (ISDN); Multiple Subscriber Number (MSN) supplementary service; Service Description
- [29] ETSI ETS 300 051 (1991-10) - Integrated Services Digital Network (ISDN); Multiple Subscriber Number (MSN) supplementary service; Functional capabilities and information flows
- [30] ETSI ETS 300 053 (1991-10) - Integrated Services Digital Network (ISDN); Terminal Portability (TP) supplementary service; Service Description
- [31] ETSI ETS 300 054 (1991-10) - Integrated Services Digital Network (ISDN); Terminal Portability (TP) supplementary service; Functional capabilities and information flows
- [32] ETSI ETS 300 056 (1991-10) - Integrated Services Digital Network (ISDN); Call Waiting (CW) supplementary service; Service Description (see also [91])
- [33] ETSI ETS 300 057 (1992-05) - Integrated Services Digital Network (ISDN); Call Waiting (CW) supplementary service; Functional capabilities and information flows

- [34] ETSI ETS 300 059 (1991-10) - Integrated Services Digital Network (ISDN); Subaddressing (SUB) supplementary service; Service Description
- [35] ETSI ETS 300 060 (1991-10) - Integrated Services Digital Network (ISDN); Subaddressing (SUB) supplementary service; Functional capabilities and information flows
- [36] ETSI ETS 300 062 (1991-10) - Integrated Services Digital Network (ISDN); Direct Dialling In (DDI) supplementary service; Service Description
- [37] ETSI ETS 300 063 (1991-10) - Integrated Services Digital Network (ISDN); Direct Dialling In (DDI) supplementary service; Functional capabilities and information flows
- [38] ETSI EN 300 089 (2000-12) - Integrated Services Digital Network (ISDN); Calling Line Identification Presentation (CLIP) supplementary service; Service description
- [39] ETSI EN 300 090 (2000-12) - Integrated Services Digital Network (ISDN); Calling Line Identification Restriction (CLIR) supplementary service; Service description
- [40] ETSI ETS 300 091 (1992-03) - Integrated Services Digital Network (ISDN); Calling Line Identification Presentation (CLIP) and Calling Line Identification Restriction (CLIR) supplementary services; Functional capabilities and information flows
- [41] ETSI EN 300 094 (2000-06) - Integrated Services Digital Network (ISDN); Connected Line Identification Presentation (COLP) supplementary service; Service description
- [42] ETSI ETS 300 095 (1992-01) - Integrated Services Digital Network (ISDN); Connected Line Identification Restriction (COLR) supplementary service; Service description
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- [45] ETSI ETS 300 129 (1992-05) - Integrated Services Digital Network (ISDN); Malicious Call Identification (MCID) supplementary service; Functional capabilities and information flows
- [46] ETSI ETS 300 139 (1992-03) - Integrated Services Digital Network (ISDN); Call Hold (HOLD) supplementary service; Service Description
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- [48] ETSI ETS 300 186 (1993-07) - Integrated Services Digital Network (ISDN); Three-party (3PTY) supplementary service; Service Description
- [49] ETSI ETS 300 187 (1993-08) - Integrated Services Digital Network (ISDN); Three-party (3PTY) supplementary service; Functional capabilities and information flows (see also [93])
- [50] ETSI ETS 300 284 (1996-03) - Integrated Services Digital Network (ISDN); User-to-user signalling (UUS) supplementary service; Service Description
- [51] ETSI ETR 285 (1996-03) - Integrated Services Digital Network (ISDN); User-to-user signalling (UUS) supplementary service Functional capabilities and information flows
- [52] ETSI EN 300 357 (2001-05) - Integrated Services Digital Network (ISDN); Completion of Calls to Busy Subscriber (CCBS) supplementary service; Service Description
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- [58] ETSI ETS 300 136 (1992-03) - Integrated Services Digital Network (ISDN); Closed User Group (CUG) supplementary service; Service Description

- [59] ETSI ETS 300 137 (1992-05) - Integrated Services Digital Network (ISDN); Closed User Group (CUG) supplementary service; Functional capabilities and information flows
- [60] ETSI ETS 300 052 (1991-10) - Integrated Services Digital Network (ISDN); Multiple Subscriber Number (MSN) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification
- [61] ITU-T Recommendation Q.730 (12/99) Specifications of Signalling System No. 7 – ISDN supplementary services: ISDN User Part Supplementary Services
- [62] ITU-T Recommendation Q.731.7 (06/97) Specifications of Signalling System No. 7 – ISDN supplementary services – Stage 3 description for Malicious call identification (MCID)
- [63] NICC ND1008:2007/01 C7 IUP – ISUP Interworking
- [64] NICC ND1204:2000/11 Call forwarding not reachable
- [65] ITU-T Recommendation Q.732.2-5 (12/99) Specifications of Signalling System No. 7 – ISDN supplementary services – Stage 3 description for call offering supplementary services using Signalling System No. 7: Call diversion services
- [66] ITU-T Recommendation Q.118 (09/97) Abnormal conditions - Special release arrangements
- [67] TSG Reference Document TSG 010 “United Kingdom Call Preference Arrangements Policy and Requirements Statement Cabinet Office January 2006”
- [68] ITU-T Recommendation Q.731 Clauses 3,4,5 and 6 (03/93) Specifications of Signalling System No. 7 – ISDN supplementary services – Stage 3 description for number identification supplementary services using Signalling System No.7: Calling Line Identification Presentation (CLIP), Calling Line Identification Restriction (CLIR), Connected Line Identification Presentation (COLP), Connected Line Identification Restriction (COLR)
- [69] NICC ND1016:2004/09, Requirements on Communications Providers in Relation to Customer Line Identification Display Services and Other Related Services
- [70] NICC ND1202:2000/01, Calling Line Identification Presentation (CLIP), Calling Line Identification Restriction (CLIR) (Incorporating Calling Number Display) Supplementary Services
- [71] NICC ND1201:2000/05, Completion of Calls to Busy Subscriber (CCBS) Supplementary Service
- [72] NICC ND1003:2000/08, C7 Interconnect Signalling Connection Control Part (SCCP)
- [73] NICC ND1107:2001/10, UK Interconnect use of SCCP & MTP
- [74] NICC ND1209:1999/05, Operator Services
- [75] NICC ND1203:2000/05, Geographic Number Portability
- [76] ITU-T Recommendation Q.733.5 (12/99) Stage 3 description for call completion supplementary services using signalling system No. 7: Completion of Calls on No Reply
- [77] NICC ND1108:2000/09, Management of Partial Calling Line Identity
- [78] ITU-T Recommendation I.130 (11/88) Method for characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN
- [79] ITU-T Recommendation Q.731.1(07/96) Specifications of Signalling System No. 7 – ISDN supplementary services Stage 3 description for numbering identification supplementary services using SS No. 7: Direct-Dialling-In (DDI)
- [80] ITU-T Recommendation Q.733.3 (06/97) Specifications of Signalling System No. 7 – ISDN supplementary services – Stage 3 description for call completion supplementary services using Signalling System No. 7: Completion of calls to busy subscriber (CCBS)
- [81] ETSI EN 300 356-20 v4.3.1 (2001-07) - Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 4 for the international interface; Part 20: Completion of Calls on No Reply (CCNR) supplementary service
- [82] Not used
- [83] NICC ND1005:2000/08, C7 Interconnect Message Transfer Part (MTP)
- [84] NICC ND1206:2000/05, High Level Service Description for Targeted Transit

- [85] ITU-T Recommendation Q.765.1 (05/98) Specifications of Signalling System No. 7 – ISDN user part – Application Transport Mechanism - Support of VPN Applications with PSS1 Information Flows
- [86] ITU-T Recommendation Q.765 (06/00) Specifications of Signalling System No. 7 – ISDN user part – Application transport mechanism
- [87] ITU-T Recommendation Q.850 (05/98) Digital Subscriber Signalling System No. 1 – General – Usage of Cause and Location in the Digital Subscriber Signalling System No.1 and the Signalling System No.7 ISDN User Part including addendum 1 (06/2000))
- [88] ETSI EN 300 485 v1.3.1 (2001-04) Integrated Services Digital Network (ISDN); Definition and usage of cause and location in Digital Subscriber Signalling System No.1 (DSS1) and Signalling System No.7 ISDN User Part (ISUP) [ITU-T Recommendation Q.850 (1998) with addendum, modified]
- [89] ETSI ETS 300 202/A1 (1996-09) - Amendment A1 to Integrated Services Digital Network (ISDN); Call Deflection (CD) supplementary service; Service description (see also [23])
- [90] ETSI ETS 300 183/A1 (1998-02) - Amendment A1 to Integrated Services Digital Network (ISDN); Conference, add-on (CONF) supplementary service; Service Description (see also [56])
- [91] ETSI ETS 300 056/A1 (1996-09) - Amendment A1 to Integrated Services Digital Network (ISDN); Call Waiting (CW) supplementary service; Service Description (see also [32])
- [92] ETSI ETS 300 128/A1 (1998-02) - Amendment A1 to Integrated Services Digital Network (ISDN); Malicious Call Identification (MCID) supplementary service; Service Description (see also [44])
- [93] ETSI ETS 300 187/C1 (1994-04) – Corrigendum C1 to Integrated Services Digital Network (ISDN); Three-party (3PTY) supplementary service; Functional capabilities and information flows (see also [49])
- [94] ETSI ETS 300 184/C1 (1993-09) - Corrigendum C1 to Integrated Services Digital Network (ISDN); Conference, add-on (CONF) supplementary service; Functional capabilities and information flows (see also [57])
- [95] Not Used
- [96] ETSI EN 301 134 v1.1.1 (1998-10) - Integrated Services Digital Network (ISDN); Completion of Calls on No Reply (CCNR) supplementary service; Service description
- [97] ETSI EN 300 356-21 v4.2.1 (2001-07) - Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 4 for the international interface; Part 21: Anonymous Call Rejection (ACR) supplementary service
- [98] ETSI EN 301 798 v1.1.1 (2000-10) Service and Protocols for Advanced Networks (SPAN) Anonymous Call Rejection (ACR) Supplementary Service; Service description
- [99] ITU-T Recommendation Q.699 (09/97) - Interworking between ISDN access and non-ISDN access over ISDN User Part of Signalling System No. 7 including Addendum 1 (12/99)
- [100] ETSI EN 300 899-1 v1.1.2 (1998-09), 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
- [101] NICC ND1207:2000/05, Non Geographic Number Portability
- [102] NICC ND1208:2007/03, Mobile Number Portability
- [103] Oftel Document 'Implementation of Carrier Pre-Selection in the UK' July 1998
http://www.ofcom.org.uk/static/archive/oftel/publications/1995_98/competition/cps298.htm
- [104] ITU-T Recommendation Q.732.7 (07/96) Specifications of Signalling System No. 7 – ISDN supplementary services – Stage 3 description for call offering supplementary services using Signalling System No. 7: Explicit Call Transfer
- [105] ETSI EN 301 069-1 v1.3.1 (2001-02) - Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); Application transport mechanism; Part 1: Protocol specification [ITU-T Recommendation Q.765, modified]
- [106] ETSI EN 301 062-1 v1.2.3 (1999-10), Integrated Services Digital Network (ISDN); Signalling System No.7; Support of Virtual Private Network (VPN) applications with Private network Q reference point Signalling System number 1 (PSS1) information flows; Part 1: Protocol specification [ITU-T Recommendations Q.765.1 and Q.699.1, modified]

- [107] ITU-T Recommendation Q.761 (12/99) Specifications of Signalling System No. 7 – ISDN user part Signalling system No. 7 – ISDN user part functional description
 - [108] ITU-T Recommendation Q.762 (12/1999) - Signalling System No. 7 - ISDN user part general functions of messages and signals including addendum 1 (06/2000)
 - [109] ITU-T Recommendation Q.763 (12/1999) - Signalling System No. 7 - ISDN user part formats and codes including Amendment 1 (03/2001) and Corrigendum 1 (07/2001)
 - [110] ITU-T Recommendation Q.764 (12/1999) - Signalling System No. 7 - ISDN user part signalling procedures
 - [111] Not used
 - [112] Not used
 - [113] NICC ND1115:2001/08, ISUP Overload Controls
 - [114] Not used
 - [115] ITU-T Recommendation Q.712 (07/96) Definition and function of signalling connection control part messages
 - [116] NICC ND 1006:2005/02 Interconnect User Part (IUP)
 - [117] NICC ND 1104:2004/11 Proprietary Extensions to C7 Interconnect User Part (IUP)
 - [118] NICC ND 1301:2001/03 (DPNSS 1) Digital Private Network Signalling System No 1
- Note: Documents with a “NICC ND” reference may be obtained from:
<http://www.nicc.org.uk/nicc-public/Public/interconnectstandards/isc.htm>

0.0.7 Glossary of terms

0.0.7.1 Abbreviations

3PTY	Three party
ACC	Automatic Congestion Control
ACgPN	Additional Calling Party Number
ACI	Application context identifier
ACI	Additional Call Information message
ACL	Automatic Congestion Level
ACM	Address complete message
ACR	Anonymous Call Rejection
AD&C	Advise duration and charge (indicator)
ANM	Answer message (ISUP)
ANS	Answer message (IUP)
APM	Application transport mechanism
APM	Application transport message
APP	Application transport parameter
APRI	Address Presentation Restricted Indicator
ASE	Application Service Element
ASN	Abstract Syntax Notation
ATII	Application transport instruction indicators
BCD	Binary Coded Decimal
BER	Basic Encoding Rules
BICC	Bearer Independent Call Control
C7	Signalling system number 7
CBI	CLI blocking indicator
CCBS	Completion of calls to busy subscriber
CCM	Call Completion Message
CCNR	Completion of calls on no reply
CCSS	Call completion service set-up
CD	Call deflection

CFB	Call forwarding busy
CFNR	Call forwarding no reply
CFNRc	Call forwarding on subscriber not reachable
CFU	Call forwarding unconditional
CgPN	Calling party number (parameter)
CLI	Calling line identity
CLIP	Calling line identification presentation
CLIR	Calling line identification restriction
CNA	Connection Not Admitted message
CNI	Changed number interception
COL	Connected line identity
COLP	Connected line identification presentation
COLR	Connected line identification restriction
CONF	Conference call, add-on
CP	Communications Provider
CPC	Calling party category
CPG	Call progress (message)
CPI	Call Path Indicator
CRM	Clear Request Message
CS2	Capability Set 2
CSI	Carrier Selection Information
CTI	Call Type Indicator
CUG	Closed user group
CW	Call waiting
DDI	Direct dialling in
DLE	Destination local exchange
DPNSS	Digital Private Network Signalling System
DQ	Directory enquiries
DSS1	Digital Subscriber Signalling System No 1
ECT	Explicit call transfer
EGTPS	Enhanced Government Telephone Preference Scheme
EQ	Enquiry
ETSI	European Telecommunications Standards Institute
FDM	Frequency division multiplex
GFP	Generic functional protocol
GN	Generic Number
GNP	Geographic Number Portability
GVNS	Global virtual network services
HOLD	Call hold
HTR	Hard to Reach
IAM	Initial address message
ICB	Incoming calls barred
ICC	Information Contained Code
I(F)AM	Initial (Final) Address Message
IN	Intelligent Network
INAP	Intelligent Network Application Protocol
INF	Information message
INN	Internal Network Number
INR	Information request message
IRC	Information Requested Code
ISC	International switching centre
ISDN	Integrated services digital network

ISI	Interconnect Specific Information
ISRM	Initial Service Request Message
ISUP	ISDN user part
ITCC	International Telecommunication Charge Card
ITU-T	International Telecommunications Union - Telecommunication standardisation sector
IUP	Interconnect user part
IWP	Interworking Point
LDI	Legacy Data Indicator
LDLI	Last diverting line identity
LPR	Last party release
MCID	Malicious call identification
MLPP	Multilevel Precedence and Pre-emption
MMI	Man machine interface
MNP	Mobile Number Portability
MRC	MNP Re-routeing Code
MSN	Multiple subscriber number
MTP	Message Transfer Part
MWI	Message waiting indication
NAI	Nature of address indicator
NAM	Number Acknowledge Message
NEED	Nodal End to End Data message
NFCI	National Forward Call Indicators
NGNP	Non Geographic Number Portability
NICC	Network Interoperability Consultative Committee
NII	National information indicators
NIRI	National information request indicators
N-ISDN	Narrow Band ISDN
NN	Network number
NNG	National Number Group
NNI	Network nodal interface
NP	Network provided
NP	Number portability
N/W	Network
OCB	Outgoing calls barred
Ofcom	Office of the Regulator for the UK Communications Industries
Oftel	Office of Telecommunications
OLE	Originating local exchange
OOR	Operator override
OSS	Operator services system
PBX	Private branch exchange
PCLI	Partial calling line identity
PINX	Private integrated services network exchange
PN	Presentation number
PNO	Public network operator
PNO-IG	Public network operators' interest group
PNO-ISC	Public network operators' – Interconnect standards committee (forerunner of TSG)
PNP	Presentation number preference (indicator)
POI	Point of interconnect
PRI	Pre-release information (message)
PSS1	Private network Q reference point signalling system number 1
RBWF	Ring Back When Free
RCI	Release call indicator

RCI	Routeing control indicator
REC	Recipient Exchange Code
REL	Release message
Rev	Reverse charge
RLN	Public network serving the remote user
ROSE	Remote Operations Service Element
SAD	Send All Digits message
SAM	Subsequent Address Message
SCCP	Signalling connection control part
SHP	Service Handling Protocol
SLR	Segmentation local reference
SI	Screening Indicator
SI	Sequence indicator
SND	Send N Digits message
SNI	Send notification indicator
SS	Signalling System
ST	End of pulsing signal (Stop Sending)
SUB	Sub-addressing
SVI	Service interception
TAR	Temporary alternative routing
TC	Transaction capabilities
TMR	Transmission Medium Requirement
TNS	Transit Network Selection
TOS	Temporary out of service
TP	Terminal portability
UK	United Kingdom of Great Britain and Northern Ireland
UPNV	User provided, not verified
UPVP	User provided, verified and passed
UUS	User-to-user signalling
VPN	Virtual private network
VPS	Virtual Private Service

0.0.7.2 Definitions

The following definitions are contained in ND 1016:2004/09 [69]:

- calling line identity (CLI)
- calling line identity presentation (CLIP) service
- calling line identity restriction (CLIR) service
- CLI available
- CLI restricted/withheld
- CLI unavailable
- COL available
- COL restricted/withheld
- COL unavailable
- connected line identity (COL)
- network number (NN)
- network provided (NP) number
- presentation number (PN)
- user provided, not verified (UPNV) number
- user provided, verified and passed (UPVP) number

codespace

A parameter or discrete part of a parameter to which a range of values may be assigned.

codepoint

A value assigned to a parameter or discrete part of a parameter.

controlling point/network

The point/network that is responsible for the charging function associated with the call, and is thus ultimately responsible for releasing the connection.

destination (or dest) network

See terminating network.

donor network

The network from which the number has been ported.

incoming network

The network to which a call is passed from a point of interconnection between two networks.

NOTE: The incoming network may be the terminating network or a transit network.

not required

Where a service/feature is qualified in this specification as “not required” it is not necessary for either the associated underlying functionality or signalling protocols to be supported by the implementation concerned. The compatibility rules shall apply to the messages, parameters and codepoints needed to support the feature/service. These messages, parameters, and codepoints may be treated as recognised or unrecognised according to the capabilities of the recipient exchange. Implementations shall not rely on “not required” features being disabled (or enabled) at a peer entity.

Note: Interconnected or communicating implementations that provide support of the service/feature/message/parameter identified will not be considered as non-conformant to the specification.

originating (or orig) network

The network to which the customer who originates a call is directly connected.

outgoing network

The network from which a call is passed to a point of interconnection between two networks.

NOTE: The *outgoing network* may be the *originating network* or a *transit network*.

overloaded exchange

An exchange that reports to another exchange over a directly connected ISUP traffic route that it is overloaded.

ported number

A number which has been relocated to another network

recipient network

The Network which has gained the ported number.

required

Where a service/feature/message/parameter is qualified as “required” it shall be fully supported by the implementation concerned.

Note: The term may be applied independently to an interface protocol and/or the underlying functionality.

reserved

Codespace and codepoints defined in this specification as “reserved” are available for use only with the agreement of the TSG.

shall not be sent/used

Where a message/parameter/codepoint is qualified by the statement “shall not be sent/used”, it is a mandatory requirement that it shall not be sent across a point of interconnect, and that normal operation of the system shall not depend on its reception.

source exchange

An exchange that sends calls over a directly connected ISUP traffic route, to another exchange that reports that it is overloaded.

spare

In ITU-T recommendations, codespace and codepoints indicated as “spare” or “spare for international use” are available for future ITU-T assignment. Codespace and codepoints indicated as “spare for national use” are not available for ITU-T assignment. In TSG specifications no UK-specific codespace or codepoint shall be shown as “spare”. All unallocated UK-specific codespace and codepoints shall be defined as “reserved”. Therefore, the only application of the term “spare” in the UK specifications is with reference to ITU-T recommendations. The UK meaning of “spare” as applied to ITU-T codespace and codepoints is the same as the ITU-T meaning.

terminating network

The network to which the customer who receives a call is directly connected.

third party network

The network involved in carrying a ‘ported’ call between Donor Network and Recipient Network, but which is neither the Donor or Recipient Network, e.g. a transit network

transit network

A network through which a call passes, but which is neither the originating network nor the terminating network for that call.

NOTE: A transit network acts as an outgoing network and as an incoming network.

UK-specific codespace

Codespace that is specified by the TSG for use in the UK only.

UK-specific codepoint

A codepoint that has been assigned a meaning by the TSG for use in the UK only.

0.0.8 Scope

The scope of this document is described in section 0.1.

0.1 Introduction to TSG/SPEC/007

This UK ISDN User Part (ISUP) specification has been produced by the Technical Steering Group (TSG) . This document specifies the ISUP protocol required on interconnections between public telecommunications networks in the UK.

This issue of this specification contains the functionality of the ITU-T ISUP 2000 modified to include changes specified by ETSI ISUP version 4, and to include additional functionality which is required for the UK.

This specification is written as exceptions to ITU-T and ETSI documents. This is done by listing each paragraph of the ITU-T recommendation to be modified, identifying the exceptions in ETSI and the additional UK requirements.

Items for which no table row has been included are required with the exception of items in ITU-T recommendations or ETSI specifications marked as "national use", "national option" or "network option", which are not required.

Comments have been added against specific paragraphs and qualified as either:

- UK:** = additional UK specific national requirements, and errors or clarifications to the reference documents.
- E:** = ETSI exceptions to the ITU-T recommendations.

Some UK specific parameters/messages are marked as "(Intra-network use only)". This means that the parameters/messages are for use by one UK network operator and the code point has been reserved. At the interworking point between operators the parameter/message is handled according to its compatibility information.

The procedures in ITU-T Recommendations are written in terms of actions at the originating exchange, intermediate national exchange, outgoing international exchange, intermediate international exchange, incoming international exchange and destination exchange. For application to interconnection in the UK, the procedures specified for the originating exchange shall apply to the originating network, those specified for an intermediate national exchange shall apply to a transit network, and those specified for the destination exchange shall apply to the terminating network. In general, the procedures specified for the three types of international exchange are not applicable. Other references to 'exchange', eg interworking exchange, should be taken to apply to the equivalent network.

0.2 Index of TSG/SPEC/007

Section 1 Functional Description

Exceptions to ITU-T recommendation Q.761 [107] as modified by EN 300 356-1 [1].

Section 2 General functions of messages and signals

Exceptions to ITU-T recommendation Q.762 [108] as modified by EN 300 356-1 [1].

Section 3 Formats and Codes

Exceptions to ITU-T recommendation Q.763 [109] as modified by EN 300 356-1 [1].

Section 4 Signalling Procedures

Exceptions to ITU-T recommendation Q.764 [110] as modified by EN 300 356-1 [1].

Section 5 ISDN User Part Supplementary Services

Exceptions to ITU-T recommendation Q.730 [61] as modified by EN 300 356-2 [2].

Section 6 Usage of Cause and Location

Exceptions to ITU-T recommendation Q.850 [87] as modified by EN 300 485 [88].

UK ISUP supplementary services are specified using the three stage procedure as described in ITU-T Recommendation I.130 [78]. The sections of this document specify, explicitly, or by reference, all three stages.

The list of sections below includes details of the documents referenced.

Section 7 Connected Line Identification Presentation/Restriction

Stage 1: EN 300 094 [41] and ETS 300 095 [42] (no UK exceptions)

Stage 2: ETS 300 096 [43] (no UK exceptions)

Stage 3: Q.731.5 [68] as modified by EN 300 356-5 [5] and Q.731.6 [68] as modified by EN 300 356-6 [6]

Section 8 Calling Line Identification Presentation/Restriction

Stage 1: EN 300 089 [38] and EN 300 090 [39] as modified by ND 1202:2000/01 [70]

Stage 2: exceptions to ETS 300 091 [40] as modified by ND 1202:2000/01 [70]

Stage 3: exceptions to Q.731.3 [68] as modified by EN 300 356-3 [3], Q.731.4 [68] as modified by EN 300 356-4 [4] and Q.699 [99] as modified by EN 300 899-1 [100]

Section 9 Anonymous Call Rejection

Stage 1: EN 301 798 [98] (no UK exceptions)

Stage 2:

Stage 3: Exceptions to EN 300 356-21 [97]

Section 10 UK Number Portability

Stage 1: ND 1203:2000/05 [75]

ND 1207:2000/05 [101]

ND 1208:2005/08 [102]

Stage 2: ND 1203:2000/05 [75]

ND 1207:2000/05 [101]

ND 1208:2005/08 [102]

Stage 3: This document

Section 11 Completion of Calls to Busy Subscriber

Stage 1: EN 300 357 [52] as modified by ND 1201:2000/05 [71]
Stage 2: ETS 300 358 [53] as modified by ND 1201:2000/05 [71]
Stage 3: exceptions to Q.733.3 as modified by EN 300 356-18 [18]

Section 12 Call Completion on No Reply

Stage 1: EN 301 134 [96]
Stage 2:
Stage 3: exceptions to Q.733.5 [76] as modified by EN 300 356-20 [81]

Section 13 Spare

Section 14 Malicious Call Identification

Stage 1: ETS 300 128 [44] as amended by ETS 300 128/A1 [92]
Stage 2: ETS 300 129 [45]
Stage 3: exceptions to Q.731.7 [62] as modified by EN 300 356-11 [11]

Section 15 Call Forwarding Unconditional

Stage 1: ETS 300 200 [21]
Stage 2: ETS 300 204 [25] (no UK exceptions)
Stage 3: exceptions to Q.732.4 [65] as modified by EN 300 356-15 [15]

Section 16 Call Forwarding No Reply

Stage 1: EN 300 201 [22]
Stage 2: ETS 300 205 [26] (no UK exceptions)
Stage 3: exceptions to Q.732.3 [65] as modified by EN 300 356-15 [15]

Section 17 Call Forwarding Busy

Stage 1: EN 300 199 [20]
Stage 2: ETS 300 203 [24] (no UK exceptions)
Stage 3: exceptions to Q.732.2 [65] as modified by EN 300 356-15 [15]

Section 18 Call Forwarding on Subscriber Not Reachable

Stage 1: ND 1204:2000/11 [64]
Stage 2: ND 1204:2000/11 [64]
Stage 3: This document

Section 19 Explicit Call Transfer

Stage 1: EN 300 367 [54] (no UK exceptions)
Stage 2: EN 300 368 [55] (no UK exceptions)
Stage 3: exceptions to Q.732.7 [104] as modified by EN 300 356-14 [14]

Section 20 Indirect access

Stage 1:
Stage 2:
Stage 3: This document

Section 21 NNI Extensions to Support PSS1 information flows

Exceptions to Q.765.1[85] as modified by EN 301 062-1 [106]

Section 22 UK Carrier Pre-Selection

Stage 1: ' Implementation of Carrier Pre-Selection in the UK ' [103]

Stage 2: ' Implementation of Carrier Pre-Selection in the UK ' [103]

Stage 3: This document

Section 23 Operator Services

Stage 1: ND 1209:1999/09 [74]

Stage 2: ND 1209:1999/09 [74]

Stage 3: This document

Section 24 Priority Calls

Stage 1:

Stage 2:

Stage 3: This document

Section 25 Application Transport of DPNSS to Support Ring Back When Free

Stage 1:

Stage 2:

Stage 3: This document

Section 26 Call Deflection

Stage 1: ETS 300 202 [23] amended by ETS 300 202/A1 [89] (no UK exceptions)

Stage 2: ETS 300 206 [27] (no UK exceptions)

Stage 3: Exceptions to Q.732.5 [65] as modified by EN 300 356-15 [15]

Section 27 Targeted Transit

Stage 1: ND 12106:2000/05 [84]

Stage 2: ND 12106:2000/05 [84]

Stage 3: This document

0.3 Other network features and supplementary services

Although the following network features and supplementary services are applicable to UK ISUP, there are no UK specific requirements.

Application Transport Mechanism

Q.765 [86] as amended by EN 301 069-1 [105]

Three Party (3PTY)

Stage 1: ETS 300 186 [48]

Stage 2: ETS 300 187 [49] as corrected by ETS 300 187/C1 [93]

Stage 3: Q.734.2 as modified by EN 300 356-19 [19]

Direct Dialling In (DDI)

Stage 1: ETS 300 062 [36]

Stage 2: ETS 300 063 [37]

Stage 3: Q.731.1 [79]

Multiple Subscriber Number (MSN)

Stage 1: ETS 300 050 [28]

Stage 2: ETS 300 051 [29]

Stage 3:

Call Waiting (CW)

Stage 1: ETS 300 056 [32] as amended by ETS 300 056/A1 [91]
Stage 2: ETS 300 057 [33]
Stage 3: Q.733.1 as modified by EN 300 356-17 [17]

Conference call, add-on (CONF)

Stage 1: ETS 300 183 [56] as amended by ETS 300 183/A1 [90]
Stage 2: ETS 300 184 [57] as corrected by ETS 300 184/C1 [94]
Stage 3: Q.734.1 as modified by EN 300 356-12 [12]

Closed User Group (CUG)

Stage 1: ETS 300 136 [58]
Stage 2: ETS 300 137 [59]
Stage 3: Q.735.1 as modified by EN 300 356-9 [9]

Call Hold (HOLD)

Stage 1: ETS 300 139 [46]
Stage 2: ETS 300 140 [47]
Stage 3: Q.733.2 as modified by EN 300 356-16 [16]

Terminal Portability (TP)

Stage 1: ETS 300 053 [30]
Stage 2: ETS 300 054 [31]
Stage 3: Q.733.4 as modified by EN 300 356-7 [7]

Subaddressing (Sub)

Stage 1: ETS 300 059 [34]
Stage 2: ETS 300 060 [35]
Stage 3: Q.731.8 as modified by EN 300 356-10 [10]

User-to-user signalling (UUS)

Stage 1: ETS 300 284 [50]
Stage 2: ETR 285 [51]
Stage 3: Q.737.1 as modified by EN 300 356-8 [8]

END OF TSG/SPEC/007§0

1 Functional Description (Q.761)

1.1 Exceptions

Q.761 Paragraph	Title	Comment
3	Capabilities supported by the ISDN User Part	E: Replace table 1/Q.761 by table 2. Replace table 2/Q.761 by table 3. UK: Delete ETSI modification above. Replace table 1/Q.761 by table 1.1 Replace table 2/Q.761 by table 1.2. Add table 1.3
Table 4/Q.761	Minimum message set recognized at the international interface	UK: Not Required
Table 5/Q.761	Minimum parameter set recognized at the international interface	UK: Not Required
6.1	Version compatibility	E: Insert the following before the second last sentence: 'It is a network operator's option whether compatibility information is included for network specific messages and parameters.' UK: Replace the ETSI modification with the following: 'Network operators shall include compatibility information for network specific messages and parameters.'
Appendix A	Guidelines for use of instruction indicators	E: Appendix A has the status of an informative annex UK: Note that the 'Appendix A' in the approved ITU-T text (on which the ETSI statement was based) changed to be named 'Appendix I' in the published version.

TABLE 1.1 - Capabilities required for basic call

Function/service	National use according to ITU-T	International use according to ITU-T	International use according to ETSI	UK
Basic call				
Speech/3,1 kHz audio	+	+	+	+
64 kbit/s unrestricted	+	+	+	+
Multirate connection types (NOTE 1)	+	+	+	-
Nx64 kbit/s connection types	+	+	-	-
En-bloc address signalling	+	+	+	+
Overlap address signalling	+	+	+	+
Transit network selection	+	-	-	-
Continuity check	+	+	+	-
Forward transfer	-	+	+	-
Signalling procedures for connection type allowing fallback capability	+	+	+	+
Compatibility procedure	+	+	+	+
Simple segmentation	+	+	+	+
Tones and announcements	+	+	+	+
Propagation delay determination procedure	+	+	+	-
Enhanced echo control signalling procedures	+	+	+	-
Simple echo control signalling procedures	+	+	+	+
Automatic repeat attempt	+	+	+	+
Blocking and unblocking of circuits and circuit groups	+	+	+	+
Circuit group query	+	-	-	-
Dual seizure	+	+	+	+
Transmission alarm handling for digital inter-exchange circuits	+	+	+	+
Reset of circuits and circuit groups	+	+	+	+
Receipt of unreasonable signalling information	+	+	+	+
Access delivery information	+	+	+	+
Transportation of user teleservice information	+	+	+	+
Suspend and resume	+	+	+	+
Temporary trunk blocking	+	-	-	-
ISDN user part signalling congestion control	+	+	+	+
Automatic congestion control	+	+	+	+
Interaction between N-ISDN and INAP	+	+	+	+
Unequipped circuit identification code	+	-	-	-
ISDN user part availability control	+	+	+	+
MTP pause and resume	+	+	+	+
Overlength messages	+	+	+	+
Temporary alternative routing (TAR)	+	+	+	+
Hop counter procedure	+	+	+	+
Collect call request procedure	+	+	+	-
Global Call Reference	+	+	+	+
Hard-to Reach	+	+	-	-
Calling Geodetic location procedure	+	+	+	+
Carrier Selection Information (NOTE 2)	+	-	-	-
Key: + required - not required				
NOTE 1: Multirate connection types are 2 × 64, 384, 1 536 and 1 920 kbit/s.				
NOTE 2: This is not part of the ITU-T ISUP 2000 set of recommendations				

TABLE 1.2 Generic signalling procedures, services and functions

Function/service	National use according to ITU-T	International use according to ITU-T	International use according to ETSI	UK
Generic signalling procedures for supplementary services				
End-to-end signalling - Pass along method	+	-	-	-
End-to-end signalling - SCCP connection oriented	+	+	-	-
End-to-end signalling - SCCP connectionless	+	-	-	-
Generic number transfer	+	+	+	+
Generic digit transfer	+	-	-	-
Generic notification procedure	+	+	+	+
Service activation	+	+	+	+
Remote operations service (ROSE) capability	+	-	-	-
Network specific facilities	+	-	-	-
Pre-release Information transport	+	+	+	+
Application transport Mechanism (APM)	+	+	+	+
Redirection	+	-	-	-
Pivot Routing	+	+	-	-
Supplementary services				
DDI	+	+	+	+
MSN	+	+	+	+
CLIP/CLIR	+	+	+	+
COLP/COLR	+	+	+	+
MCID	+	+	+	+
SUB	+	+	+	+
TP	+	+	+	+
CFU, CFB, CFNR	+	+	+	+
CD	+	+	+	+
CW	+	+	+	+
HOLD	+	+	+	+
CONF	+	+	+	+
3PTY	+	+	+	+
CUG	+	+	+	+
MLPP	+	+	-	-
UUS, service 1 (implicit)	+	+	+	+
UUS, service 1 (explicit)	+	+	+	+
UUS, service 2	+	+	+	+
UUS, service 3	+	+	+	+
ECT	+	+	+	+
CCBS	+	+	+	+
CCNR	+	+	+	+
MWI	-	-	+	-
ITCC	+	+	-	-
GVNS	+	+	NOTE 1	NOTE 1
REV	+	-	-	-
ACR	-	-	+	+
Additional function/services				
VPN applications with PSS1 information flows	+	+	+	+
NP	+	-	-	-
Key: + required - not required				
NOTE 1: GVNS is not required as an ETSI or UK service, but the ITU-T parameters can still be used in conjunction with Core INAP CS2.				

1.2 Additions

TABLE 1.3 - Additional Capabilities & Services required by the UK ISDN User Part

Function/service	National use according to ITU-T	International use according to ITU-T	International use according to ETSI	UK
UK basic call features				
Partial Calling Line Identity (PCLI)	-	-	-	+
Basic Service and Facility Marks	-	-	-	+
Priority Calls	-	-	-	+
UK supplementary services				
Indirect Access	-	-	-	+
UK Carrier Pre-selection	-	-	-	+
Call forwarding on subscriber not reachable (CFNRc)	-	-	-	+
Enhanced Operator Services	-	-	-	+
UK Number Portability	-	-	-	+
Targeted Transit	-	-	-	+
UK CLIP (including PN & CBI)	-	-	-	+
UK Diversion Services (including LDLI)	-	-	-	+
Ring Back When Free	-	-	-	+
Key: + required - not required				

END OF TSG/SPEC/007§1

2 General Functions of Messages and Signals (Q.762)

2.1 Exceptions

Q.762 Paragraph	Title	Comment
2.34	Release message	E: Delete the sentence "Where the call is to be redirected the message will also carry the redirection number."
3.x	IN service compatibility	E: add the following new item Information sent in either direction indicating the IN Services being invoked in a call.
3.y	Carrier selection information (CSI)	E: add the following new item Information sent in the forward direction to indicate the method (namely call per call or preselection) being used to invoke carrier selection.
3.z	Global Call Reference (GCR)	E: add the following new item Information sent in the forward direction to uniquely identify a call and correlate call activities associated with that call.
4.2	Address Presentation Restricted Indicator	E: Add the following to the last sentence <u>"It may also be used to indicate that the address cannot be ascertained, and in the case of the Calling Party Number only, to indicate that the number may not be presented to a user for reasons other than invocation of the CLIR service ("Presentation Restricted by network")."</u>
4.xx	IN Service Compatibility indication	E: add the following new item Information sent in either direction indicating the IN Services being invoked in a call.
4.aa	Network ID length indicator	E: add the following new item Binary coded information indicating the number of octets in the Network ID field.
4.bb	Network ID	E: add the following new item Information identifying a network
4.cc	Node ID	E: add the following new item Information sent in the Global Call Reference parameter to identify the node that generated the call reference.
4.dd	Node ID length indicator	E: add the following new item Binary coded information indicating the number of octets in the Node ID field.
4.ee	Call reference ID	E: add the following new item Information sent in the Global Call Reference parameter indicating the reference associated to the call.
4.ff	Call reference length indicator	E: add the following new item Binary coded information indicating the number of octets in the Call Reference ID field.

2.2 Additions

2.2.1 UK Specific Signalling Messages

No UK specific signalling messages have been defined.

2.2.2 UK Specific Signalling Parameters

2.2.2.1 National Forward Call Indicators

UK specific information sent in the forward direction relating to characteristics of the call.

2.2.2.2 Presentation Number

A type of calling party number used in support of the UK CLIP supplementary service.

2.2.2.3 Last Diverting Line Identity

UK specific information identifying the address of the last diverting line.

2.2.2.4 Partial Calling Line Identity (PCLI)

UK specific information used to partially identify the origin of calls when calling line identity is not available.

2.2.2.5 Called Subscribers Basic Service Marks

UK specific information identifying the basic service marks associated with a called customer.

2.2.2.6 Calling Subscribers Basic Service Marks

UK specific information identifying the basic service marks associated with a calling customer.

2.2.2.7 Calling Subscribers Originating Facility Marks

UK specific information identifying the facility marks associated with a calling customer.

2.2.2.8 Called Subscribers Terminating Facility Marks

UK specific information identifying the facility marks associated with a called customer.

2.2.2.9 National Information Request Indicators

UK specific information request indicators.

2.2.2.10 National Information Indicators

UK specific information indicators.

2.2.2.11 National Forward Call Indicators (Link by link)

UK specific information sent on a link by link basis.

2.2.3 Specific Parameter Information

2.2.3.1 Presentation Number Preference (PNP) indicator

Information used to select a number for display in support of the UK CLIP supplementary service.

2.2.3.2 Type of switch

Network specific information used within PCLI to identify the switch type of the first C7 node.

2.2.3.3 PNO identity

UK specific information uniquely identifying a PNO within the UK.

2.2.3.4 Switch number

Network specific information uniquely identifying an individual switch within a PNO's network.

2.2.3.5 Admin./Maintenance Call Barring Indicator

Information indicating whether or not incoming admin/maintenance calls are barred.

2.2.3.6 Subscriber Controlled Incoming Calls Barred (ICB) Indicator

Information indicating whether or not incoming calls are barred by subscriber control.

2.2.3.7 Pre-arranged ICB Indicator

Information indicating whether or not incoming calls are barred on a pre-arranged basis.

2.2.3.8 Permanent ICB Indicator

Information indicating whether or not incoming calls are barred on a permanent basis.

2.2.3.9 Temporary Out of Service (TOS)

Information indicating whether or not the subscriber is temporary out of service.

2.2.3.10 ICB, Except for Operator, Indicator

Information indicating whether or not all incoming calls are barred, except for operator calls.

2.2.3.11 Called Subscriber Facility Information Indicator

Information indicating whether or not the called subscriber has facility information.

2.2.3.12 Calling Subscriber Facility Information Indicator

Information indicating whether or not the calling subscriber has facility information.

2.2.3.13 Permanent Outgoing Calls Barred (OCB) Indicator

Information indicating whether or not the called or calling subscriber has outgoing calls barred.

2.2.3.14 Outgoing Local Calls Barred Indicator

Information indicating whether or not the called or calling subscriber has outgoing Local Calls barred.

2.2.3.15 Outgoing National Calls Barred Indicator

Information indicating whether or not the called or calling subscriber has outgoing National Calls barred.

2.2.3.16 Outgoing International Calls Barred Indicator

Information indicating whether or not the called or calling subscriber has outgoing International Calls barred.

2.2.3.17 Operator Calls Barred Indicator

Information indicating whether or not the called or calling subscriber has Operator Calls barred.

2.2.3.18 Supplementary Facility Calls Barred Indicator

Information indicating whether or not the called or calling subscriber has Supplementary Facility Calls barred, (except for removal of barring).

2.2.3.19 Digit Masking Indicator

Information indicating whether or not the called or calling subscriber requires digit masking.

2.2.3.20 Calls to Premium-phones Barred Indicator

Information indicating whether or not the called or calling subscriber has calls to Premium-phones barred.

2.2.3.21 Calling/ Called Subscriber's Tariff Group Indicator

Information indicating the called or calling customers tariff group.

2.2.3.22 Operator Indicator

Information indicating whether an Operator has been involved in the establishment of the call.

2.2.3.23 Disabled Subscriber Indicator

Information indicating whether or not the customer is disabled.

2.2.3.24 Attendant Call Office Indicator

Information indicating whether or not the call is from an attendant call office.

2.2.3.25 Advise Duration and Charge (AD&C) Indicator

Information indicating whether or not advice of duration and charge is required on the call.

2.2.3.26 PBX Subscriber Indicator

Information sent in the forward direction indicating whether or not the call is from a PBX.

2.2.3.27 SVI Indicator

Information indicating whether or not the customer is connected to the SVI service.

2.2.3.28 CNI Indicator

Information indicating whether or not the customer is connected to the CNI service.

SEE PAGE 2 FOR THE NORMATIVE INFORMATION

2.2.3.29 PBX Night Interception Indicator

Information indicating whether or not the customer is connected to the PBX Night Interception service.

2.2.3.30 Call Waiting Indicator

Information indicating whether or not the customer has the call waiting service activated.

2.2.3.31 Fixed Destination Service Indicator

Information indicating whether or not the customer is connected to the Fixed Destination service.

2.2.3.32 Calling Subscriber's Basic Service Marks request indicator

Information indicating a request for the calling subscriber's Basic service marks to be returned.

2.2.3.33 Called Subscriber's Basic Service Marks request indicator

Information indicating a request for the called subscriber's Basic service marks to be returned.

2.2.3.34 Calling Subscriber's Originating Facility Marks request indicator

Information indicating a request for the calling subscriber's originating facility marks to be returned.

2.2.3.35 Called Subscriber's Terminating Facility Marks request indicator

Information indicating a request for the called subscriber's terminating facility marks to be returned.

2.2.3.36 Calling Subscriber's Basic Service Marks response indicator

Information sent in response to a request for the Calling Subscriber's Basic Service Marks.

2.2.3.37 Called Subscriber's Basic Service Marks response indicator

Information sent in response to a request for the Called Subscriber's Basic Service Marks.

2.2.3.38 Calling Subscriber's Originating Facility Marks response indicator

Information sent in response to a request for the Calling Subscriber's Originating Facility Marks.

2.2.3.39 Called Subscriber's Terminating Facility Marks response indicator

Information sent in response to a request for the Called Subscriber's Terminating Facility Marks.

2.2.3.40 Routing Control Indicator

The Routing Control Indicator (RCI) is used to indicate the preferred routeing options.

2.2.3.41 CLI Blocking Indicator

The CLI blocking Indicator (CBI) is information sent in the forward direction to indicate whether or not the Network Number (CgPN parameter) may be presented to the called user.

2.2.3.42 Network Translated Address Indicator

The Network Translated Address Indicator is information sent in the forward direction to indicate whether network translation of the called address has occurred.

2.2.3.43 Priority Access Indicator (IUP)

The priority access indicator is an IUP indicator transparently transported in the forward direction.

2.2.3.44 Protection Indicator (IUP)

The protection indicator is an IUP indicator transparently transported in the forward direction.

2.2.3.45 Interconnect Specific Information

Bilaterally agreed information sent in the forward direction on a link by link basis.

END OF TSG/SPEC/007§2

3 Formats and Codes (Q.763)

3.1 Exceptions

Q.763 Paragraph	Title	Comment
1.0.5	General	E: Insert after the first paragraph: " It is not necessary to check the parameter values of the parameters that are not under control of ISUP (e.g. User service information, User service information prime, User teleservice information)."
1.2	Circuit identification code	E: The following items are not supported - item e) Nx64Kbit/s - Table 3/Q.763, part 2 UK: The following items are not required:- - b) 8448 kbit/s digital path - c) Frequency division multiplex (FDM) systems in networks using the 2048 kbit/s pulse code modulation standard - d) Multirate - Table 1/Q.763 - Table 2/Q.763 - Table 3/Q.763
1.11	National message types and parameters	UK: National message type codes are divided as follows:- 1111 1111 - 1111 0000 reserved for interconnect use 1110 0000 - 1110 1111 reserved for operator use National parameter name codes are divided as follows:- 1111 1111 - 1110 0000 reserved for interconnect use 1100 0010 - 1101 1111 reserved for operator use NOTE: The interconnect codes are used from the highest available code down and the operator codes are used from the lowest available code up.
1.13	Meaning of "Spare" codes and "reserved" codes	E: Replace the word 'ITU-T' by 'ETSI' in the three instances of the word in the subclause UK: In this specification no UK-specific codespace or codepoint is shown as "spare". All unallocated UK-specific codespace and codepoints are defined as "reserved". The UK meaning of "spare" as applied to ITU-T codespace and codepoints is the same as the ITU-T meaning.
1.14	Number Lengths	E: Insert a new subclause 1.14 'For the international interface the number lengths to be supported by ISUP are restricted by the limits defined by E.164. This applies to the called party number, whether signalled by the en bloc or overlap methods, and all the other number types transferred by ISUP, e.g. Calling Party Number, etc. However, within national networks, it is acknowledged that the E.164 number length is too restrictive for some applications, and specifically various national requirements for the extension of the called party number are known. The following remarks are made with regard to extension of number lengths for use within national networks: Interoperability problems can be foreseen with peer-to-peer interworking to earlier versions of ISUP, which may only support the parameter lengths indicated in previous versions of ISUP. Gateway exchanges between networks using extended number lengths and the international network have to ensure that only E.164 number lengths are passed to the international network.'

Q.763 Paragraph	Title	Comment																																																																		
2.1 Table 4	Message type codes	UK: The following message types are not required:- - Forward transfer - Continuity - Continuity check request - Network resource management Delete "(national use)" for the following messages:- - Information - Information request																																																																		
3.1 Table 5	Parameter names	E: Modify table 5/Q.763 as shown <table><tr><th>Parameter name</th><th>Code</th></tr><tr><td>:</td><td>:</td></tr><tr><td>Connection Request <u>(not required)</u></td><td>0000 1101</td></tr><tr><td>:</td><td>:</td></tr><tr><td>MLPP precedence <u>(not required)</u></td><td>0011 1010</td></tr><tr><td>:</td><td>:</td></tr><tr><td>Pivot capability <u>(not required)</u></td><td>0111 1011</td></tr><tr><td>Pivot routing forward indicators <u>(not required)</u></td><td>0111 1100</td></tr><tr><td>:</td><td>:</td></tr><tr><td>HTR information <u>(not required)</u></td><td>1000 0010</td></tr><tr><td>:</td><td>:</td></tr><tr><td>Pivot counter <u>(not required)</u></td><td>1000 0111</td></tr><tr><td>Pivot routing forward information <u>(not required)</u></td><td>1000 1000</td></tr><tr><td>Pivot routing backward information <u>(not required)</u></td><td>1000 1001</td></tr><tr><td>:</td><td>:</td></tr><tr><td><u>IN Service Compatibility</u></td><td><u>1010 0010</u></td></tr><tr><td><u>Carrier selection information</u></td><td><u>1010 0001</u></td></tr><tr><td><u>Global Call Reference</u></td><td><u>1010 0100</u></td></tr><tr><td>:</td><td>:</td></tr><tr><td><u>Reserved for national use</u></td><td><u>0100 0001</u></td></tr></table> Editor's Note: In the ETSI document a parameter "Pivot routing forward indicators" is referred to, this should read "Pivot routing indicators". UK: The following parameters are not required: - Circuit assignment map - Collect call request - Continuity indicators - Echo control information - Origination ISC point code - Propagation Delay Counter - Call History Information UK: Delete (national use) for the:- - Information indicators - Information request indicators UK: Add the following parameters: <table><tr><th>Parameter name</th><th>Code</th></tr><tr><td>National Forward Call Indicators</td><td>1111 1110</td></tr><tr><td>Presentation Number</td><td>1111 1101</td></tr><tr><td>Last Diverting Line Identity</td><td>1111 1100</td></tr><tr><td>Partial CLI</td><td>1111 1011</td></tr><tr><td>Called Subscribers Basic Service Marks</td><td>1111 1010</td></tr><tr><td>Calling Subscribers Basic Service Marks</td><td>1111 1001</td></tr><tr><td>Calling Subscribers Originating Facility Marks</td><td>1111 1000</td></tr><tr><td>Called Subscribers Terminating Facility Marks</td><td>1111 0111</td></tr><tr><td>National Information Request Indicators</td><td>1111 0110</td></tr><tr><td>National Information Indicators</td><td>1111 0101</td></tr><tr><td>National Forward Call Indicators (Link by link)</td><td>1111 0100</td></tr><tr><td>UK Additional Routing Information</td><td>1111 0011</td></tr></table>	Parameter name	Code	:	:	Connection Request <u>(not required)</u>	0000 1101	:	:	MLPP precedence <u>(not required)</u>	0011 1010	:	:	Pivot capability <u>(not required)</u>	0111 1011	Pivot routing forward indicators <u>(not required)</u>	0111 1100	:	:	HTR information <u>(not required)</u>	1000 0010	:	:	Pivot counter <u>(not required)</u>	1000 0111	Pivot routing forward information <u>(not required)</u>	1000 1000	Pivot routing backward information <u>(not required)</u>	1000 1001	:	:	<u>IN Service Compatibility</u>	<u>1010 0010</u>	<u>Carrier selection information</u>	<u>1010 0001</u>	<u>Global Call Reference</u>	<u>1010 0100</u>	:	:	<u>Reserved for national use</u>	<u>0100 0001</u>	Parameter name	Code	National Forward Call Indicators	1111 1110	Presentation Number	1111 1101	Last Diverting Line Identity	1111 1100	Partial CLI	1111 1011	Called Subscribers Basic Service Marks	1111 1010	Calling Subscribers Basic Service Marks	1111 1001	Calling Subscribers Originating Facility Marks	1111 1000	Called Subscribers Terminating Facility Marks	1111 0111	National Information Request Indicators	1111 0110	National Information Indicators	1111 0101	National Forward Call Indicators (Link by link)	1111 0100	UK Additional Routing Information	1111 0011
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Calling Subscribers Originating Facility Marks	1111 1000																																																																			
Called Subscribers Terminating Facility Marks	1111 0111																																																																			
National Information Request Indicators	1111 0110																																																																			
National Information Indicators	1111 0101																																																																			
National Forward Call Indicators (Link by link)	1111 0100																																																																			
UK Additional Routing Information	1111 0011																																																																			

Q.763 Paragraph	Title	Comment
3.5	Backward call indicators	UK: The following codepoints are not required and if received shall be treated at a receiving node as the default value:- bits DC: Called party status indicator Value 10 Connect when free (national use) Default 00 no indication bits HG: End-to-end method indicator Value All Default 00 no end-to-end method available (only link- by-link method available) bits PO: SCCP method indicator Value All Default 00 no indication Delete the national use for the following indicators:- bit L: Holding indicator
3.7	Call History Information	UK: Parameter not required
3.9	Called party number Item b) Nature of address indicator	UK: Add the following codepoint: 111 1110 UK Specific Address UK: Add the following note 'Note: Under current UK numbering arrangements, the Called Party Number parameter may contain up to 20 digits. This is under review, and further information may be found in Ofcom document 'The National Telephone Numbering Plan.'
3.10	Calling party number Item e) – Address presentation restricted indicator Item b) - Nature of address indicator item g) - Address signal	E: Modify the code definition of <i>Address Presentation Restricted Indicator</i>: 11 Reserved for restriction by the network <u>Presentation restricted by network</u> UK: Delete (national use) for the national (significant) number UK: Codes 11 and 12 are not used
3.11	Calling party's category	UK: amend text as follows:- 0000 0000 calling party's category unknown at this time (national use) 0000 1001 reserved (see recommendation Q.104) (note) (national use) National Operator 1111 1010 <u>Admin. Diversion - Payphone with priority</u> 1111 1011 <u>Admin. Diversion - Ordinary with priority</u> 1111 1100 <u>OSS Operator</u> 1111 1101 <u>Admin. Diversion - Payphone</u> 1111 1110 <u>Admin. Diversion - Ordinary</u> NOTE - In national networks, code 00001001 may be used to indicate that the calling party is a national operator
3.17	Connection request	E: Add "(not required)" to the subclause title
3.18	Continuity indicators	UK: Parameter not required
3.19	Echo control information	UK: Parameter not required
3.23	Forward call indicators	UK: The following codepoints are not required and if received shall be treated at a receiving node as the default value:- bits CB: End-to-end method indicator Value All Default 00 no end-to-end method available (only link- by-link method available) bits KJ: SCCP method indicator Value All Default 00 no indication

Q.763 Paragraph	Title	Comment
3.26	Generic Number Item a) Number qualifier indicator Item g) Screening indicator	UK: Add the following codepoints: 1111 1110 UK specific number (for intra-network use only) 1111 1101 Intercepted Line Identity UK: Amend text to read "Only used if the number qualifier indicator is coded 0000 0101 (additional connected number), 0000 0110 (additional calling party number) or <u>1111 1101 (Intercepted line identity)</u>. This indicator is coded as follows: 00 user provided, not verified 01 user provided, verified and passed 10 user provided, verified and failed 11 network provided Note – For each supplementary service the relevant codes and possible default settings are described in the supplementary service Recommendations (Recommendation Q.73x and TSG/SPEC/007 Sections 5 - 27)."
3.28	Information indicators (national use)	UK: Delete (national use) All indicators defaulted to 0 at the sending node and ignored by all other nodes.
3.29	Information request indicators (national use)	UK: Delete (national use) All indicators defaulted to 0 at the sending node and ignored by all other nodes.
3.30	Location Number Item b) - Nature of address indicator	UK: Delete (national use) for the national (significant) number
3.34	MLPP precedence	E: Add "(not required)" to the sub-clause title.
3.35	Nature of connection indicators bits DC - Continuity check indicator	UK: Set as 00
3.37	Optional backward call indicators bit D - MLPP user indicator	E: Add "(not required)" to the value 1 (MLPP user) of the "MLPP user indicator".
3.39	Original called number Item b) - Nature of address indicator	UK: Delete (national use) for the national (significant) number
3.40	Origination ISC point code	UK: Parameter not required
3.42	Propagation Delay Counter	UK: Parameter not required

Q.763 Paragraph	Title	Comment																																																																																								
3.54	Transmission medium requirement	E: Modify as follows: 'The following codes are used in the transmission medium requirement parameter field: <table><tr><td>0000 0000</td><td>speech</td></tr><tr><td>0000 0001</td><td>spare</td></tr><tr><td>0000 0010</td><td>64 kbit/s unrestricted</td></tr><tr><td>0000 0011</td><td>3,1 kHz audio</td></tr><tr><td>0000 0100</td><td>reserved for alternate speech (service 2)/64 kbit/s unrestricted (service 1)</td></tr><tr><td>0000 0101</td><td>reserved for alternate 64 kbit/s unrestricted (service 1)/speech (service 2)</td></tr><tr><td>0000 0110</td><td>64 kbit/s preferred</td></tr><tr><td>0000 0111</td><td>2 × 64 kbit/s unrestricted</td></tr><tr><td>0000 1000</td><td>384 kbit/s unrestricted</td></tr><tr><td>0000 1001</td><td>1 536 kbit/s unrestricted</td></tr><tr><td>0000 1010</td><td>1 920 kbit/s unrestricted</td></tr><tr><td>0000 1011</td><td>}</td></tr><tr><td>to</td><td>} spare</td></tr><tr><td>0000 1111</td><td>}</td></tr><tr><td>0001 0000</td><td><u>reserved for</u> 3 × 64 kbit/s unrestricted</td></tr><tr><td>0001 0001</td><td><u>reserved for</u> 4 × 64 kbit/s unrestricted</td></tr><tr><td>0001 0010</td><td><u>reserved for</u> 5 × 64 kbit/s unrestricted</td></tr><tr><td>0001 0011</td><td>spare</td></tr><tr><td>0001 0100</td><td><u>reserved for</u> 7 × 64 kbit/s unrestricted</td></tr><tr><td>0001 0101</td><td><u>reserved for</u> 8 × 64 kbit/s unrestricted</td></tr><tr><td>0001 0110</td><td><u>reserved for</u> 9 × 64 kbit/s unrestricted</td></tr><tr><td>0001 0111</td><td><u>reserved for</u> 10 × 64 kbit/s unrestricted</td></tr><tr><td>0001 1000</td><td><u>reserved for</u> 11 × 64 kbit/s unrestricted</td></tr><tr><td>0001 1001</td><td><u>reserved for</u> 12 × 64 kbit/s unrestricted</td></tr><tr><td>0001 1010</td><td><u>reserved for</u> 13 × 64 kbit/s unrestricted</td></tr><tr><td>0001 1011</td><td><u>reserved for</u> 14 × 64 kbit/s unrestricted</td></tr><tr><td>0001 1100</td><td><u>reserved for</u> 15 × 64 kbit/s unrestricted</td></tr><tr><td>0001 1101</td><td><u>reserved for</u> 16 × 64 kbit/s unrestricted</td></tr><tr><td>0001 1110</td><td><u>reserved for</u> 17 × 64 kbit/s unrestricted</td></tr><tr><td>0001 1111</td><td><u>reserved for</u> 18 × 64 kbit/s unrestricted</td></tr><tr><td>0010 0000</td><td><u>reserved for</u> 19 × 64 kbit/s unrestricted</td></tr><tr><td>0010 0001</td><td><u>reserved for</u> 20 × 64 kbit/s unrestricted</td></tr><tr><td>0010 0010</td><td><u>reserved for</u> 21 × 64 kbit/s unrestricted</td></tr><tr><td>0010 0011</td><td><u>reserved for</u> 22 × 64 kbit/s unrestricted</td></tr><tr><td>0010 0100</td><td><u>reserved for</u> 23 × 64 kbit/s unrestricted</td></tr><tr><td>0010 0101</td><td>spare</td></tr><tr><td>0010 0110</td><td><u>reserved for</u> 25 × 64 kbit/s unrestricted</td></tr><tr><td>0010 0111</td><td><u>reserved for</u> 26 × 64 kbit/s unrestricted</td></tr><tr><td>0010 1000</td><td><u>reserved for</u> 27 × 64 kbit/s unrestricted</td></tr><tr><td>0010 1001</td><td><u>reserved for</u> 28 × 64 kbit/s unrestricted</td></tr><tr><td>0010 1010</td><td><u>reserved for</u> 29 × 64 kbit/s unrestricted</td></tr><tr><td>0010 1011</td><td>}</td></tr><tr><td>to</td><td>} spare</td></tr><tr><td>1111 1111</td><td>}</td></tr></table> UK: Delete all the codepoints for the support of the multirate bearer services.	0000 0000	speech	0000 0001	spare	0000 0010	64 kbit/s unrestricted	0000 0011	3,1 kHz audio	0000 0100	reserved for alternate speech (service 2)/64 kbit/s unrestricted (service 1)	0000 0101	reserved for alternate 64 kbit/s unrestricted (service 1)/speech (service 2)	0000 0110	64 kbit/s preferred	0000 0111	2 × 64 kbit/s unrestricted	0000 1000	384 kbit/s unrestricted	0000 1001	1 536 kbit/s unrestricted	0000 1010	1 920 kbit/s unrestricted	0000 1011	}	to	} spare	0000 1111	}	0001 0000	<u>reserved for</u> 3 × 64 kbit/s unrestricted	0001 0001	<u>reserved for</u> 4 × 64 kbit/s unrestricted	0001 0010	<u>reserved for</u> 5 × 64 kbit/s unrestricted	0001 0011	spare	0001 0100	<u>reserved for</u> 7 × 64 kbit/s unrestricted	0001 0101	<u>reserved for</u> 8 × 64 kbit/s unrestricted	0001 0110	<u>reserved for</u> 9 × 64 kbit/s unrestricted	0001 0111	<u>reserved for</u> 10 × 64 kbit/s unrestricted	0001 1000	<u>reserved for</u> 11 × 64 kbit/s unrestricted	0001 1001	<u>reserved for</u> 12 × 64 kbit/s unrestricted	0001 1010	<u>reserved for</u> 13 × 64 kbit/s unrestricted	0001 1011	<u>reserved for</u> 14 × 64 kbit/s unrestricted	0001 1100	<u>reserved for</u> 15 × 64 kbit/s unrestricted	0001 1101	<u>reserved for</u> 16 × 64 kbit/s unrestricted	0001 1110	<u>reserved for</u> 17 × 64 kbit/s unrestricted	0001 1111	<u>reserved for</u> 18 × 64 kbit/s unrestricted	0010 0000	<u>reserved for</u> 19 × 64 kbit/s unrestricted	0010 0001	<u>reserved for</u> 20 × 64 kbit/s unrestricted	0010 0010	<u>reserved for</u> 21 × 64 kbit/s unrestricted	0010 0011	<u>reserved for</u> 22 × 64 kbit/s unrestricted	0010 0100	<u>reserved for</u> 23 × 64 kbit/s unrestricted	0010 0101	spare	0010 0110	<u>reserved for</u> 25 × 64 kbit/s unrestricted	0010 0111	<u>reserved for</u> 26 × 64 kbit/s unrestricted	0010 1000	<u>reserved for</u> 27 × 64 kbit/s unrestricted	0010 1001	<u>reserved for</u> 28 × 64 kbit/s unrestricted	0010 1010	<u>reserved for</u> 29 × 64 kbit/s unrestricted	0010 1011	}	to	} spare	1111 1111	}
0000 0000	speech																																																																																									
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0000 0101	reserved for alternate 64 kbit/s unrestricted (service 1)/speech (service 2)																																																																																									
0000 0110	64 kbit/s preferred																																																																																									
0000 0111	2 × 64 kbit/s unrestricted																																																																																									
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0000 1010	1 920 kbit/s unrestricted																																																																																									
0000 1011	}																																																																																									
to	} spare																																																																																									
0000 1111	}																																																																																									
0001 0000	<u>reserved for</u> 3 × 64 kbit/s unrestricted																																																																																									
0001 0001	<u>reserved for</u> 4 × 64 kbit/s unrestricted																																																																																									
0001 0010	<u>reserved for</u> 5 × 64 kbit/s unrestricted																																																																																									
0001 0011	spare																																																																																									
0001 0100	<u>reserved for</u> 7 × 64 kbit/s unrestricted																																																																																									
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0001 0111	<u>reserved for</u> 10 × 64 kbit/s unrestricted																																																																																									
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0010 0101	spare																																																																																									
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0010 1001	<u>reserved for</u> 28 × 64 kbit/s unrestricted																																																																																									
0010 1010	<u>reserved for</u> 29 × 64 kbit/s unrestricted																																																																																									
0010 1011	}																																																																																									
to	} spare																																																																																									
1111 1111	}																																																																																									
3.62	Backward GVNS	E: Add “(not required)” to the sub-clause title.																																																																																								
3.64	Call transfer number tem b) - Nature of address indicator	UK: Delete (national use) for the national (significant) number																																																																																								
3.66	Forward GVNS	E: Add “(not required)” to the sub-clause title.																																																																																								
3.69	Circuit assignment map	E: Not supported																																																																																								
3.81	Collect call request	UK: Parameter not required																																																																																								

Q.763 Paragraph	Title	Comment
3.82	Application transport parameter (APP) Item b1) Application Context Identifier (ACI)	UK: NOTE: The ETSI specification modifies the ITU-T APM text. This amendment is not required as it has been included in the base ITU-T specification [109] by amendment 1. UK: Add the following Application Context Identifier (ACI) values 111 1110 [126] - DPNSS Legacy Services 111 1101 [125] - Legacy Operator Services 111 1100 [124] - Reserved for Manufacturer Specific Applications (Nortel) 111 1011 [123] - Reserved for Manufacturer Specific Applications (Ericsson)
3.85	Pivot routeing indicators	E: Not supported
3.89	HTR information	E: Not supported
3.93	Pivot Counter	E: Not supported
3.94	Pivot routeing forward information	E: Not supported
3.95	Pivot routeing backward information	E: Not supported
3.xx	IN Service Compatibility	E: Add the following new subclause <u>The format of the IN Service Compatibility parameter field is shown in Figure X.</u> 87654321 1n IN service Compatibility Indication Figure X/Q.763 – IN Service Compatibility parameter field The IN Service Compatibility Indication is coded according to the content of the INServiceCompatibilityIndication parameter defined in Q.1228.
3.yx	<u>Carrier Selection Information (CSI) (national use)</u>	E: Add the following new subclause <u>The format of the Carrier Selection Information parameter field is shown in table x.</u> Table x 87654321 HGFEDECB A Figure XX/Q.763 Carrier Selection Information parameter field The following codes are used in the Carrier Selection Information parameter field: 0000 0000 Reserved for no indication 0000 0001 Selected Carrier identification pre-subscribed and no input by calling party 0000 0010 Reserved for selected Carrier identification pre-subscribed and input by calling party 0000 0011 Reserved for selected Carrier identification pre-subscribed and input by calling party undetermined 0000 0100 Reserved for selected Carrier identification not pre-subscribed, and input by calling party 0000 0101 Reserved for primary preferred carrier of the charged party 0000 0110 Reserved for alternative preferred carrier of the charged party 0000 0111 Reserved for selected carrier identification presubscription unknown (verbal) instructions from the calling party

Q.763 Paragraph	Title	Comment
		00001000 Reserved for selected carrier identification presubscription unknown (verbal) instructions from the charged party 00001001 Reserved for emergency call handling 00001010 Carrier selected by input of calling party 00001011 Carrier selected by a network operator 00001100 } to } spare 1111 1110 } 1111 1111 Reserved
3.yy	<u>Global Call Reference</u>	E: Add the following new subclause 8 7 6 5 4 3 2 1 1 Network ID Length indicator 1a Network ID 1n 2 Node ID Length indicator 2a Node ID lsb 2n msb 3 Call Reference length 3a Call Reference ID lsb 3n msb Figure YY/Global Call Reference The following codes are used in the subfields of the network identity parameter field: 1) Network ID The Network ID contains the value field (coded according to ASN.1 BER) of an object identifier identifying the network. This means that the tag and length fields are omitted. An example of such an object identifier can be the following: -- {itu-t (0) administration (2) national regulatory authority (x) network (y)} -- The value for x is the value of the national regulatory authority (one of the Data -- Country Codes associated to the country as specified in ITU-T -- Recommendation X.121 shall be used for "national regulatory authority") The -- value for y is under the control of the national regulatory authority concerned. 2) Node ID A binary number that uniquely identifies within the network the node which generates the call reference. 3) Call Reference ID A binary number used for the call reference of the call. This is generated by the node for each call.

Q.763 Paragraph	Title	Comment																												
Table 21	Address complete	E: Modify table 21/Q.763 as shown in table 5. Table 5 Message type: Address complete <table><tr><th>Parameter</th><th>Reference (subclause)</th><th>Type</th><th>Length (octets)</th></tr><tr><td>⋮</td><td>⋮</td><td>⋮</td><td>⋮</td></tr><tr><td>HTR information (<u>not required</u>)</td><td><u>3.89</u></td><td><u>O</u></td><td>4-?</td></tr><tr><td>⋮</td><td></td><td></td><td></td></tr><tr><td>Pivot routing backward information (<u>not required</u>)</td><td><u>3.95</u></td><td><u>O</u></td><td><u>3-?</u></td></tr><tr><td><u>IN Service Compatibility</u></td><td><u>3.xx</u></td><td><u>O</u></td><td><u>3-?</u></td></tr><tr><td>⋮</td><td>⋮</td><td>⋮</td><td>⋮</td></tr></table> UK: NOTE the ETSI modification to the note below the table is not required as it is included in the base ITU-T reference [109] by amendment 1. The following parameters are not required: - Echo control information Add the following parameters: - Called Subscriber's Basic Service Marks	Parameter	Reference (subclause)	Type	Length (octets)	⋮	⋮	⋮	⋮	HTR information (<u>not required</u>)	<u>3.89</u>	<u>O</u>	4-?	⋮				Pivot routing backward information (<u>not required</u>)	<u>3.95</u>	<u>O</u>	<u>3-?</u>	<u>IN Service Compatibility</u>	<u>3.xx</u>	<u>O</u>	<u>3-?</u>	⋮	⋮	⋮	⋮
Parameter	Reference (subclause)	Type	Length (octets)																											
⋮	⋮	⋮	⋮																											
HTR information (<u>not required</u>)	<u>3.89</u>	<u>O</u>	4-?																											
⋮																														
Pivot routing backward information (<u>not required</u>)	<u>3.95</u>	<u>O</u>	<u>3-?</u>																											
<u>IN Service Compatibility</u>	<u>3.xx</u>	<u>O</u>	<u>3-?</u>																											
⋮	⋮	⋮	⋮																											
Table 22	Answer	E: Modify table 22/Q.763 as shown in table 6. Table 6 Message type: Answer <table><tr><th>Parameter</th><th>Reference (subclause)</th><th>Type</th><th>Length (octets)</th></tr><tr><td>⋮</td><td>⋮</td><td>⋮</td><td>⋮</td></tr><tr><td>Pivot routing backward information (<u>not required</u>)</td><td>3.95</td><td>O</td><td>3-?</td></tr><tr><td><u>IN Service Compatibility</u></td><td><u>3.xx</u></td><td><u>O</u></td><td><u>3-?</u></td></tr><tr><td>⋮</td><td>⋮</td><td>⋮</td><td>⋮</td></tr></table> UK: NOTE the ETSI modification to the note below the table is not required as it is included in the base ITU-T reference [109] by amendment 1. The following parameters are not required:- - Echo control information - Redirection number - Call History Information Add the following parameters:- - Called Subscriber's Basic Service Marks	Parameter	Reference (subclause)	Type	Length (octets)	⋮	⋮	⋮	⋮	Pivot routing backward information (<u>not required</u>)	3.95	O	3-?	<u>IN Service Compatibility</u>	<u>3.xx</u>	<u>O</u>	<u>3-?</u>	⋮	⋮	⋮	⋮								
Parameter	Reference (subclause)	Type	Length (octets)																											
⋮	⋮	⋮	⋮																											
Pivot routing backward information (<u>not required</u>)	3.95	O	3-?																											
<u>IN Service Compatibility</u>	<u>3.xx</u>	<u>O</u>	<u>3-?</u>																											
⋮	⋮	⋮	⋮																											
Table 23	Call Progress	E: Modify table 23/Q.763 as shown in table 7. Table 7 Message type: Call progress <table><tr><th>Parameter</th><th>Reference (subclause)</th><th>Type</th><th>Length (octets)</th></tr><tr><td>⋮</td><td>⋮</td><td>⋮</td><td>⋮</td></tr><tr><td>Pivot routing backward information (<u>not required</u>)</td><td>3.95</td><td>O</td><td>3-?</td></tr><tr><td><u>IN Service Compatibility</u></td><td><u>3.xx</u></td><td><u>O</u></td><td><u>3-?</u></td></tr><tr><td>⋮</td><td>⋮</td><td>⋮</td><td>⋮</td></tr></table>	Parameter	Reference (subclause)	Type	Length (octets)	⋮	⋮	⋮	⋮	Pivot routing backward information (<u>not required</u>)	3.95	O	3-?	<u>IN Service Compatibility</u>	<u>3.xx</u>	<u>O</u>	<u>3-?</u>	⋮	⋮	⋮	⋮								
Parameter	Reference (subclause)	Type	Length (octets)																											
⋮	⋮	⋮	⋮																											
Pivot routing backward information (<u>not required</u>)	3.95	O	3-?																											
<u>IN Service Compatibility</u>	<u>3.xx</u>	<u>O</u>	<u>3-?</u>																											
⋮	⋮	⋮	⋮																											

Q.763 Paragraph	Title	Comment																												
		UK: NOTE the ETSI modification to the note below the table is not required as it is included in the base ITU-T reference [109] by amendment 1. The following parameters are not required:- - Echo control information - Call History Information Add the following parameters: - Called Subscriber's Basic Service Marks																												
Table 27	Connect	E: Modify table 27/Q.763 as shown in table 8. Table 8 Message type: Connect <table><tr><th>Parameter</th><th>Reference (subclause)</th><th>Type</th><th>Length (octets)</th></tr><tr><td style="text-align: center;">⋮</td><td style="text-align: center;">⋮</td><td style="text-align: center;">⋮</td><td style="text-align: center;">⋮</td></tr><tr><td>HTR information <u>(not required)</u></td><td style="text-align: center;"><u>3.89</u></td><td style="text-align: center;"><u>O</u></td><td style="text-align: center;">4-?</td></tr><tr><td style="text-align: center;">⋮</td><td style="text-align: center;">⋮</td><td style="text-align: center;">⋮</td><td style="text-align: center;">⋮</td></tr><tr><td>Pivot routing backward information <u>(not required)</u></td><td style="text-align: center;">3.95</td><td style="text-align: center;">O</td><td style="text-align: center;">3-?</td></tr><tr><td><u>IN Service Compatibility</u></td><td style="text-align: center;"><u>3.xx</u></td><td style="text-align: center;"><u>O</u></td><td style="text-align: center;"><u>3-?</u></td></tr><tr><td style="text-align: center;">⋮</td><td style="text-align: center;">⋮</td><td style="text-align: center;">⋮</td><td style="text-align: center;">⋮</td></tr></table> UK: NOTE the ETSI modification to the note below the table is not required as it is included in the base ITU-T reference [109] by amendment 1. The following parameters are not required:- - Echo control information - Call History Information Add the following parameters: - Called Subscriber's Basic Service Marks	Parameter	Reference (subclause)	Type	Length (octets)	⋮	⋮	⋮	⋮	HTR information <u>(not required)</u>	<u>3.89</u>	<u>O</u>	4-?	⋮	⋮	⋮	⋮	Pivot routing backward information <u>(not required)</u>	3.95	O	3-?	<u>IN Service Compatibility</u>	<u>3.xx</u>	<u>O</u>	<u>3-?</u>	⋮	⋮	⋮	⋮
Parameter	Reference (subclause)	Type	Length (octets)																											
⋮	⋮	⋮	⋮																											
HTR information <u>(not required)</u>	<u>3.89</u>	<u>O</u>	4-?																											
⋮	⋮	⋮	⋮																											
Pivot routing backward information <u>(not required)</u>	3.95	O	3-?																											
<u>IN Service Compatibility</u>	<u>3.xx</u>	<u>O</u>	<u>3-?</u>																											
⋮	⋮	⋮	⋮																											
Table 28	Continuity	UK: Shall not be sent.																												
Table 30	Information	UK: Delete "(national use)" from message Delete "(national use)" from Information indicators parameter The following parameters are not required:- - Connection request - Calling Party's category - Calling Party number Add the following parameters: - National Information Indicators - Calling Subscriber's Basic Service Marks - Called Subscriber's Basic Service Marks - Calling Subscriber's Originating Facility Marks - Called Subscriber's Terminating Facility Marks - Generic Number (with number qualifier set as 'intercepted line identity')																												
Table 31	Information request	UK: Delete"(national use)" from message Delete "(national use)" from Information request indicators parameter Add the following parameters: - National Information Request Indicators																												

Q.763 Paragraph	Title	Comment																																																																
Table 32	Initial address	E: Modify table 32/Q.763 as shown in table 9. Table 9 Message type: Initial address <table><tr><th>Parameter</th><th>Reference (subclause)</th><th>Type</th><th>Length (octets)</th></tr><tr><td>⋮</td><td>⋮</td><td>⋮</td><td>⋮</td></tr><tr><td>Circuit assignment map</td><td>3.69</td><td>Θ</td><td>6-7</td></tr><tr><td>⋮</td><td>⋮</td><td>⋮</td><td>⋮</td></tr><tr><td>Connection request (not required)</td><td>3.17</td><td>O</td><td>7-9</td></tr><tr><td>⋮</td><td>⋮</td><td>⋮</td><td>⋮</td></tr><tr><td>MLPP precedence (not required)</td><td>3.34</td><td>O</td><td>8</td></tr><tr><td>⋮</td><td>⋮</td><td>⋮</td><td>⋮</td></tr><tr><td>Pivot capability (not required)</td><td>3.84</td><td>O</td><td>3</td></tr><tr><td>⋮</td><td>⋮</td><td>⋮</td><td>⋮</td></tr><tr><td>Pivot counter (not required)</td><td>3.93</td><td>O</td><td>3</td></tr><tr><td>Pivot routing forward information (not required)</td><td>3.94</td><td>O</td><td>3 - ?</td></tr><tr><td>IN Service Compatibility</td><td>3.xx</td><td><u>O</u></td><td><u>3-2</u></td></tr><tr><td>Carrier selection information</td><td>3.yx</td><td><u>O</u></td><td><u>3</u></td></tr><tr><td>Global Call Reference</td><td>3.zx</td><td><u>O</u></td><td><u>8-2</u></td></tr><tr><td>⋮</td><td>⋮</td><td>⋮</td><td>⋮</td></tr></table> UK: NOTE the ETSI modification to the note below the table is not required as it is included in the base ITU-T reference [109] by amendment 1. The following parameters are not required:- - Collect call request - Origination ISC point code - Echo Control Information - Propagation Delay Counter Add the following parameters - National forward call indicators - Presentation number - Last diverting line identity - Partial Calling line identity - National forward call indicators (Link by link) (Intra -network use only) - UK Additional Routeing Information (Intra -network use only)	Parameter	Reference (subclause)	Type	Length (octets)	⋮	⋮	⋮	⋮	Circuit assignment map	3.69	Θ	6-7	⋮	⋮	⋮	⋮	Connection request (not required)	3.17	O	7-9	⋮	⋮	⋮	⋮	MLPP precedence (not required)	3.34	O	8	⋮	⋮	⋮	⋮	Pivot capability (not required)	3.84	O	3	⋮	⋮	⋮	⋮	Pivot counter (not required)	3.93	O	3	Pivot routing forward information (not required)	3.94	O	3 - ?	IN Service Compatibility	3.xx	<u>O</u>	<u>3-2</u>	Carrier selection information	3.yx	<u>O</u>	<u>3</u>	Global Call Reference	3.zx	<u>O</u>	<u>8-2</u>	⋮	⋮	⋮	⋮
Parameter	Reference (subclause)	Type	Length (octets)																																																															
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Circuit assignment map	3.69	Θ	6-7																																																															
⋮	⋮	⋮	⋮																																																															
Connection request (not required)	3.17	O	7-9																																																															
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MLPP precedence (not required)	3.34	O	8																																																															
⋮	⋮	⋮	⋮																																																															
Pivot capability (not required)	3.84	O	3																																																															
⋮	⋮	⋮	⋮																																																															
Pivot counter (not required)	3.93	O	3																																																															
Pivot routing forward information (not required)	3.94	O	3 - ?																																																															
IN Service Compatibility	3.xx	<u>O</u>	<u>3-2</u>																																																															
Carrier selection information	3.yx	<u>O</u>	<u>3</u>																																																															
Global Call Reference	3.zx	<u>O</u>	<u>8-2</u>																																																															
⋮	⋮	⋮	⋮																																																															
Table 33	Release	E: Modify table 33/Q.763 as shown in table 10. Table 10 Message type: Release <table><tr><th>Parameter</th><th>Reference (subclause)</th><th>Type</th><th>Length (octets)</th></tr><tr><td>⋮</td><td>⋮</td><td>⋮</td><td>⋮</td></tr><tr><td>HTR information (not required)</td><td><u>3.89</u></td><td><u>O</u></td><td>4-?</td></tr><tr><td>⋮</td><td>⋮</td><td>⋮</td><td>⋮</td></tr></table>	Parameter	Reference (subclause)	Type	Length (octets)	⋮	⋮	⋮	⋮	HTR information (not required)	<u>3.89</u>	<u>O</u>	4-?	⋮	⋮	⋮	⋮																																																
Parameter	Reference (subclause)	Type	Length (octets)																																																															
⋮	⋮	⋮	⋮																																																															
HTR information (not required)	<u>3.89</u>	<u>O</u>	4-?																																																															
⋮	⋮	⋮	⋮																																																															
Table 37	Forward transfer	UK: Message type not required																																																																

Q.763 Paragraph	Title	Comment																																
Table 39	Blocking Blocking ack Continuity check request Loop back ack (national use) Overload (national use) Reset circuit Unblocking Unblocking ack Unequipped cct id (national use)	UK: The following messages types are not required:- - Continuity check request																																
Table 42	Facility accepted Facility request	UK: The following parameter is not required:- - Connection request																																
Table 45	Facility	E: Modify table 45/Q.763 as shown in table 11 Table 11 Message type: Facility <table><tr><th>Parameter</th><th>Reference (subclause)</th><th>Type</th><th>Length (octets)</th></tr><tr><td>⋮</td><td>⋮</td><td>⋮</td><td>⋮</td></tr><tr><td>Pivot routing Indicators (<u>not required</u>)</td><td>3.85</td><td>O</td><td>3</td></tr><tr><td>⋮</td><td>⋮</td><td>⋮</td><td>⋮</td></tr><tr><td>Pivot counter (<u>not required</u>)</td><td>3.93</td><td>O</td><td>3</td></tr><tr><td>⋮</td><td>⋮</td><td>⋮</td><td>⋮</td></tr><tr><td>Pivot routeing backward information (<u>not required</u>)</td><td>3.95</td><td>O</td><td>3-?</td></tr><tr><td><u>IN Service Compatibility</u></td><td><u>3.xx</u></td><td><u>O</u></td><td><u>3-2</u></td></tr></table>	Parameter	Reference (subclause)	Type	Length (octets)	⋮	⋮	⋮	⋮	Pivot routing Indicators (<u>not required</u>)	3.85	O	3	⋮	⋮	⋮	⋮	Pivot counter (<u>not required</u>)	3.93	O	3	⋮	⋮	⋮	⋮	Pivot routeing backward information (<u>not required</u>)	3.95	O	3-?	<u>IN Service Compatibility</u>	<u>3.xx</u>	<u>O</u>	<u>3-2</u>
Parameter	Reference (subclause)	Type	Length (octets)																															
⋮	⋮	⋮	⋮																															
Pivot routing Indicators (<u>not required</u>)	3.85	O	3																															
⋮	⋮	⋮	⋮																															
Pivot counter (<u>not required</u>)	3.93	O	3																															
⋮	⋮	⋮	⋮																															
Pivot routeing backward information (<u>not required</u>)	3.95	O	3-?																															
<u>IN Service Compatibility</u>	<u>3.xx</u>	<u>O</u>	<u>3-2</u>																															
Table 46	Network resource management	UK: Message type not required																																
Table 51	Application transport	UK: NOTE the ETSI modification to the note below the table is not required as it is included in the base ITU-T reference [109] by amendment 1.																																
Table 52	Pre-Release information	UK: NOTE the ETSI modification to the note below the table is not required as it is included in the base ITU-T reference [109] by amendment 1.																																
Annex A	Tables for handling of unrecognized parameter values	E: Annex A has the status of a normative annex																																
Annex B	General description of component encoding rules	E: Annex B has the status of an informative annex for national use.																																

3.2 Additions

3.2.1 National Forward Call Indicators

The format of the National Forward Call Indicators parameter field is shown in Figure 3.1.

	8	7	6	5	4	3	2	1
1	H	G	F	E	D	C	B	A
2	P	O	N	M	L	K	J	I

FIGURE 3.1 - National Forward Call Indicators parameter field

The following codes are used in the National Forward Call Indicators parameter field:

bit	A:	CLI Blocking Indicator (CBI)
	0	Network Number may not be disclosed to the called user
	1	Network Number may (subject to interaction with CLIR) be disclosed to the called user
bit	B:	Network translated address indicator
	0	no information
	1	network translation of the called address has occurred
bit	C:	Priority access indicator (IUP)
	0	no information
	1	priority access call in IUP
bit	D:	Protection indicator (IUP)
	0	no information
	1	protected call in IUP
bits	E-P	reserved

3.2.2 National Forward Call Indicators (Link by link)

NOTE: For intra-network use only

The format of the national forward call indicators (Link by link) parameter field is shown in Figure 3.2.

	8	7	6	5	4	3	2	1
1	Ext	reserved			RCI			
2	Ext	reserved			ISI			

FIGURE 3.2 - National Forward Call Indicators (Link by link) parameter field

The following codes are used in the National Forward Call Indicators (Link by link) parameter field:

a) RCI – Routing Control Indicator

0000	Alternative routing allowed, continuous retry allowed (default)
0001	Alternative routing barred, continuous retry allowed
0010	Alternative routing allowed, continuous retry barred
0011	Alternative routing barred, continuous retry barred
0100	Alternative routing only allowed once, continuous retry allowed
0101	Alternative routing only allowed once, continuous retry barred
0110	
to	reserved, interpret as default (0000)
1111	

b) Ext – Extension

0	Information continues through the next octet
1	last octet

c) ISI – Interconnect Specific Information

0000	No Indication (default)
0001	
to	reserved (set by bilateral agreement), else interpret as default (000)
1111	

d) Ext – Extension

1	Last octet
---	------------

The following codes are used in the parameter compatibility information parameter for this UK specific parameter:

a) Nth upgraded parameter

11110100	National Forward Call Indicators (Link by link)
----------	---

b) Instruction Indicators

bit	A:	Transit at intermediate exchange indicator
	1	end node 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
	1	discard parameter

SEE PAGE 2 FOR THE NORMATIVE INFORMATION

bits	G-F:	Pass on not possible indicator
	10	discard parameter
c)	Extension indicator	
	1	last octet

3.2.3 Presentation Number

The format of the Presentation Number parameter field is shown in Figure 3.3.

	8	7	6	5	4	3	2	1
1	Odd/ even	Nature of Address indicator						
2	PNP	Numbering Plan indicator			Address Presentation Restricted indicator		Screening indicator	
3	2nd address signal				1st address signal			
.								
.								
m	filler (if necessary)				nth address signal			

FIGURE 3.3 - Presentation Number parameter field

The following codes are used in the Presentation Number parameter field:

- a) **Odd/even Indicator**
 - 0 even number of address signals
 - 1 odd number of address signals
- b) **Nature of Address indicator**
 - 000 0000 - 000 0010 reserved
 - 000 0011 national (significant) number
 - 000 0100 international number
 - 000 0101 - 111 1111 reserved
- c) **Presentation Number Preference indicator (PNP)**
 - 0 reserved (used in previous versions of this specification)
 - 1 PN preferred for mapping to legacy (IUP) ISDN services
- d) **Numbering Plan indicator**
 - 000 reserved
 - 001 ISDN (Telephony) numbering plan (E.164)
 - 010 - 111 reserved
- e) **Address Presentation Restricted indicator**
 - 00 presentation allowed
 - 01 presentation restricted
 - 10 & 11 reserved
- f) **Screening indicator**
 - 00 user provided not verified (UPNV)
 - 01 user provided verified and passed (UPVP)
 - 10 reserved
 - 11 network provided (NP)
- g) **Address Signal**
 - 0000 - 1001 digits 0 - 9
 - 1010 - 1111 spare
- h) **Filler**
 - In case of an odd number of address signals, the filler code 0000 is inserted after the last address signal.

3.2.4 Last Diverting Line Identity

The format of the Last Diverting Line Identity parameter field is shown in Figure 3.4.

	8	7	6	5	4	3	2	1
1	Odd/ even	Nature of Address indicator						
2	NI	Numbering Plan indicator			Address Presentation Restricted indicator		Screening indicator	
3	2nd address signal				1st address signal			
.								
.								
m	filler (if necessary)				nth address signal			

FIGURE 3.4 - Last Diverting Line Identity (LDLI) parameter field

The following codes are used in the Last Diverting Line Identity parameter field:

- a) **Odd/even Indicator**
 - 0 even number of address signals
 - 1 odd number of address signals
- b) **Nature of Address indicator**
 - 000 0000 - 000 0010 reserved
 - 000 0011 national (significant) number
 - 000 0100 international number
 - 000 0101 - 111 1111 reserved
- c) **Number Incomplete Indicator (NI)**
 - 0 complete
 - 1 reserved
- d) **Numbering Plan indicator**
 - 000 reserved
 - 001 ISDN (Telephony) numbering plan (E.164)
 - 010 - 111 reserved
- e) **Address Presentation Restricted indicator**
 - 00 presentation allowed
 - 01 presentation restricted
 - 10 & 11 reserved
- f) **Screening indicator**
 - 00 user provided not verified (UPNV)
 - 01 user provided verified and passed (UPVP)
 - 10 reserved
 - 11 network provided (NP)
- g) **Address Signal**
 - 0000 - 1001 digits 0 - 9
 - 1010 - 1111 spare
- h) **Filler**

In case of an odd number of address signals, the filler code 0000 is inserted after the last address signal.

3.2.5 Partial Calling Line Identity

The format of the Partial Calling Line Identity parameter field is shown in Figure 3.5.

	8	7	6	5	4	3	2	1
	Type of Switch (BCD)							
1	D2 (units digit)				D1 (tens unit)			
	PNO Identity (BCD)							
2	D2 (tens digit)				D1 (hundreds digit)			
	Switch number (BCD)				PNO Identity (BCD)			
3	D1 (hundreds digit)				D3 (units digit)			
	Switch number (BCD)							
4	D3 (units digit)				D2 (tens digit)			
	For bilateral agreement							
5	For bilateral agreement							
	For bilateral agreement							
6	For bilateral agreement							
	For bilateral agreement							
7	For bilateral agreement							
	For bilateral agreement							
8	For bilateral agreement							
	For bilateral agreement							
9	For bilateral agreement							

FIGURE 3.5 - Partial Calling Line Identity Parameter field

The following codes are used in the Partial Calling Line Identity parameter field:

- a) Type of switch
2 BCD digits - refer to ND 1108:2004/11 [77]
- b) PNO Identity
3 BCD digits - refer to ND 1108:2004/11 [77]
- c) Switch number
3 BCD digits - refer to ND 1108:2004/11 [77]
- d) For bilateral agreement

3.2.6 Called Subscriber's Basic Service Marks

The format of the Called Subscriber's Basic Service Marks parameter field is shown in Figure 3.6.

NOTE: This parameter uses a common coding for calling and called Basic Service Marks. This is to ensure compatibility with IUP.

	8	7	6	5	4	3	2	1
1	H	G	F	E	D	C	B	A
2	P	O	N	M	L	K	J	I
3	X	W	Subscriber's Tariff Group					

FIGURE 3.6 - Called Subscriber's Basic Service Marks parameter field

The following codes are used in the Called Subscriber's Basic Service Marks parameter field:

a) Called Subscriber's Basic Service Marks Indicators

bit	A:	Admin./Maintenance Call Barring Indicator
	0	no information
	1	Incoming admin./maintenance calls barred, (ie OOR or monitor barred)
bit	B:	Subscriber Controlled Incoming Calls Barred (ICB) Indicator
	0	no information
	1	Subscriber controlled ICB active
bit	C:	Pre-arranged ICB Indicator
	0	no information
	1	Pre-arranged ICB active
bit	D:	Permanent ICB Indicator
	0	no information
	1	Permanent ICB active
bit	E:	Temporary Out of Service (TOS) Indicator
	0	no information
	1	TOS active
bit	F:	ICB Except for Operator Indicator
	0	no information
	1	ICB except for Operator calls active
bit	G:	Called Subscriber Facility Information Indicator
	0	no information
	1	Called Subscriber Facility Information available
bit	H:	Calling Subscriber Facility Information Indicator
	0	no information
	1	Calling Subscriber Facility Information available
bit	I:	Permanent Outgoing Calls Barred (OCB) Indicator
	0	no information
	1	Permanent OCB active
bit	J:	Outgoing Local Calls Barred Indicator
	0	no information
	1	Outgoing Local Calls barred
bit	K:	Outgoing National Calls Barred Indicator
	0	no information
	1	Outgoing National Calls barred

bit	L:	Outgoing International Calls Barred Indicator
	0	no information
	1	Outgoing International Calls barred
bit	M:	Operator Calls Barred Indicator
	0	no information
	1	Calls to Operators barred
bit	N:	Supplementary Facility Calls Barred Indicator
	0	no information
	1	Supplementary facility calls barred, (except for removal of barring)
bit	O:	Digit Masking Indicator
	0	no information
	1	Digit masking required
bit	P:	Calls to Premium-phones Barred Indicator
	0	no information
	1	Calls to Premium-phones barred
bit	W:	reserved
bit	X:	Operator Indicator
	0	no information
	1	Operator involved in call set-up

b) Called Subscriber's Tariff Group

000000 - 111111 Code allocations are network specific only, but meanings may be mutually agreed between the PNOs concerned. This specification does not specify the codings.

3.2.7 Calling Subscriber's Basic Service Marks

The format of the Calling Subscriber's Basic Service Marks parameter is shown in Figure 3.7.

NOTE: This parameter uses a common coding for calling and called basic service marks. This is to ensure compatibility with IUP.

	8	7	6	5	4	3	2	1
1	H	G	F	E	D	C	B	A
2	P	O	N	M	L	K	J	I
3	X	W	Subscriber's Tariff Group					

FIGURE 3.7 - Calling Subscriber's Basic Service Marks parameter field

The following codes are used in the Calling Subscriber's Basic Service Marks parameter field:

a) Calling Subscriber's Basic Service Marks Indicators

bit	A:	Admin./Maintenance Call Barring Indicator
	0	no information
	1	Incoming admin./maintenance call barring active (ie OOR or monitor barred)
bit	B:	Subscriber Controlled Incoming Calls Barred (ICB) Indicator
	0	no information
	1	Subscriber controlled ICB active
bit	C:	Pre-arranged ICB Indicator
	0	no information
	1	Pre-arranged ICB active
bit	D:	Permanent ICB Indicator
	0	no information
	1	Permanent ICB active
bit	E:	Temporary Out of Service (TOS)
	0	no information
	1	TOS active
bit	F:	ICB Except for Operator Indicator
	0	no information
	1	ICB except for Operator calls active
bit	G:	Called Subscriber Facility Information Indicator
	0	no information
	1	Called Subscriber Facility Information available
bit	H:	Calling Subscriber Facility Information Indicator
	0	no information
	1	Calling Subscriber Facility Information available
bit	I:	Permanent Outgoing Calls Barred (OCB) Indicator
	0	no information
	1	Permanent OCB active
bit	J:	Outgoing Local Calls Barred Indicator
	0	no information
	1	Outgoing Local Calls barred
bit	K:	Outgoing National Calls Barred Indicator
	0	no information
	1	Outgoing National Calls barred

bit	L:	Outgoing International Calls Barred Indicator
	0	no information
	1	Outgoing International Calls barred
bit	M:	Operator Calls Barred Indicator
	0	no information
	1	Calls to Operators barred
bit	N:	Supplementary Facility Calls Barred Indicator
	0	no information
	1	Supplementary facility calls barred, (except for removal of barring)
bit	O:	Digit Masking Indicator
	0	no information
	1	Digit masking required
bit	P:	Calls to Premium-phones Barred Indicator
	0	no information
	1	Calls to Premium-phones barred
bit	W:	reserved
bit	X:	Operator Indicator
	0	no information
	1	Operator involved in call set-up

b) Calling Subscriber's Tariff Group

000000 to 111111 Code allocations are network specific only, but meanings may be mutually agreed between the PNOs concerned. This specification does not specify the codings.

3.2.8 Calling Subscriber's Originating Facility Marks

The format of the Calling Subscriber's Originating Facility Marks parameter field is shown in Figure 3.8.

	8	7	6	5	4	3	2	1
1	H	G	F	E	D	C	B	A
2	P	O	N	M	L	K	J	I

FIGURE 3.8 - Calling Subscriber's Originating Facility Marks parameter field

The following codes are used in the Calling Subscriber's Originating Facility Marks parameter field:

bit	A:	Disabled Subscriber Indicator
	0	no information
	1	Disabled Subscriber
bit	B:	Attended Call Office Indicator
	0	no information
	1	Reserved for Attended Call Office
bit	C:	Advise Duration and Charge (AD&C) Indicator
	0	no information
	1	AD&C required
bit	D:	PBX Subscriber Indicator
	0	no information
	1	PBX Subscriber
bits	E to P:	reserved

3.2.9 Called Subscriber's Terminating Facility Marks

The format of the Called Subscriber's Terminating Facility Marks parameter field is shown in Figure 3.9.

	8	7	6	5	4	3	2	1
1	H	G	F	E	D	C	B	A
2	P	O	N	M	L	K	J	I

FIGURE 3.9 - Called Subscriber's Terminating Facility Marks parameter field

The following codes are used in the Called Subscriber's Terminating Facility Marks Parameter field:

bit	A:	SVI Indicator
	0	no information
	1	SVI active
bit	B:	CNI Indicator
	0	no information
	1	CNI active
bit	C:	PBX Night Interception Indicator
	0	no information
	1	PBX Night Interception active
bit	D:	Call Waiting Indicator
	0	no information
	1	Call Waiting active
bit	E:	Fixed Destination Service Indicator
	0	no information
	1	Fixed Destination Service active
bits	F to P:	reserved

3.2.10 National Information Request Indicators

The format of the National Information Request Indicators parameter field is shown in Figure 3.10.

	8	7	6	5	4	3	2	1
1	H	G	F	E	D	C	B	A
2	P	O	N	M	L	K	J	I

FIGURE 3.10 - National Information Request Indicators parameter field

The following codes are used in the National Information Request Indicators parameter field:

bit	A:	Calling Subscriber's Basic Service Marks request indicator
	0	Calling Subscriber's Basic Service Marks not requested
	1	Calling Subscriber's Basic Service Marks requested
bit	B:	Called Subscriber's Basic Service Marks request indicator
	0	Called Subscriber's Basic Service Marks not requested
	1	Called Subscriber's Basic Service Marks requested
bit	C:	Calling Subscriber's Originating Facility Marks request indicator
	0	Calling Subscriber's Originating Facility Marks not requested
	1	Calling Subscriber's Originating Facility Marks requested
bit	D:	Called Subscriber's Terminating Facility Marks request indicator
	0	Called Subscriber's Terminating Facility Marks not requested
	1	Called Subscriber's Terminating Facility Marks requested
bit	E:	Intercepted Line Identity request indicator
	0	Intercepted Line Identity not requested
	1	Intercepted Line Identity requested
bit	F:	Intercepted Line Identity and Called Subscriber's Basic Service Marks request indicator
	0	Intercepted Line Identity and Called Subscriber's Basic Service Marks not requested
	1	Intercepted Line Identity and Called Subscriber's Basic Service Marks requested
bits	G - P:	reserved

3.2.11 National Information Indicators

The format of the National Information Indicators parameter field is shown in Figure 3.11.

	8	7	6	5	4	3	2	1
1	H	G	F	E	D	C	B	A
2	P	O	N	M	L	K	J	I

FIGURE 3.11 - National Information Indicators parameter field

The following codes are used in the National Information Indicators parameter field:

bit	A:	Calling Subscriber's Basic Service Marks response indicator
	0	Calling Subscriber's Basic Service Marks not included
	1	Calling Subscriber's Basic Service Marks included
bit	B:	Called Subscriber's Basic Service Marks response indicator
	0	Called Subscriber's Basic Service Marks not included
	1	Called Subscriber's Basic Service Marks included
bit	C:	Calling Subscriber's Originating Facility Marks response indicator
	0	Calling Subscriber's Originating Facility Marks not included
	1	Calling Subscriber's Originating Facility Marks included
bit	D:	Called Subscriber's Terminating Facility Marks response indicator
	0	Called Subscriber's Terminating Facility Marks not included
	1	Called Subscriber's Terminating Facility Marks included
bit	E:	Intercepted Line Identity response indicator
	0	Intercepted Line Identity not included
	1	Intercepted Line Identity included
bit	F	Intercepted Line Identity and Called Subscriber's Basic Service Marks response indicator
	0	Intercepted Line Identity and Called Subscriber's Basic Service Marks not included
	1	Intercepted Line Identity and Called Subscriber's Basic Service Marks included
bits	G - P:	reserved

3.2.12 UK Parameter Compatibility Information

The following codes are used in the Parameter Compatibility Information parameter for all of the UK specific parameters, unless explicitly stated in this section:

- a) **Nth upgraded parameter**
XXXX XXXX UK code point allocation
- 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

3.2.13 UK Additional Routeing Information

NOTE: For intra-network use only

The format of the UK Additional Routeing Information parameter field is shown in Figure 3.11bis.

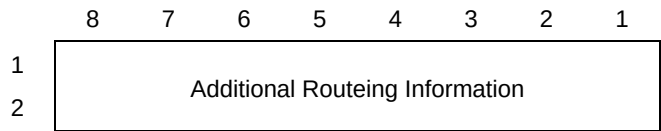


FIGURE 3.11bis - **UK Additional Routeing Information parameter field**

The following codes are used in the UK Additional Routeing Information parameter field:

a) Additional Routeing Information

The code allocations are network specific and beyond the scope of this specification

The following codes are used in the parameter compatibility information parameter for this UK specific parameter:

a) Nth upgraded parameter

11110100 UK Additional Routeing Information

b) Instruction Indicators

- | | | |
|-------------|-------------|---|
| bit | A: | Transit at intermediate exchange indicator |
| | 1 | end node 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 |
| | 1 | discard parameter |
| bits | G-F: | Pass on not possible indicator |
| | 10 | discard parameter |
- c) Extension indicator**
- 1 last octet

3.3 Application Transport Parameter Coding

This section specifies UK specific coding of the Application Transport Parameter (APP).

3.3.1 Operator Services

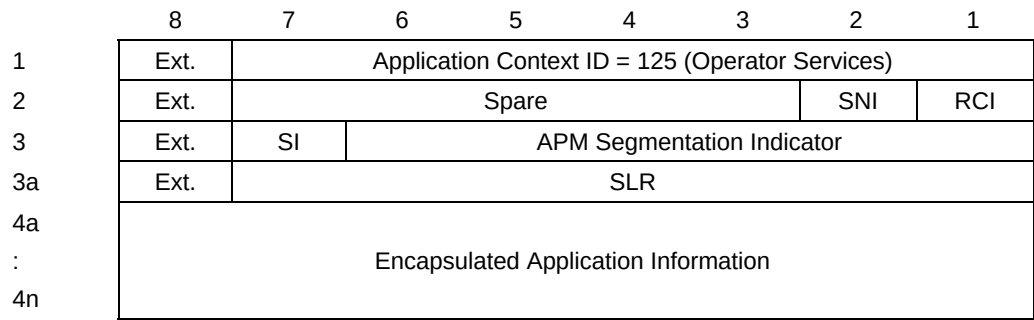


FIGURE 3.12 – Application Transport parameter field

a) The application transport instruction indicators (ATII) shall be coded

bit 1 Release call indicator (RCI)
1 release call

Bit 2 Send notification indicator (SNI)
1 send notification,

b) Encapsulated Application Information see 3.3.1.1.

3.3.1.1 Encapsulated Application Information for the Operator Services Context

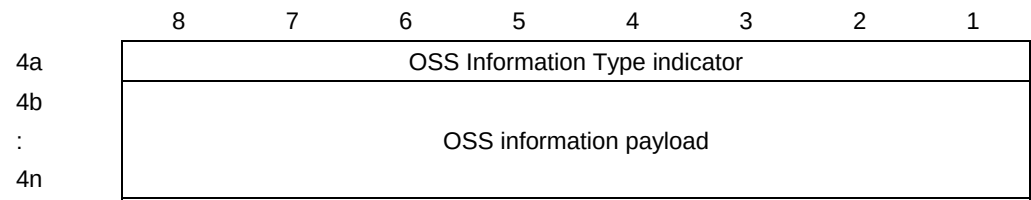


FIGURE 3.13 – Encapsulated Information subfield

a) **OSS Information Type indicator**
0000 0001 reserved
0000 0010 reserved
0000 0011 Service Request (see 3.3.1.1.1)
0000 0100 Action Invocation (see 3.3.1.1.2)
0000 0101 }
to } reserved
1111 1111 }

b) OSS Information Payload

The format of the OSS Information Payload shall depend upon the value of the OSS Information Type indicator (see 3.3.1.1.1, 3.3.1.1.2)

3.3.1.1.1 Service Request

When the OSS Information Type is coded 0000 0011, the rest of the APP parameter is coded as follows:

	8	7	6	5	4	3	2	1
4a	OSS Information Type = 3 (Service Request)							
4b	Service							

FIGURE 3.14 – OSS Information Payload subfield coding for Service Request

a) Service

0000 0000	reserved	
0000 0001	Operator Override	
0000 0010	Service Interception	
0000 0011	Changed Number Interception	
0000 0100	PBX Night Interception	
0000 0101	Trunk Subscriber	(for intra-network use)
0000 0110	Emergency Trunk Subscriber	(for intra-network use)
0000 0111	Fire Telephone	(for intra-network use)
0000 1000	Distant Operator Assistance	(for intra-network use)
0000 1001	Distant EQ	(for intra-network use)
0000 1010	Distant DQ	(for intra-network use)
0000 1011		
to	reserved	
1111 1111		

3.3.1.1.2 Action Invocation

When the OSS Information Type is coded 00000100, the rest of the APP parameter is coded as follows:

	8	7	6	5	4	3	2	1
4a	OSS Information Type = 4 (Action Invocation)							
4b	OSS Message Type							
:	Message contents							
:								
4n								

FIGURE 3.15 – Encapsulated Information subfield coding for Action Invocation

a) OSS Message Type

0000 0000	reserved	
0000 0001	reserved	
0000 0010	Operator Override (see 3.3.1.1.2.1)	
0000 0011	Howler (see 3.3.1.1.2.1)	
0000 0100	Extend Call (see 3.3.1.1.2.1)	
0000 0101	Operator Condition (see 3.3.1.1.2.2)	(for intra-network use)
0000 0110	OSS Node to Node (see 3.3.1.1.2.3)	(for intra-network use)
0000 0111		
to	reserved	
1111 1111		

3.3.1.1.2.1 **Operator Override, Howler and Extend Call**

When the OSS Message Type indicates one of these messages, there are no further contents.

3.3.1.1.2.2 **Operator Condition (for intra-network use)**

When the OSS Message Type indicates Operator Condition, the rest of the APP is coded as follows:

	8	7	6	5	4	3	2	1
4a	OSS Information Type = 4 (Action Invocation)							
4b	OSS Message Type = 5 (Operator Condition)							
4c	Operator Condition Indicator							
4d	Condition Qualifier							

FIGURE 3.16 - Encapsulated Information subfield coding for Operator Condition

a) **Operator Condition Indicator**

0000 0000	Operator answer
0000 0001	Operator in circuit
0000 0010	Operator out of circuit
0000 0011	Operator recall
0000 0100	Operator relinquish
0000 0101	Subscriber clear
0000 0110	
to	reserved
1111 1111	

b) **Condition Qualifier**

0000 0000	No information on content
0000 0001	Path split
0000 0010	Path not split
0000 0011	
to	reserved
1111 1111	

3.3.1.1.2.3 **OSS Node to Node Message (for intra-network use)**

When the OSS Message Type indicates OSS Node to Node, the rest of the APP is an OSS matter, and is not specified here.

3.3.2 **DPNSS to Support RBWF**

	8	7	6	5	4	3	2	1
1	Ext.	Application Context ID = "126, DPNSS Legacy Services"						
2	Ext.	Spare					ATII	
							SNI	RCI
3	Ext.	SI	APM Segmentation indicator					
3a	Ext.	SLR						
4a	Encapsulated Application Information							
4b								
:								
4n								

Figure 3.17 – ISUP APP Parameter

a) The Application Transport Instruction Indicators (ATII) shall be coded:

- bit 1 Release call indicator (RCI)
1 release call
- bit 2 Send notification indicator (SNI)
1 send notification

b) Encapsulated Application Information see 3.3.2.1

3.3.2.1 Encapsulated Application Information for the DPNSS Legacy Services context

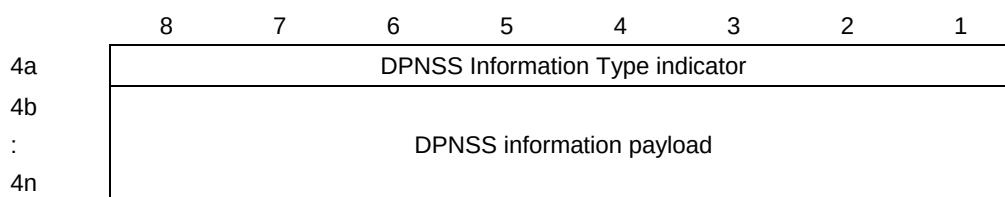


Figure 3.18 – Encapsulated Information subfield

a) DPNSS Information Type indicator

0000 0000	no information
0000 0001	DPNSS Information Type 1 (forward negotiation)
0000 0010	DPNSS Information Type 2 (backward negotiation)
0000 0011	DPNSS Information Type 3 (transparent transfer)
0000 0100	}
to	} reserved
1111 1111	}

b) DPNSS information payload

The format of the DPNSS information payload shall depend on the value of the DPNSS Information Type indicator (see 3.3.2.1.1 to 3.3.2.1.3)

NOTE: No format is defined for values of DPNSS Information Type indicator other than those in 3.3.2.1.1 to 3.3.2.1.3

3.3.2.1.1 DPNSS Information Type 1 (Forward Negotiation)

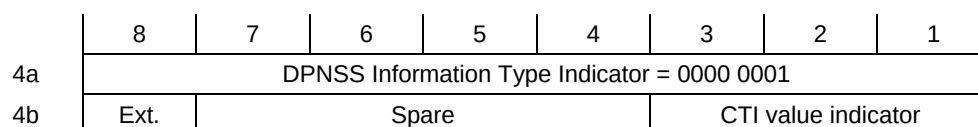


Figure 3.19

a) DPNSS Information Type indicator

The DPNSS Information Type indicator shall be set to 0000 0001, “DPNSS Information Type 1 (Forward Negotiation)”

b) CTI value Indicator.

000	No information
001	Diverted Call
010	Reserved
011	Reserved
100	VPS Virtual Call
101	VPS Real Call
110	Public Network DPNSS Call
111	Call Completion Service Set-up (CCSS) Call

NOTE: values align with CTI values defined in ND1104 [117] and ND1006 [116]. Value 110 is used for the Ring Back When Free service.

c) Extension indicator

The Extension indicator shall be set to 1, last octet

3.3.2.1.2 DPNSS Information Type 2 (Backward Negotiation)

	8	7	6	5	4	3	2	1
4a	DPNSS Information Type Indicator = 0000 0010							
4b	Ext.	Spare						LDI

Figure 3.20

a) DPNSS Information Type indicator

The DPNSS Information Type indicator shall be set to 0000 0010, “DPNSS Information Type 2 (Backward Negotiation)”

b) Legacy Data Indicator (LDI)

0	No information
1	Legacy data transfer available

c) Extension indicator

The Extension indicator shall be set to 1, last octet

3.3.2.1.3 DPNSS Information Type 3 (Transparent transfer)

	8	7	6	5	4	3	2	1
4a	DPNSS Information Type Indicator = 0000 0011							
4b	Content Qualifier							
4c	Reserved							
4d	Reserved		DPNSS message octet count					
4e	DPNSS message							
:								
4n								

Figure3.21

a) DPNSS Information Type indicator

The DPNSS Information Type indicator shall be coded 0000 0011, "DPNSS Information Type 3 (Transparent Transfer)"

b) Content Qualifier

0000 0000	No information on content
0000 0001	DPNSS Real Call Message
0000 0010	DPNSS Virtual Call Message
0000 0011	} reserved
to	
1111 1111	

c) Reserved

d) DPNSS message octet count

The DPNSS message octet count shall provide in binary form, an indication of the number of octets in the DPNSS message field.

000000	No information on content
000001	} Number of octets in DPNSS message field
to	
101101	
101110	} reserved
to	
111111	

e) DPNSS Message

Any layer 3 message conforming to the rules of DPNSS (see NICC ND1301 [118]) starting with the octet containing the message group and type.

END OF TSG/SPEC/007§3

4 Signalling Procedures (Q.764)

4.1 Exceptions

Q.764 Paragraph	Title	Comment
2.1	Successful call set-up	E: Add new following sentence to the beginning of subclause 2.1: "The number of digits supported for a call shall be independent of whether enbloc or overlap operation is used."
2.1.1.1(a)	Circuit Selection	E: Modify as follows: The connection types allowed are: - speech; - 3,1 kHz audio; - 64 kbit/s unrestricted; - 64 kbit/s unrestricted preferred; - 2 × 64 kbit/s unrestricted; <u>multirate connection types</u> - 384 kbit/s unrestricted; <u>multirate connection types</u> - 1 536 kbit/s unrestricted; <u>multirate connection types</u> - 1 920 kbit/s unrestricted; <u>multirate connection types</u> - Nx64 kbit/s unrestricted (N = 2 – 30). NOTE — The procedure assumes that Recommendation E.172 will at an appropriate time include routing rules for the transmission medium requirement parameter value "Nx64 kbit/s unrestricted". UK: The following connection types are not required: - 2 x 64 kbit/s unrestricted - 384 kbit/s unrestricted - 1536 kbit/s unrestricted - 1920 kbit/s unrestricted
2.1.1.1(b)	Address information sending sequence	UK: Delete 1st sentence of para 1: "The sending sequence of address information on international... ...number.". Amend 2nd sentence of para 1; "On national connections, the address information may be the subscriber number or the a national (significant) number, an international number, or a UK specific address as required..." Delete last sentence of para 1: "For calls to international....Q.107.". Add the following paragraph: "The originating network shall code the Called party Number parameter indicator fields as set out below:

Q.764 Paragraph	Title	Comment																			
		<table><tr><th rowspan="2">Type of Number</th><th colspan="3">Called Party Number parameter</th></tr><tr><th>Nature of Address Ind.</th><th>Numbering Plan Ind.</th><th>Address Signals</th></tr><tr><td>National Number e.g. 0113 496 0001</td><td>3 National</td><td>1 E164</td><td>113 496 0001</td></tr><tr><td>International Number e.g. 00 44 113 496 0001</td><td>4 International</td><td>1 E164</td><td>44 113 496 0001</td></tr><tr><td>Neither National nor International Number e.g. Service Code "999" Indirect Access Call</td><td> 126 UK Specific Address 126 UK Specific Address</td><td> 1 E164 1 E164</td><td> 9xxx 999 1xxx 0113 496 0001</td></tr></table> NOTE: The digits shown in the Address Signals column are for illustrative purposes only."	Type of Number	Called Party Number parameter			Nature of Address Ind.	Numbering Plan Ind.	Address Signals	National Number e.g. 0113 496 0001	3 National	1 E164	113 496 0001	International Number e.g. 00 44 113 496 0001	4 International	1 E164	44 113 496 0001	Neither National nor International Number e.g. Service Code "999" Indirect Access Call	 126 UK Specific Address 126 UK Specific Address	 1 E164 1 E164	 9xxx 999 1xxx 0113 496 0001
Type of Number	Called Party Number parameter																				
	Nature of Address Ind.	Numbering Plan Ind.	Address Signals																		
National Number e.g. 0113 496 0001	3 National	1 E164	113 496 0001																		
International Number e.g. 00 44 113 496 0001	4 International	1 E164	44 113 496 0001																		
Neither National nor International Number e.g. Service Code "999" Indirect Access Call	 126 UK Specific Address 126 UK Specific Address	 1 E164 1 E164	 9xxx 999 1xxx 0113 496 0001																		
2.1.1.1(c)	Initial address message	UK: Delete para 8; "The propagation delay counter is included according to section 2.6." Delete the first subpara I) "the type of end-to-end method..." Delete the second subpara i); "a call reference..." Amend the second subpara ii); "the calling party number if this is to be passed forward without being requested. The calling party number could contain Code 11 or 12 if the call is from an international operator. If no information is available for inclusion in the calling party number parameter then the partial CLI of the originating node shall be included. Delete the second subpara iii); "an SCCP connection..."																			
2.1.1.2	Actions required at an intermediate national exchange	UK: Amend the second sentence of (b); "Signalling information that may be changed are is the nature of connection indicator and propagation delay counter."																			
2.1.1.3	Actions required at an outgoing international exchange	UK: Not required																			
2.1.1.4	Actions required at an intermediate international exchange	UK: Not required																			
2.1.1.5	Actions required at an incoming international exchange	UK: Not required																			
2.1.1.6(a)	Actions required at the destination exchange	UK: Delete last sentence of para 2: "If a continuity check... ...has been verified."																			
2.1.1.7	Called party number for operator calls	UK: Not required																			
2.1.1.8	Called number for calls to testing and measuring devices	UK: Not required																			

Q.764 Paragraph	Title	Comment																											
2.1.2.1(a)	Circuit Selection	E: Modify as follows: The connection types allowed are: - speech; - 3,1 kHz audio; - 64 kbit/s unrestricted; - 64 kbit/s unrestricted preferred; - 2 × 64 kbit/s unrestricted; <u>multirate connection types</u> - 384 kbit/s unrestricted; <u>multirate connection types</u> - 1 536 kbit/s unrestricted; <u>multirate connection types</u> - 1 920 kbit/s unrestricted; <u>multirate connection types</u> - Nx64 kbit/s unrestricted (N = 2 – 30). NOTE — The procedure assumes that Recommendation E.172 will at an appropriate time include routing rules for the transmission medium requirement parameter value "Nx64 kbit/s unrestricted". UK: The following connection types are not required: - 2 x 64 kbit/s unrestricted - 384 kbit/s unrestricted - 1536 kbit/s unrestricted - 1920 kbit/s unrestricted																											
2.1.2.1(b)	Address information sending sequence	UK: Delete 1st sentence of para 1: "The sending sequence of address information on international.....number." Alter 2nd sentence of para 1; "On national connections, the address information may be the subscriber number or the a national (significant) number, an international number, or a UK specific address as required..." Delete last sentence of para 1: "For calls to international... Q.107." Add the following paragraph: "The originating network shall code the Called party Number parameter indicator fields as set out below: <table><tr><th rowspan="2">Type of Number</th><th colspan="3">Called Party Number parameter</th></tr><tr><th>Nature of Address Ind.</th><th>Numbering Plan Ind.</th><th>Address Signals</th></tr><tr><td>National Number e.g. 0113 496 0001</td><td>3 National</td><td>1 E164</td><td>113 496 0001</td></tr><tr><td>International Number e.g. 00 44 113 496 0001</td><td>4 International</td><td>1 E164</td><td>44 113 496 0001</td></tr><tr><td>Neither National nor International Number e.g.</td><td></td><td></td><td></td></tr><tr><td>Service Code "999"</td><td>126 UK Specific Address</td><td>1 E164</td><td>9xxx 999</td></tr><tr><td>Indirect Access Call</td><td>126 UK Specific Address</td><td>1 E164</td><td>1xxx 0113 496 0001</td></tr></table> NOTE: The digits shown in the Address Signals column are for illustrative purposes only."	Type of Number	Called Party Number parameter			Nature of Address Ind.	Numbering Plan Ind.	Address Signals	National Number e.g. 0113 496 0001	3 National	1 E164	113 496 0001	International Number e.g. 00 44 113 496 0001	4 International	1 E164	44 113 496 0001	Neither National nor International Number e.g.				Service Code "999"	126 UK Specific Address	1 E164	9xxx 999	Indirect Access Call	126 UK Specific Address	1 E164	1xxx 0113 496 0001
Type of Number	Called Party Number parameter																												
	Nature of Address Ind.	Numbering Plan Ind.	Address Signals																										
National Number e.g. 0113 496 0001	3 National	1 E164	113 496 0001																										
International Number e.g. 00 44 113 496 0001	4 International	1 E164	44 113 496 0001																										
Neither National nor International Number e.g.																													
Service Code "999"	126 UK Specific Address	1 E164	9xxx 999																										
Indirect Access Call	126 UK Specific Address	1 E164	1xxx 0113 496 0001																										
2.1.2.3	Actions required at an outgoing international exchange	UK: Not required																											

Q.764 Paragraph	Title	Comment
2.1.2.4	Actions required at an intermediate international exchange	UK: Not required
2.1.2.5	Actions required at an incoming international exchange	UK: Not required
2.1.2.6(a)	Actions required at the destination exchange	UK: Delete last sentence of para 2: "If a continuity check... ..has been verified."
2.1.2.7	Called party number for operator calls	UK: Not required
2.1.2.8	Called number for calls to testing and measuring devices	UK: Not required
2.1.3(a)	International network	UK: Not required
2.1.3(b)	National networks	UK: Amend 1st sentence: "The calling party number can either shall (when available) be included in the initial address message [Sections 2.1.1.1 c) and 2.1.2.1 c)] or requested by the destination exchange (see Section 2.1.6). "
2.1.4.1	Actions required at the destination exchange	UK: Delete last sentence of <u>the first paragraph of i)</u> : "In the case that the continuity check..." <u>Add a new paragraph at the end of i) [immediately before ii)]:</u> <u>"In all cases, if the Calling Party Category received in the Initial Address message had a value of 252 then the Called Subscriber's Basic Service Marks parameter shall be included in the ACM if available."</u> Replace the last paragraph of ii); "Call history information is included in the connect message" with the following: "If the Calling Party Category received in the Initial Address message had a value of 252 then the Called Subscriber's Basic Service Marks parameter shall be included in the CON if available."
2.1.4.3	Actions required at an outgoing international exchange	UK: Not required
2.1.4.4	Actions required at an intermediate international exchange	UK: Not required
2.1.4.5	Actions required at an incoming international exchange	UK: Not required
2.1.5.2	Actions required at an intermediate national, outgoing international, intermediate international and incoming international exchange	UK: NOTE: Although international exchanges are mentioned in this section title there are no technical differences between them and national exchanges.
2.1.6.1	Requesting information (national use)	UK: Delete 'national use' from title Replace 1st para with: "After sending an Initial Address message, an Information Request message may be sent to any exchange in the forward call establishment direction between the receipt of an Address Complete/Connect message and up to the point of call release, i.e. in the post Address Complete, Connect and/or Answer call states, but prior to the sending or receipt of a Release message by an originating or destination exchange (subject to the limitation included in the note in subclause 2.1.6.2 ii below).

Q.764 Paragraph	Title	Comment
		After receiving an Initial Address Message, an Information Request message may be sent to any exchange in the backward call establishment direction at any time during the call, up to the point of call release, i.e. in the pre and post Address Complete, Connect and/or Answer call states, but prior to the sending or receipt of a Release message by an originating or destination exchange (subject to the limitation in the note in sub-section 2.1.6.2 ii below). To avoid time-out problems and to reduce information storage at interworking nodes, ISUP Information Requests which may be mapped to IUP ACI request procedures shall be limited to a single request per Information Request message.
2.1.6.2	Sending solicited information (national use)	UK: Delete 'national use' from title Amend para 1 as follows: <u>"On sending an information request message a timer (T33) is started. If a second INR message is received in the same direction before the response to the first INR message has been sent, the second request shall be ignored by the responding node and the call shall continue. No second information request message may be sent in the same direction until a response information message is received. If the timer (T33) expires before the response message is received, see section 2.9.7. The value of this timer (T33) is 12-15 seconds to allow for a cascade of information request messages, as described in item ii). The response information message may be sent as follows:"</u> Amend i): <u>"if all the information requested is available locally at the receiving exchange..."</u> Replace ii) with: "if the information requested is not available at the receiving exchange then the Information Request message shall be sent to the preceding or succeeding exchange to obtain the information requested. On receipt of the response Information message it shall be passed transparently to the succeeding or preceding exchange. NOTE: An intermediate node is allowed to request information if required. To avoid the cascading and possible delay of information requests, an intermediate node shall only initiate such backward requests prior to sending forward the outgoing initial address message" Replace iii) with: "If the information requested is not available at the receiving or the remote exchange (originating, destination or gateway exchange), then an Information message shall be returned containing an indication that the information is not available by setting the appropriate National Information Indicator(s) to 0" Add the following to the end of the subsection:- 'If an Information Request message is received with no National Information Request Indicators parameter included, it shall be discarded and an Information message shall be sent immediately by the responding node, with the National Information Indicators parameter included and all the indicators (A-P) set to value '0'. This shall occur regardless of any information requests received in error in the Information Request Indicators parameter, the contents of which shall always be ignored.
		If an Information Request message is received with more than one of the National Information Request Indicators A-F set to '1', it shall be discarded and an Information message shall be sent immediately by the responding node, with the National Information Indicators parameter included with the appropriate indicators set to '0'.

Q.764 Paragraph	Title	Comment
2.1.6.3	Receiving a solicited information message (national use)	UK: Delete 'national use' from title Add to the end of para 1, 1st sentence: "at the exchange which initiated the information request." Add a new paragraph to the end of the section: "The setting of the National Information Indicators is considered as redundant information and the parameters included in the INF message take precedence. Thus, the parameters included in the INF message shall be acted upon, irrespective of the settings of, or the absence of, the National Information Indicators parameter."
2.1.7.3	Actions required at an outgoing international exchange	UK: Not required
2.1.7.4	Actions required at an intermediate international exchange	UK: Not required
2.1.7.5	Actions required at an incoming international exchange	UK: Not required
2.1.8	Continuity check	UK: Shall not be used
2.1.9	Charging	UK: Amend 1st Paragraph; "Charging indicators are basically defined for <u>national network operator</u> use. Therefore, unless there is bilateral agreement, the decision to charge a call or not, or to start <u>interconnect</u> international accounting will not be decided upon reception of these indicators."
2.1.10	Forward transfer message	UK: Not required
2.1.12	Simple segmentation	UK: Delete subsection h) which deals with international exchanges.
2.1.13	Procedure for Nx64 kbit/s Connection Type	E: Not supported
2.4	Suspend, resume	UK: See Subsection 4.2.2.1 for the UK modifications.
2.5.2.2.2	Succeeding network does not have the capability of performing fallback	UK: Modify the first paragraph as follows: The intermediate exchange will include a transmission medium used parameter (which has been set according to the fallback connection type indicated in the transmission medium requirement prime parameter) in the address complete message or <u>connect</u> call progress message indicating that fallback has occurred for this call.
2.5.3.2	Actions at the intermediate exchange	UK: Delete para 1, which refers to international exchanges (NB removal of just the international exchange text removes need for the para).
2.6	Propagation delay determination procedure	UK: Not required
2.7.1	Introduction	UK: The enhanced echo control procedures are not required
2.7.2	Enhanced echo control signalling procedures	UK: Not required
2.8.1	Automatic repeat attempt	UK: Delete item iv)
2.8.2	Blocking and unblocking of circuits and circuit groups	E: Modify last paragraph as follows: The use of circuits for multirate calls or <u>Nx64 kbit/s connection type</u> has no effect on the blocking (unblocking) procedures, which apply on a per circuit, not per call basis. UK: Delete the last paragraph; "The use of circuits for multirate..."

Q.764 Paragraph	Title	Comment
2.9.1.2	Detection of dual seizure	E: Modify last paragraph as follows: As a circuit group may handle a mixture of 64 kbit/s <u>and</u> multirate connection types, and Nx64 kbit/s connection type, dual seizure by calls of different connection types is possible. In this case the initial address messages may have different circuit identification codes. UK: Delete the last paragraph; "As a circuit group may handle a mixture of 64 kbit/s, multirate..."
2.9.1.3	Preventive action	E: Delete the sentence: "Further study is required to determine the field of application of each method and to ensure that the two methods do inter-work satisfactorily". The last paragraph "It is necessary (...) with long propagation time" is applicable to both methods described. UK: Method 2 is not required
2.9.1.4	Action to be taken on detection of dual seizures	E: Modify as follows: (item a) a) Where neither call involved is a multirate connection type or Nx64 kbit/s connection types (item d) Not supported. UK: Delete the title of item a) Delete items b) and c)
2.9.3.1	Reset circuit message	E: Modify as follows (item h) Modify as follows: h) when the reset circuit message identifies a circuit being used by a multirate connection type or Nx64 kbit/s connection type call, in addition, in order to make idle all circuits used for the call but not indicated in the reset circuit message, send reset circuit messages (or circuit group reset messages) for those circuits to the affected exchange. UK: Item h) is not required
2.9.3.2	Circuit group reset message	E: Modify as follows: (item g) when the circuit group reset message identifies circuits being used by a multirate connection type or Nx64 kbit/s connection type call, in addition, in order to make idle all circuits used for the call but not indicated in the circuit group reset message, send reset circuit messages (or circuit group reset messages) for those circuits to the affected exchange. UK: Item g) is not required
2.9.5	Receipt of unreasonable signalling information messages	E: Delete the paragraph "The degree of applicability (...) is for further study.". UK: Delete the note "NOTE – A format error can only be detected when the message is recognized"

Q.764 Paragraph	Title	Comment
2.9.5.1	Handling of unexpected messages	E: Modify as follows: (item e) "e) if a release complete message is received identifying one of the busy circuits being used by a multirate connection type or Nx64 kbit/s connection type call for which a release message has not been sent, the call will be cleared, all circuits made idle and a release message sent indicating the lowest circuit identification code of the multiple 64 kbit/s circuits used by the call; UK: Item e) is not required E: Modify as follows: (item f) -if the circuit is seized by a call, before receipt of a backward message required for the call set-up, the Reset Circuit Message is sent (or, in the case of a multirate connection type or Nx64 kbit/s connection type call, a circuit group reset message or multiple reset circuit messages are sent). UK: Modify as follows: (item f) -if the circuit is seized by a call, before receipt of a backward message required for the call set-up, the Reset Circuit Message is sent (or, in the case of a multirate connection type or Nx64 kbit/s connection type call, a circuit group reset message or multiple reset circuit messages are sent).
2.9.5.2	General requirements on receipt of unrecognised signalling information messages and parameters	E: Delete the paragraph: "i) Signalling for a facility completely provided between the originating and destination local exchanges could utilise one of the end-to-end methods defined in Recommendation Q.730, i.e. such facilities do not have to be supported by transit exchanges."
2.9.7	Failure to receive a response to an information request message (national use)	UK: Delete "national use" from title UK: Replace existing text with: "If Timer (T33) matures, the call shall continue in the normal way."
2.9.8.3	Abnormal release conditions	UK: Delete subpara b)
2.10	ISDN User Part signalling congestion control	UK: Note: UK MTP specified in [83] includes the ITU-T national option for multiple congestion levels, however UK ISUP procedures do not consider the levels derived within MTP i.e. the 'Level' parameter for the MTP STATUS primitive mentioned in Q.761 table 3 is not required to be supported by the procedures in this section.
2.11	Automatic congestion control	UK: Replace Q.764 Subclause 2.11 with the text contained in Section 4.2.2.2.
2.14	MTP Pause/Resume	E: Modify the last paragraph as follows "If the affected destination is a destination (Signalling Point) known by the ISDN User Part, the circuits in the idle state can be used for calls immediately <u>Or as a national option this exchange shall remain locally blocked, a non-call control message requiring a response shall be sent to the distant ISDN User Part. On receipt of the response message (or any other signalling message) from the distant ISDN User Part the local blocking resulting from the previously received MTP pause primitive shall be removed.</u> Normal call release procedures that may have started during the period of signalling isolation continue and as such will ensure that affected circuits are returned to the idle state."

Q.764 Paragraph	Title	Comment
		UK: Replace the ETSI modification with the following; "If the affected destination is a destination (Signalling Point) known by the ISDN User Part the circuits to the affected destination shall remain blocked for new calls, and a non-call control message requiring a response shall be sent to the distant ISDN User Part. On receipt of the response message (or any other signalling message) from the distant ISDN User Part the circuits are made available for new calls. Normal call release procedures that may have started during the period of signalling isolation continue and as such will ensure that affected circuits are returned to the idle state."
2.16	Support for Temporary alternative routing (TAR)	E: Insert the following at the end of the subclause; "An outgoing gateway shall set the Temporary Alternative Routing (TAR) indicator to 0 (no indication) independent of the value received from the national network. An incoming gateway shall set the Temporary Alternative Routing (TAR) indicator to 0 (no indication) independent of the value received from the intermediate network." UK: The ETSI exception does not apply between UK networks.
2.18	Call collect request procedures	UK: not required
2.19	Support for Hard To Reach Network Management functions	E: Not supported

Q.764 Paragraph	Title	Comment
2.1.x	Carrier selection information (national use)	E: Add a new subclause 2.1.x; "2.1.x Carrier selection information (national use) 2.1.x.1 Action required at the originating local exchange If a Carrier Selection is invoked by the user (reception of carrier selection information from the access) or by the network operator, the originating exchange shall send the Carrier Selection Information (CSI) parameter in the IAM. Note: The carrier selection information received from the access can be provided by a short prefix conveyed in the called party number parameter or by other means, depending on the access signalling system (e.g. in the TNS information element in DSS1). The CSI parameter shall be set as follows: If call per call Carrier Selection is not invoked and there is a preselected carrier then the CSI parameter is set to "selected carrier identification pre-subscribed, and no input by calling party".. If a carrier is call per call selected then the CSI parameter is set to "Carrier selected by input of calling party". If a carrier is selected by the network operator to which belongs the exchange then the CSI parameter is set to "carrier selected by a network operator". If no Carrier Selection is invoked, the CSI parameter shall not be sent. <u>NOTE: It is admitted that this parameter can be present even if the TNS parameter is not present</u> 2.1.x.2 Action required at an intermediate exchange within the originating network An intermediate exchange shall pass unchanged the CSI parameter to the subsequent exchange. 2.1.x.3 Action required at an outgoing national gateway exchange An outgoing national gateway exchange will pass on the parameter transparently. <u>Note It is admitted that this parameter can be present even if the TNS parameter is not present</u> 2.1.x.4 Action required at an incoming national gateway exchange a) In case the network to which belongs the gateway exchange is explicitly selected: the handling of the content of the CSI parameter is a network matter. However the parameter shall not be sent to any subsequent network. b) In case the network to which belongs the gateway exchange is not explicitly selected: the call is routed through the network with the CSI parameter unchanged. 2.1.x.5 Action required at the destination exchange No special action required. 2.1.x.6 Action required at an international exchange An international exchange shall discard the CSI parameter."

Q.764 Paragraph	Title	Comment												
2.1.y	Global Call Reference	E: Add a new subclause 2.1.y: 2.1.y Global Call Reference The Global Call Reference parameter is generated by the first exchange in a call path that requires a globally unique call reference to be associated with a particular call. The Global Call Reference is a combination of a Network ID field, a Node ID field and a Call Reference ID field. The Network ID field will uniquely identify the network, the Node ID field will uniquely identify the node within this network that generates the Global Call Reference parameter. The Call Reference ID field will be a unique number generated on a per call instance within this node. The Global Call Reference parameter is sent in the forward direction in the IAM. An intermediate exchange shall pass this parameter unchanged. The Global Call Reference parameter shall be stored in the nodes which require this reference according to the needs of the application that uses the information. Note 1: The Global Call Reference parameter may typically be used for off-line purposes (e.g. to be stored for billing applications). Note 2: An exchange may delete a received Global Call Reference parameter. (e.g. at an outgoing gateway exchange). Note 3: A received Global Call Reference may be overridden, (e.g. at an incoming gateway exchange).												
Annex A	Timers in the ISDN user part	E: Annex A has the status of a normative annex Modify “Table A.1/Q.764 – Timers in the ISDN User Part” as follows <table><tr><td>T4</td><td>5-15 minutes</td><td>At receipt of MTP-STATUS primitive with the cause "inaccessible remote user " <u>or at receipt of MTP-RESUME primitive.</u></td><td>On expiry, or at receipt of user part available message (or any other)</td><td>Send user part test message. Start T4</td><td>2.13.2</td></tr></table> UK: Modify “Table A.1/Q.764 – Timers in the ISDN User Part” as follows <table><tr><td>T2</td><td>3 minutes</td><td>When controlling exchange receives a suspend (user) message <u>from the user.</u></td><td>At receipt of resume (user) message <u>from the user at controlling exchange.</u></td><td>Initiate release procedure</td><td>ITU-T Q.733.4[26]</td></tr></table> UK: The following timers are not required for the UK: T3, T8, T24, T25, T26, T27, T28, T31, T32, T36, T37, T38. The value of T33 is 5-15s. Add the following reference to Table A.1/Q.764 timer T4: 2.14	T4	5-15 minutes	At receipt of MTP-STATUS primitive with the cause "inaccessible remote user " <u>or at receipt of MTP-RESUME primitive.</u>	On expiry, or at receipt of user part available message (or any other)	Send user part test message. Start T4	2.13.2	T2	3 minutes	When controlling exchange receives a suspend (user) message <u>from the user.</u>	At receipt of resume (user) message <u>from the user at controlling exchange.</u>	Initiate release procedure	ITU-T Q.733.4[26]
T4	5-15 minutes	At receipt of MTP-STATUS primitive with the cause "inaccessible remote user " <u>or at receipt of MTP-RESUME primitive.</u>	On expiry, or at receipt of user part available message (or any other)	Send user part test message. Start T4	2.13.2									
T2	3 minutes	When controlling exchange receives a suspend (user) message <u>from the user.</u>	At receipt of resume (user) message <u>from the user at controlling exchange.</u>	Initiate release procedure	ITU-T Q.733.4[26]									
Annex B	Figures on basic call control signalling procedures	E: Annex B has the status of an informative annex												
Annex C	Examples of echo control signalling procedures	E: Annex C has the status of an informative annex												
Annex D	Examples of signalling procedures for connection type allowing fallback	E: Annex D has the status of an informative annex												
Annex E	Test calls	E: Annex E has the status of an informative annex												

Q.764 Paragraph	Title	Comment
Annex F	Cause values	E: Annex F has the status of a normative annex. Add the following note: NOTE: Exceptions and clarifications to ITU-T Recommendation Q.850 [87] are given in EN 300 485 [88].
Annex G	Start up procedures	E: Annex G has the status of a normative annex.

4.2 Additions

4.2.1 ETSI additions

“ **Annex ZA (informative): Coding of the compatibility information for basic call procedures**

It is recommended that the compatibility information should be coded as follows:

ZA.1 Successful call set-up

ZA.1.1 New messages

ZA.1.1.1 Segmentation

a) 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:	Pass on not possible indicator
	1	discard information
bits	GF:	Broadband/narrowband interworking indicator
	00	pass on

ZA.1.2 New parameters

ZA.1.2.1 Location number

a) Nth upgraded parameter

0011 1111 location number

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
bits	JI:	Broadband/narrowband interworking indicator
	00	pass on

ZA.1.2.2 Origination ISC point code

a) **Nth upgraded parameter**

0010 1011 origination ISC point code

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
	1	discard parameter
bits	GF:	Pass on not possible indicator
	10	discard parameter
bits	JI:	Broadband/narrowband interworking indicator
	00	pass on

ZA.1.2.3 Carrier selection information

a) **Nth upgraded parameter:**

1010 0001 carrier selection information

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;
bits	JI:	Broadband/narrowband interworking indicator;
	00	pass on.

ZA.1.2.4 Global Call Reference

a) **Nth upgraded parameter:**

1010 0100 Global Call Reference

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;
bits	JI:	Broadband/narrowband interworking indicator;
	00	pass on.

ZA.2 Transportation of user teleservice information

ZA.2.1 New parameters

ZA.2.1.1 User teleservice information

a) **Nth upgraded parameter**

0011 0100 user teleservice information

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
bits	JI:	Broadband/narrowband interworking indicator
	00	pass on

ZA.3 Access delivery information

ZA.3.1 New parameters

ZA.3.1.1 Access delivery information

- a) **Nth upgraded parameter**
0010 1110 access delivery information
- 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
- bits **JL:** **Broadband/narrowband interworking indicator**
00 pass on

ZA.4 Signalling procedures for connection type allowing fallback capability

ZA.4.1 New parameters

ZA.4.1.1 Transmission medium requirement prime

- a) **Nth upgraded parameter**
0011 1110 transmission medium requirement prime
- b) **Instruction indicators**
- bit **A:** **Transit at intermediate exchange indicator**
1 end node 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**
1 discard parameter
- bits **GF:** **Pass on not possible indicator**
10 discard parameter
- bits **JL:** **Broadband/narrowband interworking indicator**
00 pass on

ZA.4.1.2 Transmission medium used

- a) **Nth upgraded parameter**
0011 0101 transmission medium used
- b) **Instruction indicators**
- | | | |
|------|------------|--|
| bit | A: | Transit at intermediate exchange indicator |
| | 1 | end node 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 |
| | 1 | discard parameter |
| bits | GF: | Pass on not possible indicator |
| | 10 | discard parameter |
| bits | JI: | Broadband/narrowband interworking indicator |
| | 00 | pass on |

ZA.4.1.3 User service information prime

- a) **Nth upgraded parameter**
0011 0000 user service information prime
- b) **Instruction indicators**
- | | | |
|------|------------|--|
| bit | A: | Transit at intermediate exchange indicator |
| | 1 | end node 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 |
| | 1 | discard parameter |
| bits | GF: | Pass on not possible indicator |
| | 10 | discard parameter |
| bits | JI: | Broadband/narrowband interworking indicator |
| | 00 | pass on |

ZA.5 Propagation delay determination

ZA.5.1 New parameters

ZA.5.1.1 Call history information

- a) **Nth upgraded parameter**
0010 1101 call history information
- 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 |
| bits | Jl: | Broadband/narrowband interworking indicator |
| | 00 | pass on |

ZA.5.1.2 Propagation delay counter

- a) **Nth upgraded parameter**
0011 0001 propagation delay counter
- 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 |
| bits | Jl: | Broadband/narrowband interworking indicator |
| | 00 | pass on |

ZA.6 Echo control procedure

ZA.6.1 New messages

ZA.6.1.1 Network resource management

a) 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:	Pass on not possible indicator
	1	discard information
bits	GF:	Broadband/narrowband interworking indicator
	00	pass on

ZA.6.2 New parameters

ZA.6.2.1 Echo control information

a) Nth upgraded parameter

0011 0111 echo control information

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
bits	Jl:	Broadband/narrowband interworking indicator
	00	pass on

ZA.7 Pre-release information procedure

ZA.7.1 New messages

ZA.7.1.1 Pre-release information

a) 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:	Pass on not possible indicator
	1	discard information
bits	GF:	Broadband/narrowband interworking indicator
	00	pass on

ZA.8 Support of Temporary alternative routing (TAR)

ZA.8.1 New parameters

ZA.8.2.1 Network management controls

a) Nth upgraded parameter

0101 1011 network management controls

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
bits	JI:	Broadband/narrowband interworking indicator
	00	pass on

ZA.9 Hop Counter procedure

ZA.9.1 New parameters

ZA.9.2.1 Hop counter

a) Nth upgraded parameter

0011 1101 hop counter

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
bits	Jl:	Broadband/narrowband interworking indicator
	00	pass on

ZA.10 Call Collect Request Procedure

ZA.10.1 New parameters

ZA.10.1.1 Collect call request

a) Nth upgraded parameter

0111 1001 collect call request

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
bits	Jl:	Broadband/narrowband interworking indicator
	00	pass on

ZA.11 Interaction between N-ISDN and INAP

ZA.11.1 New parameters

ZA.11.1.1 IN Service Compatibility Information

a) Nth upgraded parameter:

1010 0010 IN Service Compatibility Information

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)
bit	GF:	Pass on not possible indicator
	10	discard parameter
bit	JI:	Broadband/narrowband interworking indicator
	00	pass on

4.2.2 UK modifications

4.2.2.1 Suspend, Resume

Replace section 2.4 with the following:

“2.4 Suspend, Resume

2.4.1 Suspend

The suspend message indicates a temporary cessation of communication without releasing the call. It can only be accepted during the conversation/data phase. This can be initiated by the calling or called party.

a) When the calling party is in control of call release, determined by B number examination and when backward “Hold” has not been invoked by the receipt of a hold request in the backward call indicators, a suspend message shall be generated by the network, in the backward direction, in response to a clearback indication from an interworking node or an on-hook condition from an analogue called party.

i) Action at the destination exchange or an interworking exchange

On receipt of an on-hook condition in the destination exchange or a clearback signal at the interworking exchange, the exchange shall send a suspend (network) message to the preceding exchange.

ii) Action at the intermediate exchange

On receipt of a suspend message the exchange shall send a suspend message to the preceding exchange.

iii) Action at the controlling exchange

On receipt of the on-hook condition or clearback indication or suspend (network) message, the controlling exchange shall start a timer (T6) to ensure that an off-hook condition, a re-answer indication, a resume (network) message or a release message is received. The value of this timer (T6) is specified in Recommendation Q.118 [66]. If the timer (T6) expires, the procedures in section 2.4.3 shall apply.

b) When the called party is in control of call release, determined by B number examination and/or when backward "Hold" has been invoked, a suspend message shall be generated by the network in the forward direction, in response to a clear forward indication from an interworking point/network or receipt of an on-hook condition from an analogue calling party.

i) Action at the originating exchange or an interworking exchange

On receipt of an on-hook condition in the originating exchange or a clear forward signal at the interworking exchange, the exchange shall send a suspend (network) message to the succeeding exchange.

ii) Action at the intermediate exchange

On receipt of a suspend message the exchange shall send a suspend message to the succeeding exchange.

iii) Action at the controlling exchange

On receipt of the on-hook condition or clear forward indication or suspend (network) message, the controlling exchange shall start a timer (T6) to ensure that an off-hook condition, a re-answer indication, a resume (network) message or a release message is received. The value of this timer (T6) is specified in Recommendation Q.118 [66]. If the timer (T6) expires, the procedures in section 2.4.3 shall apply.

Under certain conditions this timer (T6) may need to be inhibited when release of the call is required to be under the absolute control of the called party, e.g. calls to Emergency operators.

2.4.2 Resume

A resume message indicates a request to recommence communication. A request to release the call received from either direction shall override the suspend/resume sequence and the procedures given in section 2.3 shall be followed.

a) When the calling party is in control of call release, a resume message shall be initiated by the network, in the backward direction, if a suspend (network) message had previously been sent, in response to a re-answer indication from an interworking node or an off-hook condition from an analogue called party.

i) Action at the destination exchange or an interworking exchange

On receipt of a re-answer signal at the interworking exchange, or an off-hook condition in the destination exchange, the exchange shall send a resume (network) message to the preceding exchange if a suspend (network) message had previously been sent.

ii) Action at the intermediate exchange

On receipt of a resume message the exchange shall send a resume message to the preceding exchange.

iii) Action at the controlling exchange (i.e. exchange controlling the call)

On receipt of the off-hook condition or re-answer signal, release message or resume message the controlling exchange shall stop timer (T6) [started in section 2.4.1(a) (iii)].

b) When the called party is in control of call release and a suspend (network) message had previously been sent, a resume message shall be initiated by the network in the forward direction in response to a forward re-answer indication from an interworking point/network or an off-hook condition from an analogue calling party.

i) Action at the originating exchange or an interworking exchange

On receipt of a forward re-answer signal at the interworking exchange or an off-hook condition in the originating exchange, the exchange shall send a resume (network) message to the succeeding exchange if a suspend (network) message had previously been sent.

ii) Action at the intermediate exchange

On receipt of a resume message the exchange shall send a resume message to the succeeding exchange.

iii) Action at the controlling exchange (i.e. exchange controlling the call)

On receipt of the off-hook condition or re-answer signal, release message or resume message the controlling exchange shall stop timer (T6) [started in section 2.4.1(b) (iii)].

iv) Actions at the outgoing international exchange

Calls subject to control of call release by the called party are not applicable via international exchanges. The receipt of any resume (network) message in the forward direction by an international exchange shall be treated as an “unexpected” message and discarded.

2.4.3 Expiration of timer (T6)

If a request for reconnection or a resume (network) message is not received within timer (T6), covered in Recommendation Q.118 [66], then the exchange where the timer has been started shall initiate the release procedure on both sides. Cause value #16 (normal call clearing) is used in the release message on expiry of T6.

2.4.4 Receipt of “Unexpected” Suspend (Network) Messages

When calling/called party control of call release applies, originating and terminating points/networks will be aware of which point/network is controlling call release, dependent on call state. If “unexpected” (network) suspend messages are detected by such points/networks the following actions shall apply.

a. If an “unexpected” forward suspend (network) message is received by a destination or controlling exchange, i.e. when it is known that control of call release by the calling party is applicable, then immediate call release shall be initiated with cause value #111, “protocol error, unspecified”.

b. If an “unexpected” backward suspend (network) message is received by an originating or controlling exchange, i.e. when it is known that control of call release by the called party is applicable, then immediate call release shall be initiated with cause value #111, “protocol error unspecified”.

2.4.5 Last Party Release - Suspend and Resume

Last Party Release (LPR) may be invoked as an alternative to calling/called party control of call release by B number analysis or the return of a Holding indication in the Backward Call Indicators at call set-up.

On calls which are subject to LPR, the first party to go ‘on hook’ shall result in the generation of a network Suspend message from either the originating or terminating point/network, whichever is appropriate. The end point/network receiving the Suspend message shall become the controlling point/network for call release and shall start timer (T6).

If timer (T6) matures the procedures in section 2.4.3 above shall apply.

If the other party goes ‘on hook’ the controlling point/network shall stop timer (T6) and initiate immediate call release with cause value #16 ‘normal call clearing’.

If the party that initiated the Suspend message goes 'off hook' again this shall initiate the sending of a network Resume message. On receipt of the Resume message, the controlling point/network shall stop timer (T6) and the call shall continue.

On calls that are subject to LPR, simultaneous 'on hook' conditions from both the calling and called parties may result in "crossover" of network Suspend messages. If an originating, terminating or controlling point/network detects receipt of a network Suspend message as a response to the sending of a network Suspend message, immediate call release shall be initiated by that point/network with cause value #16, "normal call clearing".

”

4.2.2.2 Automatic congestion control

“2.11 Automatic Congestion Control

2.11.1 Introduction and overview

ISUP Automatic Congestion Control (ACC) serves to protect any ISUP exchange from call processing overload that prevents the timely execution of ISUP call processing tasks. Such overload is termed “exchange overload” or “exchange congestion”.

In summary, ISUP ACC overload protection is achieved by:

1. the overloaded exchange detecting that it is in overload and rejecting a part of the stream of IAMs arriving from adjacent exchanges by means of Release messages with overload indications (ACL 1 or 2) and Release cause # 42 “switching equipment congestion”; and
2. source exchanges adaptively adjusting the rate they send calls to the overloaded exchange to maximise its effective throughput whilst bounding response times.

By ‘source exchange’ is meant an exchange that sends ISUP messages directly to an exchange which reports it is overloaded. ‘Directly’ means ‘not via an intermediate exchange’.

ISUP ACC shall satisfy all of the requirements for each of the overload scenarios specified in 2.11.3 below.

The need for external overload controls (in this instance ACC) is illustrated by the typical throughput curve for an exchange shown in Figure 1 – see, for example, [112, section 3].

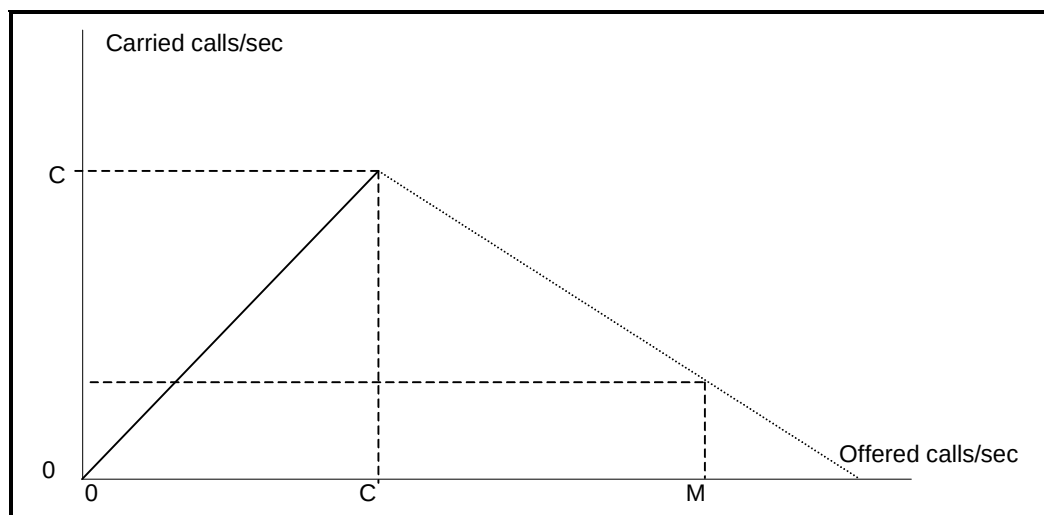


Figure 4.1 – Exchange throughput curve

Note: The falloff of carried calls/sec beyond “C” may not be linear.

As the offered calling rate increases from zero the carried calling rate increases, reaching a maximum of “C” calls/sec. For offered loads less than, or equal, to “C”, all offered calls are carried. For offered loads greater than “C” calls/sec the node's internal overload control begins to reject calls, for example to keep processor load at (say)

90%. The processor effort of rejecting calls causes the throughput to decrease. If the offered load is increased sufficiently beyond "C" calls/sec, there then comes a point (at which the offered load is "M" calls/sec) where correct ISUP call handling cannot be guaranteed, and many calls would have to be rejected.

Note: A more detailed discussion of the need for overload controls, of desirable end-to-end control requirements and how to achieve them, may be found in [113].

2.11.2 Procedures

2.11.2.1 Actions at an overloaded exchange

Two levels of congestion are distinguished, a less severe congestion threshold (Congestion Level 1) and a more severe congestion threshold (Congestion Level 2).

If an exchange reaches a state of overload and commences to reject calls then it shall reject those calls marked as "non priority" (CPC value 10) before it commences to reject those calls marked as "priority" (CPC value 11)

When an overloaded exchange rejects an IAM due to exchange overload it shall include the Release Cause #42 "switching equipment congestion" [87] and an ACL parameter with the congestion level set according to the severity of the overload in the Release message generated. Optionally the ACL parameter may be included in all Release messages as specified in [110].

Note: This ensures that only IAMs rejected by exchange overload shall count as rejected calls at sources.

When an exchange rejects a call due to overload, it shall do so as soon as possible.

Note: This is necessary to enable an overloaded exchange to trigger ACC restriction at sources as quickly as possible.

Under overload, a high proportion of the response times at the overloaded exchange, of calls carried by it, should be short enough in the attained steady state so as not to cause subscribers to clear down before call set-up is complete.

Note 1: The response time is defined as the time from an IAM being admitted by the overloaded exchange node to either an IAM being forwarded (if the overloaded exchange is not the destination for that call), or sending of the first forward call set-up message or signal on the access signalling system (if the overloaded exchange is at the destination for that call).

Note 2: This requirement serves a dual purpose: it ensures that, when the control has settled down to a steady state, customers do not clear down due to long call setup times (this is necessary to limit customer-initiated repeat attempts). It also limits the round trip delay from source to overloaded exchange to source, which improves the stability of the control.

2.11.2.2 Actions at sources

The source shall, after taking the appropriate action, discard any Automatic Congestion Level parameter received, i.e. it shall not be passed on in the REL message at an intermediate node.

Traffic reduction shall be performed only in respect of calls that are not identified as having priority (see Section 3 above, subclause 3.11). Optionally, traffic reduction may be modified, as specified in section 2.11.2.4, so as to prevent switch failure due to processing very high rates of priority-marked calls during emergencies.

2.11.2.2.1 Control activation

If a source in the pre ACM/CON state receives a Release message containing an ACL parameter and release cause # 42 "switching equipment congestion" in response to an IAM sent by the source to an overloaded exchange, and the source has no active ACC towards that exchange, then ACC load restriction shall automatically be activated.

If the above conditions do not apply then ACC load restriction shall not be activated.

Note: This means, for example, that ACC restriction must not be activated merely by the receipt of a Release with an ACL parameter. This requirement ensures that only a call rejected due to exchange congestion can activate ACC restriction.

The initial level of restriction applied when ACC restriction is activated shall be MMI configurable.

The values the initial level of restriction can take shall allow an operator to set the initial restriction level to be as severe or moderate as they require.

Note 1: This allows the control to respond rapidly to the initial surge of calls in a worst case overload event.

Note 2: It may be desirable for the initial restriction level to depend upon the value of the ACL parameter, so that the initial level can be more severe if an ACL=2 is received than if an ACL=1 is received.

It shall be possible to configure the controls so that during the initial transient response of the control (i.e. prior to the steady state being reached) the calling rate offered to the overloaded exchange does not exceed $(C+M)/2$ IAMs/sec measured over any 1 second period.

Note: This requirement ensures that the overload controls react fast enough to prevent the load offered to the overloaded exchange from getting dangerously close to M (see Figure 4.1).

2.11.2.2.2 Adaptation of restriction level

If the rate at which the overloaded exchange rejects calls from a source due to processor overload indicates that the overloaded exchange's load is close to its capacity, small changes only to its restriction level shall be made by the source.

Note: The overloaded exchange's condition could be estimated, for example, by a source measuring the rate at which the overloaded exchange sends Release messages containing an ACL parameter and Cause #42 "switching equipment congestion" in response to this source's IAMs, and comparing this to a locally configured call reject rate for that overloaded exchange.

If the rate at which the overloaded exchange rejects calls is determined at the source by counting released calls, then only calls in respect of which a Release message containing an ACL1 or ACL2 parameter, and Cause #42 "switching equipment congestion", is received, in response to an IAM, shall be counted.

Note: these two requirements jointly ensure that the total IAMs/sec offered to the overloaded exchange, from many compliant sources, converges close to the overload exchange's capacity (C). A full explanation may be found in [113].

The changes to the restriction level shall be progressively larger (or more frequent) as the overloaded exchange's indicated load departs further from the overloaded exchange's capacity.

Note 1: this is to ensure a rapid response to sudden changes (increases or decreases) in the offered calling rate.

Note 2: it may be desirable to impose more severe restriction in response to ACL2s than in response to ACL1s.

2.11.2.3 Termination of control

Control of load towards an exchange shall be terminated at a source only when both (a) and (b) below have been zero for a sufficiently long, MMI-configurable, period to indicate that the overload has abated.

(a) the rate the overloaded exchange rejects IAMs from the source (with REL+ACLx +cause 42); and

(b) the rate the source rejects calls to the overloaded exchange.

Note 1: This is essential to prevent the control repeatedly and rapidly ending and restarting (at its initial severe restriction level).

Note 2: A time period of 1-2 minutes is advised.

2.11.2.4 Optional use of priorities

ISUP provides 2 priority levels for calls (see section 3.11 of Section 3 above). In this section the priorities will be denoted 0 (the lowest priority, non -priority marked calls) and 1 (the highest, priority marked calls). The method of using priorities specified here applies to more than just two priorities, and is defined generally.

The use of priorities specified here is based on the SCCP traffic limitation mechanism described in clauses 2.6 and 5.2.4 of [115].

A source switch shall have a state variable, per controlled route, called HighestControlledPriority. It takes integer values in the range MinimumPriority to MaximumPriority (both these parameters being operator configurable per switch). For ISUP, MinimumPriority = 0 and MaximumPriority = 1.

A source switch shall have an (operator configurable) parameter, called InitialHighestControlledPriority, per controlled route. It takes integer values in the range MinimumPriority to MaximumPriority.

When control is activated at a source switch towards a specific exchange, then the HighestControlledPriority shall be set equal to the value of the parameter InitialHighestControlledPriority, and an ACC throttle shall be activated and initialised.

When a call set-up request of priority 'p' arrives at an active ACC throttle, then it shall be dealt with as follows:

(a) if $p < \text{HighestControlledPriority}$, the call is rejected;

(b) if $p = \text{HighestControlledPriority}$, the call is offered to the active throttle to determine whether it is admitted or not;

(c) if $p > \text{HighestControlledPriority}$, the call is admitted.

For each value of $\text{HighestControlledPriority}$, each source shall adapt its throttle's admitted rate so as to cause the total load offered to the overloaded exchange to converge to its capacity, as specified in section 2.11.2.

The $\text{HighestControlledPriority}$ shall be increased (subject to not exceeding the value of the parameter MaximumPriority) when the active ACC control at a source is throttling maximally, but the total load offered to the exchange is still too great. (One way to assess this at each source is described in section 2.11.2.2.2). At the same time as the $\text{HighestControlledPriority}$ is increased, the active throttle shall be re-initialised at its minimal level of throttling.

The $\text{HighestControlledPriority}$ shall be decreased (subject to not falling below the value of the parameter MinimumPriority) when the active ACC control at a source is throttling minimally, but the total load offered to the exchange is still too low. (One way to assess this at each source is described in section 2.11.2.2.2). At the same time as the $\text{HighestControlledPriority}$ is decreased, the active throttle shall be re-initialised at its maximal level of throttling.

2.11.3 Range of overload scenarios

The requirements specified in sub-section 2.11.2 shall be automatically achievable for any scenario characterised by:

- number of sources in the range 1 to 100;
- a 'step increase' in the total load offered to the sources (and destined for the overloaded exchange node) from 0 to 5C calls/sec or M calls/sec (whichever is less);
- a fast 'ramp increase' to 5C or M (whichever is less) over period T7 (see [110] Annex A) in the total load offered to the sources (and destined for the overloaded exchange) followed by a slower ramp decrease over an average call holding time for the exchange in question;
- any distribution of the total offered load among sources;
- overloaded exchange capacities in the range $C = 20$ to 1000 calls/sec.

Note: These requirements stipulate that the control should be adaptive: that whatever the overloaded exchange's capacity is, and however many sources there are, and however the calling rate is distributed over them, the control will adapt automatically to achieve the specific requirements for overloaded exchange and sources. The step increase from 0 calls/sec offered load is an absolute worst case for any control to cope with. The ramp-up, ramp-down profile serves to test if a control can adequately track a varying offered load."

4.2.2.3 EN 300 356-1 Annex ZA

ETSI specification EN 300 356-1 [1] Annex ZA is required as normative for the UK except for those parameters identified as not required for the UK.

UK: Replace "It is recommended that the compatibility information should be coded as follows:" with "The compatibility information shall be coded as follows:"

END OF TSG/SPEC/007§4

5 ISDN user part supplementary services (Q.730)

5.1 Introduction

This section identifies the general procedures required by supplementary services contained in this specification. It is in the form of exceptions to the ITU-T recommendation Q.730 [61], and also details the ETSI modifications defined in [2].

5.2 Exceptions

NOTE: The referencing of Q.730 [61] clauses by [2] is incorrect due to renumbering of Q.730 [61]. The table below associates ETSI comments with the appropriate clause in Q.730.

Q.730 Paragraph	Title	Comment
8.2	General digit transfer (national use)	E: First paragraph: delete the third sentence 'Whether or not... for further study.'
8.5	Generic number transfer	E: First paragraph: delete the last sentence: 'Whether or not... for further study.'
8.6	Pivot Routing	E: Add 'Not required.'
9	End-to-end signalling	E: Not required
10	Layout of service Recommendations	E: Add the following: The agreed format for a document covering a supplementary service (and not endorsing an ITU-T Recommendation) is indicated below: Foreword; 1 Scope; 2 Normative references; 3 Definitions; 4 Symbols and abbreviations; 5 Description; 6 Operational requirements; 6.1 Provision and withdrawal; 6.2 Requirements on the originating network side; 6.3 Requirements on the destination network side; 7 Coding requirements; 8 State definitions; 9 Signalling procedures; 9.1 Activation, deactivation and registration; 9.2 Actions at the originating local exchange; 9.2.1 Normal operation; 9.2.2 Exceptional procedures; 9.3 Actions at a transit exchange; 9.3.1 Normal operation; 9.3.2 Exceptional procedures; 9.4 Actions at the outgoing international gateway exchange;

Q.730 Paragraph	Title	Comment
		9.4.1 Normal operation; 9.4.2 Exceptional procedures; 9.5 Actions at the incoming international gateway exchange; 9.5.1 Normal operation; 9.5.2 Exceptional procedures; 9.6 Actions at the destination local exchange; 9.6.1 Normal operation; 9.6.2 Exceptional procedures; 10 Interactions with other networks; 11 Interactions with other supplementary services; 11.1 Advice of charge services; 11.1.1 Charging information at call set-up time; 11.1.2 Charging information during the call; 11.1.3 Charging information at the end of a call; 11.2 Call waiting; 11.3 Call hold; 11.4 Call transfer; 11.4.1 Explicit call transfer; 11.5 Number identification services; 11.5.1 Calling line identification presentation; 11.5.2 Calling line identification restriction; 11.5.3 Connected line identification presentation; 11.5.4 Connected line identification restriction; 11.6 Closed user group; 11.7 Call completion services; 11.7.1 Completion of calls to busy subscriber; 11.7.2 Completion of calls on no reply; 11.8 Conference call, add-on; 11.9 Direct dialling in; 11.10 Diversion services; 11.10.1 Call forwarding unconditional; 11.10.2 Call forwarding busy; 11.10.3 Call forwarding no reply; 11.10.4 Call deflection; 11.11 Malicious call identification; 11.12 Message waiting indication; 11.13 Multiple subscriber number;

Q.730 Paragraph	Title	Comment
		11.14 Subaddressing; 11.15 Terminal portability; 11.16 Three party service; 11.17 User-to-user signalling; 12 Parameter values (timers); 13 Dynamic description; Annex A (informative): Signalling flows; Annex B (informative): Interworking aspects. UK: Not required
11	List of supplementary services	UK: Supplementary services are listed in §0 of this specification
Appendix I	Contents of the interface elements between the ISDN user part and the SCCP	UK: Not required
8.7	Parameter formats and codes	E: Appendix II has the status of an informative annex, describing a network option.

END OF TSG/SPEC/007§5

6 Usage of Cause and Location (Q.850)

6.1 Scope

The purpose of this section is to specify the UK usage of cause and location in the Signalling System No. 7 ISDN User Part by endorsement of Q.850 [87] amended by ETSI EN 300 485 [88].

This section specifies the cause and location values, used in the UK ISUP protocol, that are required for the national interface between public network operators in the UK.

Items for which no table row has been included are assumed to be required with the exception of values in ITU-T recommendation which are indicated only for use over the "user to network" interface (DSS1). No specific endorsement of these values is made in this specification; however they may be endorsed at a later date.

Some UK specific codes are marked as "(Intra-network use only)". This means that the codes are for use by one UK licensed operator and they have been reserved. These codes shall not be passed over a point of interconnect.

6.2 Exceptions

Q.850 Paragraph	Title	Comment																					
Table 1	Cause Information element/parameter	E: Add the following cause: <table><tr><th colspan="3">Cause</th><th rowspan="2">Definition</th><th rowspan="2">Dia</th><th rowspan="2">App</th><th rowspan="2">Ref</th><th rowspan="2">Loc.</th><th rowspan="2">Rem</th></tr><tr><th>Class</th><th>Value</th><th>No</th></tr><tr><td>001</td><td>1000</td><td>24</td><td>Call rejected due to ACR supplementary service</td><td></td><td>DSS1/ISUP</td><td></td><td>RLN</td><td></td></tr></table>	Cause			Definition	Dia	App	Ref	Loc.	Rem	Class	Value	No	001	1000	24	Call rejected due to ACR supplementary service		DSS1/ISUP		RLN	
Cause			Definition	Dia	App							Ref	Loc.	Rem									
Class	Value	No																					
001	1000	24	Call rejected due to ACR supplementary service		DSS1/ISUP		RLN																
2.2.7.1	Normal class	E: Add the following subclause 2.2.7.1 17bis: Cause No.24 – Call rejected due to ACR supplementary service. This cause indicates that the call has been rejected due to anonymous call reject supplementary service (ACR) at the destination.																					
3	General rules for the handling of the location field	UK: Amend the first bullet under “As a consequence of these rules:” as follows: - The location Public network serving the local user <u>shall not be sent over the public network. can be sent over a transit network or can be converted to Public network serving the remote user according to the structure of the national network and/or agreements between the network operators involved in the call. In any case the location Public network serving the local user shall not be sent over the international network.</u>The conversion from Public network serving the local user to Public network serving the remote user shall take place in the public network initially generating the location information.																					

6.3 UK Additions

6.3.1 National Coding Standard

The Cause parameter sub-field Coding Standard shall be set to "National Standard" (Binary value 10).

The cause values defined under this coding standard are as follows:

TABLE 6.2 - National Coding Standard Cause Values

Decimal Value	Encoding Bits 7 6 5 4 3 2 1	Meaning
1 to 47	0 0 0 0 0 0 1 to 0 1 0 1 1 1 1	} } } For intra-network use only
48 to 80	0 1 1 0 0 0 0 to 1 0 1 0 0 0 0	} } } Spare
81 to 127	1 0 1 0 0 0 1 to 1 1 1 1 1 1 1	} } } Reserved for TSG use

Note: If these values are received over the interconnect then they shall be interpreted as coding standard 00 "ITU-T" and cause value 31 "Normal, unspecified".

END OF TSG/SPEC/007§6

7 Connected Line Identification Presentation/Restriction (COLP/R)

7.1 Introduction

This section specifies the signalling formats, codes and procedures to support the UK Connected Line Identification Presentation (COLP) and Connected Line Identification Restriction (COLR) Supplementary Services.

7.2 Exceptions to ITU-T recommendation Q.731 Clause 5

Q.731 Paragraph	Title	Comment
5.2.2	Specific terminology	UK: See also Section 0.0.7 of this document.
5.5.2.5.1		UK: Modify final paragraph of iii) as shown below "In addition, the destination local exchange shall enter the default number associated with the connected user in the connected party number parameter field. In this parameter field, the screening indicator shall be set to "network provided" and the nature of address indicator to "national (significant) number" <u>except in the case of a non-UK number, where "international number" shall be used.</u>" UK: Add the following at the end of the existing text of section 5.5.2.5.1: "The actions at the terminating local exchange and the resulting codepoints are summarised in Table 7.1. 5.5.2.5.1.1 Additional procedures when the presentation number feature is applicable If the Presentation Number feature is applicable and a number that has been identified as a "user provided" presentation number has been made available to ISUP and if the screening indicator of the Connected Number parameter is set to "network provided", then the "user provided" presentation number shall be entered in the Generic Number parameter. In the Generic Number parameter, the number qualifier indicator shall be set to "additional connected number" and the screening indicator to "user provided, not verified". If the Presentation Number feature is applicable and no number that has been identified as a "user provided" presentation number has been made available to ISUP, and the screening indicator of the Connected Number parameter is set to "network provided", then the "network provided" presentation number shall be entered in the Generic Number parameter. In the Generic Number parameter, the number qualifier indicator shall be set to "additional connected number" and the screening indicator to "user provided, not verified". If no network provided presentation number exists, then the Generic Number parameter shall be omitted."

Q.731 Paragraph	Title	Comment
Annex ZA	Coding of the compatibility information	E: Insert the following: "Coding of the compatibility information It is recommended that the parameter compatibility information parameter for the generic number parameter should be coded as follows: a) Nth upgraded parameter 1100 0000 generic number 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 1 discard parameter bits GF: Pass on not possible indicator 10 discard parameter bits JI: Broadband/narrowband interworking indicator 00 pass on" UK: Modify the above text as follows "It is recommended that the The parameter compatibility information parameter for the generic number parameter <u>shall</u> should be coded as follows:"

7.3 Exceptions to ITU-T recommendation Q.731 Clause 6

6.2.2	Specific terminology	UK: See also Section 0.7 of this document.
6.7	Interaction with other networks	UK: Delete third paragraph

7.4 Connected Number codepoints

TABLE 7.1 - Connected number, codepoints

Information available to ISUP ³			Information transported by ISUP			
UP-NN	UP-PN	NP-PN	Parameter	Digits	NAI	SI
None	UPVP	yes / no ²	Connected Number	NP-NN	National or International	NP
			GN	UPVP-PN	as provided	UPNV
None	UPNV	yes / no ²	Connected Number	NP-NN	National or International	NP
			GN	UPNV-PN	as provided	UPNV
None	None	yes	Connected Number	NP-NN	National or International	NP
			GN	NP-PN	National or International	UPNV
None	None	no	Connected Number	NP-NN	National or International	NP
UPVP ¹	UPVP ¹	yes / no ²	Connected Number	UPVP-NN	as provided	UPVP
UPVP	None	yes / no ²	Connected Number	UPVP-NN	as provided	UPVP

NOTE 1: This case presupposes an enhanced screening function.

NOTE 2: 'yes / no' indicates that the presence or absence of a NP-PN is not relevant to the coding.

NOTE 3: A DLE may choose not to make all COL information available to ISUP, but a network provided network number is always assumed to be available.

END OF TSG/SPEC/007§7

8 Calling Line Identification Presentation/Restriction (CLIP/R)

8.1 Introduction

This section specifies the signalling formats, codes and procedures to support the UK Calling Line Identification Presentation (CLIP) and Calling Line Identification Restriction (CLIR) Supplementary Services.

8.2 Exceptions to ITU-T recommendation Q.731 Clause 3

Q.731 paragraph	Title	Comment
3.2.1	General description	E: Replace the 1st paragraph by: "The CLIP supplementary service is a supplementary service offered to the called user. It presents the calling user's number, with additional address information (e.g. the calling party sub-address) if any, to the called user. When provided the facility applies to all incoming calls except for when the calling user has activated the calling line identification restriction (CLIR) supplementary service (see 4) or the network inserts a default number not presentable to the called user or the complete number of the calling user is not available at the destination exchange." UK: In last paragraph: delete "Recommendation I.251.3" and insert "[70]"; delete "Recommendations Q.761-764 and Q.730" and insert "this specification".
3.2.2	Specific terminology	UK: At beginning of section add: "For additional UK specific terminology and/or exceptions see sub-section 0.0.7 of this document."
3.2.3	Qualification on the applicability to telecommunication services	UK: At end add: "See also [69]."
3.4	Coding requirements	UK: Before i) insert the following: 'The Initial Address Message (IAM) shall be used to convey all of the CLI information, and the format shall conform to Section 3 of this specification.' Amend the first paragraph of i) as follows: <u>'Section 3 of this specification Subclauses 3.8/Q.763 and 3.2/Q.763 gives the formats and coding for the calling party number, National Forward Call Indicators, Bit A (CBI), Presentation Number (including APRI, Presentation Number Preference Indicator and other information) and the access transport parameter which are required to support this service.'</u>

Q.731 paragraph	Title	Comment
3.5.2.1.1	Normal operation	E: Replace the last but one paragraph: "The address presentation restricted indicators of the calling party number and the generic number parameter shall both be set to the value "presentation allowed" or "presentation restricted" as received from the access signalling system with the following exception: - In the case where the CLIR service has not been invoked, the address presentation restricted indicator of the calling party number parameter may be set to "presentation restricted by network". This refers to situations where the default number is not presentable to the called user. The address presentation restricted indicator of the generic number parameter (when generated) shall be set to "presentation allowed" as received from the access signalling system." UK: Amend subclause as follows: "All information pertaining to the CLIP supplementary service shall be inserted in the initial address message sent as part of the basic call procedures according to Recommendation Q.764. <u>The originating network, shall construct and send an IAM in accordance with Section 4. The CLI information shall be sent at the time of initial call setup, and shall always include the associated Address Presentation Restricted Indicators (APRIs). The contents of the Calling Party Number, Generic Number and Presentation Number parameters, if sent, shall be as shown in Table 3-1. If no information is available for transfer in the Calling Party Number, Generic Number or Presentation Number parameters, then that parameter shall not be sent.</u> <u>As a minimum, the information that shall be generated by the originating local exchange at the time of initial call setup is: the NP or UPVP network number (NP-NN or UPVP-NN). Additionally, as an option, the following information may also be sent at the time of initial call setup, if available:</u> - <u>a NP presentation number (NP-PN);</u> - <u>either a UPVP or UPNV presentation number (UPVP-PN or UPNV-PN).</u> <u>Table 3-1 shows the valid combinations of CLI information.</u> The calling party sub address (if provided by the access signalling system) shall be transported transparently by the network in the access transport parameter. 3.5.2.1.1.1 Screening of user provided calling party number <u>The originating network shall be responsible for screening any calling party number received from the calling user. Such a CLI shall be identified either as a network number or presentation number.</u> <u>NOTE: Some networks may perform an enhanced screening function whereby both a user provided, verified and passed network number and a user provided, verified and passed presentation number are generated.</u> <u>In the case of a calling user with a special arrangement, no screening shall take place and the CLI shall be identified as a user provided not verified presentation number. If the numbering plan indicator made available to ISUP received from the access signalling system together with a calling party number is coded other than "ISDN (Telephony) numbering plan (Recommendation E.164)" or "unknown", then this the calling party number received from the access signalling system shall be discarded and the processing of the call shall continue as if this the calling party number had not been received. If the numbering plan indicator received from the access signalling system made available to ISUP is coded "unknown", then the originating local exchange shall treat this value as if the value "ISDN (Telephony) numbering plan (Recommendation E.164)" was had been received.</u>

Q.731 paragraph	Title	Comment
		<u>3.5.2.1.1.2 Common procedures</u> If the screening indicator received from the access signalling system made available to ISUP together with the calling party number is coded "user provided, not verified", then the calling party number shall be entered in the generic number parameter. In this parameter, the number qualifier indicator shall be set to "additional calling party number" and the screening indicator to "user provided, not verified". If the numbering plan indicator received is coded "ISDN (Telephony) numbering plan (Recommendation E.164)" or "unknown", then the nature of address indicator shall be set to "international number" or "national (significant) number" as received from the access signalling system made available to ISUP. NOTES: 1 As a national option, Some networks may allow for the screening indicator "user provided, verified and failed". If this screening indicator is supported, then the originating local exchange shall treat this value in the same manner as the value "user provided, not verified". In addition, the originating local exchange shall enter the default number associated with that access in the calling party number parameter. In this parameter, the screening indicator shall be set to "network provided" and the nature of address indicator to "national (significant) number". If the screening indicator received from the access signalling system together with the calling party number is coded other than "user provided, not verified", then the originating local exchange shall enter the calling party number, as received from the access signalling system, in the calling party number parameter. The screening indicator of the calling party number parameter shall be set as received from the access signalling system. 2 In the latter case, allowed values for the screening indicator are "network provided" and "user provided, verified and passed". <u>If a UP-NN is made available to ISUP then the originating exchange shall enter this number in the calling party number parameter. The screening indicator of the calling party number parameter shall be as made available to ISUP.</u> If no <u>UP-NN</u> is made available to ISUP calling party number is received from the access signalling system, the originating local exchange shall enter the default number associated with the that access in the calling party number parameter. The screening indicator shall be set to "network provided". and The nature of address indicator <u>shall be set</u> to "national (significant) number" <u>except in the case of a non-UK number, where "international number" shall be used.</u> The calling party number incomplete indicator of the calling party number parameter shall be set to "complete". The numbering plan indicator of the calling party number parameter shall be set to "ISDN (Telephony) numbering plan (Recommendation E.164)". The numbering plan indicator(s) of the generic number parameter <u>and presentation number parameter</u> shall be set to "ISDN (Telephony) numbering plan (Recommendation E.164)" if this value or "unknown" was <u>made available to ISUP</u> received from the access signalling system. The address presentation restricted indicators of the calling party number and the generic number parameter (with number qualifier set to "additional calling party number"), <u>and the presentation number parameter shall both</u> all be set to the value "presentation allowed" or "presentation restricted" <u>as received from the access signalling system depending on the invocation of the CLIR supplementary service, with the following exception:</u>

Q.731 paragraph	Title	Comment
		- In the case where the CLIR service has not been invoked the address presentation restricted indicator of the calling party number parameter may be set to "presentation restricted by network". This refers to situations where the default number is not presentable to the called user. <u>This includes the case where the CLIR (or equivalent Calling Number Blocking) service is not available to the calling user.</u> The address presentation restricted indicator of the generic number parameter <u>(with number qualifier set to "additional calling party number")</u> and of the presentation number parameter <u>(when if they are generated)</u> shall both be set to "presentation allowed" <u>as received from the access signalling system.</u> <u>If the address presentation restricted indicator of the calling party number parameter is set to "presentation restricted by network" then the CLI Blocking Indicator in the National Forward Call Indicators parameter shall be set to value "0", otherwise it shall be set to value "1".</u> The actions at the originating local exchange and the resulting code points are summarized in Table 3-1." <u>3.5.2.1.1.3 Additional procedures when the presentation number feature is applicable</u> <u>If the Presentation Number feature is applicable, and a number that has been identified as a "user provided" presentation number has been made available to ISUP, then this number shall be entered in the presentation number parameter. In addition if the screening indicator of the CgPN parameter is to be set to "network provided" then the "user provided" presentation number shall also be entered in the generic number parameter. In the generic number parameter, the number qualifier indicator shall be set to "additional calling party number" and the screening indicator to "user provided, not verified". The screening indicator in the presentation number parameter shall be as made available to ISUP, and the presentation number preference indicator shall be set to 'Presentation Number Preferred'.</u> <u>If the Presentation Number feature is applicable but no number that has been identified as a "user provided" presentation number has been made available to ISUP, then the network provided presentation number associated with the access shall be entered in the presentation number parameter. In addition, if the screening indicator of the Calling Party Number parameter is to be set to "network provided" then the "network provided" presentation number shall be entered in the Generic Number parameter. In the Generic Number parameter, the number qualifier indicator shall be set to "additional calling party number" and the screening indicator to "user provided, not verified". In the Presentation Number parameter, the screening indicator shall be set to "network provided" and the presentation number preference indicator set to "presentation number preferred". If no network provided presentation number exists then the presentation number parameter and generic number parameter shall be omitted.</u>
Table 3-1	Calling party number, codepoints	E: Delete note b). Add the following note to the entries of "Default number" in the 4th column: "In case the default is not presentable to the called party, the presentation restricted indicator of the calling party number parameter may be set to "presentation restricted by network" following the exception statement to subclause 3.5.2.1.1." UK: Replace Table 3-1 with the table shown in 8.4

Q.731 paragraph	Title	Comment
3.5.2.3.1	Normal operation	E: Replace the 1st paragraph by: "If the address presentation restricted indicator of the received calling party number parameter is set to "presentation restricted" <u>or</u> "<u>presentation restricted by network</u>", the outgoing international gateway exchange shall act according to the bilateral agreement between the two networks (see 4.2.1/I.251 and 4.5/I.251). If the address presentation restricted indicator of the received calling party number parameter is set to "address not available", then the calling party number parameter shall be omitted from the initial address message. If the calling party number parameter is not sent across the international section, then the generic number parameter shall be omitted from the initial address message if its number qualifier indicates "additional calling party number"." Replace note 2 by: "The address presentation restricted indicator in both the calling party number and generic number parameters are set to the same value. They can have the values "presentation allowed" or "presentation restricted" (based on the bilateral agreement). In addition, the presentation restricted indicator in the calling party number may be set to "presentation restricted by network" following the exception statement to subclause 3.5.2.1.1." UK: At the end of the first paragraph add the following: "If a presentation number parameter and/or a national forward call indicators parameter are/is received in the incoming initial address message, these/this shall be omitted from the outgoing initial address message."
3.5.2.4.2		E: Add the following sentence to the end of the 3rd paragraph: <u>"In case the calling party number cannot be presented to the called party because the APRI is set to "presentation restricted by network", then the indication "address not available" is given to the end-user."</u> UK: Delete the ETSI amendment shown above.
3.5.2.5.1	Normal operation	UK: Add the following sentence to the end of the 3rd paragraph: <u>"In case the calling party number cannot be presented to the called party because the APRI is set to "presentation restricted by network", then the indication "address not available" is given to the end-user."</u> E: Add the following sentence to the end of the 4th paragraph: "In case the calling party number cannot be presented to the called party because the APRI is set to "presentation restricted by network", then the indication "address not available" is given to the end-user." UK: Insert the following after the second paragraph: "If the CLI Blocking Indicator (CBI) in the National Forward Call Indicators is set to value "0" then the CLI in the Calling Party Number parameter shall not be sent to the called user. In this case, and if there is no other CLI information in any other IAM parameter, then an "unavailable" indication shall be sent to the called user. Where the terminating network receives an international call or a call from a national network which does not generate the national forward call indicators, it shall behave as if the CLI blocking indicator in the National Forward Call Indicators parameter were set to value "1"."

Q.731 paragraph	Title	Comment
		UK: After the fourth paragraph insert: "As an alternative, the CLIP service may use the presentation number parameter in addition to the international standard parameters. If the presentation number parameter is provided and the Presentation Number Preference indicator is set to 1 (PN preferred for mapping to legacy (IUP) ISDN services), then the number in this parameter may be made available for display. Otherwise, the unmodified ETSI procedures shall apply." UK: Delete the last paragraph.
3.6.10.1	Call forwarding busy (CFB)	UK: Amend the text as follows: "An exchange forwarding a call shall also forward the generic number <u>and/or presentation number parameter(s)</u> (if present)."
3.6.10.2	Call forwarding no reply (CFNR)	UK: Amend the text as follows: "An exchange forwarding a call shall also forward the generic number <u>and/or presentation number parameter(s)</u> (if present)."
3.6.10.3	Call forwarding unconditional (CFU)	UK: Amend the text as follows: "An exchange forwarding a call shall also forward the generic number <u>and/or presentation number parameter(s)</u> (if present)."
3.6.10.4	Call deflection (CD)	UK: Amend the text as follows: "An exchange deflecting a call shall also deflect the generic number <u>and/or presentation number parameter(s)</u> (if present)."
Figure 3-1	Originating local exchange dynamic description of the ISUP protocol	E: Add the following note to the setting of the presentation restriction indicator before sending of the IAM: "With inclusion of the exception statement to subclause 3.5.2.1.1 for the setting of the presentation restriction indicator in the calling party number parameter for network restricted numbers."
Figure 3-2	Outgoing international gateway exchange dynamic description	E: Add the following text at the end of note 2: <u>"In addition, the presentation restricted indicator in the calling party number may be set to "presentation restricted by network" following the exception statement to subclause 3.5.2.1.1."</u>
3.10	Dynamic description	UK: Delete all text and Figures 3-1, 3-2, 3-3, and 3-4. NOTE: The dynamic descriptions have been deleted in this version due to lack of resources for enhancements for UK.

Q.731 paragraph	Title	Comment
Annex ZA	Coding of the compatibility information	E: Insert the following: It is recommended that the parameter compatibility information for the generic number parameter should be coded as follows: a) Nth upgraded parameter 1100 0000 generic number 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 1 discard parameter bits GF: Pass on not possible indicator 10 discard parameter bits JI: Broadband/narrowband interworking indicator 00 pass on. UK: Modify the above text as follows "It is recommended that the The parameter compatibility information for the generic number parameter shall <u>should</u> be coded as follows:"

8.3 Exceptions to ITU-T Recommendation Q.731 Clause 4

Q.731 paragraph	Title	Comment
4.2.1	General description	E: Replace the 2nd paragraph by: "When the CLIR supplementary service is applicable and activated, the originating network shall provide the destination network with a notification that the calling party number is not allowed to be presented to the called user. In this case, the calling line identity shall be marked as presentation restricted, in the address presentation restricted indicator(s) of the calling party number parameter and generic number parameter (if present), when it is passed across the network. In the case of the CLIR supplementary service the calling party's number, and sub-address (if any), shall not be included in the call offered to the called user's installation. It is a function of the user-network interface not to present the identification of the calling user to the called user if the information is marked "presentation restricted", "presentation restricted by network" or to override the presentation restricted indication if the called user has an override category (e.g. police)." UK: In the last paragraph delete "Recommendations I.251.3 and I.251.4" and insert "[70]". UK: Amend the second paragraph as follows: When the CLIR supplementary service is applicable and activated, the originating network shall provide the destination network with a notification that the calling party numbers are not allowed to be presented to the called user. In this case the calling line identities shall be marked as "presentation restricted", in the address presentation restricted indicator(s) of the calling party number, and generic number parameter <u>(with number qualifier set to "additional calling party number") and presentation number parameter (if present they are generated)</u> when they are passed across the network. In the case of the CLIR supplementary service the calling party's number and sub-address (if any), shall not be included in the call offered to the called user's installation. It is a function of the user-network interface not to present the identification of the calling user to the called user if the information is marked "presentation restricted"/"presentation restricted by network" or to override the presentation restricted indication if the called user has an override category (e.g. police). <u>The user-network interface shall also perform this function in relation to the identity of the calling user contained in the calling party number parameter if the CLI Blocking Indicator in the National Forward Call Indicators parameter is set to value "0".</u>
4.2.2	Specific terminology	UK: Add at beginning of section "See also Subsection 0.0.7 of this document."
4.2.3	Qualification on the applicability to telecommunication services	UK: Add at end: "See also [69]."

Q.731 paragraph	Title	Comment
4.5.2.1.1	Normal operation	E: Replace the paragraph by: "The originating local exchange shall set the address presentation restricted indicator of the calling party number parameter and of the generic number parameter (if applicable) to the value as asked for by the access signalling system of the calling user system with the following exception: In case the CLIR service is not invoked, the address presentation restricted indicator of the calling party number parameter may be set to "Presentation restricted by network.". This refers to situations where a default number, that is not presentable to the called user, is inserted within the public network, for e.g. calls not to be rejected by the Anonymous Call Rejection (ACR) supplementary service [9, 10]. The address presentation restricted indicator of the generic number parameter (when generated) shall be set to "presentation allowed" as received from the access signalling system." UK: Amend as follows: "The originating local exchange shall set the address presentation restricted indicator of the calling party number parameter and the generic number parameter <u>(with number qualifier set to "additional calling party number")</u>, and the presentation number parameter <u>(if they are applicable)</u> to the value <u>as asked for by the access signalling system of the calling user system</u> "presentation allowed" or "presentation restricted" depending on the invocation of the CLIR supplementary service, with the following exception: - In <u>the case where</u> the CLIR service <u>is has not been</u> invoked, the address presentation restricted indicator of the calling party number parameter may be set to "Presentation restricted by network". This refers to situations where a default number, that is not presentable to the called user, is inserted within the public network, for e.g. calls not to be rejected by the Anonymous Call rejection (ACR) supplementary service [97] and [98]. This includes the case where the CLIR (or equivalent Calling Number Blocking) service is not available to the calling user. It also includes the case where, as a subscriber option, if a Presentation Number is available (or exceptionally even if a Presentation Number is not available) the calling subscriber does not wish their Network Number to be displayed. The address presentation restricted indicator of the generic number parameter <u>(with number qualifier set to "additional calling party number")</u> and of the presentation number parameter <u>(if they are when generated)</u> shall <u>both</u> be set to "presentation allowed" as received from the access signalling system. <u>If the address presentation restricted indicator of the calling party number parameter is set to "presentation restricted by network" then the CLI Blocking Indicator in the National Forward Call Indicators parameter shall be set to value "0", otherwise it shall be set to value "1".</u>
4.10	Dynamic description	UK: Delete all text. NOTE: The dynamic descriptions have been deleted in this version due to lack of resources for enhancements for UK.

Q.731 paragraph	Title	Comment
Annex ZA	Coding of the compatibility information	E: Insert the following" It is recommended that the parameter compatibility information for the generic number parameter should be coded as follows: a) Nth upgraded parameter 1100 0000 generic number 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 1 discard parameter bits GF: Pass on not possible indicator 10 discard parameter bits JI: Broadband/narrowband interworking indicator 00 pass on. UK: Modify the above text as follows "It is recommended that theThe parameter compatibility information for the generic number parameter <u>shall</u> should be coded as follows:"

8.4 Replacement TABLE 3-1/Q.731

The replacement for TABLE 3-1/Q.731 is shown in Table 8.1.

TABLE 8.1 - Calling party number, codepoints

Information available to ISUP ³			Information transported by ISUP				
UP-NN	UP-PN	NP-PN	Parameter	Digits	NAI	SI	PNP
None	UPVP	yes / no ²	CgPN	NP-NN	National or International	NP	-
			GN	UPVP-PN	as provided	UPNV	-
			PN	UPVP-PN	as provided	UPVP	PN
None	UPNV	yes / no ²	CgPN	NP-NN	National or International	NP	-
			GN	UPNV-PN	as provided	UPNV	-
			PN	UPNV-PN	as provided	UPNV	PN
None	None	yes	CgPN	NP-NN	National or International	NP	-
			GN	NP-PN	National or International	UPNV	-
			PN	NP-PN	National or International	NP	PN
None	None	no	CgPN	NP-NN	National or International	NP	-
UPVP ¹	UPVP ¹	yes / no ²	CgPN	UPVP-NN	as provided	UPVP	-
			PN	UPVP-PN	as provided	UPVP	PN
UPVP	None	yes	CgPN	UPVP-NN	as provided	UPVP	-
			PN	NP-PN	National or International	NP	PN
UPVP	None	no	CgPN	UPVP-NN	as provided	UPVP	-

NOTE 1: This case presupposes an enhanced screening function.

NOTE 2: 'yes / no' indicates that the presence or absence of a NP-PN is not relevant to the coding.

NOTE 3: An OLE may choose not to make all CLI information available to ISUP, but a network provided network number is always assumed to be available.

8.5 Exceptions to Q.699 as modified by EN 300 899-1 for CLIP/CLIR

The Tables 92 to 95 in Q.699 [99] including the ETSI modification to Table 92 and notes 1 and 2 shown in EN 300 899-1 [100] relating to the CLIP/CLIR service shall be replaced with the tables and notes shown below in sub-sections 8.5.1 to 8.5.4.

Replace the note inserted by EN 300 899-1 at the beginning of subclause 3.1.2.3 with the following:

NOTE: The UK regulations allow certain categories of subscribers to have the ability to override the presentation restriction and have the calling party's CLI's and subaddress information (if any) presented. The protocol to support this service (CLIR Override) is defined in Table 8.2 and by the note in Table 8.5."

8.5.1 Replacement Table 92/Q.699

The replacement for Table 92/Q.699 is shown in Table 8.2

TABLE 8.2 – CLIP information sent to the called user

IAM→			SETUP→ (Note 5)			
NFCI CBI Note 1	CgPN + (APRI) Note 2 & 4	PN / GN (ACgPN) + (APRI) Note 3 & 4	One number delivery		Two number delivery	
			Normal CLIR	CLIR Override	Normal CLIR	CLIR Override
0	Not present	Not present / Present (Others)	Unavailable	Unavailable	Unavailable	Unavailable
		Present (A)	PN (A)	PN (A)	PN (A); unavailable	PN (A); unavailable
		Present (R)	Restricted	PN (R)	Restricted	PN (R); unavailable
	Present (A)	Not present / Present (Others)	Unavailable	CgPN (R)	Unavailable	CgPN (R)
		Present (A)	PN (A)	PN (A)	PN (A); unavailable	PN (A); CgPN (R)
		Present (R)	Restricted	PN (R)	Restricted	PN (R); CgPN (R)
	Present (R)	Not present / Present (Others)	Unavailable	CgPN (R)	Unavailable	CgPN (R)
		Present (A)	PN (A)	PN (A)	PN (A); unavailable	PN (A); CgPN (R)
		Present (R)	Restricted	PN (R)	Restricted	PN (R); CgPN (R)
	Present (NA)	Not present / Present (Others)	Unavailable	CgPN (R)	Unavailable	CgPN (R)
		Present (A)	PN (A)	PN (A)	PN (A); unavailable	PN (A); CgPN (R)
		Present (R)	Restricted	PN (R)	Restricted	PN (R); CgPN (R)
	Present (11)	Not present / Present (Others)	Unavailable	CgPN (R)	Unavailable	CgPN (R)
		Present (A)	PN (A)	PN (A)	PN (A); unavailable	PN (A); CgPN (R)
		Present (R)	Restricted	PN (R)	Restricted	PN (R); CgPN (R)
1 or none	Not present	Not present / Present (Others)	Unavailable	Unavailable	Unavailable	Unavailable
		Present (A)	PN (A)	PN (A)	PN (A); unavailable	PN (A); unavailable
		Present (R)	Restricted	PN (R)	Restricted	PN (R); unavailable
	Present (A)	Not present / Present (Others)	CgPN (A)	CgPN (A)	CgPN (A)	CgPN (A)
		Present (A)	PN (A)	PN (A)	PN (A); CgPN (A)	PN (A); CgPN (A)
		Present (R)	Restricted	PN (R)	Restricted	PN (R); CgPN (A)
	Present (R)	Not present / Present (Others)	Restricted	CgPN (R)	Restricted	CgPN (R)
		Present (A)	PN (A)	PN (A)	PN (A); unavailable	PN (A); CgPN (R)
		Present (R)	Restricted	PN (R)	Restricted	PN (R); CgPN (R)
	Present (NA)	Not present / Present (Others)	Restricted	CgPN (R)	Restricted	CgPN (R)
		Present (A)	PN (A)	PN (A)	PN (A); restricted	PN (A); CgPN (R)
		Present (R)	Restricted	PN (R)	Restricted	PN (R); CgPN (R)
	Present (11)	Not present / Present (Others)	Unavailable	CgPN (R)	Unavailable	CgPN (R)
		Present (A)	PN (A)	PN (A)	PN (A); unavailable	PN (A); CgPN (R)
		Present (R)	Restricted	PN (R)	Restricted	PN (R); CgPN (R)

NOTE 1: The "NFCI CBI" column defines the status of the CLI Blocking indicator bit in the National forward call indicators parameter as defined for UK ISUP. Note that if the National forward call indicators parameter is absent from the ISUP IAM then the default value of CBI is "1".

NOTE 2: The "CgPN + APRI" column indicates if the Calling party number parameter is included in the ISUP IAM or not. If it is included then the Address presentation restriction indicator value is shown in brackets. Note that the APRI value "NA" is shown. However this value is defined for national use in Q.763 and should not normally be received.

NOTE 3: The "PN/GN(ACgPN) + APRI" column indicates the input to the mapping derived from either the Presentation Number parameter with Presentation Number Preference Indicator set to "PN preferred" or the Generic Number parameter qualified as "additional calling party number" if included in the ISUP IAM.

If both these parameters are present then the Presentation number parameter shall be used as the first choice for "PN/GN(ACgPN) + APRI" input. However if the PN parameter is received with either the Presentation number preference indicator (PNP) set to "reserved", or with the Address Presentation Restricted indicator (APRI) set to a "reserved" value then this parameter shall be discarded and the GN(ACgPN) shall be examined. If on examination the GN (ACgPN) parameter has an APRI setting other than "presentation allowed" or "presentation restricted" then this parameter shall also be discarded. In this case the input to the mapping shall be the same as if neither of these parameters had been received.

NOTE 4: In the "input" columns the indication in brackets shows the APRI setting of that parameter:

- (A) presentation allowed (value "00");
- (R) presentation restricted (value "01");
- (NA) address not available (value "10");
- (11) presentation restricted by network;
- (Others) values other than "A" and "R".

NOTE 5: In the "output" columns:

- i) Naming the input parameter in an output column shows that number and screening information is transferred from that input parameter to the corresponding output information element. The use of "PN" in the output column refers to either the PN parameter (if present) or the GN(ACgPN) parameter.
- ii) When number information is included in an output information element (as a result of (i) above) its "presentation indicator" value is set as either:
 - (A) = "presentation allowed"; or
 - (R) = "presentation restricted".
- iii) When number information is not included in an output information element its "presentation indicator" value is set to either:
 - unavailable = "number not available due to interworking"; or
 - restricted = "presentation restricted".

In either case the screening indicator shall be "network provided" and the type of number and numbering plan shall both be set to "unknown".
- iv) In an output column, if there are two indications separated by a semicolon then these represent the first and second Calling party number information element contents respectively.

8.5.2 Replacement Table 93/Q.699

The replacement for Table 93/Q.699 is shown in Table 8.3

TABLE 8.3 – Coding of the calling party number information element according to the calling party number parameter

IAM→	SETUP→
Calling party number parameter	Calling party number i.e.
Nature of address indicator <i>National number</i> <i>International number</i>	Type of number (Note) <i>National number</i> <i>International number</i>
Numbering plan indicator <i>ISDN/Telephony numbering plan</i>	Numbering plan identification <i>ISDN/Telephony numbering plan</i>
Address presentation restricted indicator <i>Presentation allowed</i> <i>Presentation restricted</i> <i>Address not available</i> <i>Presentation restricted by network</i>	Presentation indicator See Table 8.2
Screening indicator <i>User provided, verified and passed</i> <i>Network provided</i>	Screening indicator <i>User provided, verified and passed</i> <i>Network provided</i>
Address signals	Number digits
NOTE – As a network option, the type of number may be coded <i>unknown</i> when a prefix is added to the number.	

8.5.3 Replacement Table 94/Q.699

The replacement for Table 94/Q.699 is shown in Table 8.4

TABLE 8.4 – Coding of the calling party number information element according to the presentation number or generic number parameter

IAM→	SETUP→
Presentation number parameter With presentation number preference indicator set to <i>PN preferred</i> OR Generic number parameter with number qualifier set to <i>additional calling party number</i>	Calling party number i. e.
Nature of address indicator <i>National number</i> <i>International number</i>	Type of number (Note) <i>National number</i> <i>International number</i>
Numbering plan indicator <i>ISDN/Telephony numbering plan</i>	Numbering plan identification <i>ISDN/Telephony numbering plan</i>
Address presentation restricted indicator <i>Presentation allowed</i> <i>Presentation restricted</i>	Presentation indicator <i>Presentation allowed</i> <i>Presentation restricted</i>
Screening indicator <i>User provided, not verified</i> <i>User provided verified and passed (PN only)</i> <i>Network provided (PN only)</i>	Screening indicator <i>User provided, not verified</i> <i>User provided verified and passed</i> <i>Network provided</i>
Address signals	Number digits
NOTE – As a network option, the type of number may be coded <i>unknown</i> when a prefix is added to the number.	

8.5.4 Replacement Table 95/Q.699

The replacement for Table 95/Q.699 is shown in Table 8.5

TABLE 8.5 – Sending of the calling party subaddress

IAM→		SETUP→
Address presentation restricted indicator of either the: Calling party number parameter Or Presentation Number parameter with presentation number preference indicator set to <i>PN preferred</i> Or Generic Number parameter with number qualifier set to <i>additional calling party number</i>	Access transport parameter	Content
<i>Presentation allowed</i> In any of the above parameters	Calling party subaddress information element	Calling party subaddress information element
Either: <i>Presentation restricted</i> (Note) Or <i>Address not available</i> Or <i>Presentation restricted by network</i> in all of the above parameters (if present) Or None of these parameters	Calling party subaddress information element	No calling party subaddress information element
NOTE - In the case of the CLIR Override service, the Calling Party Subaddress information element, if present in the received Access Transport parameter, shall be included in the SETUP message sent to the called access line, irrespective of the setting of the APRI contained in any of the above ISUP parameters.		

END OF TSG/SPEC/007§8

9 Anonymous Call Rejection (ACR)

9.1 Introduction

This section specifies the signalling formats, codes and procedures to support the Anonymous Call Rejection (ACR) supplementary service. The base reference for the ACR supplementary service is ETSI EN 300 356-21 [97].

9.2 Exceptions to ETSI EN 300 356-21

EN 300 356-21 Paragraph	Title	Comment
6	Coding requirements	UK: Replace the first paragraph with: "The ACR supplementary service acts upon the values signalled in the Address Presentation Restricted Indicator (APRI) field of the Calling Party Number, Generic Number and Presentation Number parameters, and the CLI Blocking Indicator field of the National Forward Call Indicators parameter."
8	Signalling Procedures	UK: Replace the third paragraph with: "The ACR supplementary service, if active, acts on the signalling information received to determine whether to reject the call, as shown in Table 9.1. The calls are rejected regardless of the current state (e.g. free or busy) of the served user's access. The served user's ability to originate calls is unaffected by the ACR supplementary service. UK Replace second bullet point with: "by sending an Address Complete or Call Progress message, that shall include cause value 24 and applying an in-band announcement as specified in the "Tones and announcements" subsection of ETSI EN 300 356-1: "Integrated Services Digital Network (ISDN); Signalling System No.7 (SS7);ISDN User Part (ISUP) version 4 for the international interface; Part 1: Basic services [ITU-T Recommendations Q.761 to Q.764 (1999) modified]; or".
9.1	Interworking with non-ISDN networks	UK: Add the following at the end of the existing text: <u>"When interworking with non-ISDN networks, to improve consistency of the mode of rejection resulting from the ACR supplementary service, networks may (when tones and announcements are applicable to the requested transmission medium requirement) choose to reject the call by applying an ACR specific in-band indication at the node at which rejection occurs."</u>

TABLE 9.1 - ACR Analysis of Received Signalling Information

PN (PNP=1) + [APRI] Note 3, 5	GN(ACgPN) + [APRI] Note 4, 5	NFCI CBI Note 1	CgPN + [APRI] Note 2, 5	ACR rejects call?
Present[A]	-	-	-	No
Present[R]	-	-	-	Yes
Absent / Present[other]	Present[A]	-	-	No
	Present[R]	-	-	Yes
	Absent / Present[other]	0	-	No
		1	Absent	No
			Present[A]	No
			Present[R]	Yes
			Present[NA]	Yes
			Present[11]	No

NOTE 1: The "NFCI CBI" column defines the status of the CLI Blocking indicator bit in the National forward call indicators parameter as defined for UK ISUP. Note that if the National forward call indicators parameter is absent from the ISUP IAM then the default value assumed for the CBI is "1".

NOTE 2: The "CgPN + [APRI]" column indicates whether or not the Calling party number parameter is included in the ISUP IAM. If it is included then the Address presentation restricted indicator value is shown in brackets. Note that the APRI value "NA" is shown. However this value is defined for national use in Q.763 and should not normally be received.

NOTE 3: The "PN(PNP=1) + [APRI]" column indicates whether or not the Presentation Number parameter with Presentation Number Preference Indicator set to "PN preferred" is included in the ISUP IAM. If it is included then the Address presentation restricted indicator value is shown in brackets.

If the PN parameter is received with either the Presentation number preference indicator (PNP) set to "reserved", or with the Address Presentation Restricted indicator (APRI) set to a "reserved" value, then the action taken shall be as if the parameter had not been received.

NOTE 4: The "GN(ACgPN) + [APRI]" column indicates whether or not the Generic Number (qualified as Additional Calling Party Number) is included in the ISUP IAM. If it is included then the Address Presentation Restricted Indicator value is shown in brackets.

If the GN(ACgPN) parameter has an APRI setting other than "presentation allowed" or "presentation restricted" then the action taken shall be as if the parameter had not been received.

NOTE 5: Where the APRI setting of a parameter is shown in brackets, the meanings are as follows:

- [A] presentation allowed (value "00");
- [R] presentation restricted (value "01");
- [NA] address not available (value "10");
- [11] presentation restricted by network;
- [other] values other than "A" and "R".

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10 UK Number Portability (NP)

10.1 Service Overview

This section specifies the signalling formats, codes and procedures to support the UK Number Portability Supplementary Service.

Three forms of UK Number Portability are defined;

- Geographic Number Portability, described in ND 1203:2000/05 [75]
- Non Geographic Number Portability, described in ND 1207:2000/05 [101]
- Mobile Number Portability, described in ND 1208:2005/08 [102]

10.2 Geographic Number Portability

10.2.1 Information Flows

See section 10.2.4 below for message flows.

10.2.2 Formats And Codes

10.2.2.1 Messages

10.2.2.1.1 Initial Address Message (IAM)

The format of the IAM shall be as specified in section 3.

10.2.2.2 Parameters

10.2.2.2.1 Called Party Number

The format of the Called Party Number Parameter when routeing calls between Donor and Recipient networks (possibly via a third party network) shall be as specified in section 3. The allowed coding of the Called Party Number parameter is as follows;

- a) *Odd/even indicator*
 - 0 even number of address signals
 - 1 odd number of address signals
- b) *Nature of address indicator*
 - 111 1110 UK specific address
- c) *Internal network number indicator (INN ind.)*
 - 0 routeing to internal network number allowed
 - 1 routeing to internal network number not allowed
- d) *Numbering plan indicator*
 - 001 ISDN (Telephony) numbering plan (Recommendation E.164)
- e) *Address Signals*
 - 0000 digit 0
 - 0001 digit 1
 - 0010 digit 2
 - 0011 digit 3
 - 0100 digit 4
 - 0101 digit 5
 - 0110 digit 6
 - 0111 digit 7
 - 1000 digit 8
 - 1001 digit 9
 - 1111 ST

The address signals shall be formatted as shown in Figure 10.1

f) *Filler*

In case of an odd number of address signals, the filler code 0000 shall be inserted after the last address signal.

Number Portability Prefix (Note 1)						Ported Number
Prefix	Recipient Exchange Code					
5	X	Y	Y	Y	Y	Called Address Digits (Note 2)

FIGURE 10.1 - Called Party Number Parameter, Address Signals for GNP

NOTE 1: For geographic number portability the last five digits of the Number Portability Prefix comprise the Recipient Exchange Code (REC). The first address digit 'X' of the REC can be any value except '0' which has been reserved for other uses including non-geographic number portability, Subsequent digits of the REC 'Y' may be any digit.

NOTE 2: The called address digits shall include the leading zero.

10.2.3 **Signalling Procedures**

10.2.3.1 **Actions at the Donor Network**

The donor network shall send an IAM to the recipient or third party network. The address signals in the Called Party Number parameter shall be constructed in accordance with 10.2.2.2.1. The Number Portability Prefix is used by the donor network to route the call to the POI of the recipient network or third party network.

10.2.3.2 **Actions at the Third Party Network**

The third party network uses the Number Portability Prefix in the Called Party Number parameter of the IAM to route the call to the POI of the recipient network.

10.2.3.3 **Actions at the Recipient Network**

The recipient network uses the Number Portability Prefix and the called address digits in the Called Party Number parameter of the IAM to route the call.

10.2.4 **Message Sequence Diagram**

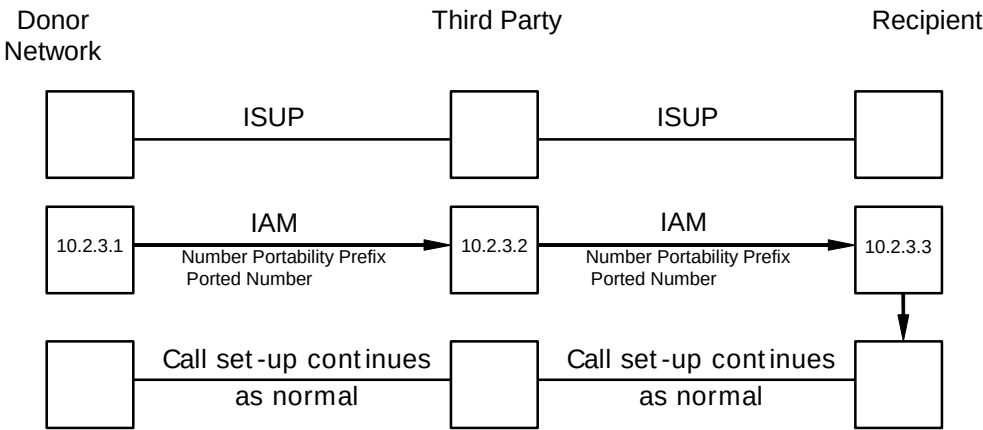


FIGURE 10.2 - Geographic Number portability message sequence diagram

10.3 Non-Geographic Number Portability

10.3.1 Information Flows

See section 10.3.4 below for message flows.

10.3.2 Formats And Codes

10.3.2.1 Messages

10.3.2.1.1 Initial Address Message (IAM)

The format of the IAM shall be as specified in section 3.

10.3.2.2 Parameters

10.3.2.2.1 Called Party Number

The format of the Called Party Number Parameter when routeing calls between Donor and Recipient networks (possibly via a third party network) shall be as specified in section 3. The allowed coding of the Called Party Number parameter is as follows;

- a) *Odd/even indicator*
 - 0 even number of address signals
 - 1 odd number of address signals
- b) *Nature of address indicator*
 - 111 1110 UK specific address
- c) *Internal network number indicator (INN ind.)*
 - 0 routeing to internal network number allowed
 - 1 routeing to internal network number not allowed
- d) *Numbering plan indicator*
 - 001 ISDN (Telephony) numbering plan (Recommendation E.164)
- e) *Address Signals*
 - 0000 digit 0
 - 0001 digit 1
 - 0010 digit 2
 - 0011 digit 3
 - 0100 digit 4
 - 0101 digit 5
 - 0110 digit 6
 - 0111 digit 7
 - 1000 digit 8
 - 1001 digit 9
 - 1111 ST

The address signals shall be formatted as shown in Figure 10.3

f) *Filler*

In case of an odd number of address signals, the filler code 0000 shall be inserted after the last address signal.

Number Portability Prefix (Note 1)						Ported Number
NGNP Prefix identifier			Recipient Network Code			
5	0	Z	Y	Y	Y	Called Address Digits (Note 2)

FIGURE 10.3 - Called Party Number Parameter, Address Signals for NGNP

NOTE 1: For NGNP the first three address digits in the Number Portability Prefix field are defined as the NGNP prefix identifier. For the allocation of the “Z” and “Y” digit values refer to the National Telephone Numbering Plan available from Ofcom.

NOTE 2: The called address digits shall include the leading zero.

10.3.3 Signalling Procedures

10.3.3.1 Actions at the Donor Network

The donor network shall send an IAM to the recipient or third party network. The address signals in the Called Party Number parameter shall be constructed in accordance with 10.3.2.2.1. The Number Portability Prefix is used by the donor network to route the call to the POI of the recipient network or third party network.

10.3.3.2 Actions at the Third Party Network

The third party network uses the Number Portability Prefix in the Called Party Number parameter of the IAM to route the call to the POI of the recipient network.

10.3.3.3 Actions at the Recipient Network

The recipient network uses the Number Portability Prefix and the called address digits in the Called Party Number parameter of the IAM to route the call.

10.3.4 Message Sequence Diagram

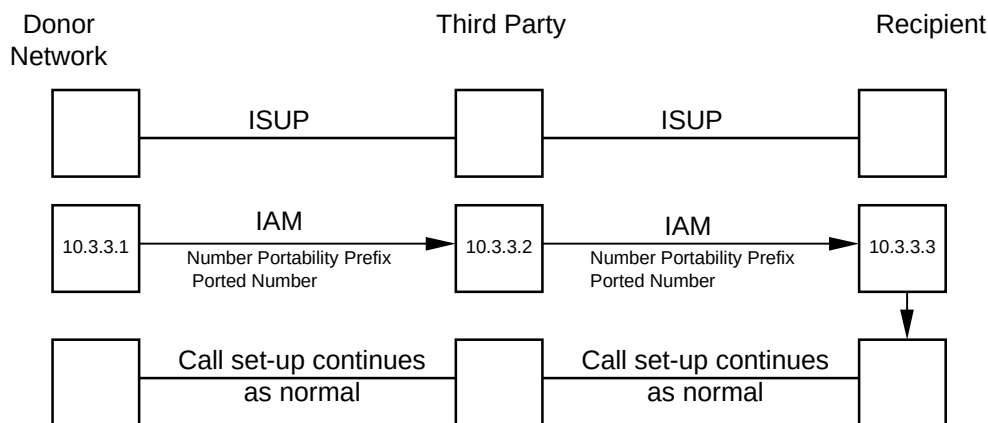


FIGURE 10.4 - Non-geographic Number portability message sequence diagram

10.4 Mobile Number Portability

10.4.1 Information Flows

See section 10.4.4 below for message flows.

10.4.2 Formats And Codes

10.4.2.1 Messages

10.4.2.1.1 Initial Address Message (IAM)

The format of the IAM shall be as specified in section 3.

10.4.2.2 Parameters

10.4.2.2.1 Called Party Number

The format of the Called Party Number Parameter when routeing calls between Donor and Recipient networks shall be as specified in section 3. The allowed coding of the Called Party Number parameter is as follows;

- a) *Odd/even indicator*
 - 0 even number of address signals
 - 1 odd number of address signals
- b) *Nature of address indicator*
 - 000 0011 national (significant) number
- c) *Internal network number indicator (INN ind.)*
 - 0 routeing to internal network number allowed
 - 1 routeing to internal network number not allowed
- d) *Numbering plan indicator*
 - 001 ISDN (Telephony) numbering plan (Recommendation E.164)
- e) *Address Signals*
 - 0000 digit 0
 - 0001 digit 1
 - 0010 digit 2
 - 0011 digit 3
 - 0100 digit 4
 - 0101 digit 5
 - 0110 digit 6
 - 0111 digit 7
 - 1000 digit 8
 - 1001 digit 9
 - 1111 ST

The address signals shall be formatted as shown in Figure 10.5

- f) *Filler*

In case of an odd number of address signals, the filler code 0000 shall be inserted after the last address signal.

MNP Re-Routeing Code (Note 1)				NNG (Note 2)			
7	x	y	z	a	b	c	Subscriber Number

FIGURE 10.5 - Called Party Number Parameter, Address Signals for MNP

NOTE 1: The value of individual MRCs assigned to CPs is defined in ND 1208:2005/08 [102].

NOTE 2: To ensure maximum number lengths are not reached, the NNG shall not include the 's' digit.

EXAMPLE: For a mobile '07abcdefghj' ported to network 'xyz' the contents of the address signals shall be '7xyzabcdefghj'

10.4.3 Signalling Procedures

10.4.3.1 Actions at the Donor Network

The donor network shall send an IAM to the recipient or third party network. The address signals in the Called Party Number parameter shall be constructed in accordance with 10.4.2.2.1. The Mobile re-routeing code is used by the donor network to route the call to the POI of the recipient network or third party network.

10.4.3.2 Actions at the Third Party Network

The third party network uses the Mobile re-routeing code in the Called Party Number parameter of the IAM to route the call to the POI of the recipient network.

10.4.3.3 Actions at the Recipient Network

The recipient network uses the Mobile re-routeing code, the NNG and the Subscriber Number in the Called Party Number parameter of the IAM to route the call.

10.4.4 Message Sequence Diagram

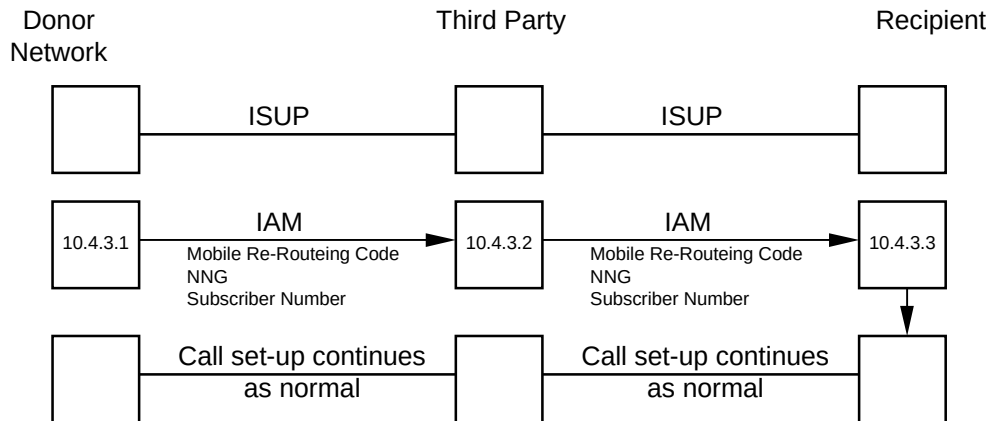


FIGURE 10.6 - Mobile Number portability message sequence diagram

END OF TSG/SPEC/007§10

11 Completion of Calls to Busy Subscriber (CCBS)

11.1 Introduction

This section specifies the signalling formats, codes and procedures to support the UK CCBS Supplementary Service.

The base reference specification for the CCBS supplementary service is Q.733.3 [80] as modified by the EN 300 356-18 [18].

11.2 Exceptions

Q.733.3 Paragraph	Title	Comment
3.5.1.1.1.1	Normal Procedures	UK: Amend the Note 5 as follows: "Note 5 - Call information retained by the originating local exchange in support of CCBS will correspond to the following basic call parameters from the originating call, if applicable: - user service information; - user service information prime; - access transport; - calling party number; - called party number - <u>national forward call indicators</u> - <u>generic number (Additional Calling Party Number)</u> - <u>presentation number</u>"
3.5.4.1	Routing in the SCCP Network	UK: Add the following text after the last paragraph: "[72] and [73] describe the SCCP routing and addressing to be used for CCBS."
3.5.4.2	Number Information used for routing	UK: Add the following text after the last paragraph: "[73] gives a definition of the Service Centre Address for CCBS."
3.5.4.3	SCCP message return procedure	UK: Replace the existing text with: "[73] describes the use of the SCCP message return option for CCBS."
3.6.10.2.2	Destination local exchange (B)	E: Replace the complete text in part a) by: "a) Call forwarding is (are) already activated on receipt of a CCBS request. On receipt of a CCBS request: • if destination B has a CFU activated, the destination B's local exchange rejects the CCBS request with short-term denial as the reason [see 3.5.5.4.1 c)]. If any other call diversion is activated in addition to CFU, the result should be the same; • if destination B has only a CFB activated, destination B's local exchange accepts the CCBS request; • if destination B has CFNR activated (with or without a CFB in addition), destination B's local exchange accepts the CCBS request if destination B is busy and rejects the CCBS request if destination B is free. NOTE – A local exchange is not aware of the activation of any call deflection. Consequently, a CCBS request is always accepted by the local exchange of such a user."

Q.733.3 Paragraph	Title	Comment
		Add the following at the end "d) Call diversion is invoked at destination B. On receipt of a release message with cause parameter containing value #17 or #34 (regardless of the value of the CCBS indicator in the diagnostic field): - if the reason for the call diversion is CFU or CFNR or CD, the diagnostic field is changed to a "CCBS not possible" indication; - if the reason for the call diversion is CFB, the diagnostic field is changed to indicate whether or not CCBS is possible. If CCBS is not possible, e.g. if destination B's local exchange knows that destination B's CCBS queue is set to zero, then the diagnostic field shall be set to "CCBS not possible" otherwise the diagnostic field shall be set to "CCBS possible". UK: Modify subclause 3.6.10.2.2 a) bullet 1 as follows: " - if destination B has a CFU or CFNRc activated, the destination B's local exchange rejects the CCBS request with short-term denial as the reason [see 3.5.5.4.1 c)]. If any other call diversion is activated in addition to CFU, the result should be the same;" Modify subclause 3.6.10.2.2 d) bullet 1 as follows - if the reason for the call diversion is CFU or CFNR or CD or CFNRc, the diagnostic field is changed to a "CCBS not possible" indication; Add the following sections: "3.6.26 UK Number Portability Number portability and CCBS interaction requirements and procedures are specified in [71]. When a CCBS call is routed from the donor network towards the recipient network the ISUP parameter settings defined in Section 10 of this document are applicable. The SCCP addressing used for the CCBS ASE signalling to a ported subscriber is defined in [73]. The calledPartyNumber value contained in the CCBS ASE CCBSRequest invoke will not require modification in order to interwork with number portability services. 3.6.27 Indirect Access The calledPartyNumber value contained in the CCBS ASE CCBSRequest invoke component shall contain the original dialled digit sequence. Indirect Access shall be invoked on the CCBS call as for the original call. 3.6.28 Carrier Pre-selection The SCCP called party address shall contain no Carrier Pre-select prefix digits. The calledPartyNumber value contained in the CCBS ASE CCBSRequest invoke component shall not contain Carrier Pre-select prefix digits. Carrier Pre-selection shall be invoked on the CCBS call as normal.

Q.733.3 Paragraph	Title	Comment
		3.6.29 Targeted Transit The SCCP called party address shall contain no Targeted Transit prefix digits. The calledPartyNumber value contained in the CCBS ASE CCBSRequest invoke component shall not contain Targeted Transit prefix digits.
ETSI 300 356-18 Paragraph Annex ZA	Coding of the compatibility information	E: Insert the following It is recommended that the parameter compatibility information for the CCSS parameter should be coded as follows: a) Nth upgraded parameter: 0100 1011 CCSS 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; bits JI: Broadband/narrowband interworking indicator; 00 pass on. UK: In title delete “(informative)” and insert “(normative)” Amend the first sentence as follows: “It is recommended that the The parameter compatibility information for the CCSS parameter should <u>shall</u> be coded as follows:”

END OF TSG/SPEC/007§11

12 Call Completion on No Reply (CCNR)

12.1 Introduction

This section specifies the signalling formats, codes and procedures to support the UK CCNR Supplementary Service.

The base reference specification for the CCNR supplementary service is Q.733.5 [76] as modified by the EN 300 356-20[81].

12.2 Exceptions

Q.733.5 Paragraph	Title	Comment
3	Definitions	E: Modify the definition of "Retain option" as follows: "Retain option: The retain option, if supported in both the originating and destination network, will maintain the CCNR request in the destination B queue, if a CCNR call has failed due to destination busy condition. or because the destination B does not answer the CCNR call." E: Delete the definition of "Destination B does not answer the CCNR call" (it is not applicable): "Destination B does not answer the CCNR call: After ACM (subscriber free)/CPG (alerting), either the calling user releases or a network release in forward or backward direction takes place."
9.1.1.1.1	Normal Procedure	UK: Amend NOTE 5 as follows: "NOTE 5 - Call information retained by the originating local exchange in support of CCNR will correspond to the following basic call parameters from the original call, if available: - user service information; - user service information prime; - access transport; - calling party number; - called party number; - additional called number. - national forward call indicators - generic number (Additional Calling Party Number) - presentation number"
9.3.1.2 d)	Exceptional procedures	E: Replace the entire subclause 9.3.1.2.d) as follows: "d) The CCNR call is successfully offered to destination B If the originating local exchange has sent an Initial Address message including the CCSS parameter and receives an ACM (subscriber free) or CPG (alerting) or Connect message, then - the originating local exchange shall release the transaction resources. The CCNR request shall be deactivated and user A shall be informed accordingly. If user A attempts to activate CCNR again, one of the following procedures shall apply: - If the received ACM/CPG contained a CCNR Possible indicator the procedures of subclause 9.1.1.1 shall be followed. - If the received ACM/CPG did not contain a CCNR Possible indicator, interworking is applied and the procedures of subclause 11.1 shall be followed. NOTE 2: Some networks may take action to reduce the probability of network congestion on the CCNR call."

Q.733.5 Paragraph	Title	Comment
9.3.5.1	Normal operation	E: Replace text (second paragraph after "iii)") as follows: "When the destination local exchange has sent an Address Complete message (with subscriber free), a CPG (alerting) message or a Connect message, the destination local exchange shall:"
9.3.5.2 d)	Exceptional procedure	E: Replace the entire subclause 9.3.5.2 d) as follows: "d) The CCNR call is successfully offered to destination B. If the destination local exchange sends an ACM(subscriber free) or CPG(alerting) or Connect message, then the corresponding CCNR request shall be cancelled. The destination local exchange shall release its resources. If user A activates CCNR again, this activation shall be considered as a new CCNR request, which will be put at the end of the destination B queue upon receipt of a new CcNrRequest invoke component from the originating local exchange. In this case the CCNR duration timers CCNR-T3 and CCNR-T7 shall be restarted and user A shall receive a confirmation."
9.4.1	Routing in the SCCP network	UK: Add the following text after the last paragraph: "[72] and [73] describe the SCCP routing and addressing to be used for CCNR."
9.4.2	Number Information used for routing	UK: Add the following text after the last paragraph: "[73] gives a definition of the Service Centre Address for CCBS which is also applicable to CCNR."
9.4.3	SCCP message return procedure	UK: Replace the existing text with: "[73] describes the use of the SCCP message return option for CCBS which is also applicable to CCNR."
9.5.4.1 a)	Routing in the SCCP network	E: Delete the very last hyphenated item (it is not applicable): "- CFNR, if the retain option is not supported, see 10.10.2.2 e)."
9.5.4.1 b)	Routing in the SCCP network	E: Replace the two hyphenated items as follows: "Upon sending of the Address Complete message (with subscriber free), Call Progress message (with alerting) or Connect message from the destination local exchange."
10.2.2	Single-step call transfer	E: Delete the entire subclause 10.2.2 (it is not applicable).
10.10.2.2 c)	Destination local exchange (B)	E: Replace the two hyphenated items as follows: "- either the CCNR call is treated as "the CCNR call is successfully offered to destination B" (see subclause 9.3.5.2 d); - or the TC-dialogue is terminated by destination B according to subclause 9.5.4.1.b). After expiry of the No Reply timer, the call is forwarded as a normal call. The CCSS parameter in the forwarded Initial Address message is deleted."
10.21	Malicious call identification (MCID)	E: Delete the entire subclause (it is not applicable).
10.22	Multi-level precedence and preemption (MLPP)	E: Delete the entire subclause (it is not applicable).
10.23	Private numbering plan (PNP) (for further study)	E: Delete the entire subclause (it is not applicable).
10.24	International telecommunication charge card (ITCC)	E: Delete the entire subclause (it is not applicable).
10.25	Global virtual network service (GVNS)	E: Delete the entire subclause (it is not applicable).

Q.733.5 Paragraph	Title	Comment
10.27	Message Waiting Indication (MWI)	E: Add the following subclause: 10.27 Message Waiting Indication (MWI) No impact on either ISUP or CCNR ASE.
10.28	Outgoing Call Barring (OCB)	E: Add the following subclause: 10.28 Outgoing Call Barring (OCB) When the CCNR call is barred, the corresponding CCNR request shall be deactivated.
10.29	Selective Call Forwarding (SCF)	E: Add the following subclause: 10.29 Selective Call Forwarding (SCF) No impact on either ISUP or CCNR ASE
10.30	UK Geographic Number Portability	UK: Add the following section: “10.30 UK Geographic Number Portability Geographic Number portability interaction requirements and procedures are specified in [71], with the result that when an ISUP CCNR call is routed to a ported number the ISUP parameter settings defined in section 10 of this document are applicable, eg the geographic number portability prefix is used in the Called Party Number parameter with NAI = UK specific address. This refers to the leg of the CCNR call from the donor network towards the recipient network. The SCCP addressing used for the CCSS ASE signalling to a ported subscriber is defined in [73]. The calledPartyNumber value contained in the CCSS ASE CCNRRequest invoke will not require modification in order to interwork with number portability services.”
12.2	Normal call - destination B provides the CCNR Possible indicator	E: Replace the figure and the notes by that shown in figure 12.1:
Annex ZA (Informative)	Coding of the compatibility information	E: ZA.1 CCNR Possible Indicator parameter It is proposed that the parameter compatibility information for the CCNR Possible Indicator parameter should be coded as follows: a) Nth upgraded parameter 0111 1010 CCNR Possible Indicator 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 bits JI: Broadband/Narrowband interworking indicator 00 pass on

Q.733.5 Paragraph	Title	Comment								
		E: ZA.2 CCSS parameter It is proposed that the parameter compatibility information for the CCSS parameter should be coded as follows: a) Nth upgraded parameter 0100 1011 CCSS 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 bits JI: Broadband/Narrowband interworking indicator 00 pass on UK: In title delete “(informative)” and insert “(normative)” ZA.1 CCNR Possible Indicator parameter Amend the first sentence as follows: “It is proposed that The parameter compatibility information for the CCNR Possible Indicator parameter should<u>shall</u> be coded as follows:” ZA.2 CCSS parameter Amend the first sentence as follows: “It is proposed that The parameter compatibility information for the CCSS parameter should<u>shall</u> be coded as follows:”								
Annex ZB (Informative)	Signalling Interworking	E: Add the following sub-clauses; ZB.1Interworking at the Originating Local Exchange ZB.1.1 CCNR call set-up Table ZB.1 <table><tr><th>SETUP →</th><th>IAM →</th></tr><tr><td>Facility information element: CCBSCall invoke component or CCBS-T- Call invoke component</td><td>CCSS parameter: CCSS call</td></tr></table> ZB.1.2 CCNR availability indication a) Coincident S and T reference point Table ZB.2 <table><tr><th>← ALERTING</th><th>← ACM (subscriber free), ← CPG (alerting)</th></tr><tr><td>Facility information element: CallInfoRetain invoke component</td><td>CCNR Possible Indicator parameter: CCNR possible</td></tr></table>	SETUP →	IAM →	Facility information element: CCBSCall invoke component or CCBS-T- Call invoke component	CCSS parameter: CCSS call	← ALERTING	← ACM (subscriber free), ← CPG (alerting)	Facility information element: CallInfoRetain invoke component	CCNR Possible Indicator parameter: CCNR possible
SETUP →	IAM →									
Facility information element: CCBSCall invoke component or CCBS-T- Call invoke component	CCSS parameter: CCSS call									
← ALERTING	← ACM (subscriber free), ← CPG (alerting)									
Facility information element: CallInfoRetain invoke component	CCNR Possible Indicator parameter: CCNR possible									

Q.733.5 Paragraph	Title	Comment																								
		b) T reference point Table ZB.3 <table><tr><td>ALERTING</td><td>← ACM (subscriber free), ← CPG (alerting)</td></tr><tr><td>Facility information element: CCBS-T-Available invoke component</td><td>CCNR Possible Indicator parameter: CCNR possible</td></tr></table> ZB.1.3 CCNR request a) Coincident S and T reference point Table ZB.4 <table><tr><td>FACILITY →</td><td>TC-BEGIN →</td></tr><tr><td>Facility information element: CCNRRequest invoke component</td><td>CcnrRequest invoke</td></tr></table> Table ZB.5 <table><tr><td>← FACILITY</td><td>← TC-CONTINUE</td></tr><tr><td>Facility information element: CCNRRequest return result</td><td>CcnrRequest return result</td></tr></table> b) T reference point Table ZB.6 <table><tr><td>REGISTER →</td><td>TC-BEGIN →</td></tr><tr><td>Facility information element: CCNRRequest invoke component destinationAddress retentionSupported q931InfoElement presentationAllowedIndicator originatingAddress</td><td>CcnrRequest invoke: calledPartyNumber retainSupported userServiceInf (BC or BC 1) userServiceInfPrime (BC 2) accessTransportParameter callingPartyNumber</td></tr></table> Table ZB.7 <table><tr><td>← FACILITY</td><td>← TC-CONTINUE</td></tr><tr><td>Facility information element: CCNRRequest return result</td><td>CcnrRequest return result</td></tr></table> ZB.1.4 Remote user free a) Coincident S and T reference point Table ZB.8 <table><tr><td>← FACILITY</td><td>← TC-CONTINUE</td></tr><tr><td>Note: First, user A monitoring procedure takes place. Facility information element: CCBSRemoteUserFree invoke component</td><td>RemoteUserFree</td></tr></table>	ALERTING	← ACM (subscriber free), ← CPG (alerting)	Facility information element: CCBS-T-Available invoke component	CCNR Possible Indicator parameter: CCNR possible	FACILITY →	TC-BEGIN →	Facility information element: CCNRRequest invoke component	CcnrRequest invoke	← FACILITY	← TC-CONTINUE	Facility information element: CCNRRequest return result	CcnrRequest return result	REGISTER →	TC-BEGIN →	Facility information element: CCNRRequest invoke component destinationAddress retentionSupported q931InfoElement presentationAllowedIndicator originatingAddress	CcnrRequest invoke: calledPartyNumber retainSupported userServiceInf (BC or BC 1) userServiceInfPrime (BC 2) accessTransportParameter callingPartyNumber	← FACILITY	← TC-CONTINUE	Facility information element: CCNRRequest return result	CcnrRequest return result	← FACILITY	← TC-CONTINUE	Note: First, user A monitoring procedure takes place. Facility information element: CCBSRemoteUserFree invoke component	RemoteUserFree
ALERTING	← ACM (subscriber free), ← CPG (alerting)																									
Facility information element: CCBS-T-Available invoke component	CCNR Possible Indicator parameter: CCNR possible																									
FACILITY →	TC-BEGIN →																									
Facility information element: CCNRRequest invoke component	CcnrRequest invoke																									
← FACILITY	← TC-CONTINUE																									
Facility information element: CCNRRequest return result	CcnrRequest return result																									
REGISTER →	TC-BEGIN →																									
Facility information element: CCNRRequest invoke component destinationAddress retentionSupported q931InfoElement presentationAllowedIndicator originatingAddress	CcnrRequest invoke: calledPartyNumber retainSupported userServiceInf (BC or BC 1) userServiceInfPrime (BC 2) accessTransportParameter callingPartyNumber																									
← FACILITY	← TC-CONTINUE																									
Facility information element: CCNRRequest return result	CcnrRequest return result																									
← FACILITY	← TC-CONTINUE																									
Note: First, user A monitoring procedure takes place. Facility information element: CCBSRemoteUserFree invoke component	RemoteUserFree																									

Q.733.5 Paragraph	Title	Comment																
		b) T reference point Table ZB.9 <table><tr><th>← FACILITY</th><th>← TC-CONTINUE</th></tr><tr><td>Facility information element: CCBS-T-RemoteUserFree invoke component</td><td>RemoteUserFree</td></tr></table> ZB.1.5 Suspend/Resume request a) Coincident S and T reference point At the coincident S and T reference point, there are no specific signalling interworking aspects for CCNR. b) T reference point Table ZB.10 <table><tr><th>FACILITY →</th><th>TC-CONTINUE →</th></tr><tr><td>Facility information element: CCBS-T-Suspend invoke component or CCBS-T-Resume invoke component</td><td>CcbsSuspend invoke component or CcbsResume invoke component</td></tr></table> ZB1.6 Deactivation request a) Coincident S and T reference point Table ZB.11 <table><tr><th>FACILITY →</th><th>TC-CONTINUE →</th></tr><tr><td>Facility information element: CCBSDeactivate invoke component</td><td>CcbsCancel invoke component</td></tr></table> b) T reference point At the T reference point, there are no specific signalling interworking aspects for CCNR. ZB.2 interworking at the Destination Local Exchange ZB.2.1 CCNR call set-up a) Coincident S and T reference point At the coincident S and T reference point, there are no specific signalling interworking aspects for CCNR. b) T reference point Table ZB.12 <table><tr><th>IAM →</th><th>SETUP →</th></tr><tr><td>CCSS parameter: CCSS call</td><td>Facility information element: CCBS-T-Call invoke component</td></tr></table> ZB.2.2 CCNR request a) Coincident S and T reference point The receipt of TC-BEGIN with the CcnrRequest invoke component triggers the activation procedures at the destination local exchange.	← FACILITY	← TC-CONTINUE	Facility information element: CCBS-T-RemoteUserFree invoke component	RemoteUserFree	FACILITY →	TC-CONTINUE →	Facility information element: CCBS-T-Suspend invoke component or CCBS-T-Resume invoke component	CcbsSuspend invoke component or CcbsResume invoke component	FACILITY →	TC-CONTINUE →	Facility information element: CCBSDeactivate invoke component	CcbsCancel invoke component	IAM →	SETUP →	CCSS parameter: CCSS call	Facility information element: CCBS-T-Call invoke component
← FACILITY	← TC-CONTINUE																	
Facility information element: CCBS-T-RemoteUserFree invoke component	RemoteUserFree																	
FACILITY →	TC-CONTINUE →																	
Facility information element: CCBS-T-Suspend invoke component or CCBS-T-Resume invoke component	CcbsSuspend invoke component or CcbsResume invoke component																	
FACILITY →	TC-CONTINUE →																	
Facility information element: CCBSDeactivate invoke component	CcbsCancel invoke component																	
IAM →	SETUP →																	
CCSS parameter: CCSS call	Facility information element: CCBS-T-Call invoke component																	

Q.733.5 Paragraph	Title	Comment																																		
		b) T reference point Table ZB.13 <table><tr><th>TC-BEGIN →</th><th>REGISTER →</th></tr><tr><td>CcnrRequest invoke:</td><td>Facility information element:</td></tr><tr><td>CalledPartyNumber</td><td>CCNR-T-Request invoke component:</td></tr><tr><td>retainSupported</td><td>destinationAddress</td></tr><tr><td>userServiceInf (BC or BC1)</td><td>retentionSupported</td></tr><tr><td>userServiceInfPrime (BC 2)</td><td>q931InfoElement</td></tr><tr><td>accessTransportParameter</td><td></td></tr><tr><td>callingPartyNumber</td><td>presentationAllowedIndicator</td></tr><tr><td></td><td>originatingAddress</td></tr></table> Table ZB.14 <table><tr><th>← TC-CONTINUE</th><th>← FACILITY</th></tr><tr><td>CcnrRequest return result</td><td>CCNR-T-Request return result</td></tr></table> ZB.2.3 Remote user free a) Coincident S and T reference point The sending of TC-CONTINUE with RemoteUserFree invoke component is part of the CCNR recall procedure at the destination local exchange. b) T reference point Table ZB.15 <table><tr><th>← TC-CONTINUE</th><th>← FACILITY</th></tr><tr><td>RemoteUserFree</td><td>Facility information element: CCBS-T-RemoteUserFree invoke component</td></tr></table> ZB.2.4 CCNR available indication a) Coincident S and T reference point At the coincident S and T reference point, there are no specific signalling interworking aspects for CCNR. b) T reference point Table ZB.16 <table><tr><th>← ACM (subscriber free), ← CPG (alerting)</th><th>← ALERTING</th></tr><tr><td>CCNR Possible Indicator parameter: CCNR possible</td><td>Facility information element: CCBS-T-Available invoke component</td></tr></table> ZB.2.5 Suspend/Resume request a) Coincident S and T reference point At the coincident S and T reference point, there are no specific signalling interworking aspects for CCNR. b) T reference point Table ZB.17 <table><tr><th>TC-CONTINUE →</th><th>FACILITY →</th></tr><tr><td>CcbsSuspend invoke component or CcbsResume invoke component</td><td>Facility information element: CCBS-T-Suspend invoke component or CCBS-T-Resume invoke component</td></tr></table>	TC-BEGIN →	REGISTER →	CcnrRequest invoke:	Facility information element:	CalledPartyNumber	CCNR-T-Request invoke component:	retainSupported	destinationAddress	userServiceInf (BC or BC1)	retentionSupported	userServiceInfPrime (BC 2)	q931InfoElement	accessTransportParameter		callingPartyNumber	presentationAllowedIndicator		originatingAddress	← TC-CONTINUE	← FACILITY	CcnrRequest return result	CCNR-T-Request return result	← TC-CONTINUE	← FACILITY	RemoteUserFree	Facility information element: CCBS-T-RemoteUserFree invoke component	← ACM (subscriber free), ← CPG (alerting)	← ALERTING	CCNR Possible Indicator parameter: CCNR possible	Facility information element: CCBS-T-Available invoke component	TC-CONTINUE →	FACILITY →	CcbsSuspend invoke component or CcbsResume invoke component	Facility information element: CCBS-T-Suspend invoke component or CCBS-T-Resume invoke component
TC-BEGIN →	REGISTER →																																			
CcnrRequest invoke:	Facility information element:																																			
CalledPartyNumber	CCNR-T-Request invoke component:																																			
retainSupported	destinationAddress																																			
userServiceInf (BC or BC1)	retentionSupported																																			
userServiceInfPrime (BC 2)	q931InfoElement																																			
accessTransportParameter																																				
callingPartyNumber	presentationAllowedIndicator																																			
	originatingAddress																																			
← TC-CONTINUE	← FACILITY																																			
CcnrRequest return result	CCNR-T-Request return result																																			
← TC-CONTINUE	← FACILITY																																			
RemoteUserFree	Facility information element: CCBS-T-RemoteUserFree invoke component																																			
← ACM (subscriber free), ← CPG (alerting)	← ALERTING																																			
CCNR Possible Indicator parameter: CCNR possible	Facility information element: CCBS-T-Available invoke component																																			
TC-CONTINUE →	FACILITY →																																			
CcbsSuspend invoke component or CcbsResume invoke component	Facility information element: CCBS-T-Suspend invoke component or CCBS-T-Resume invoke component																																			

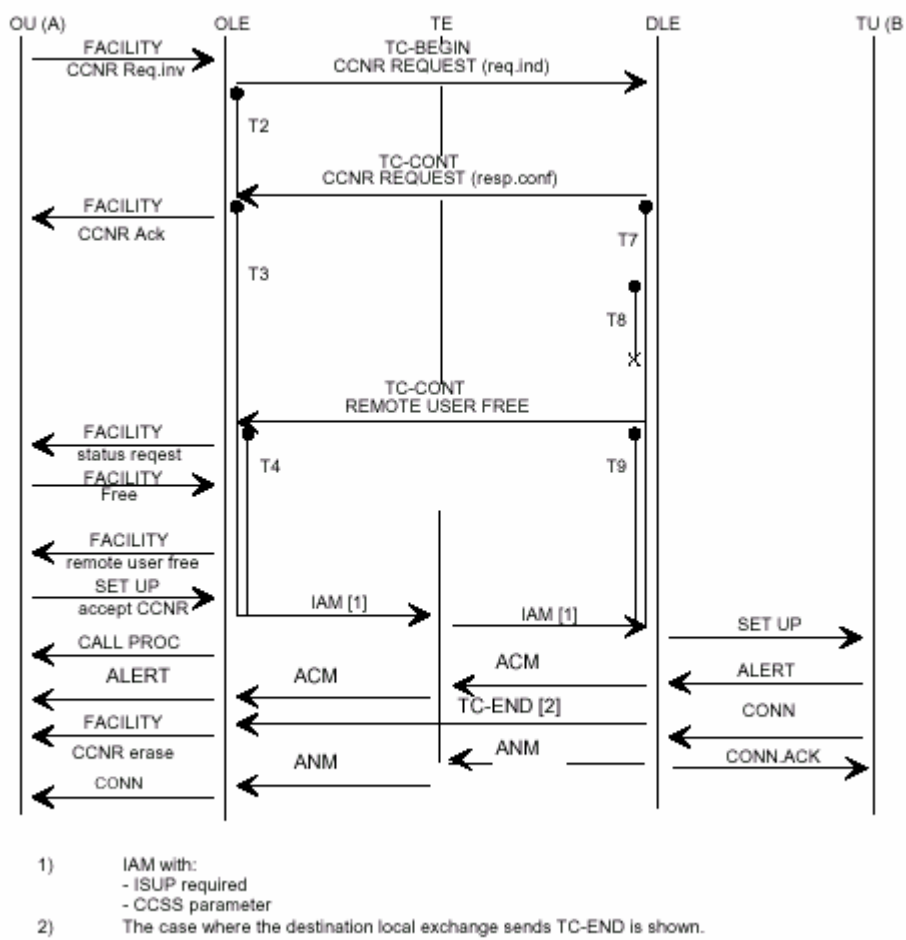


FIGURE 12.1 - Replacement for FIGURE 3/Q.733.5

END OF TSG/SPEC/007§12

13 Spare

END OF TSG/SPEC/007§13

14 Malicious Call Identification (MCID)

14.1 Introduction

This Section specifies the signalling formats, codes and procedures to support the Malicious Call Identification supplementary service.

14.2 Formats and codes

The formats and codes for the messages and parameters required to support the signalling procedures of the MCID supplementary service via an interconnect route between UK networks are specified in [1] as modified by Section 3 of this document. Note in particular that the Holding indicator (bit L in the Backward call indicators parameter) has been adopted for use in UK ISUP.

14.3 Signalling procedures

The signalling procedures required to support the MCID supplementary service via an interconnect route between UK networks are specified in [11], modified by a UK option to allow holding of the connection described below and supported by the UK modified Suspend/Resume procedures specified in Section 4 of this document.

14.3.1 Requesting Holding of connection in conjunction with MCID

As a network option, if the called access is analogue, the terminating network may request Holding of the connection in conjunction with the MCID supplementary service by setting the Holding indicator (bit L) in the Backward call indicators parameter in the ACM to the value 1 "holding requested".

Actions at the originating network are described in the UK modified Suspend/Resume procedures specified in Section 4 of this document.

14.3.2 MCID invoked during the active phase of the call

If Holding of the connection has been requested and the MCID supplementary service is invoked, then:

- i) on receipt of a Suspend (network) message during the active phase of the call, the terminating network shall:
 - a) inhibit timer T6 as described in Section 4 paragraph 4.2.2.1 of this document (i.e. release of the call is under control of the called party and/or administrative action);
 - b) discard any subsequent Resume (network) or Suspend (network) messages received.
- ii) if the called user clears during the active phase of the call, the terminating network shall take no action, i.e. no Suspend (network) message shall be sent; the connection is maintained.

14.3.3 MCID invoked after calling user initiated clear

If Holding of connection has been requested and if during the active phase of the call a Suspend (network) message is received by the terminating network it shall start supplementary service timer T_{mcid} .

Note: the relationship between timer T_{mcid} and the Suspend/Resume timer T6 is an implementation matter. In practice T_{mcid} will always pre-empt timer T6.

Whilst timer T_{mcid} is running any subsequent Resume (network) or Suspend (network) messages received by the terminating network shall be discarded.

Whilst timer T_{mcid} is running, if the called user invokes the MCID supplementary service then the terminating network shall stop timer T_{mcid} (and T6 if running).

i.e. release of the call is under control of the called party and/or administrative action. Any subsequent Resume (network) or Suspend (network) messages shall be discarded.

Whilst timer T_{mcid} is running, if the called user initiates call clearing then the terminating network shall stop timer T_{mcid} (and T6 if running) and initiate release of the call by sending a Release message with Cause value No. 16 "normal call clearing" to the originating network.

If timer T_{mcid} expires then the terminating network shall stop timer T6 (if running) and initiate release of the call by sending a Release message with Cause value No. 16 "normal call clearing" to the originating network.

14.3.4 Called user initiates call clearing without invoking MCID

If Holding of connection has been requested and the called user initiates call clearing without having invoked MCID then the terminating network shall send a Suspend (network) message to the originating network.

14.4 Parameter value

Timer T_{mcid} shall have a value in the range 4 to 10 seconds.

END OF TSG/SPEC/007§14

15 Call Forwarding Unconditional (CFU)

15.1 Introduction

This section specifies the signalling formats, codes and procedures to support the Call Forwarding Unconditional (CFU) Supplementary Service.

15.2 Service Overview

The CFU supplementary service description is contained in [21].

15.3 Information Flows

The information flows for CFU are shown in [25].

15.4 Formats And Codes

The formats and codes used for the CFU supplementary service are specified in section 3 of this document.

15.5 Signalling Procedures

The signalling procedures for CFU are detailed in [65] as modified by [15] and the following changes.

Subclause 2.4.1 Messages

The redirection number parameter is not required in the Answer message.

Subclause 2.5.2.5.1.2 Actions at the destination exchange performing the diversion, item b)

Amend the 3rd paragraph as follows:

“When this is the first diversion the call has undergone, there are ~~five~~six parameters to be set; the Redirection Information, the Called Party Number, the Original Called Number, the Redirecting Number, ~~and~~ the ISUP Preference Indicator and the Last Diverting Line Identity (LDLI). Their values are set as follows”:

Add sixth item as follows:

“6) The LDLI - To the network provided network number of the point that is performing the diversion.”

Amend the 4th paragraph as follows:

When this is the second or greater diversion the call has undergone, there are ~~three~~four parameters to be set; the Redirection Information, the Redirecting Number, ~~and~~ the Called Party Number and the Last Diverting Line Identity(LDLI). Their values are set as follows”

Add fourth item as follows:

“iv) The LDLI - To the network provided network number of the point that is performing the diversion.”

When multiple diversions occur the parameters are set as in Table ~~2-3/Q.732~~15.1.

Subclause 2.5.2.5.1.2 Actions at the destination exchange performing the diversion, item c), sub item i)

Amend Table 2-3/Q.732 as shown in table 15.1.

TABLE 15.1 - Parameter information for multiple redirection

	Hop 1	Hop 2	Hop 3	Hop 4	Hop 5	Hop 6
Number Information:						
Called Party Number	B	C	D	E	F	G
Redirecting Number		B	C	D	E	F
<u>Last Diverting Line Identity</u>		<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>
Original Called Number		B	B	B	B	B
Redirection Information:						
Redirection Counter		1	2	3	4	5
Redirecting Indicator		V	V	V	V	V
Redirecting Reason		W	W	W	W	W

Amend Table 2-5/Q.732 as shown in table 15.2

TABLE 15.2 - Handling of parameters in a diverting exchange

Parameter	Handling in a diverting exchange on receipt
- Sub-parameter or indicator	
...	...
Optional backward call ind.	Generated: see 2.5.2.5.1.2 d)
<u>Last diverting line identity</u>	<u>Generated: see 2.5.2.5.1.2 b)</u>

Annex ZA

Modify the text as follows:

~~"It is recommended that the~~ The parameter compatibility information for the call diversion information parameter ~~should~~ shall be coded as follows:"

~~"It is recommended that the~~ The parameter compatibility information for the generic notification parameter ~~should~~ shall be coded as follows:"

~~"It is recommended that the~~ The parameter compatibility information for the redirection number restriction parameter ~~should~~ shall be coded as follows:"

15.6 Interworking with IUP

The LDLI parameter in the IAM (diverting leg) is included only to enable interworking between UK-ISUP and IUP as described in [63]. LDLI plays no active role in the CFU supplementary service.

15.7 Handling of INR

Any INR message, received in the forward direction on the incoming leg of the call, subsequent to the IAM being generated on the diverted-to leg of the call and prior to ACM being received on the diverted-to leg of the call, shall be discarded. Subsequent to the receipt of ACM on the diverted-to leg of the call, any such INR message received in the forward direction shall be passed on. Any INR message received in the backward direction, from the diverted-to leg of the call, shall be passed on.

END OF TSG/SPEC/007§15

16 Call Forwarding No Reply (CFNR)

16.1 Introduction

This section specifies the signalling formats, codes and procedures to support the Call Forwarding No Reply (CFNR) Supplementary Service.

16.2 Service Overview

The CFNR supplementary service description is contained in [22].

16.3 Information Flows

The information flows for CFNR are shown in [26].

16.4 Formats And Codes

The formats and codes for the messages used for CFNR are specified in section 3 of this document.

16.5 Signalling Procedures

The signalling procedures for CFNR are detailed in [65] as modified by [15] and the following changes.

Subclause 2.4.1 Messages

The redirection number parameter is not required in the Answer message.

Subclause 2.5.2.5.1.2 Actions at the destination exchange performing the diversion, item b)

Amend the 3rd paragraph as follows:

"When this is the first diversion the call has undergone, there are ~~five~~six parameters to be set; the Redirection Information, the Called Party Number, the Original Called Number, the Redirecting Number, ~~and~~ the ISUP Preference Indicator and the Last Diverting Line Identity (LDLI). Their values are set as follows":

Add sixth item as follows:

"6) The LDLI - To the network provided network number of the point that is performing the diversion."

Amend the 4th paragraph as follows:

When this is the second or greater diversion the call has undergone, there are ~~three~~four parameters to be set; the Redirection Information, the Redirecting Number, ~~and~~ the Called Party Number and the Last Diverting Line Identity(LDLI). Their values are set as follows"

Add fourth item as follows:

"iv) The LDLI - To the network provided network number of the point that is performing the diversion."

When multiple diversions occur the parameters are set as in Table ~~2-3/Q.732~~ 16.1.

Subclause 2.5.2.5.1.2 Actions at the destination exchange performing the diversion, item c), sub item i)

Amend Table 2-3/Q.732 as shown in table 16.1.

TABLE 16.1 - Parameter information for multiple redirection

	Hop 1	Hop 2	Hop 3	Hop 4	Hop 5	Hop 6
Number Information:						
Called Party Number	B	C	D	E	F	G
Redirecting Number		B	C	D	E	F
<u>Last Diverting Line Identity</u>		<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>
Original Called Number		B	B	B	B	B
Redirection Information:						
Redirection Counter		1	2	3	4	5
Redirecting Indicator		V	V	V	V	V
Redirecting Reason		W	W	W	W	W

Amend Table 2-5/Q.732 as shown in table 16.2

TABLE 16.2 - Handling of parameters in a diverting exchange

Parameter	Handling in a diverting exchange on receipt
- Sub-parameter or indicator	
...	...
Optional backward call ind.	Generated: see 2.5.2.5.1.2 d)
<u>Last diverting line identity</u>	<u>Generated: see 2.5.2.5.1.2 b)</u>

Annex ZA

Modify the text as follows:

~~"It is recommended that the~~ The parameter compatibility information for the call diversion information parameter ~~should~~ shall be coded as follows:"

~~"It is recommended that the~~ The parameter compatibility information for the generic notification parameter ~~should~~ shall be coded as follows:"

~~"It is recommended that the~~ The parameter compatibility information for the redirection number restriction parameter ~~should~~ shall be coded as follows:"

16.6 Interworking with IUP

The LDLI parameter in the IAM (diverting leg) is included only to enable interworking between UK-ISUP and IUP as described in [63]. LDLI plays no active role in the CFNR supplementary service.

16.7 Handling of INR

Any INR message, received in the forward direction on the incoming leg of the call, subsequent to the IAM being generated on the diverted-to leg of the call and prior to ACM being received on the diverted-to leg of the call, shall be discarded. Subsequent to the receipt of ACM on the diverted-to leg of the call, any such INR message received in the forward direction shall be passed on. Any INR message received in the backward direction, from the diverted-to leg of the call, shall be passed on.

END OF TSG/SPEC/007§16

17 Call Forwarding Busy (CFB)

17.1 Introduction

This section specifies the signalling formats, codes and procedures to support the Call Forwarding Busy (CFB) Supplementary Service.

17.2 Service Overview

The CFB supplementary service description is contained in [20].

17.3 Information Flows

The information flows for CFB are shown in [24].

17.4 Formats and Codes

The formats and codes for the messages used for CFB are specified in section 3 of this document.

17.5 Signalling Procedures

The signalling procedures for CFB are detailed in [65] as modified by [15] and the following changes.

Subclause 2.4.1 Messages

The redirection number parameter is not required in the Answer message.

Subclause 2.5.2.5.1.2 Actions at the destination exchange performing the diversion, item b)

Amend the 3rd paragraph as follows:

"When this is the first diversion the call has undergone, there are ~~five~~six parameters to be set; the Redirection Information, the Called Party Number, the Original Called Number, the Redirecting Number, ~~and~~ the ISUP Preference Indicator and the Last Diverting Line Identity (LDLI). Their values are set as follows":

Add sixth item as follows:

"6) The LDLI - To the network provided network number of the point that is performing the diversion."

Amend the 4th paragraph as follows:

When this is the second or greater diversion the call has undergone, there are ~~three~~four parameters to be set; the Redirection Information, the Redirecting Number, ~~and~~ the Called Party Number and the Last Diverting Line Identity(LDLI). Their values are set as follows"

Add fourth item as follows:

"iv) The LDLI - To the network provided network number of the point that is performing the diversion."

When multiple diversions occur the parameters are set as in Table~~2-3/Q.732~~17.1.

Subclause 2.5.2.5.1.2 Actions at the destination exchange performing the diversion, item c), sub item i)

Amend Table 2-3/Q.732 as shown in table 17.1.

TABLE 17.1 - Parameter information for multiple redirection

	Hop 1	Hop 2	Hop 3	Hop 4	Hop 5	Hop 6
Number Information:						
Called Party Number	B	C	D	E	F	G
Redirecting Number		B	C	D	E	F
<u>Last Diverting Line Identity</u>		<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>
Original Called Number		B	B	B	B	B
Redirection Information:						
Redirection Counter		1	2	3	4	5
Redirecting Indicator		V	V	V	V	V
Redirecting Reason		W	W	W	W	W

Amend Table 2-5/Q.732 as shown in table 17.2

TABLE 17.2 - Handling of parameters in a diverting exchange

Parameter	Handling in a diverting exchange on receipt
- Sub-parameter or indicator	
...	...
Optional backward call ind.	Generated: see 2.5.2.5.1.2 d)
<u>Last diverting line identity</u>	<u>Generated: see 2.5.2.5.1.2 b)</u>

Annex ZA

Modify the text as follows:

~~"It is recommended that the~~ The parameter compatibility information for the call diversion information parameter ~~should~~ shall be coded as follows:"

~~"It is recommended that the~~ The parameter compatibility information for the generic notification parameter ~~should~~ shall be coded as follows:"

~~"It is recommended that the~~ The parameter compatibility information for the redirection number restriction parameter ~~should~~ shall be coded as follows:"

17.6 Interworking with IUP

The LDLI parameter in the IAM (diverting leg) is included only to enable interworking between UK-ISUP and IUP as described in [63]. LDLI plays no active role in the CFB supplementary service.

17.7 Handling of INR

Any INR message, received in the forward direction on the incoming leg of the call, subsequent to the IAM being generated on the diverted-to leg of the call and prior to ACM being received on the diverted-to leg of the call, shall be discarded. Subsequent to the receipt of ACM on the diverted-to leg of the call, any such INR message received in the forward direction shall be passed on. Any INR message received in the backward direction, from the diverted-to leg of the call, shall be passed on.

END OF TSG/SPEC/007§17

18 Call Forwarding on Subscriber Not Reachable (CFNRc)

18.1 Introduction

This section specifies the signalling formats, codes and procedures to support the CFNRc Supplementary Service.

No ITU-T or ETSI ISUP specification exists for the Call Forwarding on Subscriber not Reachable service. Hence this section provides a complete protocol description based on the format of the ITU-T recommendation Q.732.2 [65].

18.2 Formats And Codes

Reference [65] sub-clause 2.4 details the messages and parameters to be used to support the ISUP CFU, CFB, CFNR and CD diversion services. These messages and parameters shall also be used to support the CFNRc Supplementary Service.

NOTE: The "Mobile Subscriber not reachable" codepoint in the "Redirection Information" and the "Call Diversion Information" parameters are used to convey the notification of the invocation of the CFNRc service.

In addition to these messages and parameters, a further UK-ISUP specific parameter "Last Diverting Line Identity" is added as specified in section 3.

18.3 Signalling Procedures

18.3.1 Activation/deactivation/registration

Not applicable.

18.3.2 Invocation and operation

18.3.2.1 Actions at the originating local exchange

18.3.2.1.1 Normal operation

When CFNRc call diversion has occurred on the served user side, the originating local exchange will receive an ACM message containing the call diversion information, the generic notification indicator and the redirection number.

Call diversion may not occur on the served user's side after the ACM has been sent for the CFNRc service.

18.3.2.1.2 Exceptional procedures

No exceptional procedures are identified.

18.3.2.2 Actions at the transit exchange

18.3.2.2.1 Normal operation

A transit exchange shall pass all information related to call diversion to the preceding or succeeding exchange.

18.3.2.2.2 Exceptional procedures

No exceptional procedures are identified.

18.3.2.3 Actions at the outgoing international gateway exchange

Not applicable

18.3.2.4 Actions at the incoming international gateway exchange

Not applicable

18.3.2.5 Actions at the destination local exchange

18.3.2.5.1 Normal operation

18.3.2.5.1.1 Action at the destination exchange where the diverted-to user is located

When a destination local exchange receives a diverted call, the called user is alerted. When the called user answers the call, the destination exchange shall include in the address complete, call progress, answer or connect

message the redirection number restriction indicator set according to the COLR supplementary service of the called user.

18.3.2.5.1.2 Actions at the destination exchange performing the diversion

a) Checking of the diversion limits

When an exchange determines that it must divert a call, it first checks if diverting the call exceeds the number of diversions allowed within the network.

b) Setting of the diversion parameters

The second action that needs to be undertaken, given that the limit was not exceeded, is the setting of the parameters that would be used in an initial address message for the diverted call. Even if the diversion is intra-exchange this parameter information is set and retained. The reason for the retention is that, if subsequent diversion occurs, the information is required to guarantee that the diversion completes correctly. Finally the exchange attempts to set up the diverted call.

Table 18.1 shows which parameters are modified in a diversion exchange.

When this is the first diversion the call has undergone, there are six parameters to be set; the redirection information, the called party number, the original called number, the redirecting number, the last diverting line identity and the ISUP preference indicator. Their values are set as follows:

- 1) **Redirection Information** - The redirection counter is set to one. The redirection reason is set to "mobile subscriber not reachable" and redirecting indicator is set according to the diversion conditions.
- 2) **Original Called Number** - This is equal to the number that was called.
- 3) **Called Party Number** - This is equal to the number that the call is to be diverted to.
- 4) **Last Diverting Line Identity** - To the network provided network number of the point that is performing the diversion.
- 5) **Redirecting Number** - This is equal to the number that is doing the diversion and is in this case equal to the original called number
- 6) **ISUP Preference Indicator** - If the value "ISDN user part not required all the way" was received the ISUP preference indicator is modified to "ISUP preferred all the way". Otherwise the ISUP Preference Indicator is left unchanged.

When this is the second or greater diversion the call has undergone, there are four parameters to be set; the redirection information, the called party number, the redirecting number and the last diverting line identity. Their values are set as follows:

- 1) **Redirection Information** - The redirection counter is increased by one. The redirecting reason is set to "mobile subscriber not reachable" and the redirecting indicators are set according to the diversion conditions.
- 2) **Redirecting Number** - This is equal to the number that is doing the redirection.
- 3) **Last Diverting Line Identity** - To the network provided network number of the point that is performing the diversion.
- 4) **Called Party Number** - This is equal to the number that the call is to be diverted to.

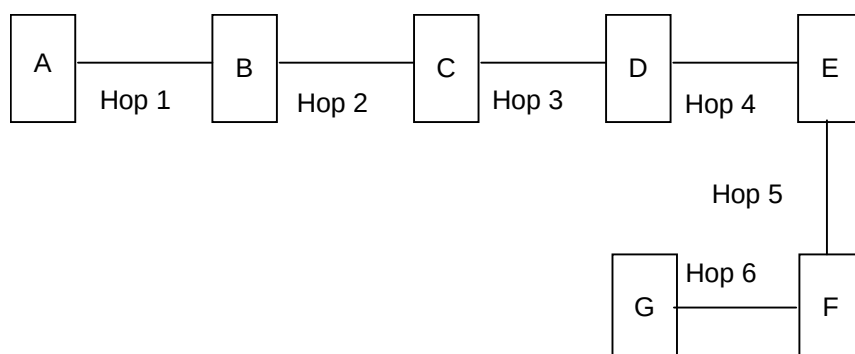
When multiple diversions occur the parameters are set as in Table 18.1.

c) Diversion procedures at the diverting exchange

For call forwarding on subscriber not reachable the call is offered to the served subscriber. If the subscriber is unreachable, the exchange continues in the following manner:

If the number that the call is to be diverted to resides at another exchange, an initial address message is sent to continue the call on to that exchange. The incoming circuit or line is connected to the chosen outgoing circuit in both directions immediately. The initial address message includes the parameter information as shown in Table 18.1.

TABLE 18.1 - Parameter information for multiple redirection



A originally calls B:

Information carried in the initial address message:

	Hop 1	Hop 2	Hop 3	Hop 4	Hop 5	Hop 6
Number Information						
Called Party Number	B	C	D	E	F	G
Redirecting Number		B	C	D	E	F
Last Diverting Line Identity		B	C	D	E	F
Original Called Number		B	B	B	B	B
Redirection Information						
Redirection Counter		1	2	3	4	5
Redirecting Indicator		V	V	V	V	V
Redirecting Reason		W	W	W	W	W

V = (call diversion) or (call diversion all redirection info presentation restricted)

W = (user busy) or (no reply) or (unconditional) or (deflection during alerting) or (deflection immediate response) or (mobile subscriber not reachable).

d) Notification procedure.

In case of Call forwarding on subscriber not reachable, when call diversion occurs the diverting exchange shall send an address complete message containing the call diversion information and the redirection number in the backward direction. The call diversion information is set according to the notification subscription option of the served user and with the "mobile subscriber not reachable" redirecting reason. The generic notification indicator is set to "call is diverting".

e) Handling of messages and parameters in a diverting exchange

i) Receipt of address complete, call progress 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 18.2 shows the correct mapping of the information.

TABLE 18.2 - Mapping of information received in an ACM

ACM	CPG
Called party's status indicator "subscriber free"	Event information "alerting"
Optional backward call indicator "in-band information or an appropriate pattern is now available"	Event information "in-band information or an appropriate pattern is now available"
Called party's status indicator "no indication"	Event information "progress"
Other parameters are transferred transparently	

If a call progress message is received in a diverting exchange, the action to be taken depends on the service causing the diversion: In case of CFNRc the call progress message is passed on.

A connect message is mapped into an answer message.

ii) Handling of received parameters

If a diverting exchange receives information which is not supplementary services related, it is either passed on unchanged (e.g. interworking indicator, transmission medium requirement, cause indicators) or modified required as for the basic call in transit exchanges (e.g. continuity check indicator, satellite indicator, automatic congestion level). However, information dealing with supplementary services (e.g. call diversion related parameters) is not transferred transparently under all circumstances.

Table 18.3 lists the parameters and indicators which are handled differently in a diverting exchange compared to a normal transit exchange.

TABLE 18.3 - Handling of parameters in a diverting exchange

Parameter - Sub-parameter or indicator	Handling in a diverting exchange
Access transport - Called party's sub-address	Discarded or replaced: see Q.732 sec 2.6.17
Backward call indicator - Charge indicator	Network specific
Called party number	Generated: see 18.3.2.5.1.2b)
Event information - Event indicator	Generated: 18.3.2.5.1.2 d) possibly modified: see 18.3.2.5.1.2 e)
Forward call indicators - ISUP preference indicator	Possibly modified: see 18.3.2.5.1.2 b)
Redirecting number	Generated: see 18.3.2.5.1.2 b)
Last diverting line identity	Generated: see 18.3.2.5.1.2 b)
Generic notification indicator	Generated: see 18.3.2.5.1.2 d)
Call diversion information	Generated: see 18.3.2.5.1.2 d)
Redirection information	Generated: see 18.3.2.5.1.2 b)
User-to-user information	Discarded or passed on: see Recommendation Q.737.1
Original called number	Generated: see 18.3.2.5.1.2 b)
Optional backward call indicators	Generated: see 18.3.2.5.1.2 d)
Redirection Number	Generated: see 18.3.2.5.1.2 d)

18.3.2.5.2 Exceptional procedures

18.3.2.5.2.1 Actions at the destination exchange where the forwarded-to user is located

No exceptional procedures are identified.

18.3.2.5.2.2 Actions at the destination exchange performing the diversion

If the call has already undergone diversion, the redirection counter is examined to see if another diversion would take the counter above the network-specified limit of five diversions.

If it would, the call is cleared in the case of CFNRc.

The cause value used in the release message when the CFNRc supplementary service would take the call over the limit is "absent subscriber"

Annex ZA

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

- a) **Nth 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; |
| bits | JI: | Broadband/narrowband interworking indicator; |
| | 00 | pass on. |

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

- a) **Nth 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; |
| bits | JI: | Broadband/narrowband interworking indicator; |
| | 00 | pass on. |

The parameter compatibility information 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; |
| bits | JI: | Broadband/narrowband interworking indicator; |
| | 00 | pass on. |

18.4 Examples of Signalling Procedures

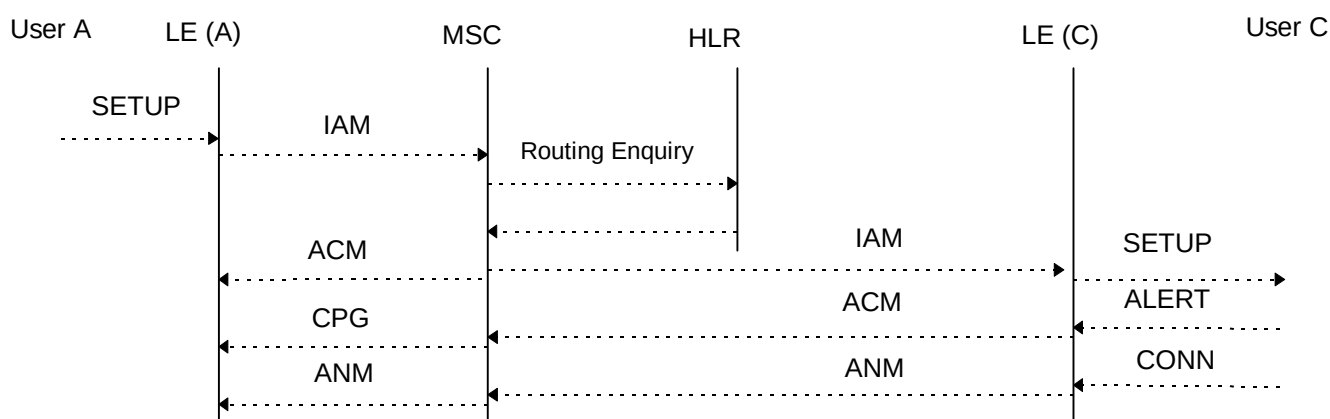


FIGURE 18.1 - Call Forwarding on Subscriber not reachable (mobile switched off)

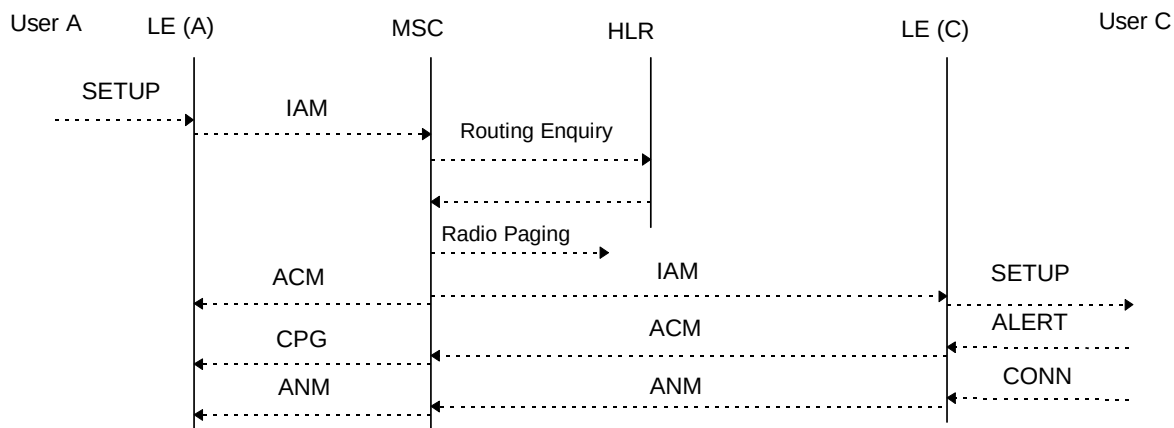


FIGURE 18.2 - **Call Forwarding on Subscriber not reachable (No response to paging from mobile)**

18.5 Interworking With IUP

The LDLI parameter in the IAM (diverting leg) is included only to enable interworking between UK-ISUP and IUP as described in [63]. LDLI plays no active role in the CFNRc supplementary service.

18.6 Handling of INR

Any INR message, received in the forward direction on the incoming leg of the call, subsequent to the IAM being generated on the diverted-to leg of the call and prior to ACM being received on the diverted-to leg of the call, shall be discarded. Subsequent to the receipt of ACM on the diverted-to leg of the call, any such INR message received in the forward direction shall be passed on. Any INR message received in the backward direction, from the diverted-to leg of the call, shall be passed on.

END OF TSG/SPEC/007§18

19 Explicit Call Transfer (ECT)

19.1 Introduction

This section specifies the signalling formats, codes and procedures to support the Explicit Call Transfer Supplementary Service.

19.2 Formats and Codes

The formats and codes for the messages and parameters required to support the signalling procedures via interconnect routes between UK networks for the ECT supplementary service are given in section 3.

19.3 Signalling Procedures

The signalling procedures required via interconnect routes between UK networks to support the ECT supplementary service are given in [104] as modified by [14]. Specific options are modified by the following text.

19.3.1 Loop Prevention Procedure

The text of the last paragraph of sub-section 7.5.2.1.1.2.1 shall be replaced with the following:-

"In addition, the originating local exchange shall reject the call transfer:-

- on timer (TECT) expiry (no Loop Prevention [response] message received), or
- on reception of Loop Prevention (response) messages for both calls, each containing the response indicator set to "insufficient information" and an identical call transfer identity in the call transfer reference parameter. Timer (TECT) is stopped when both messages are received.

NOTE: In case of timer (TECT) expiry or reception of Loop Prevention (response) messages with the response indicator set to "insufficient information" for **both** calls, it is not possible to determine whether or not the resulting connection could result in a loop (e.g. when interworking with IUP). In such cases the call transfer request shall be rejected."

Annex ZA1

~~It is recommended that the~~ The parameter compatibility information for the call transfer number parameter shall ~~should~~ be coded as follows:

~~It is recommended that the~~ The parameter compatibility information for the call transfer reference parameter shall ~~should~~ be coded as follows:

~~It is recommended that the~~ The parameter compatibility information for the generic notification parameter shall ~~should~~ be coded as follows:

~~It is recommended that the~~ The parameter compatibility information for the loop prevention indicators parameter shall ~~should~~ be coded as follows:

~~It is recommended that the~~ The parameter compatibility information for the service activation parameter shall ~~should~~ be coded as follows:

Annex ZA2

~~It is recommended that the~~ The message compatibility information for the facility message shall ~~should~~ be coded as follows:

~~It is recommended that the~~ The message compatibility information for the loop prevention message shall ~~should~~ be coded as follows:

END OF TSG/SPEC/007§19

20 Indirect Access

20.1 Introduction

This section specifies the signalling formats, codes and procedures to support the Indirect Access Supplementary Service.

20.2 Formats and Codes

20.2.1 Messages

20.2.1.1 Initial Address Message (IAM)

The format of the IAM shall be as specified in section 3.

20.2.2 Parameters

20.2.2.1 Called Party Number

The format of the Called Party Number shall be as specified in section 3. The allowed coding of the Called Party Number parameter is as follows;

- a) *Odd/even indicator*
 - 0 even number of address signals
 - 1 odd number of address signals
- b) *Nature of address indicator*
 - 111 1110 UK Specific address
- c) *Internal network number indicator (INN ind.)*
 - 0 routing to internal network number allowed
 - 1 routing to internal network number not allowed
- d) *Numbering plan indicator*
 - 001 ISDN (Telephony) numbering plan (Recommendation E.164)
- e) *Address Signals*
 - 0000 digit 0
 - 0001 digit 1
 - 0010 digit 2
 - 0011 digit 3
 - 0100 digit 4
 - 0101 digit 5
 - 0110 digit 6
 - 0111 digit 7
 - 1000 digit 8
 - 1001 digit 9
 - 1111 ST

The address signals shall be formatted as shown in Figure 20.1

- f) *Filler*

In case of an odd number of address signals, the filler code 0000 is inserted after the last address signal.

Indirect Access Prefix(3 to 6 digits)	Destination address (Note 2)
1xx(xxx)	Called Address Digits (Note 1)

Figure 20.1 - Called Party Number Parameter, Address Signals

- NOTE 1:** The called address digits shall include, where appropriate, the leading '0' (trunk access code) or '00' (international access code).
- NOTE 2:** In some forms of indirect access, the destination address may include additional indirect access specific information which precedes the called address digits.

20.3 Signalling Procedures

20.3.1 Actions at the Originating Network

The originating network shall send an IAM to the indirect access network or transit network. The address signals in the Called Party Number parameter shall be constructed in accordance with 20.2.2.1. The indirect access prefix is used to route the call to the POI of the indirect access network or transit network.

20.3.2 Actions at the Transit Network

The transit network uses the Indirect Access Prefix in the Called Party Number parameter of the IAM to route the call to the POI of the indirect access network.

20.3.3 Actions at the Indirect Access Network

The Indirect Access network uses the called address digits in the Called Party Number parameter of the IAM to route the call. It removes the Indirect Access Prefix and up to two leading zeros on the Destination address and changes the Nature of Address Indicator to national or international depending on the number of leading zeros.

20.3.4 Message Sequence Diagram

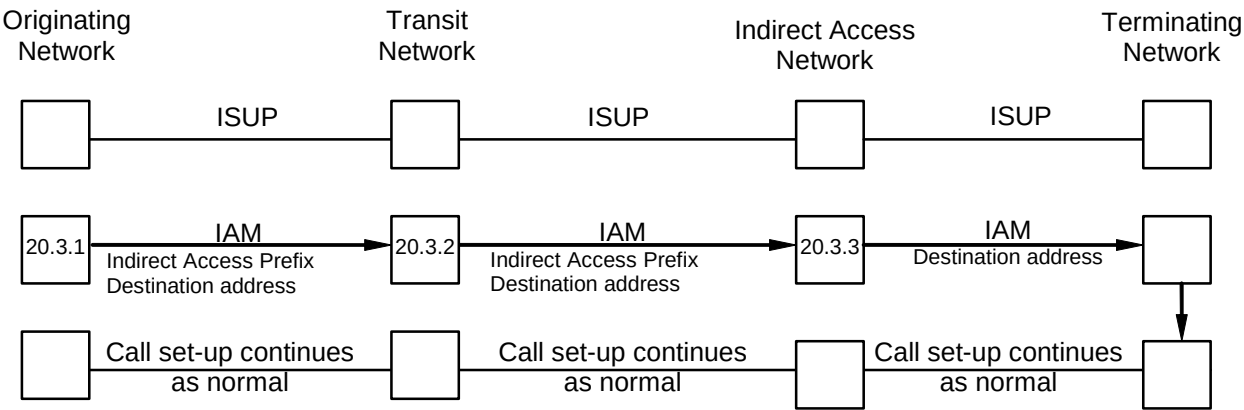


Figure 20.2 - Indiect Access Message Sequence Diagram

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21 NNI Extensions to Support PSS1 information flows

21.1 Introduction

This section specifies the signalling formats, codes and procedures to support the UK 'NNI Extensions to Support PSS1 information flows' supplementary service. It is in the form of exceptions to the ITU-T recommendation Q.765.1 [85] as modified by EN 301 062-1 [106].

21.2 Exceptions

Q.765.1 Paragraph	Title	Comment																							
1	Scope	UK: Amend Table 1/Q.765.1 as shown below Table 1/Q.765.1 Network Options <table> <tr> <th>Option</th><th>Values</th><th></th></tr> <tr> <td rowspan="2">Support of GFP functionality at transit PINX nodes (Section 6.2.5)</td><td>Full support</td><td></td></tr> <tr> <td>Partial support</td><td>Not applicable in the international network (NOTE 1)</td></tr> <tr> <td rowspan="2">Support of GFP functionality at gateway PINX nodes (Section 6.2.6)</td><td>Full support</td><td></td></tr> <tr> <td>No support</td><td>(NOTE 1)</td></tr> <tr> <td rowspan="2">Continuation of calls with no application association (Section 6.2.6)</td><td>Supported</td><td>(NOTE 2)</td></tr> <tr> <td>Not supported</td><td>(NOTE 3)</td></tr> <tr> <td rowspan="2">Relocation of gateway function (Section 6.2.6)</td><td>Supported</td><td>Not required for UK</td></tr> <tr> <td>Not supported</td><td></td></tr> </table> NOTE 1 – Use of these options might result in certain private network supplementary services behaving in an unexpected manner or not working at all. NOTE 2 – In this case VPN calls must be routed using a mechanism which can correctly route the call to the terminating access without use of the VPN procedures specified in this standard. NOTE 3 - In this case, it is required that the VPN procedures are only used on calls which are routed to addresses which are known to support the VPN application via signalling which supports the APM, otherwise the call will be released.	Option	Values		Support of GFP functionality at transit PINX nodes (Section 6.2.5)	Full support		Partial support	Not applicable in the international network (NOTE 1)	Support of GFP functionality at gateway PINX nodes (Section 6.2.6)	Full support		No support	(NOTE 1)	Continuation of calls with no application association (Section 6.2.6)	Supported	(NOTE 2)	Not supported	(NOTE 3)	Relocation of gateway function (Section 6.2.6)	Supported	Not required for UK	Not supported	
Option	Values																								
Support of GFP functionality at transit PINX nodes (Section 6.2.5)	Full support																								
	Partial support	Not applicable in the international network (NOTE 1)																							
Support of GFP functionality at gateway PINX nodes (Section 6.2.6)	Full support																								
	No support	(NOTE 1)																							
Continuation of calls with no application association (Section 6.2.6)	Supported	(NOTE 2)																							
	Not supported	(NOTE 3)																							
Relocation of gateway function (Section 6.2.6)	Supported	Not required for UK																							
	Not supported																								

END OF TSG/SPEC/007§21

22 UK Carrier Pre-Selection

22.1 Introduction

This section specifies the signalling formats, codes and procedures to support the Carrier Pre-Selection service in compliance with the OfTel Document 'Implementation of Carrier Pre-Selection in the UK' July 1998 [103].

22.2 Formats and Codes

22.2.1 Messages

22.2.1.1 Initial Address Message (IAM)

The format of the IAM shall be as specified in section 3.

22.2.2 Parameters

22.2.2.1 Called Party Number

The format of the Called Party Number shall be as specified in section 3. The allowed coding of the Called Party Number parameter is as follows;

- a) *Odd/even indicator*
 - 0 even number of address signals
 - 1 odd number of address signals
- b) *Nature of address indicator*
 - 111 1110 UK Specific address
- c) *Internal network number indicator (INN ind.)*
 - 0 routing to internal network number allowed
 - 1 routing to internal network number not allowed
- d) *Numbering plan indicator*
 - 001 ISDN (Telephony) numbering plan (Recommendation E.164)
- e) *Address Signals*
 - 0000 digit 0
 - 0001 digit 1
 - 0010 digit 2
 - 0011 digit 3
 - 0100 digit 4
 - 0101 digit 5
 - 0110 digit 6
 - 0111 digit 7
 - 1000 digit 8
 - 1001 digit 9
 - 1111 ST

The address signals shall be formatted as shown in Figure 22.1

- f) *Filler*

In case of an odd number of address signals, the filler code 0000 is inserted after the last address signal.

The contents of the Address Signals shall be as shown in Figure 22.1.

Carrier Pre-Selection Prefix				Number
8	X	X	X	Called Address Digits (NOTE)

Figure 22.1 - Called Party Number Parameter, Address Signals

NOTE: The called address digits include the leading zero(s).

22.3 Signalling Procedures

22.3.1 Actions at the Originating Network

The originating network shall send an IAM to the pre-selected network or transit network. The address signals in the Called Party Number parameter shall be constructed in accordance with 22.2.2.1. The carrier pre-selection prefix is used to route the call to the POI of the indirect access network or transit network.

22.3.2 Actions at the Transit Network

The transit network uses the Carrier Pre-selection Prefix in the Called Party Number parameter of the IAM to route the call to the POI of the pre-selected network.

22.3.3 Actions at the Pre-Selected Network

The Pre-selected network uses the called address digits in the Called Party Number parameter of the IAM to route the call. It removes the Carrier Pre-selection Prefix and up to two leading zeros on the number and changes the Nature of Address Indicator to national or international depending on the number of leading zeros.

22.3.4 Message Sequence Diagram

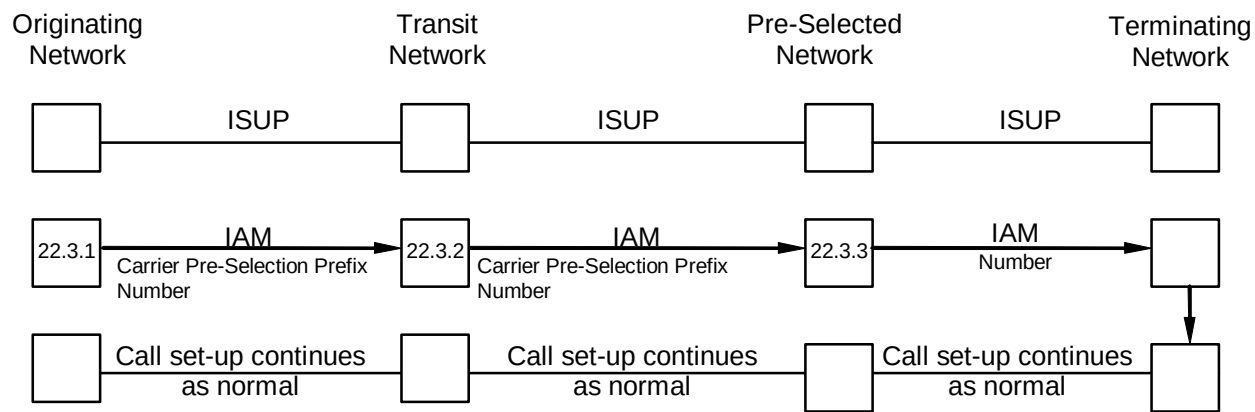


Figure 22.2 - Carrier Pre-selection Message Sequence Diagram

END OF TSG/SPEC/007§22

23 Operator Services

23.1 Introduction

This section specifies the signalling formats, codes and procedures to support the Operator Services Supplementary Service.

23.2 Service Overview

The description of the Operator Services is contained in [74].

23.3 Information Flows

Message sequence diagrams for the Operator Services are included in 23.6.

23.4 Formats and Codes

The formats and codes used for the Operator Services are specified in Section 3.

23.4.1 Called Party Number

The allowed coding of the Called Party Number parameter is as follows;

- a) *Odd/even indicator*
 - 0 even number of address signals
 - 1 odd number of address signals
- b) *Nature of address indicator*
 - 000 0011 national (significant) number
 - 111 1110 UK Specific address
- c) *Internal network number indicator (INN ind.)*
 - 0 routing to internal network number allowed
 - 1 routing to internal network number not allowed
- d) *Numbering plan indicator*
 - 001 ISDN (Telephony) numbering plan (Recommendation E.164)
- e) *Address Signals*
 - 0000 digit 0
 - 0001 digit 1
 - 0010 digit 2
 - 0011 digit 3
 - 0100 digit 4
 - 0101 digit 5
 - 0110 digit 6
 - 0111 digit 7
 - 1000 digit 8
 - 1001 digit 9
 - 1111 ST
- f) *Filler*

In case of an odd number of address signals, the filler code 0000 is inserted after the last address signal.

23.4.2 Generic Number

The purpose of the generic number parameter is to transport an intercepted line identity number provided by the intercepted user.

The generic number parameter is accompanied by the parameter compatibility information parameter. The procedures for compatibility are defined in Section 4 of this document.

Allowed codings for the generic number parameter

- a) *Number qualifier indicator*
1111 1101 Intercepted line identity
- b) *Odd/even indicator*
See section 3
- c) *Nature of address indicator*
000 0011 national (significant) number
000 0100 international number
- d) *number incomplete indicator*
0 number complete
- e) *Numbering plan indicator*
001 ISDN (Telephony) numbering plan (Recommendation E.164)
- f) *Address presentation restriction indicator*
00 presentation allowed
01 presentation restricted
- g) *Screening indicator*
00 user provided , not verified
01 user provided , verified and passed
11 network provided
- h) *Address signals*
0000 digit 0
0001 digit 1
0010 digit 2
0011 digit 3
0100 digit 4
0101 digit 5
0110 digit 6
0111 digit 7
1000 digit 8
1001 digit 9

i) *Filler*

In case of an odd number of address signals, the filler code 0000 is inserted after the last address signal.

23.5 Procedures

23.5.1 Basic Service

The Basic Service makes use of both the Basic Call procedures described in Section 4 and the Priority Call procedures described in Section 24 of this document.

23.5.2 Enhanced Service

The Enhanced Service is described in the following subsections. The Common Procedures associated with both variants of the Enhanced Service are described in 23.5.2.1. The two variants of the Enhanced Service (Operator Override and Interception Services) are described in 23.5.2.2 and 23.5.2.3 respectively.

23.5.2.1 Common Procedures

23.5.2.1.1 Initial Actions Required at the Originating Network

When the originating network wishes to use the Enhanced Operator Service on a call, it shall construct and send an IAM as for the basic call with the following additions and exceptions:

- The ISDN user part preference indicator in the Forward Call Indicators parameter shall indicate "ISDN user part required all the way".
- APM application data as specified in section 3 of this document, with Application Context Identifier = 125 (Legacy Operator Services), and the Encapsulated Application Information coded as shown in TABLE 23.1 below, shall be provided to the APM mechanism for sending with the IAM.

The Originating Network continues as described in 23.5.2.2 or 23.5.2.3.

TABLE 23.1 - Encapsulated Application Information coding for Service Request

Encapsulated Application Information Indicators	Coding
OSS Information Type	Set to 3, "Service Request".
Service	Set according to the service requested

23.5.2.1.2 Initial Actions Required at the Terminating Network

Upon receipt of an IAM with an APP parameter with application context identifier 125 "Legacy Operator Services", and OSS Information Type 3, "Service Request", the terminating network shall determine whether the service requested can be supported.

- If the service can be supported by the terminating network, then the terminating network shall continue in accordance with the specific service required, as described in 23.5.2.2 and 23.5.2.3.below.
- If the service cannot be supported by the terminating network, then the call shall be released with the Cause value #63 "Service or Option unavailable, unspecified".

If the received APP parameter has application context identifier 125, "Legacy Operator Services", but OSS Information Type other than 3, "Service Request", then the call shall be released with Cause value #111 "Protocol error, unspecified".

23.5.2.2 Operator Override Service

To begin the Operator Override call, both the Originating and Terminating networks follow the procedures described in 23.5.2.1, with the "Service " code set to 0000 0001 (Operator Override). In this case, the Originating Network is that hosting the override operator, and the terminating network is that hosting the required subscriber.

23.5.2.2.1 Terminating Network Actions

When the terminating network is in a position to indicate an established call condition to the Originating Network, it shall send an ACM, in accordance with the basic call procedures. If the network termination identified by the called party number is incompatible with the OOR service then the terminating network shall reject the call with cause value #88, "Incompatible destination".

23.5.2.2.2 Originating Network Actions

Upon receipt of ACM, the originating network shall continue as required by subsequent operator actions.

23.5.2.2.3 Operator Requests Override

When indicated by the operator, the originating network shall send an APM containing an APP with Application Context Identifier 125 (Legacy Operator Services), and Encapsulated Application Information coded as described in Table 23.2

TABLE 23.2 - Encapsulated Application Information coding for Operator Override

Encapsulated Application Information Indicators	Coding
OSS Information Type	Set to 4, "Action Invocation".
OSS Message Type	Set to 0000 0010, "Operator Override".

23.5.2.2.4 Terminating Network Receives Operator Override Indication

On receipt of an APM containing an APP with Application Context Identifier 125 (Legacy Operator Services), and OSS Information Type 4 (Action Invocation), and OSS Message Type 2 (Operator Override), the terminating network shall send ANM to the originating network.

23.5.2.2.5 Operator Requests Howler to be Connected

When indicated by the operator, the originating network shall send an APM containing an APP with Application Context Identifier 125 (Legacy Operator Services), and Encapsulated Application Information coded as described in Table 23.3

TABLE 23.3 - Encapsulated Application Information coding for Howler

Encapsulated Application Information Indicators	Coding
OSS Information Type	Set to 4, "Action Invocation".
OSS Message Type	Set to 0000 0011, "Howler".

23.5.2.3 Interception Services

To begin the Interception Service call, both the Originating and Terminating networks follow the procedures described in 23.5.2.1, with the "Service" code set to 0000 0010 (Service Interception), 0000 0011 (Changed Number Interception) or 0000 0100 (PBX Night Interception), as appropriate.

In this case, the Originating Network is that hosting the subscriber on interception, and the Terminating network is that hosting the interception operator.

If the Terminating network requires Line Identity information or Service and Facility Mark information then it shall solicit it using the Information Request procedure.

23.5.2.3.1 Operator Wishes to Extend the Call

If, in the case of the Service Interception service, the operator, having conversed with the caller, wishes to extend the call to the subscriber on interception, the Terminating Network shall send an APM containing an APP with Application Context Identifier 125 (Legacy Operator Services) and Encapsulated Application Information coded as described in Table 23.4.

TABLE 23.4 - Encapsulated Application Information coding for Extend Call

Encapsulated Application Information Indicators	Coding
OSS Information Type	Set to 4, "Action Invocation".
OSS Message Type	Set to 0000 0100, "Extend Call".

Both networks now act in accordance with the Basic Call procedures until the call is answered.

23.6 Message Sequence Diagrams

23.6.1 Operator Override

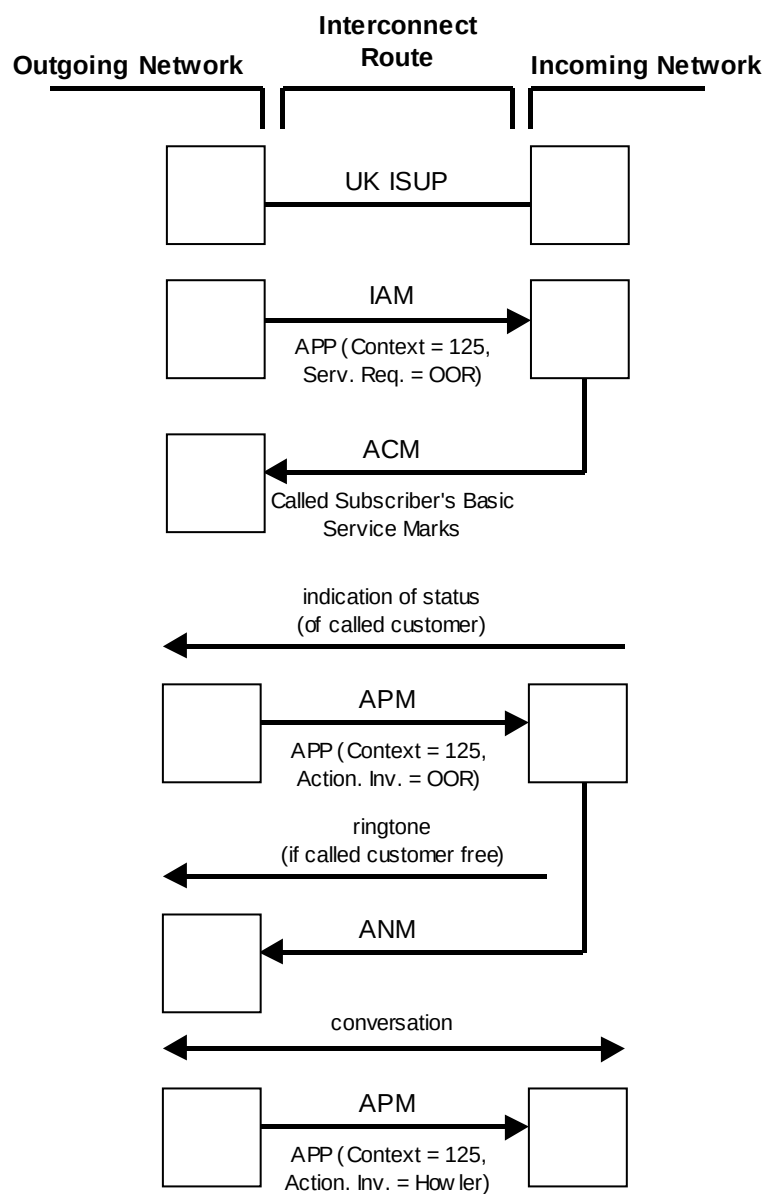


FIGURE 23.1 – Operator Override

23.6.2 Interception Services

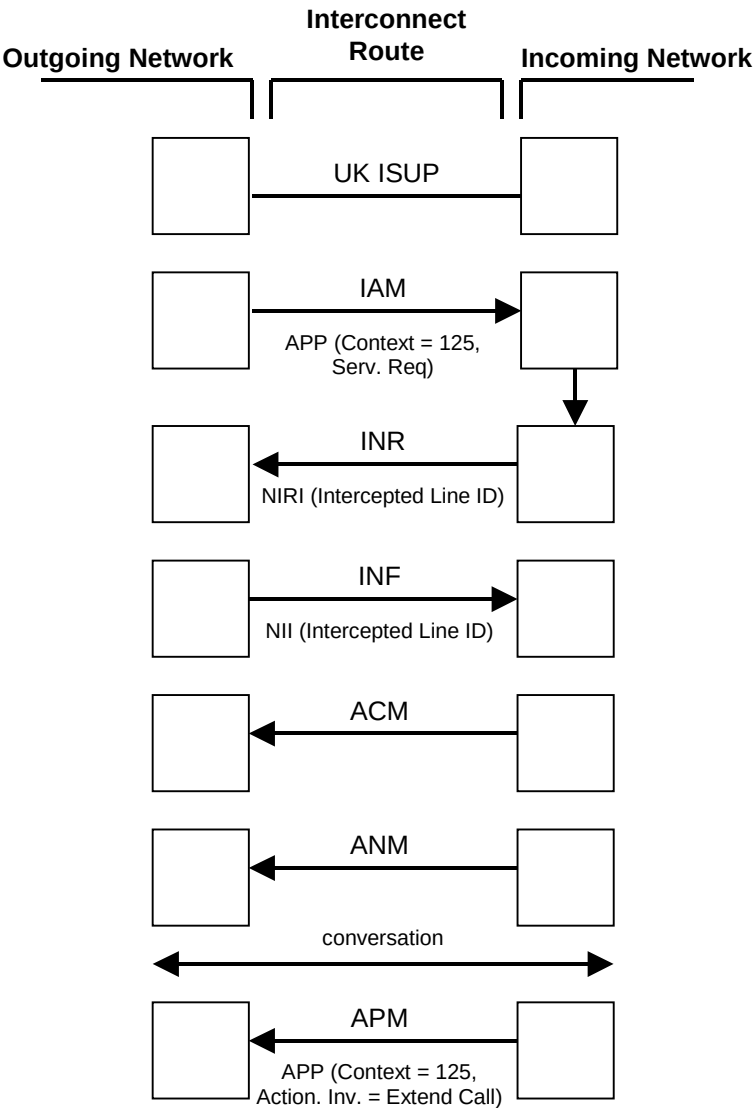


FIGURE 23.2 Interception Services

Note 1: This figure illustrates Service Interception. Changed Number Interception and PBX Night Interception are similar with the exception that the "Extend Call" is not required.

END OF TSG/SPEC/007§23

24 Priority Calls

24.1 Introduction

This section specifies the signalling formats, codes and procedures to support Priority Calls. Priority Calls are a general class of calls that requires the use of certain call features, which are described in this section. Priority Calls include the following:

- Public access to an emergency answering point (e.g. 999/112)
- Emergency answering point forwarding a call to an Emergency Authority
- The Enhanced Government Telephone Preference Scheme (EGTPS) service.

The EGTPS service is described in TSG 010 "United Kingdom Call Preference Arrangements Policy and Requirements Statement Cabinet Office January 2006" [67]. This sub-section describes only the signalling protocol requirements. It does not describe any additional nodal attributes that some Priority Calls may enjoy such as continuous re-try and access to reserved network resources.

24.2 Formats and Codes

24.2.1 Messages

24.2.1.1 Initial Address Message (IAM)

The format of the IAM shall be as specified in section 3.

24.2.2 Parameters

24.2.2.1 Calling Party's Category

The format of the Calling Party's Category parameter shall be as specified in section 3. The allowed coding of the Calling Party's Category parameter for a Priority Call is as follows:

0 0 0 0 1 0 1 1 calling subscriber with priority

24.3 Signalling Procedures

24.3.1 Actions at the Originating Network

The originating network shall decide that a call is a Priority Call based on either analysis of the digits received from the access signalling system (e.g. 999/112) or based on the attributes of the originating access type (EGTPS or Emergency Answering Point)

The originating network shall send an IAM to either a transit network or the terminating network. The Calling Party's Category parameter contained in the IAM shall be set in accordance with 24.2.2.1. The call shall continue following basic call procedures.

Within the originating network Priority Calls shall:

- a) not be subject to restrictive network management controls, e.g. call gapping (including controls invoked automatically, such as ACC the actions of which are described in section 4.2.2.2. of this document);
- b) maintain the value of the Calling Party's Category parameter as 0 0 0 0 1 0 1 1 calling subscriber with priority.

24.3.2 Actions at a Transit Network

Within the transit network Priority Calls shall:

- a) not be subject to restrictive network management controls, e.g. call gapping (including controls invoked automatically, such as ACC the actions of which are described in section 4.2.2.2. of this document);
- b) maintain the value of the Calling Party's Category parameter as 0 0 0 0 1 0 1 1 calling subscriber with priority.

24.3.3 Actions at a Diverting Network

Within a diverting network Priority Calls shall:

- a) not be subject to restrictive network management controls, e.g. call gapping (including controls invoked automatically, such as ACC the actions of which are described in section 4.2.2.2. of this document);
- b) maintain the value of the Calling Party's Category parameter as 0 0 0 0 1 0 1 1 calling subscriber with priority on the new call leg established as a result of a diversion service.

24.3.4 Actions at a Donor Network

Within a Donor network Priority Calls shall:

- a) not be subject to restrictive network management controls, e.g. call gapping (including controls invoked automatically, such as ACC the actions of which are described in section 4.2.2.2. of this document);
- b) maintain the value of the Calling Party's Category parameter as 0 0 0 0 1 0 1 1 calling subscriber with priority on the new call leg established as a result of the Number Portability service.

24.3.5 Actions at the Terminating Network

Within a terminating network Priority Calls shall:

- a) not be subject to restrictive network management controls, e.g. call gapping (including controls invoked automatically, such as ACC the actions of which are described in section 4.2.2.2. of this document);
- b) maintain the value of the Calling Party's Category parameter as 0 0 0 0 1 0 1 1 calling subscriber with priority (between the point of interconnect and the terminating node).

END OF TSG/SPEC/007§24

25 Application Transport of DPNSS to Support Ring Back When Free

25.1 Introduction

This section specifies the signalling formats, codes and procedures of the UK SS7 ISDN User Part (UK ISUP) to enable Application Transport of DPNSS for the support of Ring Back When Free (RBWF). This section also specifies the inter-working between the IUP NEED Protocol (as specified in INFO/004[117] Sections 2 & 3.2) and UK ISUP.

25.2 Services Overview

This functionality can be used to support the following service:

- Ring Back When Free (See INFO/004 [117] Section 5)

25.3 Information Flows

Message sequence diagrams for the transport of DPNSS signalling are shown in 25.6

25.4 Formats and Codes

The formats and codes used to support the transport of DPNSS signalling are specified in Section 3 of this document .

25.5 Procedures

The following is a broad description of the requirements. For a more detailed description refer to 25.6.

25.5.1 Actions at ISUP to IUP Gateway Node

The changes to the procedures and mappings required are shown in [63]

25.5.2 Actions at IUP to ISUP Gateway Node

The changes to the procedures and mappings required are shown in [63]

25.5.3 Actions at an Originating Network

A call using the IUP NEED protocol generated at a node within the originating network may use either the IUP or ISUP protocol depending on the route selected. If an ISUP route is selected then the IUP call generated by existing functionality shall utilise an internal IUP to ISUP gateway with changed functionality shown in [63].

25.5.4 Actions at a Terminating Network

If an ISUP IAM containing an APP with a context identifier of 126 is received, then an internal ISUP to IUP gateway with changed functionality as shown in [63], shall cause the generation of an IUP call. Existing NEED functionality shall then apply to this call.

25.5.5 Actions at an ISUP to ISUP Transit Node

The APP parameter, if present, in any message shall be passed on transparently, as specified in the relevant sections of Q.764[110] and Q.765[86].

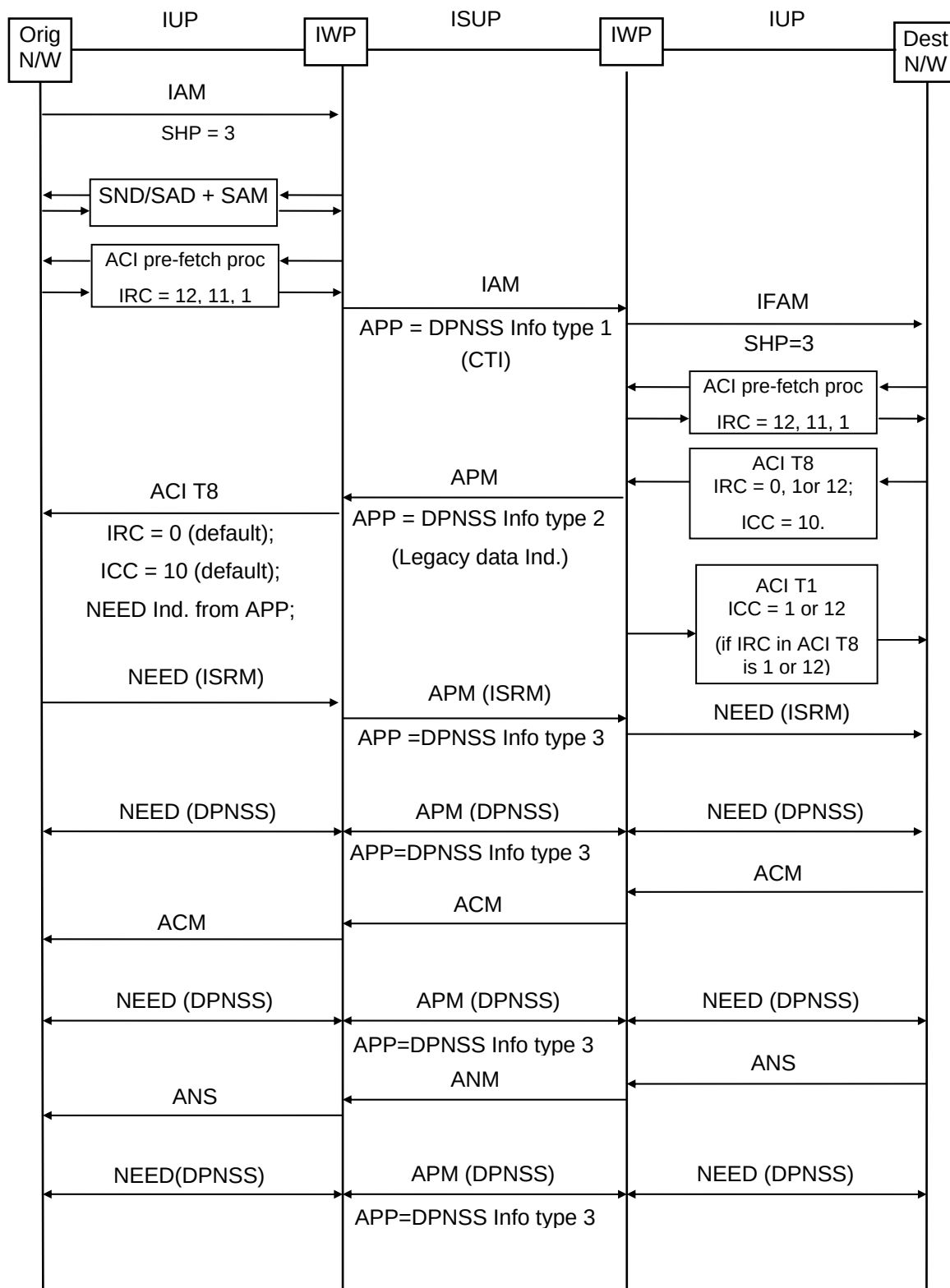
25.5.6 Actions at a SSP Node

Since DPNSS calls can activate trigger detection points, normal IN interaction might occur. The call shall then be handled as described in 25.5.1 to 25.5.5 above.

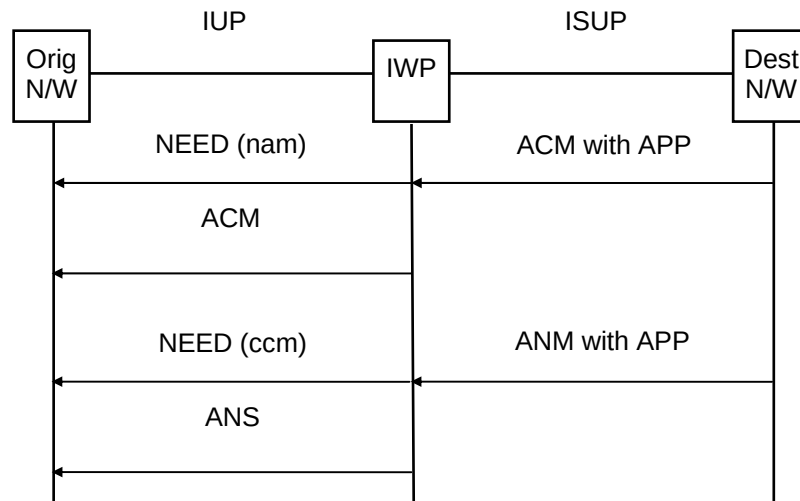
25.6 MESSAGE FLOWS.

Examples of a DPNSS call and data exchange

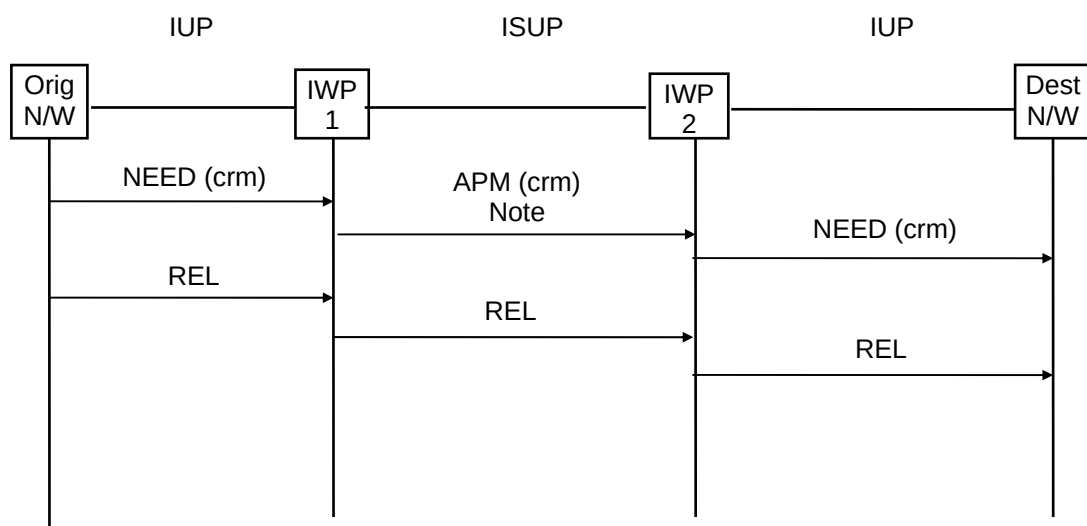
25.6.1 Set-up phase



25.6.2 Example of APP within a call control message

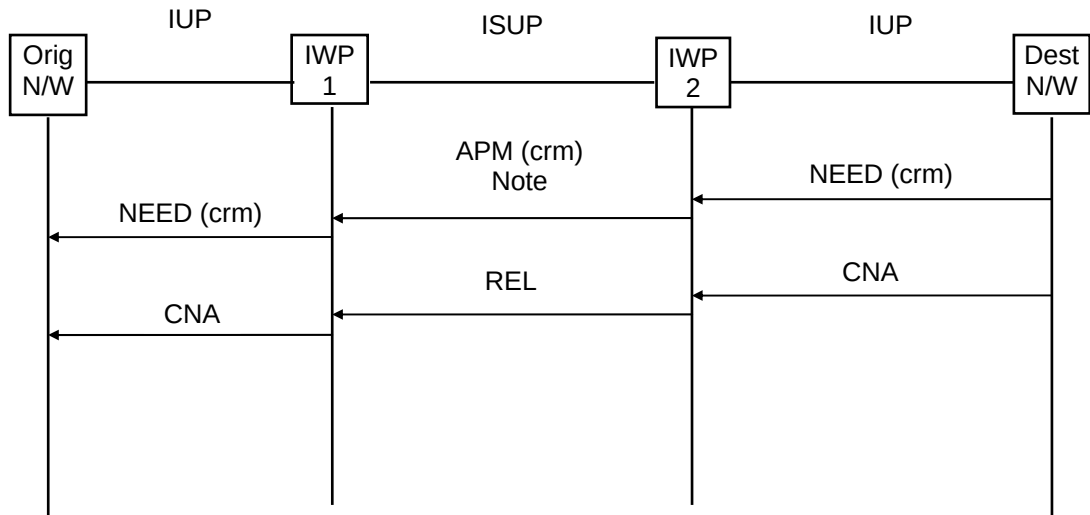


25.6.3 Release phase (Forward release using DPNSS message CRM)



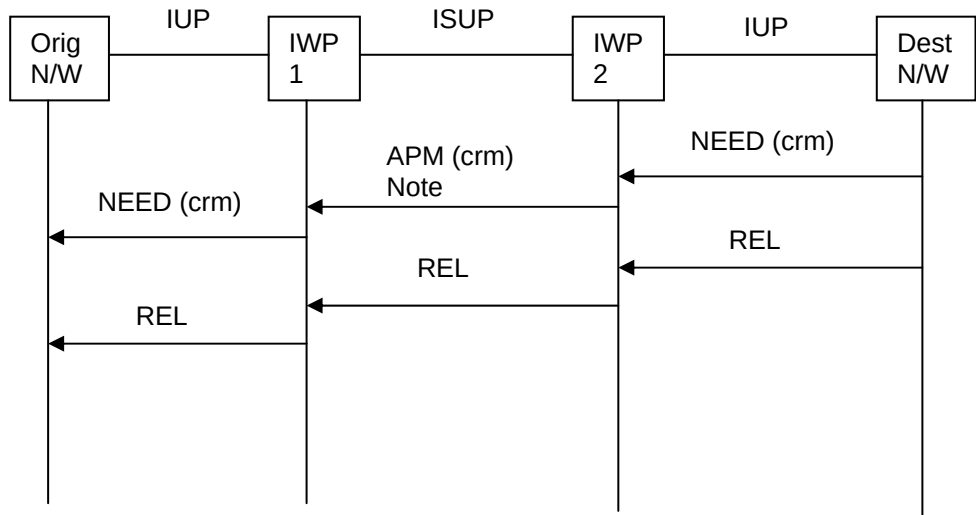
Note: If IWP1 is an internal gateway then the APP carrying the CRM may be sent in a PRI message.

25.6.4 Release phase (Backward release before ACM using DPNSS message CRM)



Note: If IWP2 is an internal gateway then the APP carrying the CRM may be sent in a PRI message.

25.6.5 Release phase (Backward release after ACM using DPNSS message CRM)



Note: If IWP2 is an internal gateway then the APP carrying the CRM may be sent in a PRI message.

End of TSG/SPEC/007§25

26 Call Deflection

26.1 Introduction

This section specifies the signalling formats, codes and procedures to support the Call Deflection (CD) Supplementary Service.

26.2 Service Overview

The CD supplementary service description is contained in [23] as amended by [89].

26.3 Information Flows

The information flows for CD are shown in [27].

26.4 Formats And Codes

The formats and codes used for the CD supplementary service are specified in section 3 of this document.

26.5 Signalling Procedures

The signalling procedures for CD are detailed in [65] as modified by [15] and the following changes.

Subclause 2.4.1 Messages

The redirection number parameter is not required in the Answer message.

Subclause 2.5.2.5.1.2 Actions at the destination exchange performing the diversion, item b)

Amend the 3rd paragraph as follows:

"When this is the first diversion the call has undergone, there are ~~five~~ six parameters to be set; the Redirection Information, the Called Party Number, the Original Called Number, the Redirecting Number, the ISUP Preference Indicator and the Last Diverting Line Identity (LDLI). Their values are set as follows":

Add sixth item as follows:

"6) The LDLI - To the network provided network number of the point that is performing the diversion."

Amend the 4th paragraph as follows:

When this is the second or greater diversion the call has undergone, there are ~~three~~ four parameters to be set; the Redirection Information, the Redirecting Number, the Called Party Number and the Last Diverting Line Identity (LDLI). Their values are set as follows"

Add fourth item as follows:

"iv) The LDLI - To the network provided network number of the point that is performing the diversion."

When multiple diversions occur the parameters are set as in Table ~~2-3/Q.732~~ 26.1.

Subclause 2.5.2.5.1.2 Actions at the destination exchange performing the diversion, item c), sub item i)

Amend Table 2-3/Q.732 as shown in table 26.1.

TABLE 26.1 - Parameter information for multiple redirection

	Hop 1	Hop 2	Hop 3	Hop 4	Hop 5	Hop 6
Number Information:						
Called Party Number	B	C	D	E	F	G
Redirecting Number		B	C	D	E	F
<u>Last Diverting Line Identity</u>		<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>
Original Called Number		B	B	B	B	B
Redirection Information:						
Redirection Counter		1	2	3	4	5
Redirecting Indicator		V	V	V	V	V
Redirecting Reason		W	W	W	W	W

Amend Table 2-5/Q.732 as shown in table 26.2

TABLE 26.2 - Handling of parameters in a diverting exchange

Parameter	Handling in a diverting exchange on receipt
- Sub-parameter or indicator	
...	...
Optional backward call ind.	Generated: see 2.5.2.5.1.2 d)
<u>Last diverting line identity</u>	<u>Generated: see 2.5.2.5.1.2 b)</u>

Annex ZA

Modify the text as follows:

~~"It is recommended that the~~ The parameter compatibility information for the call diversion information parameter ~~should~~ shall be coded as follows:"

~~"It is recommended that the~~ The parameter compatibility information for the generic notification parameter ~~should~~ shall be coded as follows:"

~~"It is recommended that the~~ The parameter compatibility information for the redirection number restriction parameter ~~should~~ shall be coded as follows:"

26.6 Interworking With IUP

The LDLI parameter in the IAM (diverting leg) is included only to enable interworking between ISUP and IUP as described in [63]. LDLI plays no active role in the CD supplementary service.

26.7 Handling of INR

Any INR message, received in the forward direction on the incoming leg of the call, subsequent to the IAM being generated on the diverted-to leg of the call and prior to ACM being received on the diverted-to leg of the call, shall be discarded. Subsequent to the receipt of ACM on the diverted-to leg of the call, any such INR message received in the forward direction shall be passed on. Any INR message received in the backward direction, from the diverted-to leg of the call, shall be passed on.

END OF TSG/SPEC/007§26

27 Targeted Transit

27.1 Introduction

This section specifies the signalling formats, codes and procedures to support the Targeted Transit supplementary service.

27.2 Formats and Codes

27.2.1 Messages

27.2.1.1 Initial Address Message (IAM)

The format of the IAM shall be as specified in section 3.

27.2.2 Parameters

27.2.2.1 Called Party Number

The format of the Called Party Number shall be as specified in section 3. The allowed coding of the Called Party Number parameter is as follows;

- a) *Odd/even indicator*
 - 0 even number of address signals
 - 1 odd number of address signals
- b) *Nature of address indicator*
 - 111 1110 UK Specific address
- c) *Internal network number indicator (INN ind.)*
 - 0 routing to internal network number allowed
 - 1 routing to internal network number not allowed
- d) *Numbering plan indicator*
 - 001 ISDN (Telephony) numbering plan (Recommendation E.164)
- e) *Address Signals*
 - 0000 digit 0
 - 0001 digit 1
 - 0010 digit 2
 - 0011 digit 3
 - 0100 digit 4
 - 0101 digit 5
 - 0110 digit 6
 - 0111 digit 7
 - 1000 digit 8
 - 1001 digit 9
 - 1111 ST

The address signals shall be formatted as shown in Figure 27.1

f) *Filler*

In case of an odd number of address signals, the filler code 0000 is inserted after the last address signal.

Targeted Transit Prefix Code				Destination Address
7	X	X	X	Called Address Digits (NOTE)

Figure 27.1 - Called Party Number Parameter, Address Signals

NOTE: The called address digits include the leading zero(s).

27.3 Signalling Procedures

27.3.1 Actions at the Originating Network

The originating network shall send an IAM to the targeted network or transit network. The address signals in the Called Party Number parameter shall be constructed in accordance with 27.2.2.1. The targeted transit prefix code is used to route the call to the POI of the targeted network or transit network.

27.3.2 Actions at the Transit Network

The transit network uses the targeted transit prefix code in the Called Party Number parameter of the IAM to route the call to the POI of the targeted network.

27.3.3 Actions at the Targeted Network

The targeted network uses the called address digits in the Called Party Number parameter of the IAM to route the call. The targeted network removes the Targeted Transit Prefix Code and up to two leading zeros of the Destination address and changes the Nature of Address Indicator to national or international depending on the number of leading zeros.

27.3.4 Message Sequence Diagram

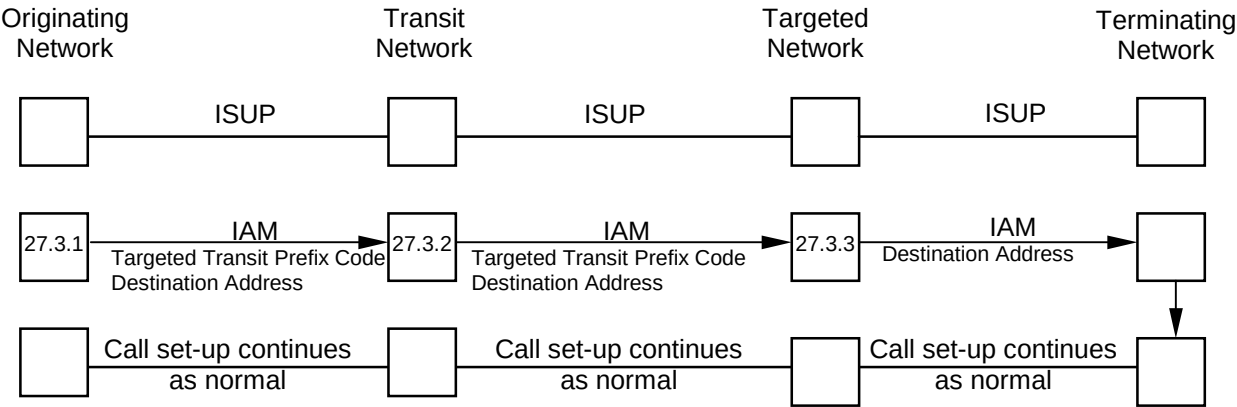


Figure 27.2 - Targeted Transit Message Sequence Diagram

END OF TSG/SPEC/007\$27