INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

Q.2735.1

(06/97)

SERIES Q: SWITCHING AND SIGNALLING

Broadband ISDN – B-ISDN application protocols for the network signalling

Stage 3 description for community of interest supplementary services for B-ISDN using SS No.7: Closed User Group (CUG)

ITU-T Recommendation Q.2735.1

(Previously CCITT Recommendation)

ITU-T Q-SERIES RECOMMENDATIONS

SWITCHING AND SIGNALLING

SIGNALLING IN THE INTERNATIONAL MANUAL SERVICE	Q.1–Q.3
INTERNATIONAL AUTOMATIC AND SEMI-AUTOMATIC WORKING	Q.4–Q.59
Signalling for satellite systems	Q.48–Q.49
FUNCTIONS AND INFORMATION FLOWS FOR SERVICES IN THE ISDN	Q.60–Q.99
CLAUSES APPLICABLE TO ITU-T STANDARD SYSTEMS	Q.100–Q.119
SPECIFICATIONS OF SIGNALLING SYSTEMS No. 4 AND No. 5	Q.120–Q.249
SPECIFICATIONS OF SIGNALLING SYSTEM No. 6	Q.250–Q.309
SPECIFICATIONS OF SIGNALLING SYSTEM R1	Q.310–Q.399
SPECIFICATIONS OF SIGNALLING SYSTEM R2	Q.400–Q.499
DIGITAL EXCHANGES	Q.500–Q.599
INTERWORKING OF SIGNALLING SYSTEMS	Q.600–Q.699
SPECIFICATIONS OF SIGNALLING SYSTEM No. 7	Q.700–Q.849
DIGITAL SUBSCRIBER SIGNALLING SYSTEM No. 1	Q.850–Q.999
PUBLIC LAND MOBILE NETWORK	Q.1000–Q.1099
INTERWORKING WITH SATELLITE MOBILE SYSTEMS	Q.1100–Q.1199
INTELLIGENT NETWORK	Q.1200–Q.1999
BROADBAND ISDN	Q.2000–Q.2999
General aspects	Q.2000–Q.2099
Signalling ATM adaptation layer (SAAL)	Q.2100–Q.2199
Signalling network protocols	Q.2200–Q.2299
Common aspects of B-ISDN application protocols for access signalling and network signalling and interworking	Q.2600–Q.2699
B-ISDN application protocols for the network signalling	**Q.2700–Q.2899**
B-ISDN application protocols for access signalling	Q.2900–Q.2999

For further details, please refer to ITU-T List of Recommendations.

ITU-T RECOMMENDATION Q.2735.1

STAGE 3 DESCRIPTION FOR COMMUNITY OF INTEREST SUPPLEMENTARY SERVICES FOR B-ISDN USING SS No. 7: CLOSED USER GROUP (CUG)

Summary

This Recommendation specifies the stage 3 of the Closed User Group (CUG) supplementary service for the Broadband Integrated Services Digital Network (B-ISDN) at the Network Node Interface (NNI) by means of the Broadband ISDN User Part (B-ISUP) protocol.

Closed User Group (CUG) enables users to form groups, to and from which access is restricted. A specific user may be a member of one or more CUGs. Members of a specific CUG can communicate among themselves, but not with users outside the group. Specific CUG members can have additional capabilities, that allow them to originate calls outside the group, and/or to receive calls from outside the group. Specific CUG members can have additional restrictions that prevent them from originating calls to other members of the CUG, or from receiving calls from other members of the CUG.

Source

ITU-T Recommendation Q.2735.1 was prepared by ITU-T Study Group 11 (1997-2000) and was approved under the WTSC Resolution No. 1 procedure on the 5th of June 1997.

FOREWORD

ITU (International Telecommunication Union) is the United Nations Specialized Agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the ITU. The ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Conference (WTSC), which meets every four years, establishes the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

The approval of Recommendations by the Members of the ITU-T is covered by the procedure laid down in WTSC Resolution No. 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

INTELLECTUAL PROPERTY RIGHTS

The ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. The ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

As of the date of approval of this Recommendation, the ITU had/had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

CONTENTS

Recommendation Q.2735.1

STAGE 3 DESCRIPTION FOR COMMUNITY OF INTEREST SUPPLEMENTARY SERVICES FOR B-ISDN USING SS No. 7: CLOSED USER GROUP (CUG)

(Geneva, 1997)

1 Closed User Group (CUG)

1.1 Scope

This Recommendation specifies the stage 3 of the Closed User Group (CUG) supplementary service for the Broadband Integrated Services Digital Network (B-ISDN) at the Network Node Interface (NNI) by means of the Broadband ISDN User Part (B-ISUP) protocol.

1.2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; all users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published.

[1] ITU Recommendation E.164 (1997), *The international public telecommunication numbering plan*.

[2] CCITT Recommendation I.255.1 (1992), *Community of interest supplementary services: Closed User Group*.

[3] CCITT Recommendation Q.85.1 (1992), *Stage 2 description for community of interest supplementary services: Closed User Group*.

[4] ITU Recommendation Q.2650 (1995), *Interworking between Signalling System No. 7 Broadband ISDN User Part (B-ISUP) and Digital Subscriber Signalling System No. 2 (DSS 2).*

[5] ITU Recommendation Q.2660 (1995), *Interworking between Signalling System No. 7 – Broadband ISDN User Part (B-ISUP) and Narrow-band ISDN User Part (N-ISUP).*

[6] ITU Recommendation Q.2730 (1995), *Signalling System No. 7 B-ISDN User Part (B-ISUP) – Supplementary services*.

[7] ITU Recommendation Q.2761 (1995), *Functional description of the B-ISDN User Part (B-ISUP) of Signalling System No. 7.*

[8] ITU Recommendation Q.2762 (1995), *General functions of messages and signals of the B-ISDN User Part (B-ISUP) of Signalling System No. 7.*

[9] ITU Recommendation Q.2763 (1995), *Signalling System No. 7 B-ISDN User Part (B-ISUP) – Formats and codes*.

[10] ITU Recommendation Q.2764 (1995), *Signalling System No. 7 B-ISDN User Part (B-ISUP) – Basic call procedures*.

[11] ITU Recommendation Q.2955.1 (1997), *Stage 3 description for community of interest supplementary services using B-ISDN Digital Subscriber Signalling system No. 2 (DSS 2): Closed User Group (CUG).*

[12] CCITT Recommendation X.180 (1988), *Administrative arrangements for international Closed User Groups (CUGs).*

1.3 Definitions and abbreviations

1.3.1 Definitions

This Recommendation defines the following terms:

1.3.1.1 The supplementary service Closed User Group (CUG): enables users to form groups, to and from which access is restricted. A specific user may be a member of one or more CUGs. Members of a specific CUG can communicate among themselves, but not with users outside the group. Specific CUG members can have additional capabilities, that allow them to originate calls outside the group, and/or to receive calls from outside the group. Specific CUG members can have additional restrictions that prevent them from originating calls to other members of the CUG, or from receiving calls from other members of the CUG.

1.3.1.2 calling party number: is the network (e.g. E.164) number of the calling party.

1.3.1.3 called party number: is the network (e.g. E.164) number of the called party.

1.3.1.4 CUG interlock code: is the code to uniquely identify a CUG inside the network.

1.3.2 Abbreviations

This Recommendation uses the following abbreviations:

AE	Application Entity
AP	Application Process
ASE	Application Service Element
B-ISDN	Broadband ISDN
B-ISUP	Broadband ISDN User Part
CS 1	Capability Set One
CUG	Closed User Group
DSS 2	Digital Subscriber Signalling System No. 2
ISDN	Integrated Services Digital Network
MTP	Message Transfer Part
NI	Network Interface
NNI	Network Node Interface
SACF	Single Association Control Function
SAO	Single Association Object

1.4 Description

A CUG is a group of users who may be members of one or several public networks; each ISDN member of a CUG is identified by an ISDN number.

The Closed User Group (CUG) supplementary service enables a group of users to intercommunicate only among themselves or, as required, one or more users may be provided with incoming/outgoing access to users outside the group.

The stage 1 definition of the CUG service is given in Recommendation I.255. The stage 2 description including network functions are given in clause 1/Q.85, and the stage 3 DSS 2

description is given in clause 1/Q.2955. This stage 3 description of the CUG uses the broadband ISDN user part protocol as defined in Recommendations Q.2761 to Q.2764 and Q.2730.

The realization of the CUG service is done by the provision of interlock codes and is based on various validation checks at call set-up, determining whether or not a requested call to or from a user having a CUG facility is allowed. In particular, a validation check is performed by verifying that both the calling and the called parties belong to the CUG indicated by the interlock code. The guidelines for arrangements of international CUG and administration of international interlock codes are contained in Recommendation X.180.

The data for each CUG to which a user belongs can either be stored at the local exchange (decentralized administration of CUG data) or in a central location within the network (centralized administration of CUG data) to which the user is connected.

1.5 Specification model

This Recommendation contains a description of the supplementary service CUG. The functional architecture used is from a restructuring of the B-ISUP description. The structure is indicated in Figure 1-1.

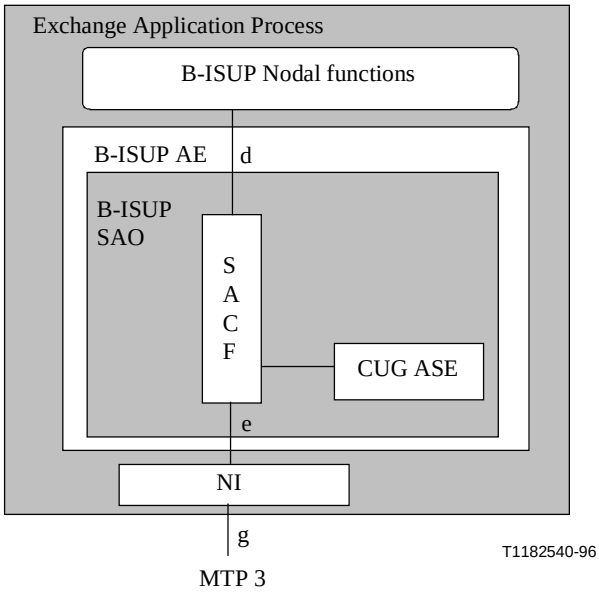

Figure 1-1/Q.2735.1 – Specification model for B-ISUP CUG supplementary service

1.6 CUG application process functions

1.6.1 Primitive interface AP/SACF

The closed user group signalling functions in the application process uses services provided by the SACF primitive interface. Functions used are listed in Table 1-1.

Table 1-1/Q.2735.1 – Primitives between AP and SACF for CUG

Primitive name	Types
Set_Up	Request/indication
Release	Request/indication

These primitives are also exchanged between the call control functions in the AP and the SACF for basic call.

A parameter called closed user group information is used for the CUG service. This parameter is added to the Set_Up primitive. The parameter is mandatory. This is depicted in Table 1-2.

Table 1-2/Q.2735.1 – Parameter used for CUG in the Set_Up request/indication primitive

Parameter	Mandatory/optional
Closed user group information	M

Also, the cause indicators parameter of the release request/indication primitive is used for the CUG supplementary service. The parameter is mandatory. This is depicted in Table 1-3.

Table 1-3/Q.2735.1 – Parameter used for CUG in the release request/indication primitive

Parameter	Mandatory/optional
Cause indicators	M

1.6.2 Procedures

1.6.2.1 Actions at the originating local exchange

Upon receipt of a request for CUG service, the AP shall check its validity in conjunction with the access capabilities contained in the user profile. The various validity checks are described in Recommendation Q.2955.1. The result of that check then initiates further actions by the AP as described in Table 1-4.

Table 1-4/Q.2735.1 – AP actions resulting from validity check

Result of validity check for CUG service request	Actions
CUG call without outgoing access	Issue a Set_Up request primitive. The interlock code of the selected CUG together with an indication for "outgoing access not allowed" is included in the closed user group information parameter.

Table 1-4/Q.2735.1 – AP actions resulting from validity check (*concluded*)

CUG call with outgoing access	Issue a Set_Up request primitive. The interlock code of the selected CUG together with an indication for "outgoing access allowed" is included in the closed user group information parameter.
Call rejected	No call set-up initiated. Return an appropriate indication to the calling user.

The presence of the closed user group information parameter in the Set_Up request primitive is a request for the CUG service.

1.6.2.2 Actions at the transit exchange

When a transit exchange receives a Set_Up indication on the incoming side containing information related to the CUG supplementary service, it shall include transparently all that information in the corresponding Set_Up request issued on the outgoing side.

1.6.2.3 Actions at the outgoing international gateway exchange

In the case of an international CUG call, the gateway shall transparently pass on the information related to the CUG supplementary service provided that the international interlock code assigned to the international CUG concerned is used in the national network at the gateway exchange. However, in the case where a national interlock code other than the applicable international interlock code is used within a national network, interlock code conversion is required at the gateway exchange.

On receipt of a Set_Up indication primitive containing the closed user group information parameter, the AP therefore transfers the contents of that parameter to the corresponding parameter in the Set_Up request primitive which it issues. This is done either transparently or after conversion of the national interlock code to the corresponding international interlock code.

The interlock code is part of the closed user group information parameter.

1.6.2.4 Actions at the international transit exchange

When an international transit exchange receives a Set_Up indication on the incoming side containing information related to the CUG supplementary service, it shall include transparently all that information in the corresponding Set_Up request issued on the outgoing side.

1.6.2.5 Actions at the incoming international gateway exchange

In the case of an international CUG call, the gateway shall transparently pass on the information related to the CUG supplementary service provided that the international interlock code assigned to the international CUG concerned is used in the national network at the gateway exchange. However, in the case where a national interlock code other than the applicable international interlock code is used within a national network, interlock code conversion is required at the gateway exchange.

On receipt of a Set_Up indication primitive containing the closed user group information parameter, the AP therefore transfers the contents of that parameter to the corresponding parameter in the Set_Up request primitive which it issues. This is done either transparently or after conversion of the international interlock code to the corresponding national interlock code. The interlock code is part of the closed user group information parameter.

An exceptional procedure is that in case of interworking with a network which does not support the CUG facility, the incoming gateway exchange may release the call, depending on the value of the closed user group indicator (part of the closed user group information parameter) in the received Set_Up indication primitive.

The actions of the AP, in this case, is indicated in Table 1-5. If no interworking is possible with a network not supporting the CUG facility, the exchange will immediately start the release of the call. A release request primitive is then issued, as indicated in Table 1-5.

Table 1-5/Q.2735.1 – AP actions at the gateway with a network not supporting CUG service

Parameters received	Actions
Closed user group information parameter present, outgoing access not allowed	Release the call and issue a release request primitive with cause No. 29 (facility rejected), also enclose the parameter name (which is closed user group information).
Closed user group information parameter present, outgoing access allowed	Treat the call as an ordinary call, discard the closed user group information parameter, and issue a Set_Up request without that parameter.
Closed user group information parameter not present	Treat the call as an ordinary call.

1.6.2.6 Actions at the destination local exchange

On receipt of a Set_Up indication primitive containing a closed user group information parameter, the AP at the destination local exchange performs a validation check of the acceptability of a call, according to the rule specified in Recommendation Q.2955.5, where either the calling party or the called party belongs to a CUG. Table 1-6 indicates the action to be taken by the AP of the destination exchange as the result of this validation check.

The call set-up is continued only in cases where the information received checks with the information stored at the destination exchange. Otherwise, the exchange will immediately start the release of the call. A release request primitive is issued with a cause value as indicated in Table 1-6.

Table 1-6/Q.2735.1 – AP actions at the destination local exchange

<table>
<tr><th rowspan="3">Call type indicated in Set_Up indication</th><th rowspan="3">CUG match check</th><th colspan="5">Class of called user</th></tr>
<tr><th colspan="2">CUG</th><th colspan="2">CUG+IA</th><th>Non-CUG</th></tr>
<tr><th>No ICB</th><th>ICB</th><th>No ICB</th><th>ICB</th><th></th></tr>
<tr><td rowspan="2">CUG with OA not allowed</td><td>Match</td><td>CUG call, proceed with set-up</td><td>Issue release request with cause indicator No. 55</td><td>CUG call, proceed with set-up</td><td>Issue release request with cause indicator No. 55</td><td rowspan="2">Issue release request with cause indicator No. 87</td></tr>
<tr><td>No match</td><td colspan="2">Issue release request with cause indicator No. 87</td><td colspan="2">Issue release request with cause indicator No. 87</td></tr>
<tr><td rowspan="2">CUG with OA allowed</td><td>Match</td><td>CUG+OA call, proceed with set-up</td><td>Issue release request with cause indicator No. 55</td><td>CUG+OA call, proceed with set-up</td><td>Non-CUG call, proceed with set-up</td><td rowspan="2">Non-CUG call, proceed with set-up</td></tr>
<tr><td>No match</td><td colspan="2">Issue release request with cause indicator No. 87</td><td colspan="2">Non-CUG call, proceed with set-up</td></tr>
<tr><td>Non-CUG</td><td>–</td><td colspan="2">Issue release request with cause indicator No. 87</td><td colspan="2">Non-CUG call, proceed with set-up</td><td>Non-CUG call, proceed with set-up</td></tr>
<tr><td colspan="7">IA Incoming access.
OA Outgoing access.
ICB Incoming calls barred.
Match The interlock code in the received Set_Up indication matches one of the CUGs to which the called user belongs.
No match The interlock code in the received Set_Up indication does not match any of the CUGs to which the called user belongs.
Cause No. 55 Incoming calls barred within CUG.
Cause No. 87 User not member of CUG.</td></tr>
</table>

1.7 SACF

1.7.1 Primitive interface SACF/MTP

The SACF uses the services provided by the MTP primitive interface.

1.7.2 Procedures

1.7.2.1 Outgoing messages

On receipt of a primitive from the AP, the SACF analyses this primitive, and distributes information among the different ASEs based on primitive type and parameters.

On receipt of a Set_Up request primitive from the AP, the SACF checks for the presence of the closed user group information parameter. If the parameter is present, the SACF issues a CUG_Set_Up request primitive to the CUG ASE.

On receipt of a release request primitive from the AP, the SACF checks for the cause value. If the cause value is either No. 55 or No. 87, or if the cause value is No. 29 and the parameter name closed user group information is enclosed, the SACF issues a CUG_Release request to the CUG ASE.

The output from the CUG ASE is received by the SACF in the transfer request. This primitive is used to populate the User_Data field of the transfer request primitive which is issued to the NI.

1.7.2.2 Incoming messages

On receipt of a transfer indication primitive from the NI, the SACF analyses the User_Data field of this primitive, and distributes information among the different ASEs based on message type and parameter types.

If the transfer indication primitive received from the NI contains an IAM message with the closed user group information parameter present, the SACF issues a transfer indication primitive to the CUG ASE including the received message.

Output from the CUG ASE is then received by the SACF in the CUG_Set_Up indication. This primitive is used by SACF to populate the closed user group information parameter in the Set_Up indication which is sent to the AP.

If the transfer indication primitive (from the NI) contains a REL message the SACF checks for the cause value. If the cause value is either No. 55 or No. 87, or if the cause value is No. 29 and the parameter name closed user group information is enclosed, the SACF issues a transfer indication primitive to the CUG ASE including the received cause indicator.

Output from the CUG ASE is then received by the SACF in the CUG_Release indication. This primitive is used by SACF to populate the cause parameter in the release indication which is sent to the AP.

1.8 CUG ASE

1.8.1 Primitive interface SACF/CUG ASE

The primitives in Table 1-7 are offered by the CUG ASE, and used by the SACF.

Table 1-7/Q.2735.1 – Primitives of the CUG ASE

Primitive name	Types
CUG_Set_Up	Request/indication
CUG_Release	Request/indication

The CUG interlock code information is transported in the closed user group information parameter. The indication whether outgoing access is allowed is also transported in this parameter. The parameters of the CUG ASE primitives are shown in Tables 1-8 and 1-9.

Table 1-8/Q.2735.1 – Parameters for the CUG_Set_Up request/indication primitive

Parameter
Closed user group information

Table 1-9/Q.2735.1 – Parameters for the CUG_Release request/indication primitive

Parameter
Cause indicators

The CUG ASE uses the SACF service primitives transfer request/indication.

1.8.2 Procedures

1.8.2.1 Outgoing side procedures

Outgoing side procedures commences on receipt of a CUG_Set_Up request primitive. The ASE translates the information received into the appropriate format, and the parameters received in the CUG request is then sent to the SACF in a transfer request primitive.

At any time after the submission of CUG_Set_Up request primitive, a cause indicator could be received in a transfer indication primitive. The ASE translates the information received into the appropriate format, and a CUG_Release indication primitive is issued.

1.8.2.2 Incoming side procedures

Incoming side procedures commences on receipt of a transfer indication primitive containing an IAM message with CUG related information. The ASE translates the information received into the appropriate format, and then the information received in the transfer indication is sent to the SACF in a CUG_Set_Up indication primitive.

At any time after the submission of CUG_Set_Up indication primitive, a CUG_Release request could be received. The ASE translates the information received into the appropriate format, and a transfer request primitive is issued.

1.9 Interactions

1.9.1 Interactions with CS 1

A transit CS 1 node will transparently pass the CUG information parameter, as specified in the instruction indicator. If the destination local exchange is a CS 1 node, it shall react accordingly with the procedures specified in 8.10/Q.2650.

1.9.2 Interactions with other supplementary services

1.9.2.1 Advice of Charge (AOC)

No applicable interaction at this time.

1.9.2.2 Call Waiting (CW)

No applicable interaction at this time.

1.9.2.3 Call Hold (HOLD)

No applicable interaction at this time.

1.9.2.4 Call transfer services

No applicable interaction at this time.

1.9.2.5 Connected Line Identification Presentation (COLP)

No impact on B-ISUP.

1.9.2.6 Connected Line Identification Restriction (COLR)

No impact on B-ISUP.

1.9.2.7 Calling Line Identification Presentation (CLIP)

No impact on B-ISUP.

1.9.2.8 Calling Line Identification Restriction (CLIR)

No impact on B-ISUP.

1.9.2.9 Closed User Group (CUG)

Not applicable.

1.9.2.10 Completion of Calls to Busy Subscriber (CCBS)

No applicable interaction at this time.

1.9.2.11 Conference Calling (CONF)

No applicable interaction at this time.

1.9.2.12 Meet-Me Conference (MMC)

No applicable interaction at this time.

1.9.2.13 Direct-Dialling-In (DDI)

No impact on B-ISUP.

1.9.2.14 Call Diversion services (CDIV)

1.9.2.14.1 Call Forwarding Busy (CFB)

No applicable interaction at this time.

1.9.2.14.2 Call Forwarding No Reply (CFNR)

No applicable interaction at this time.

1.9.2.14.3 Call Forwarding Unconditional (CFU)

No applicable interaction at this time.

1.9.2.14.4 Call Deflection (CD)

No applicable interaction at this time.

1.9.2.15 Freephone (FPH)

No applicable interaction at this time.

1.9.2.16 Malicious Call Identification (MCID)

No applicable interaction at this time.

1.9.2.17 Multiple Subscriber Number (MSN)

No impact on B-ISUP.

1.9.2.18 Sub-addressing (SUB)

No impact on B-ISUP.

1.9.2.19 Terminal Portability (TP)

No applicable interaction at this time.

1.9.2.20 Three-Party Service (3PTY)

No applicable interaction at this time.

1.9.2.21 User-to-User Signalling (UUS)

1.9.2.21.1 Service 1

No impact on B-ISUP for implicit service 1.

No applicable interaction at this time for explicit service 1.

1.9.2.21.2 Service 2

No applicable interaction at this time.

1.9.2.21.3 Service 3

No applicable interaction at this time.

1.9.2.22 Reverse charging (REV)

No applicable interaction at this time.

1.9.2.23 Multi-level Precedence and Preemption (MLPP)

No applicable interaction at this time.

1.9.2.24 Private Numbering Plan (PNP)

No applicable interaction at this time.

1.9.2.25 International Telecommunication Charge Card (ITCC)

No applicable interaction at this time.

1.10 Interworking

1.10.1 Interworking with ISUP

Interworking with N-ISDN is contained in Recommendation Q.2660.

1.10.2 Interworking with DSS 2

The mapping between DSS 2 and B-ISUP is shown in Tables 1-10 and 1-11.

Table 1-10/Q.2735.1 – Mapping CUG information
Successful call establishment

DSS 2	B-ISUP	DSS 2
SET-UP or ADD PARTY ---------->	IAM ---------->	SET-UP or ADD PARTY ---------->

SET-UP or ADD PARTY	IAM	SET-UP
Closed user group information element (Note)	Closed user group information parameter	Closed user group information element
NOTE – Not included if the CUG service is implicitly requested.		

Table 1-11/Q.2735.1 – Mapping CUG information
Call fails destination network side checks

DSS 2	B-ISUP	DSS 2
SET-UP or ADD PARTY ---------->	IAM ---------->	
RELEASE <----------	REL <----------	

SET-UP or ADD PARTY	IAM	
Closed user group information element (Note)	Closed user group information parameter	
RELEASE	REL	
Cause information element	Cause indicators parameter	
NOTE – Not included if the CUG service is implicitly requested.		

APPENDIX I

Instruction indicator setting

The following instruction indicators may be set for the closed user group information, depending on the setting of the outgoing access allowed indication, different settings of the instruction indicator is needed. Consequently, we have two different tables below.

Table I.1/Q.2735.1 – CUG call with outgoing access not allowed

Parameter	Transit at intermediate exchange indicator	Release call indicator	Send notification indicator	Discard message indicator	Discard parameter indicator	Pass on not possible indicator	Broadband/ narrowband interworking indicator
Closed user group information	Transit interpretation	Release the call	Default	Default	Default	Default	Release the call

Table I.2/Q.2735.1 – CUG call with outgoing access allowed

Parameter	Transit at intermediate exchange indicator	Release call indicator	Send notification indicator	Discard message indicator	Discard parameter indicator	Pass on not possible indicator	Broadband/ narrowband interworking indicator
Closed user group information	Transit interpretation	Do not release the call	Do not send notification	Do not discard message	Do not discard parameter	Discard parameter	Pass on

ITU-T RECOMMENDATIONS SERIES

Series A	Organization of the work of the ITU-T
Series B	Means of expression: definitions, symbols, classification
Series C	General telecommunication statistics
Series D	General tariff principles
Series E	Overall network operation, telephone service, service operation and human factors
Series F	Non-telephone telecommunication services
Series G	Transmission systems and media, digital systems and networks
Series H	Audiovisual and multimedia systems
Series I	Integrated services digital network
Series J	Transmission of television, sound programme and other multimedia signals
Series K	Protection against interference
Series L	Construction, installation and protection of cables and other elements of outside plant
Series M	TMN and network maintenance: international transmission systems, telephone circuits, telegraphy, facsimile and leased circuits
Series N	Maintenance: international sound programme and television transmission circuits
Series O	Specifications of measuring equipment
Series P	Telephone transmission quality, telephone installations, local line networks
Series Q	**Switching and signalling**
Series R	Telegraph transmission
Series S	Telegraph services terminal equipment
Series T	Terminals for telematic services
Series U	Telegraph switching
Series V	Data communication over the telephone network
Series X	Data networks and open system communication
Series Z	Programming languages