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**ITU-T**

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OF ITU

**Q.2660**

(12/99)

SERIES Q: SWITCHING AND SIGNALLING

Broadband ISDN – Common aspects of B-ISDN  
application protocols for access signalling and network  
signalling and interworking

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**Interworking between signalling system No. 7  
broadband ISDN user part (B-ISUP) and  
narrow-band ISDN user part (N-ISUP)**

ITU-T Recommendation Q.2660

(Previously CCITT Recommendation)

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

## **ITU-T RECOMMENDATION Q.2660**

### **INTERWORKING BETWEEN SIGNALLING SYSTEM No. 7 – BROADBAND ISDN USER PART (B-ISUP) AND NARROW-BAND ISDN USER PART (N-ISUP)**

#### **Summary**

This Recommendation shows the mapping/interworking between B-ISUP and N-ISUP for the basic call and supplementary services.

#### **Source**

ITU-T Recommendation Q.2660 was revised by ITU-T Study Group 11 (1997-2000) and was approved under the WTSC Resolution No. 1 procedure on 3 December 1999.

## FOREWORD

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

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## Recommendation Q.2660

### INTERWORKING BETWEEN SIGNALLING SYSTEM No. 7 – BROADBAND ISDN USER PART (B-ISUP) AND NARROW-BAND ISDN USER PART (N-ISUP)

*(revised in 1999)*

#### 1 Scope

This Recommendation specifies the interworking between Broadband ISDN User Part as used in the Broadband network and the Narrow-band ISDN User Part as defined in the 1997 Recommendations [10].

Interworking of the basic call and supplementary services applicable to the international interface are included.

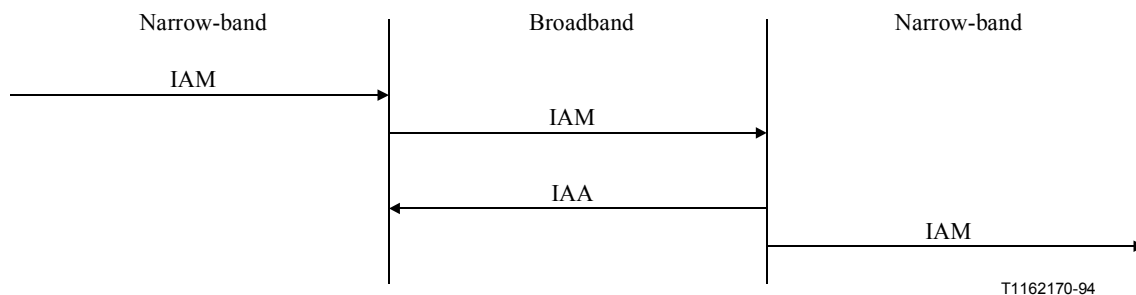
Interworking is shown as arrow diagrams showing the message interworking, with tables being used to show the mapping of parameters. In some cases the message mapping is ambiguous. In those cases, the actual state of the involved ASEs has to be considered in addition to determining in which message the information is mapped. This is, however, outside the scope of this Recommendation.

When repeated information elements are contained in B-ISUP parameters, on ascending order of priority is assumed.

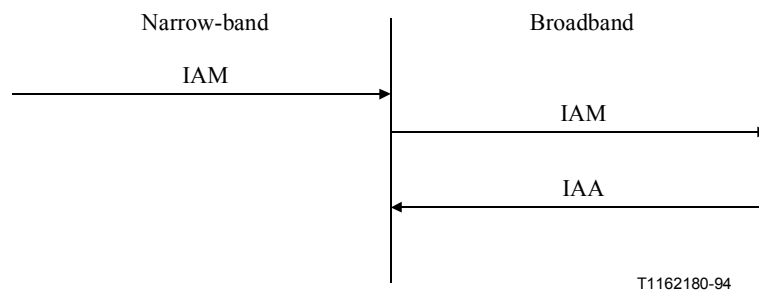
This Recommendation covers the following three interworking scenarios:

- Broadband transit network;
- Narrow-band/broadband interworking;
- Broadband/narrow-band interworking.

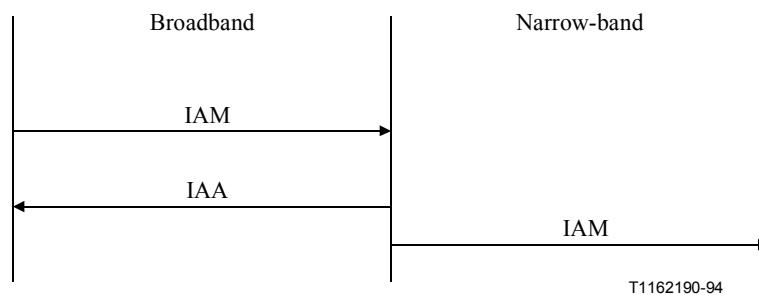
The interworking diagrams and tables show only the case of the broadband network being a transit network between two narrow-band networks. However, the information given is also relevant to the narrow-band/broadband and broadband/narrow-band interworking cases as indicated below. (See Figures 1 to 3.)



**Figure 1/Q.2260 – Broadband transit network**



**Figure 2/Q.2260 – Narrow-band/broadband interworking**



**Figure 3/Q.2260 –Broadband/narrow-band interworking**

## 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-T Recommendation Q.2761 (1999), *Functional description of the B-ISDN user part (B-ISUP) of signalling system No. 7.*
- [2] ITU-T Recommendation Q.2762 (1999), *General functions of messages and signals of the B-ISDN user part (B-ISUP) of signalling system No. 7.*
- [3] ITU-T Recommendation Q.2763 (1999), *Signalling system No. 7 B-ISDN user part (B-ISUP) – Formats and codes.*
- [4] ITU-T Recommendation Q.2764 (1999), *Signalling system No. 7 B-ISDN user part (B-ISUP) – Basic call procedures.*
- [5] ITU-T Recommendation Q.2765 (1999), *Signalling system No. 7 B-ISDN user part (B-ISUP) – Application transport mechanism (APM).*
- [6] ITU-T Recommendation Q.2730 (1999), *Signalling system No. 7 B-ISDN user part (B-ISUP) – Supplementary services.*
- [7] ITU-T Recommendation Q.2735.1 (1997), *Stage 3 description for community of interest supplementary services for B-ISDN using SS No. 7: Closed user group (CUG).*
- [8] CCITT Recommendation E.172 (1992), *ISDN routing plan.*



- [9] ITU-T Recommendation Q.2931 (1995), *Digital subscriber signalling system No. 2 – User-network interface (UNI) layer 3 specification for basic call/connection control.*
- [10] ITU-T Recommendation Q.761 (1997), *Signalling system No. 7 – ISDN user part functional description.*
- [11] ITU-T Recommendation Q.762 (1997), *Signalling system No. 7 – ISDN user part general functions of messages and signals.*
- [12] ITU-T Recommendation Q.763 (1997), *Signalling system No. 7 – ISDN user part formats and codes.*
- [13] ITU-T Recommendation Q.764 (1997), *Signalling system No. 7 – ISDN user part signalling procedures.*
- [14] ITU-T Recommendation Q.765 (1998), *Signalling system No. 7 – Application transport mechanism.*
- [15] ITU-T Recommendation Q.730 (1997), *ISDN user part supplementary services.*
- [16] ITU-T Recommendation Q.731.1 (1996), *Stage 3 description for number identification supplementary services using signalling system No. 7: Direct-dialling-in (DDI).*
- [17] ITU-T Recommendation Q.731.3 (1993), *Stage 3 description for number identification supplementary services using signalling system No. 7: Calling line identification presentation (CLIP).*
- [18] ITU-T Recommendation Q.731.4 (1993), *Stage 3 description for number identification supplementary services using signalling system No. 7: Calling line identification restriction (CLIR).*
- [19] ITU-T Recommendation Q.731.5 (1993), *Stage 3 description for number identification supplementary services using signalling system No. 7: Connected line identification presentation (COLP).*
- [20] ITU-T Recommendation Q.731.6 (1993), *Stage 3 description for number identification supplementary services using signalling system No. 7: Connected line identification restriction (COLR).*
- [21] ITU-T Recommendation Q.731.7 (1997), *Stage 3 description for number identification supplementary services using signalling system No. 7: Malicious call identification (MCID).*
- [22] CCITT Recommendation Q.731.8 (1992), *Stage 3 description for number identification supplementary services using signalling system No. 7: Sub-addressing (SUB).*
- [23] ITU-T Recommendation Q.732.2 (1996), *Stage 3 description for call offering supplementary services using signalling system No. 7: Call diversion services: call forwarding busy, call forwarding no reply, call forwarding unconditional, call deflection.*
- [24] ITU-T Recommendation Q.732.7 (1996), *Stage 3 description for call offering supplementary services using signalling system No. 7: Explicit call transfer.*
- [25] CCITT Recommendation Q.733.1 (1992), *Stage 3 description for call completion supplementary services using signalling system No. 7: Call waiting (CW).*
- [26] ITU-T Recommendation Q.733.2 (1993), *Stage 3 description for call completion supplementary services using signalling system No. 7: Call hold (HOLD).*
- [27] ITU-T Recommendation Q.733.3 (1997), *Stage 3 description for call completion supplementary services using signalling system No. 7: Completion of calls to busy subscriber (CCBS).*

- [28] ITU-T Recommendation Q.733.4 (1993), *Stage 3 description for call completion supplementary services using signalling system No. 7: Terminal portability (TP)*.
- [29] ITU-T Recommendation Q.734.1 (1993), *Stage 3 description for multiparty supplementary services using signalling system No. 7: Conference calling*.
- [30] ITU-T Recommendation Q.734.2 (1996), *Stage 3 description for multiparty supplementary services using signalling system No. 7: Three-party service*.
- [31] ITU-T Recommendation Q.735.1 (1993), *Stage 3 description for community of interest supplementary services using signalling system No. 7: Closed user group (CUG)*.
- [32] ITU-T Recommendation Q.735.3 (1993), *Stage 3 description for community of interest supplementary services using signalling system No. 7: Multi-level precedence and preemption*.
- [33] ITU-T Recommendation Q.735.6 (1996), *Stage 3 description for community of interest supplementary services using signalling system No. 7: Global virtual network service (GVNS)*.
- [34] ITU-T Recommendation Q.736.1 (1995), *Stage 3 description for charging supplementary services using signalling system No. 7: International telecommunication charge card (ITCC)*.
- [35] ITU-T Recommendation Q.736.3 (1995), *Stage 3 description for charging supplementary services using signalling system No. 7: Reverse charging (REV)*.
- [36] ITU-T Recommendation Q.737.1 (1997), *Stage 3 description for additional information transfer supplementary services using signalling system No. 7: User-to-user signalling (UUS)*.
- [37] ITU-T Recommendation Q.2931 Amendment 2 (1999), *Digital subscriber signalling system No. 2 – User-network interface (UNI) layer 3 specification for basic call/connection control – Amendment 2*.

### **3 Abbreviations**

This Recommendation uses the following abbreviations:

3PTY	Three-Party Service
ACM	Address Complete Message
ANM	ANswer Message
AOC	Advice of Charge
APM	Application Transport Message
ASE	Application Service Element
CCBS	Completion of Calls to Busy Subscriber
CD	Call Deflection
CFB	Call Forwarding Busy
CFN	Confusion Message
CFNR	Call Forwarding No Reply
CFU	Call Forwarding Unconditional
CLIP	Calling Line Identification Presentation

CLIR	Calling Line Identification Restriction
COLP	Connected Line Identification Presentation
COLR	Connected Line Identification Restriction
CON	CONnect Message
CONF	CONFerence Calling
COT	Continuity message
CPG	Call Progress message
CT	Call Transfer
CTM	Call Transfer Message
CUG	Closed User Group
CW	Call Waiting
DDI	Direct-Dialling-In
ECT	Explicit Call Transfer
FAA	Facility Accept Message
FAC	Facility Message
FAR	Facility Request Message
FRJ	Facility Reject Message
FOT	Forward Transfer Message
GVNS	Global Virtual Network Service
HOLD	Call HOLD
IAA	Initial Address Acknowledgement Message
IAM	Initial Address Message
IAR	Initial Address Reject Message
IDR	Identification Request Message
IRS	Identification Response Message
LH	Line Hunting
LOP	Loop Prevention Message
MCID	Malicious Call IDentification
MLPP	Multi-Level Precedence and Preemption
MSN	Multiple Subscriber Number
NRM	Network Resource Management Message
PNP	Private Numbering Plan
PRI	Pre-Release Information Message
REL	Release Message
RES	Resume Message
REV	Reverse Charging

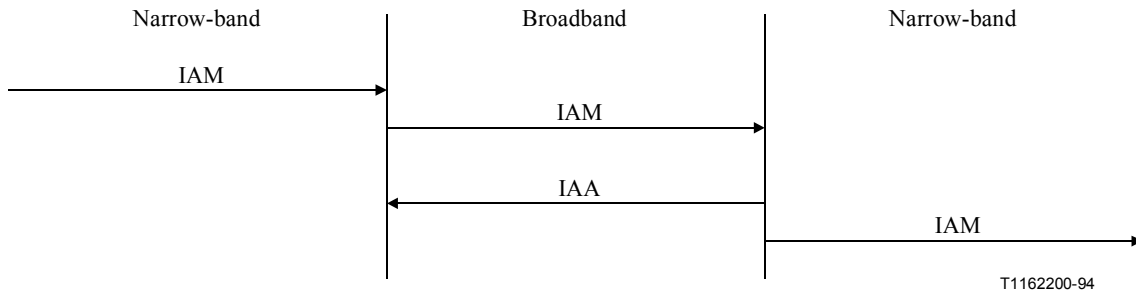
SAM	Subsequent Address Message
SCT	Single Step Call Transfer
SGM	Segmentation Message
SUB	Sub-addressing
SUS	Suspend Message
TP	Terminal Portability
UID	User Interactive Dialogue
USR	User-to-User Information Message
UUS	User-to-User Signalling

#### **4 General statements on interworking**

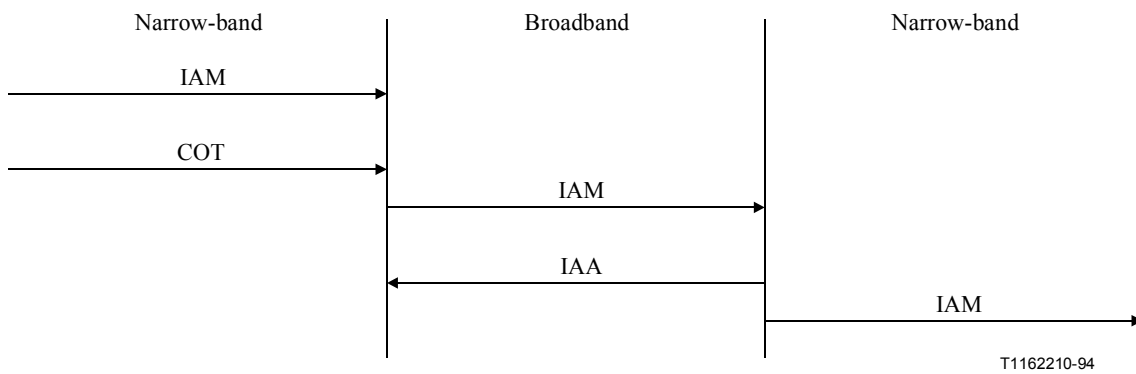
- No ATM specific parameters defined for B-ISUP will be carried in the N-ISUP.
- All B-ISUP messages carry message compatibility information.
- All B-ISUP parameters carry parameter compatibility information.
- Forward and backward narrow-band interworking indicators carry narrow-band information unchanged through the broadband network.
- When a call transfers from the N-ISDN to the B-ISDN and the broadband/narrow interworking indicator is not received, then the broadband/narrow-band interworking indicator shall be set to "pass on" by the interworking exchange.
- The Generic Notification indicator of N-ISUP is always mapped transparently to the Notification indicator of B-ISUP.
- If a Generic number parameter cannot be mapped, because there is no parameter defined in B-ISUP for the received type of number, then the Generic number parameter is treated according to the settings of the instruction indicators. In particular, it is transported transparently through the broadband backbone, if the Broadband/narrow-band interworking indicator is set to "pass on".
- Segmentation is not supported on the international interface for B-ISUP, when the B-ISDN receives a message indicating that segmentation has occurred in the N-ISDN, the B-ISUP message is not generated until the second segment has arrived (or timer has expired) in N-ISUP.
- Through connection will be symmetrical and occur:
  - 1) in the narrow-band outgoing exchange, immediately after the N-ISUP sends the Initial Address Message, or
  - 2) in the broadband outgoing exchange, immediately upon reception of the Initial Address Acknowledgement Message in B-ISUP.

## 5 Successful basic call

### 5.1 Mapping of the Initial Address Message



#### 5.1.1 Mapping of the Initial Address Message when continuity check is applied in the incoming narrow-band network



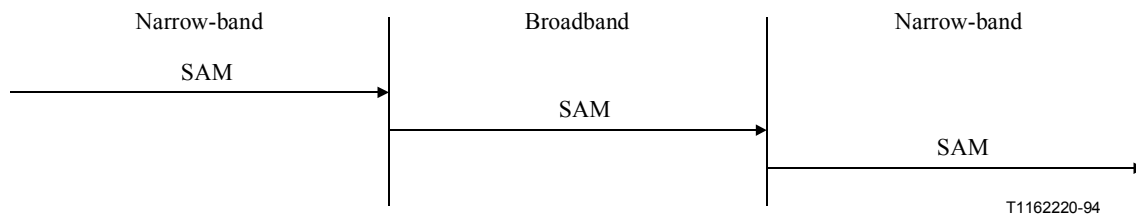
Incoming narrow-band	Transit broadband	Outgoing narrow-band
Nature of connection indicators: Satellite indicator	Not carried	Nature of connection indicators: Satellite indicator set to integer result of propagation delay counter divided by 270 ms
Nature of connection indicators: Continuity check indicator	Not carried. If continuity check requested, loop is applied at interworking exchange. IAM is not generated unless continuity check (or check on a previous link) is successful	Nature of connection indicators: Continuity check indicator will only indicate "continuity check not required" or "continuity check required on this circuit"
Nature of connection indicators: Echo control device indicator	Echo control information: Outgoing echo control device indicator (Note 2)	Nature of connection indicators: Echo control device indicator
Forward call indicators: National/international call indicator	National/international call indicator	Forward call indicators: National/international call indicator

<b>Incoming narrow-band</b>	<b>Transit broadband</b>	<b>Outgoing narrow-band</b>
Forward call indicators: End-to-end method indicator	Not carried	Forward call indicators: End-to-end method indicator set to "no end-to-end method available"
Forward call indicators: Interworking indicator	Forward narrow-band interworking indicators: Interworking indicator	Forward call indicators: Interworking indicator. If not received, then no interworking is indicated
Forward call indicators: End-to-end information indicator	Not carried	Forward call indicators: End-to-end information indicator set to "no end-to-end information available"
Forward call indicators: ISDN user part indicator	Forward narrow-band interworking indicators: ISDN user part indicator	Forward call indicators: ISDN user part indicator. If not received, then ISDN user part used all the way is indicated
Forward call indicators: ISDN user part preference indicator	Forward narrow-band interworking indicators: ISDN user part preference indicator	Forward call indicators: ISDN user part preference indicator. If not received, then it is generated according to Recommendation E.172 [8].
Forward call indicators: ISDN access indicator	Forward narrow-band interworking indicators: ISDN access indicator	Forward call indicators: ISDN access indicator. If not received, then ISDN access is indicated
Forward call indicators: SCCP method indicator	Not carried	Forward call indicators: SCCP method indicator set according to "no indication"
Calling party's category	Calling party's category	Calling party's category
Transmission medium requirement	Not carried. Narrow-band bearer capability derived from transmission medium requirement if user service information not available	Transmission medium requirement derived from narrow-band bearer capability first repetition or second repetition, if available. If no narrow-band bearer capability is received, the call/connection is released according to 6.4.1/Q.2931 [9]
Called party number	Called party number	Called party number
Optional forward call indicators: Simple segmentation	Not carried	Optional forward call indicators: Simple segmentation (if required)
Access transport	Narrow-band high layer compatibility (Note 1) Narrow-band low layer compatibility (Note 1) Progress indicator (Note 1)	Access transport
User service information	Narrow-band bearer capability (Note 1)	User service information

<b>Incoming narrow-band</b>	<b>Transit broadband</b>	<b>Outgoing narrow-band</b>
Propagation delay counter	Propagation delay counter (delays caused by the STM/ATM interworking function are added)	Propagation delay counter (delays caused by the ATM/STM interworking function are added)
User service information prime	Narrow-band bearer capability (Note 1)	User service information prime, generated from second repeated narrow-band bearer capability, if available
Origination ISC point code	Origination ISC point code	Origination ISC point code
User teleservice information	Not carried	User teleservice information. Generated from narrow-band high layer compatibility
Parameter compatibility information	All B-ISUP parameters include this information as part of the parameter header	Parameter compatibility information
Transmission medium requirement prime	Not carried	Transmission medium requirement prime derived from narrow-band bearer capability first repetition if second repetition available otherwise not generated
Location number	Location number	Location number
Not carried	AESA for called party number	Not carried
Call diversion treatment indicators	Call diversion treatment indicators	Call diversion treatment indicators
Called IN number	Called IN number	Called IN number
Call offering treatment indicators	Call offering treatment indicators	Call offering treatment indicators
Collect call request	Collect call request	Collect call request
Conference treatment indicators	Conference treatment indicators	Conference treatment indicators
Correlation ID	Correlation ID	Correlation ID
Echo control information	Echo control information	Echo control information
Not carried	Extended quality of service	Not carried
Hop counter	Hop counter	Hop counter
Network management controls	Network management controls	Network management controls
SCF ID	SCF ID	SCF ID
UID capability indicators	UID capability indicators	UID capability indicators
Not carried	ATM cell rate, generated with contents set according to DSS2 [9] to support 64 kbit/s circuit emulation	Not carried
Not carried	Broadband bearer capability, generated with contents set according to DSS2 [9] to support 64 kbit/s circuit emulation	Not carried

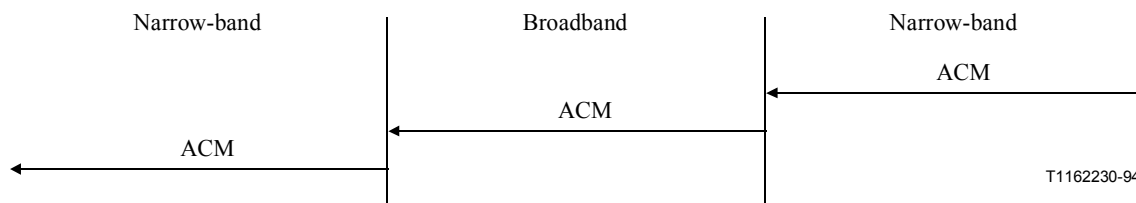
Incoming narrow-band	Transit broadband	Outgoing narrow-band
Not carried	Maximum end-to-end transit delay	Not carried
Not carried	AAL, generated with contents set according to DSS2 [9], [37] to support 64 kbit/s circuit emulation	Not carried
NOTE 1 – This parameter can contain repeated access information elements.		
NOTE 2 – The echo control device indicator subfield is mapped to the Echo control information parameter only when no Echo control information parameter is received from the incoming narrow-band.		

## 5.2 Mapping of the Subsequent Address Message



Incoming narrow-band	Transit broadband	Outgoing narrow-band
Subsequent number	Subsequent number	Subsequent number

## 5.3 Mapping of the Address Complete Message



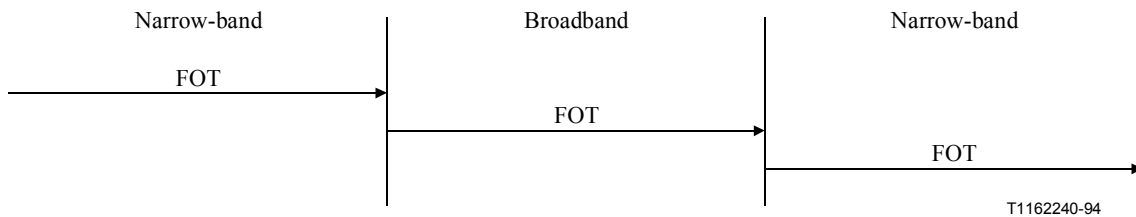
Incoming narrow-band	Transit broadband	Outgoing narrow-band
Backward call indicators: Charge indicator set to "charge" or "no charge"	Charge indicator	Backward call indicators: Charge indicator
Backward call indicators: Called party's status indicator (Note 1)	Called party's indicators: Called party's status indicator (Note 1)	Backward call indicators: Called party's status indicator (Note 1)
Backward call indicators: Called party's category indicator	Called party's indicators: Called party's category indicator	Backward call indicators: Called party's category indicator



<b>Incoming narrow-band</b>	<b>Transit broadband</b>	<b>Outgoing narrow-band</b>
Backward call indicators: End-to-end method indicator set to "no end-to-end method available"	Not carried	Backward call indicators: End-to-end method indicator
Backward call indicators: Interworking indicator. If not received, then no interworking is indicated	Backward narrow-band interworking indicators: Interworking indicator	Backward call indicators: Interworking indicator
Backward call indicators: End-to-end information indicator set to "no end-to-end information available"	Not carried	Backward call indicators: End-to-end information indicator
Backward call indicators: ISDN user part indicator. If not received, then ISDN user part used all the way is indicated	Backward narrow-band interworking indicators: ISDN user part indicator	Backward call indicators: ISDN user part indicator
Backward call indicators: ISDN access indicator. If not received, then ISDN access is indicated	Backward narrow-band interworking indicators: ISDN access indicator	Backward call indicators: ISDN access indicator
Backward call indicators: Echo control device indicator	Echo control information: Incoming echo control device indicator (Note 3)	Backward call indicators: Echo control device indicator
Backward call indicators: SCCP method indicator set to "no indication"	Not carried	Backward call indicators: SCCP method indicator
Optional backward call indicators: In-band information indicator	In-band information indicator	Optional backward call indicators: In-band information indicator
Cause indicators. Any broadband unique cause values are translated to "unspecified" value in that class	Cause indicators	Cause indicators
Access transport	Narrow-band bearer capability (Note 2) Narrow-band high layer compatibility (Note 2) Progress indicator (Note 2)	Access transport
Transmission medium used derived from narrow-band bearer capability if available	Narrow-band bearer capability generated if not available from access transport parameter	Transmission medium used
Echo control information	Echo control information	Echo control information
Access delivery information	Access delivery information	Access delivery information
Parameter compatibility information	All B-ISUP parameters include this information as part of the parameter header	Parameter compatibility information

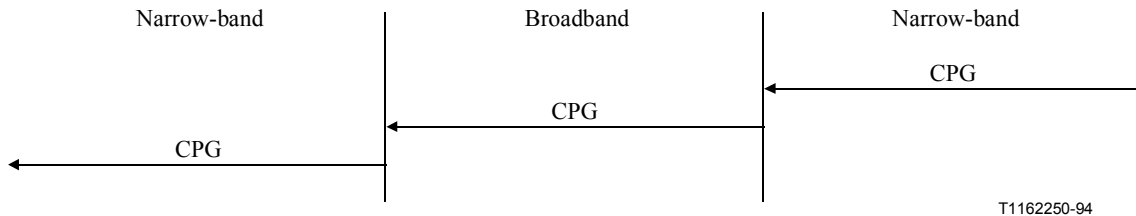
Incoming narrow-band	Transit broadband	Outgoing narrow-band
Conference treatment indicators	Conference treatment indicators	Conference treatment indicators
UID action indicators	UID action indicators	UID action indicators
NOTE 1 – Called party's status indicator value "alerting" in B-ISDN is mapped to value "subscriber free" in N-ISDN and vice versa.		
NOTE 2 – This parameter can contain repeated access information elements.		
NOTE 3 – The echo control device indicator subfield is mapped to the Echo control information parameter only when no Echo control information parameter is received from the outgoing narrow-band.		

#### 5.4 Mapping of the Forward Transfer Message



No parameters are carried by this message.

#### 5.5 Mapping of the Call Progress Message

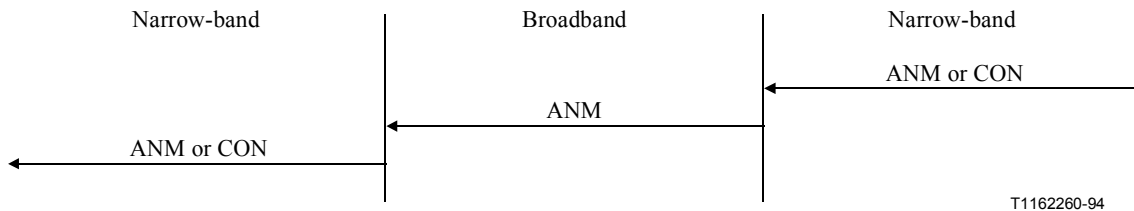


In addition to the mapping shown against the Address Complete Message, the following mapping is relevant.

Incoming narrow-band	Transit broadband	Outgoing narrow-band
Event information: Alerting	Called party's indicators: Called party's status indicator set to "alerting"	Event information: Alerting
Event information: Progress (Note 1)	Not carried	Event information: Progress
Event information: In-band information or an appropriate pattern is now available (Note 2)	In-band information indicator set to "In-band information or an appropriate pattern is now available"	Event information: In-band information or an appropriate pattern is now available

Incoming narrow-band	Transit broadband	Outgoing narrow-band
Call history information	Call history information	Call history information
NOTE 1 – The Event information "Progress" is generated, if neither "alerting" nor "In-band information or an appropriate pattern is now available" is received.		
NOTE 2 – The In-band information indicator is mapped into the Event information only, when no "alerting" is received. Otherwise the In-band information indicator is mapped into the Optional backward call indicators parameter (see 5.3).		

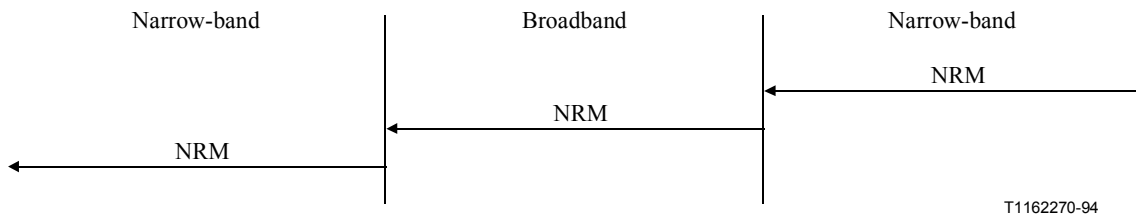
## 5.6 Mapping of the Answer and Connect Messages



In addition to the mapping shown against the Address Complete Message (with exception of the Cause indicators parameter), the following mapping is relevant.

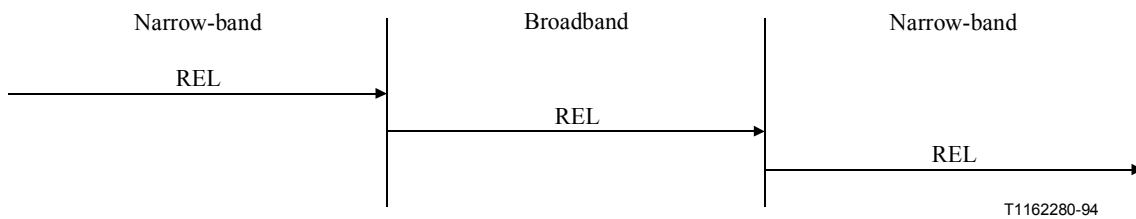
Incoming narrow-band	Transit broadband	Outgoing narrow-band
Backward call indicators: Called party's status indicator (Note 1). If not received, then the Called party status indicator is set to "no indication" (Note 2)	Called party's indicators: Called party's status indicator (Note 1)	Backward call indicators: Called party status (Note 1)
Backward call indicators: Called party's category indicator. If not received, then the Called party's category indicator is set to "no indication" (Note 2)	Called party's indicators: Called party's category indicator	Backward call indicators: Called party's category indicator
Call history information	Call history information	Call history information
Access transport	Narrow-band low layer compatibility (Note 3)	Access transport
Display information	Display information	Display information
NOTE 1 – Called party's status indicator value "alerting" in B-ISDN is mapped to value "subscriber free" in N-ISDN and vice versa.		
NOTE 2 – The Called party's indicator was not carried in earlier versions of B-ISUP.		
NOTE 3 – This parameter can contain repeated access information elements.		

## 5.7 Mapping of the Network Resource Management Message



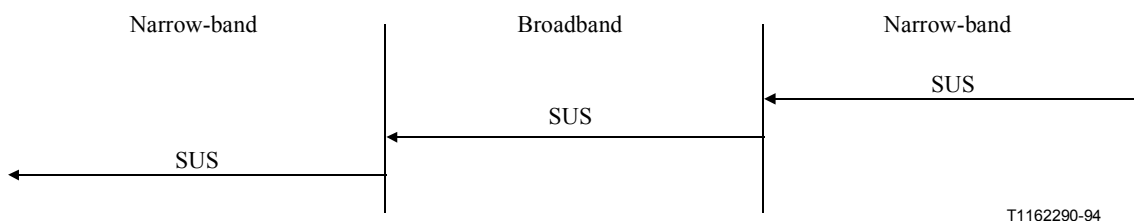
Incoming narrow-band	Transit broadband	Outgoing narrow-band
Message compatibility information	All B-ISUP messages include the message compatibility information parameter	Message compatibility information
Parameter compatibility information	All B-ISUP parameters include this information as part of the parameter header	Parameter compatibility information
Echo control information	Echo control information	Echo control information

## 5.8 Mapping of the Release Message



Incoming narrow-band	Transit broadband	Outgoing narrow-band
Cause indicators	Cause indicators	Cause indicators. Any broadband unique cause values are translated to "unspecified" value in that class
Access transport	Progress indicator	Access transport
Access delivery information	Access delivery information	Access delivery information
Parameter compatibility information	All B-ISUP parameters include this information as part of the parameter header	Parameter compatibility information
Display information	Display information	Display information

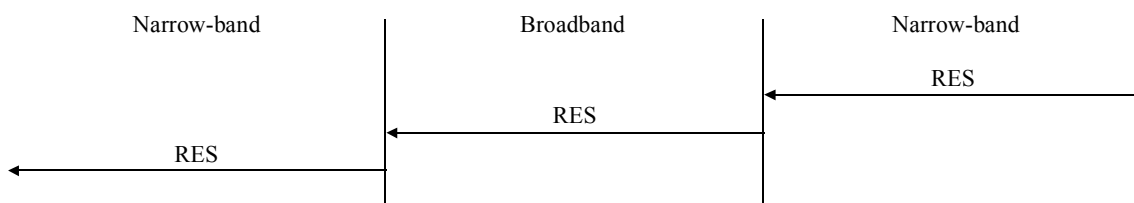
## 5.9 Network initiated suspend



T1162290-94

Incoming narrow-band	Transit broadband	Outgoing narrow-band
Suspend/resume indicators: Network initiated	Suspend/resume indicators: Network initiated	Suspend/resume indicators: Network initiated

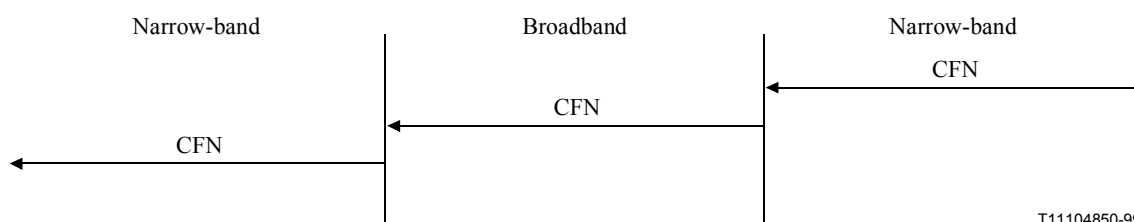
## 5.10 Network initiated resume



T1162300-94

Incoming narrow-band	Transit broadband	Outgoing narrow-band
Suspend/resume indicators: Network initiated	Suspend/resume indicators: Network initiated	Suspend/resume indicators: Network initiated

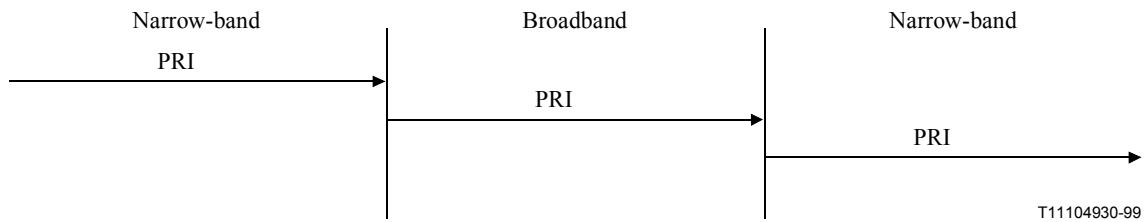
## 5.11 Mapping of Confusion message



T11104850-99

Incoming narrow-band	Transit broadband	Outgoing narrow-band
Cause indicators	Cause indicators	Cause indicators

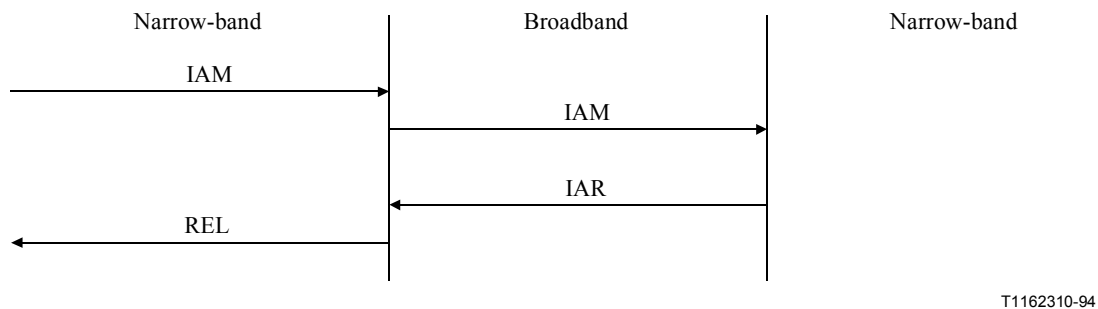
## 5.12 Mapping of Pre-Release information message



Incoming narrow-band	Transit broadband	Outgoing narrow-band
Optional forward call indicators or Optional backward call indicators (Notes 1 and 2)	Not carried	Optional forward call indicators or Optional backward call indicators (Notes 1 and 2)
Parameter compatibility information	All B-ISUP parameters include this information as part of the parameter header	Parameter compatibility information
NOTE 1 – This parameter is only present to allow the message to be segmented using ISUP simple segmentation procedure. NOTE 2 – The Optional forward call indicators parameter is used, when the message is sent in forward direction. The Optional backward call indicators parameter is used, when the message is sent in backward direction. They should be mutually exclusive.		

## 6 Unsuccessful basic call

### 6.1 Mapping of the Initial Address Reject Message



Narrow-band, REL message	Broadband, IAR message
Cause indicators. Any broadband unique cause values are translated to "unspecified" value in that class	Cause indicators

### 6.2 Mapping of the Release Message

Refer to 5.8.

## 7 Supplementary services

The tables in this clause show only the mapping of information relevant to the supplementary services, in addition to the mapping of information relevant to the basic call.

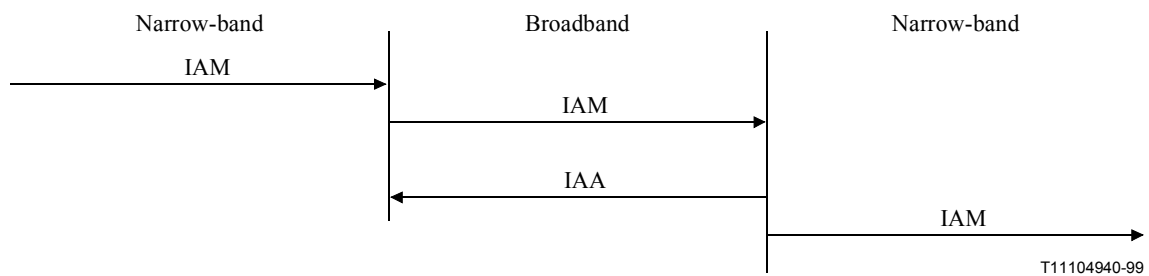
### 7.1 Direct-Dialling-In (DDI)

Implicitly supported as part of the basic call procedure.

### 7.2 Multiple Subscriber Number (MSN)

Implicitly supported as part of the basic call procedure.

### 7.3 Calling Line Identification Presentation (CLIP)

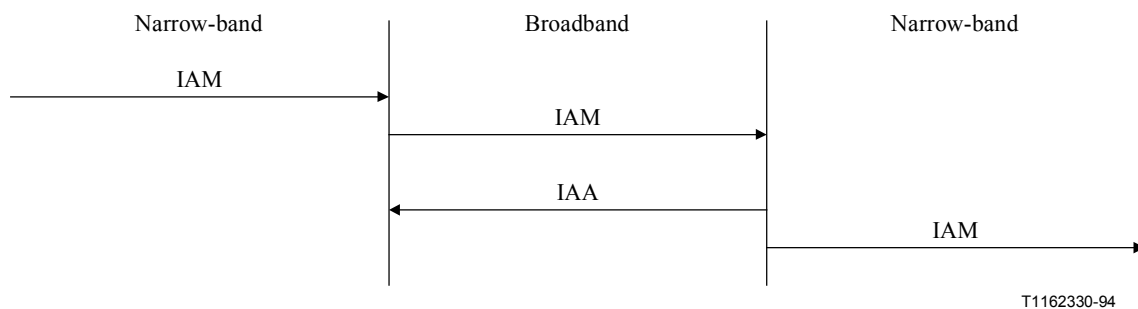


Incoming narrow-band	Transit broadband	Outgoing narrow-band
Calling party number	Calling party number	Calling party number
Access transport	Calling party sub-address	Access transport
Generic number	Additional calling party number	Generic number
Not carried	AESA for additional calling party	Not carried
Not carried	AESA for calling party	Not carried

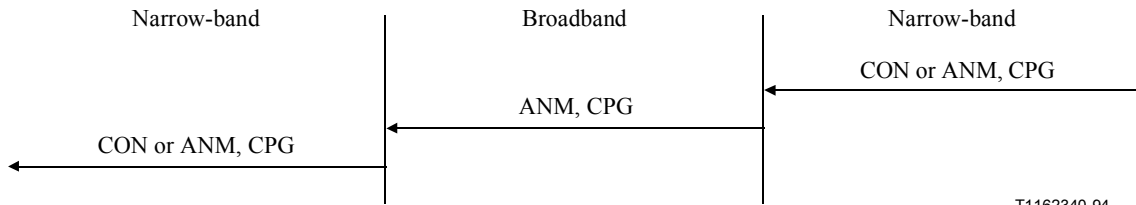
### 7.4 Calling Line Identification Restriction (CLIR)

Refer to 7.3.

### 7.5 Connected Line Identification Presentation (COLP)



Incoming narrow-band	Transit broadband	Outgoing narrow-band
Optional forward call indicators: Connected line identity request indicator	Connected line identity request indicator	Optional forward call indicators: Connected line identity request indicator



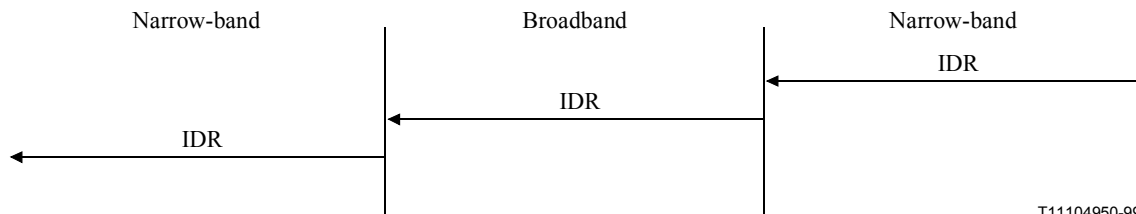
T1162340-94

Incoming narrow-band	Transit broadband	Outgoing narrow-band
Connected number	Connected number	Connected number
Access transport	Connected sub-address	Access transport
Generic number	Additional connected number	Generic number
Not carried	AESA for additional connected party	Not carried
Not carried	AESA for connected number	Not carried

## 7.6 Connected Line Identification Restriction (COLR)

Refer to 7.5.

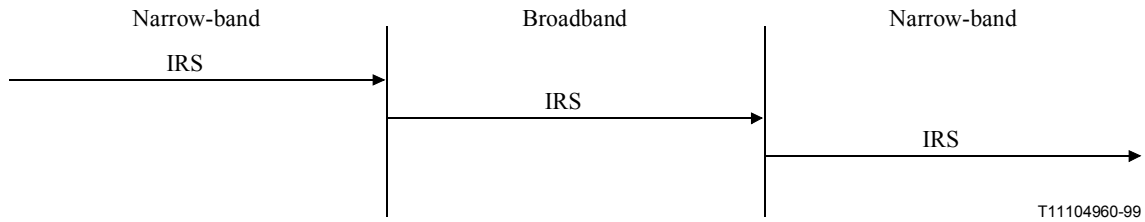
## 7.7 Malicious Call Identification (MCID)



T11104950-99

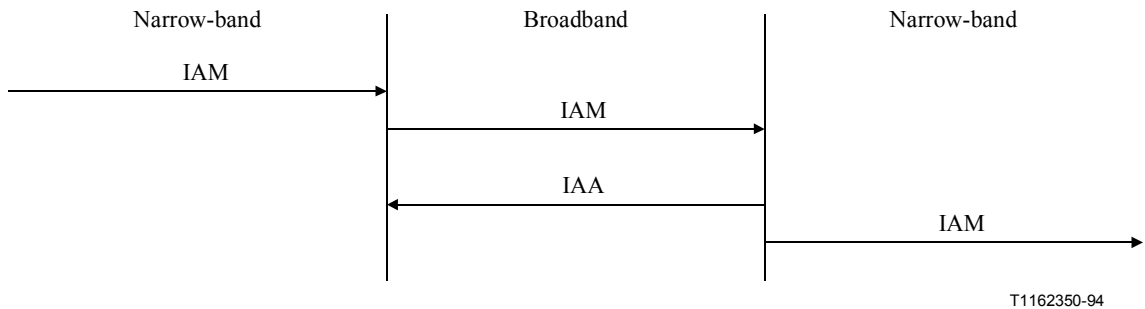
Incoming narrow-band	Transit broadband	Outgoing narrow-band
MCID request indicators	MCID request indicators	MCID request indicators
Parameter compatibility information	All B-ISUP parameters include this information as part of the parameter header	Parameter compatibility information





Incoming narrow-band	Transit broadband	Outgoing narrow-band
MCID response indicators	MCID response indicators	MCID response indicators
Calling party number	Calling party number	Calling party number
Access transport	Calling party sub-address	Access transport
Generic number	Additional calling party number	Generic number
Charged party identification	Charged party identification	Charged party identification
Parameter compatibility information	All B-ISUP parameters include this information as part of the parameter header	Parameter compatibility information

### 7.8 Sub-addressing (SUB)

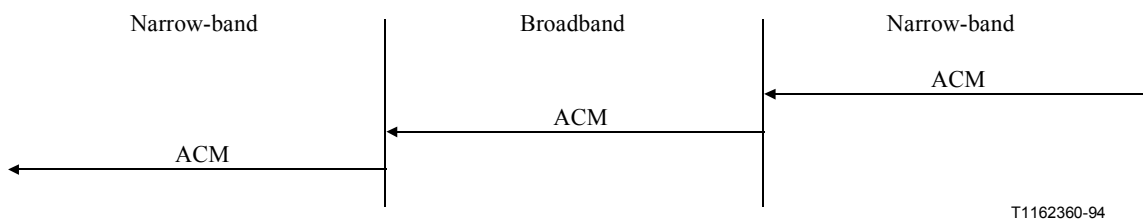


Incoming narrow-band	Transit broadband	Outgoing narrow-band
Access transport	Called party sub-address	Access transport

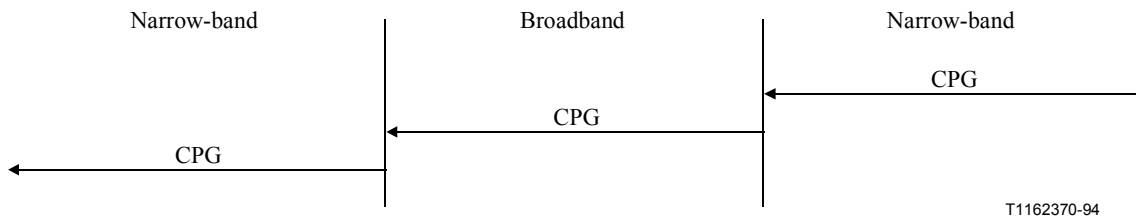
### 7.9 Call Transfer (CT)

Not defined in ISUP'97.

### 7.10 Call Forwarding Busy (CFB)

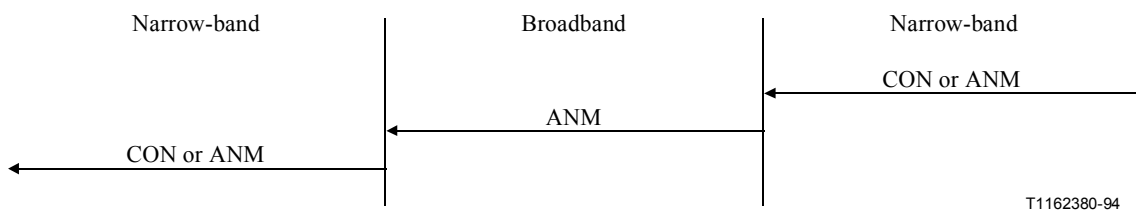


Incoming narrow-band	Transit broadband	Outgoing narrow-band
Optional backward call indicators: Call diversion may occur indicator	Call diversion may occur	Optional backward call indicators: Call diversion may occur
Generic notification	Notification	Generic notification
Redirection number	Redirection number	Redirection number
Redirection number restriction	Redirection number restriction	Redirection number restriction
Call diversion information	Call diversion information	Call diversion information

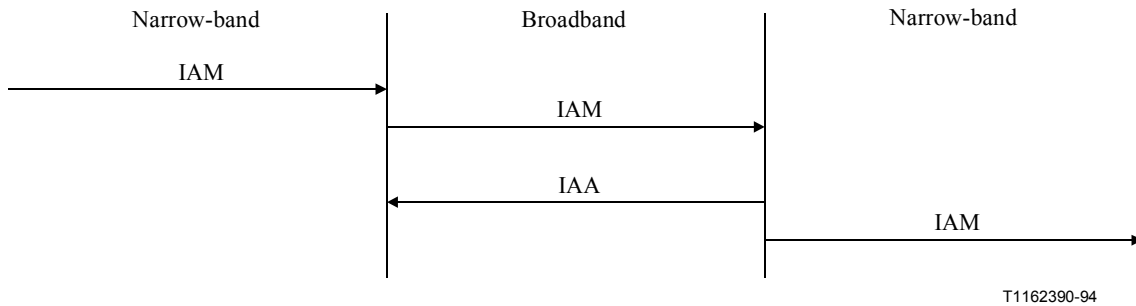


In addition to the mapping shown against the Address Complete Message, the following mapping is relevant.

Incoming narrow-band	Transit broadband	Outgoing narrow-band
Event information: Alerting	Called party's indicators: Called party's status indicator set to "alerting"	Event information: Alerting
Event information: Progress	Not carried	Event information: Progress
Access transport	Progress indicator	Access transport



Incoming narrow-band	Transit broadband	Outgoing narrow-band
Redirection number (Note)	Redirection number	Redirection number (Note)
Redirection number restriction	Redirection number restriction	Redirection number restriction
NOTE – Only ANM.		



Incoming narrow-band	Transit broadband	Outgoing narrow-band
Redirecting number	Redirecting number	Redirecting number
Redirection information	Redirection information	Redirection information
Original called number	Original called number	Original called number

### 7.11 Call Forwarding No Reply (CFNR)

Refer to 7.10.

### 7.12 Call Forwarding Unconditional (CFU)

Refer to 7.10.

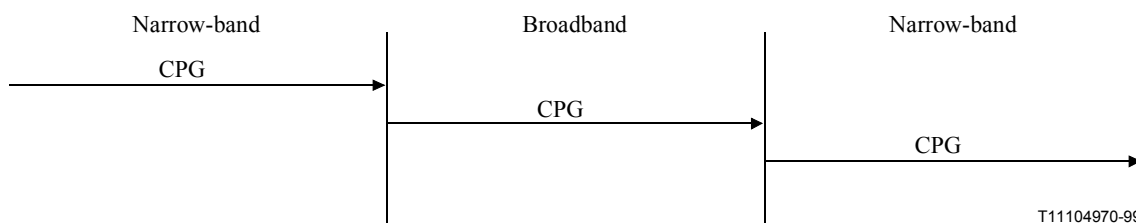
### 7.13 Call Deflection (CD)

Refer to 7.10.

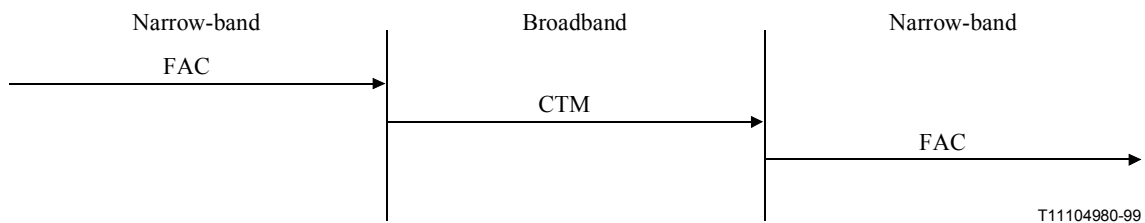
### 7.14 Line Hunting (LH)

Not supported in ISUP'97.

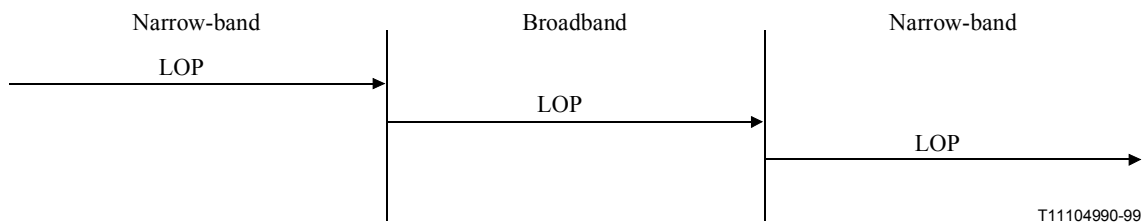
### 7.15 Explicit Call Transfer (ECT)



Incoming narrow-band	Transit broadband	Outgoing narrow-band
Event information set to "progress"	Not carried	Event information set to "progress"
Generic notification	Notification	Generic notification
Call transfer number	Call transfer number	Call transfer number



Incoming narrow-band	Transit broadband	Outgoing narrow-band
Call transfer number	Call transfer number	Call transfer number
Access transport	Calling party sub-address	Access transport
Generic notification	Notification	Generic notification
Service activation parameter: Call transfer	Not carried	Service activation parameter: call transfer
Parameter compatibility information	All B-ISUP parameters include this information as part of the parameter header	Parameter compatibility information

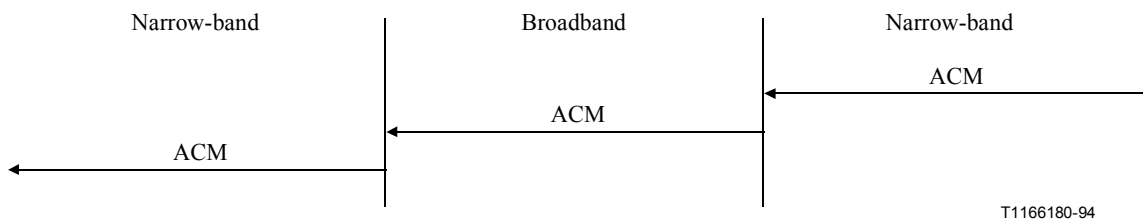


Incoming narrow-band	Transit broadband	Outgoing narrow-band
Loop prevention indicators	Loop prevention indicators	Loop prevention indicators
Call transfer reference	Call transfer reference	Call transfer reference
Parameter compatibility information	All B-ISUP parameters include this information as part of the parameter header	Parameter compatibility information

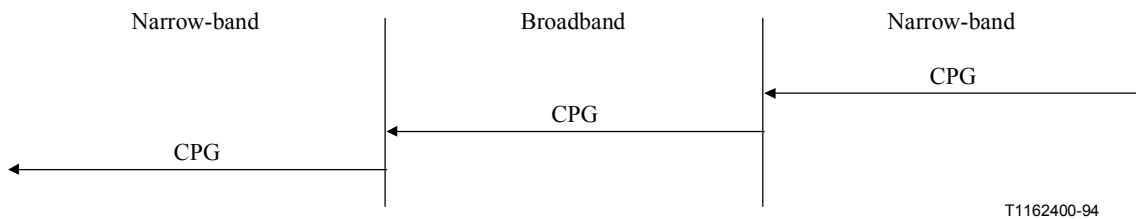
### 7.16 Single Step Call Transfer (SCT)

Not supported in ISUP'97.

### 7.17 Call Waiting (CW)



Incoming narrow-band	Transit broadband	Outgoing narrow-band
Generic notification	Notification	Generic notification

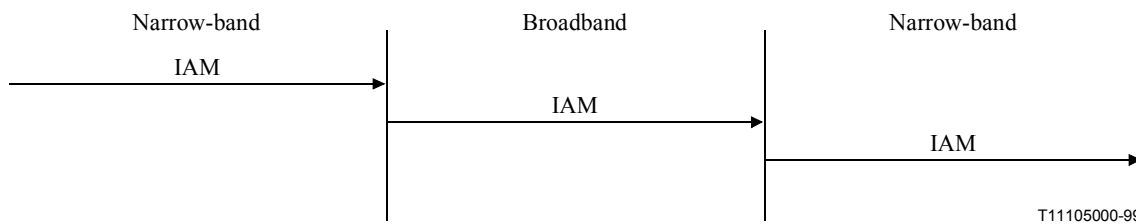


Incoming narrow-band	Transit broadband	Outgoing narrow-band
Event information set to "progress"	Not carried	Event information set to "progress"
Generic notification	Notification	Generic notification

### 7.18 Call Hold (HOLD)

Refer to 7.17.

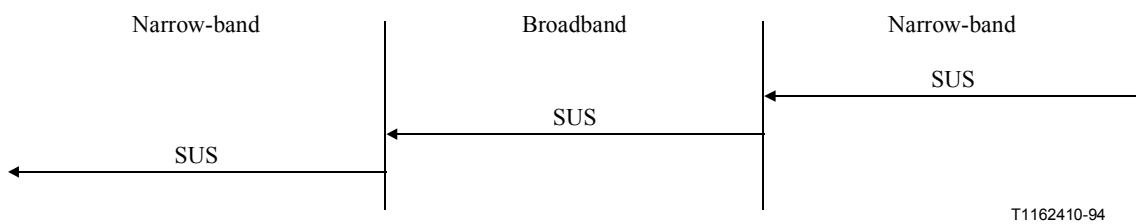
### 7.19 Completion of Calls to Busy Subscriber (CCBS)



Incoming narrow-band	Transit broadband	Outgoing narrow-band
CCSS	CCSS	CCSS

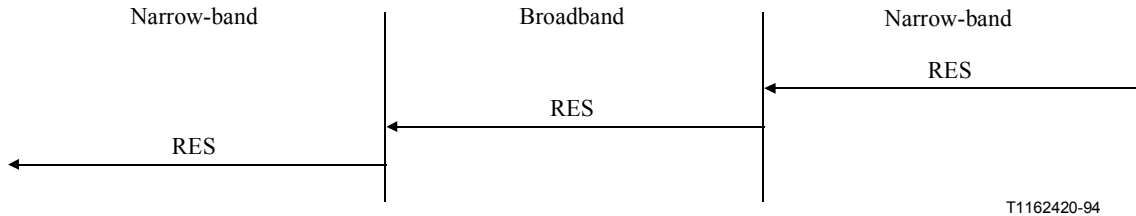
### 7.20 Terminal Portability (TP)

#### 7.20.1 Suspend



Incoming narrow-band	Transit broadband	Outgoing narrow-band
Suspend/resume indicators: ISDN subscriber initiated	Suspend/resume indicators: ISDN subscriber initiated	Suspend/resume indicators: ISDN subscriber initiated

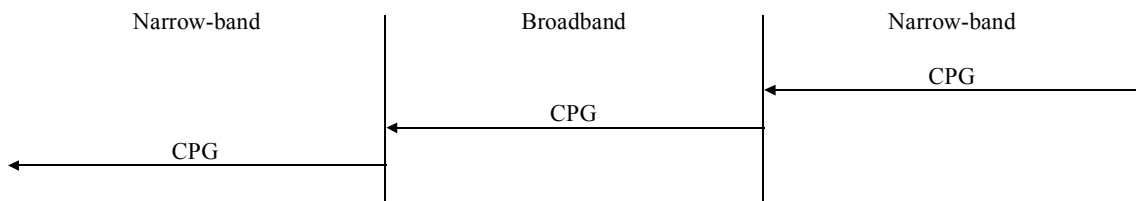
### 7.20.2 Resume



T1162420-94

Incoming narrow-band	Transit broadband	Outgoing narrow-band
Suspend/resume indicators: ISDN subscriber initiated	Suspend/resume indicators: ISDN subscriber initiated	Suspend/resume indicators: ISDN subscriber initiated

### 7.21 Conference Calling (CONF)



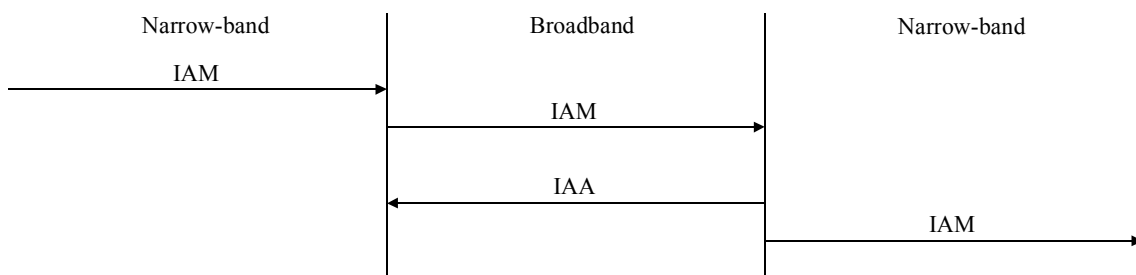
T1162430-94

Incoming narrow-band	Transit broadband	Outgoing narrow-band
Event information set to "progress"	Not carried	Event information set to "progress"
Generic notification	Notification	Generic notification

### 7.22 Three-Party Service (3PTY)

Refer to 7.21.

### 7.23 Closed User Group (CUG)



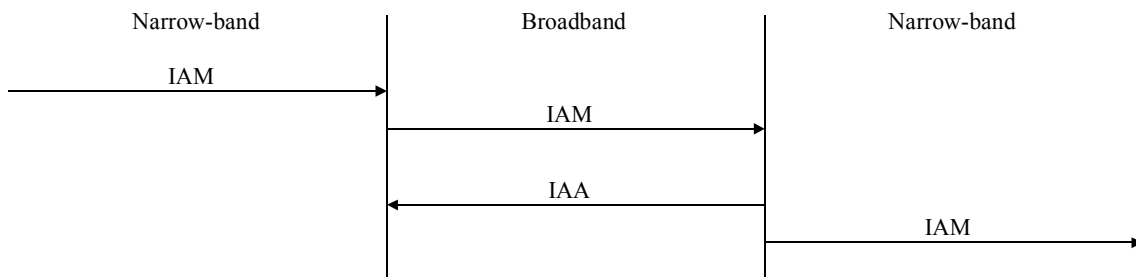
T1162440-94

Incoming narrow-band	Transit broadband	Outgoing narrow-band
Optional forward call indicators: Closed user group call indicator	Closed user group information: Closed user group call indicator	Optional forward call indicators: Closed user group call indicator
Closed user group interlock code	Closed user group information: Closed user group interlock code	Closed user group interlock code

### 7.24 Private Numbering Plan (PNP)

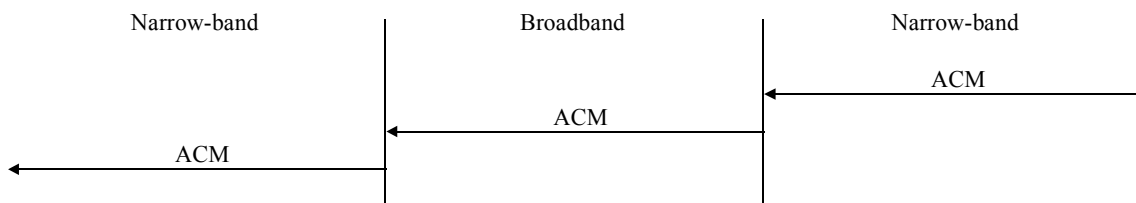
Not defined in ISUP'97.

### 7.25 Multi-Level Precedence and Preemption (MLPP)



T1162450-94

Incoming narrow-band	Transit broadband	Outgoing narrow-band
MLPP precedence	MLPP precedence	MLPP precedence



T1162460-94

Incoming narrow-band	Transit broadband	Outgoing narrow-band
Optional backward call indicators: MLPP user indicator	MLPP user information	Optional backward call indicators: MLPP user indicator
Generic notification	Notification	Generic notification

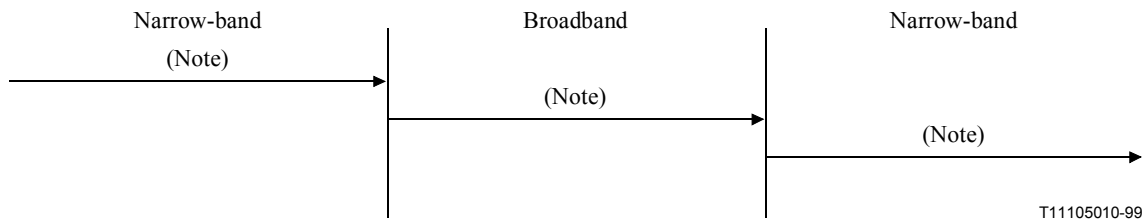
### 7.26 International Telecommunication Charge Card

No impact on B-ISUP.

### 7.27 Advice of Charge (AOC)

Not defined in ISUP'97.

## 7.28 Reverse Charging (REV)



T11105010-99

NOTE – Messages possible are:

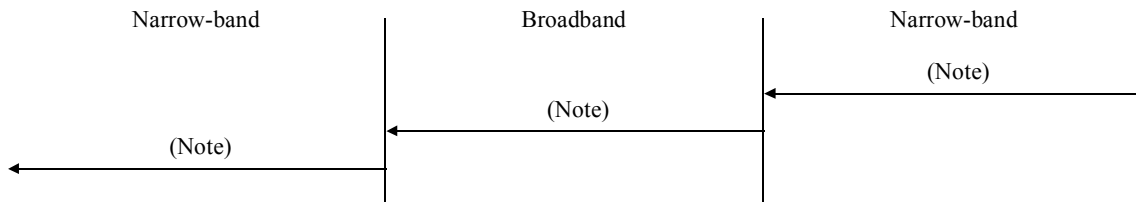
- IAM;
- ANM;
- CON (applicable only to narrow-band);
- CPG;
- REL;
- FAC.

Incoming narrow-band	Transit broadband	Outgoing narrow-band
Remote operations	Remote operations	Remote operations

## 7.29 User-to-User Signalling (UUS)

### 7.29.1 Service 1

#### 7.29.1.1 Implicit request, network discard of user-to-user information



T1162470-94

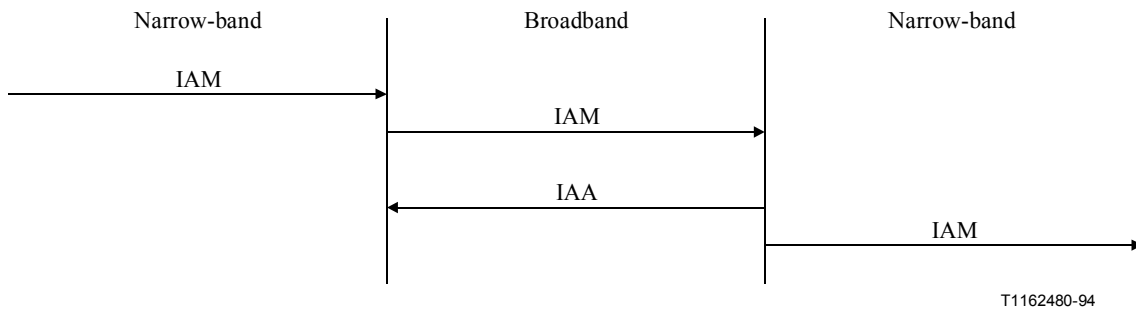
NOTE – Messages possible are:

- ACM;
- REL;
- ANM (applicable only to broadband);
- CON (applicable only to narrow-band).

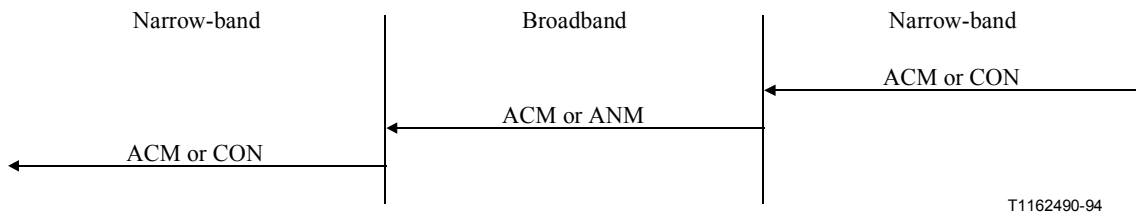
Incoming narrow-band	Transit broadband	Outgoing narrow-band
User-to-user indicators	User-to-user indicators	User-to-user indicators



### 7.29.1.2 Explicit request

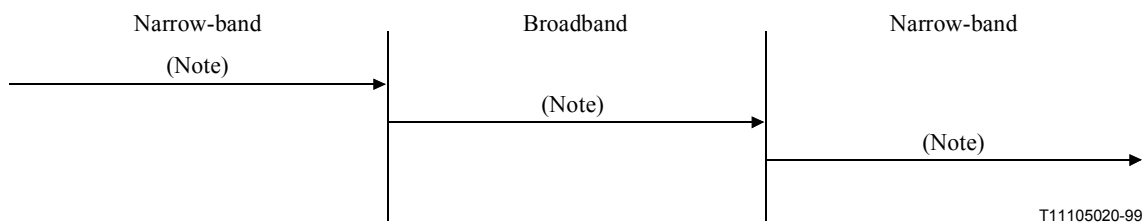


Incoming narrow-band	Transit broadband	Outgoing narrow-band
User-to-user indicators	User-to-user indicators	User-to-user indicators



Incoming narrow-band	Transit broadband	Outgoing narrow-band
User-to-user indicators	User-to-user indicators	User-to-user indicators

### 7.29.1.3 Passing of user-to-user signalling information



NOTE – Messages possible are:

- IAM;
- ACM;
- CPG;
- CON (applicable only to narrow-band);
- ANM;
- SGM (applicable only to narrow-band);
- REL.

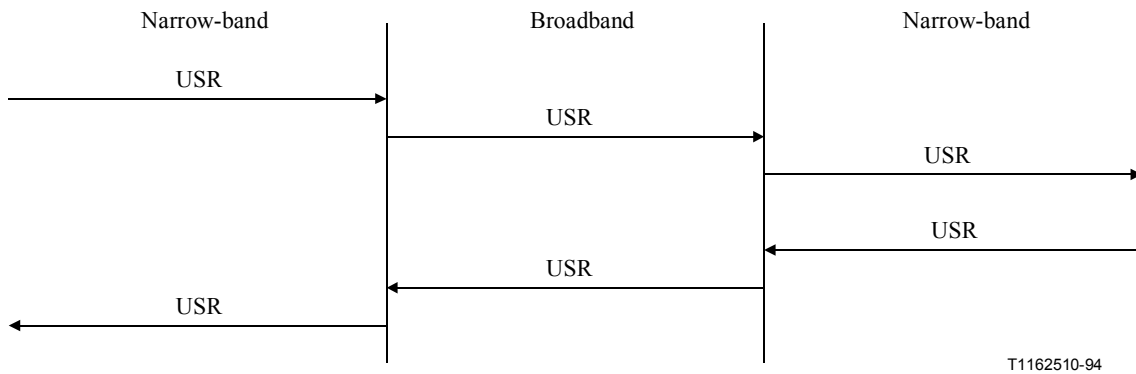
Incoming narrow-band	Transit broadband	Outgoing narrow-band
User-to-user information	User-to-user information	User-to-user information

## 7.29.2 Service 2

### 7.29.2.1 Request

Refer to 7.29.1.2.

### 7.29.2.2 Passing of user-to-user signalling information



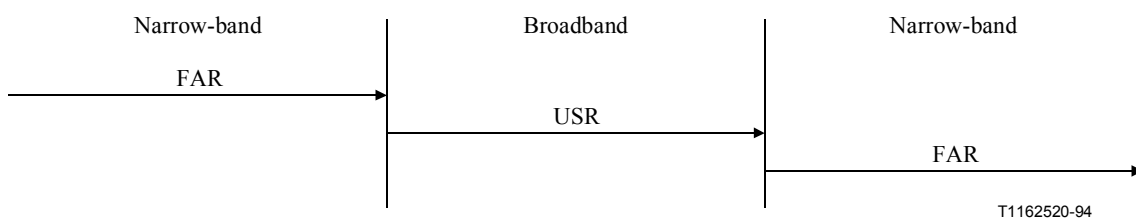
Incoming narrow-band	Transit broadband	Outgoing narrow-band
User-to-user information	User-to-user information User-to-user information	User-to-user information
Access transport	User-to-user information More data	Access transport

## 7.29.3 Service 3

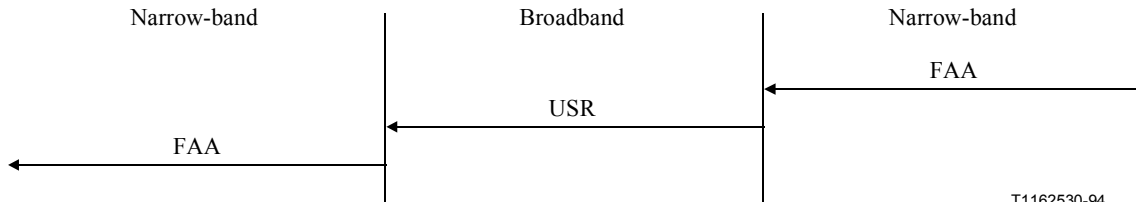
### 7.29.3.1 Request during call set-up

Refer to 7.29.1.2.

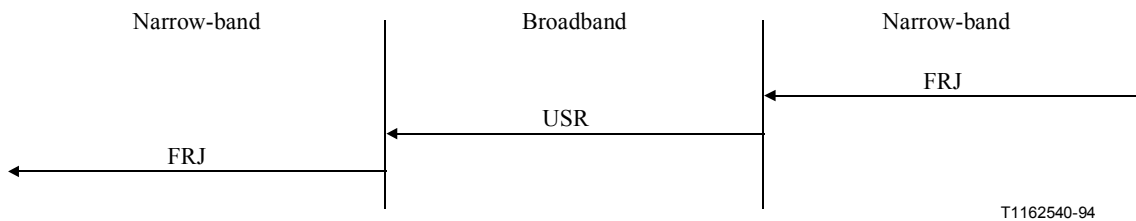
### 7.29.3.2 Request during the active phase



Incoming narrow-band	Transit broadband	Outgoing narrow-band
Facility indicator set to "user-to-user service"	Not carried	Facility indicator set to "user-to-user service"
User-to-user indicators	User-to-user indicators: Service 3 request	User-to-user indicators



Incoming narrow-band	Transit broadband	Outgoing narrow-band
Facility indicator set to "user-to-user service"	Not carried	Facility indicator set to "user-to-user service"
User-to-user indicators	User-to-user indicators: Service 3 response, provided	User-to-user indicators

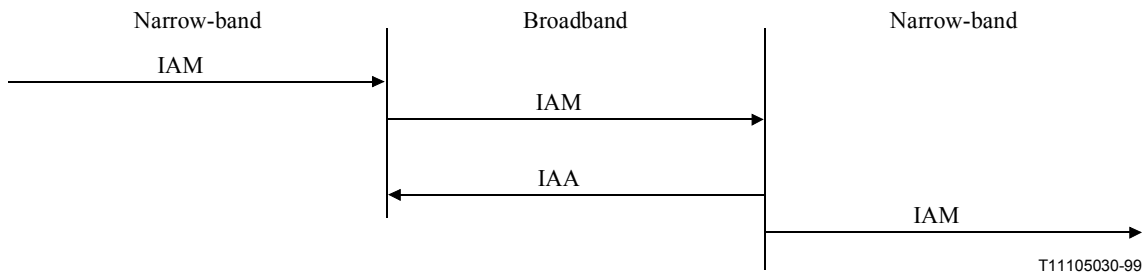


Incoming narrow-band	Transit broadband	Outgoing narrow-band
Cause indicators are generated with the cause value set to # 63, "Service or option not available, unspecified"	Not carried	Cause indicators
Facility indicator set to "user-to-user service"	Not carried	Facility indicator set to "user-to-user service"
User-to-user indicators	User-to-user indicators: Service 3 response, not provided	User-to-user indicators

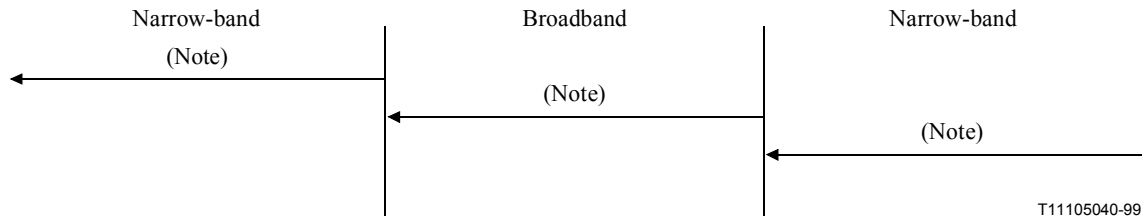
### 7.29.3.3 Passing of user-to-user signalling information

Refer to 7.29.2.2.

### 7.30 Global Virtual Network Service (GVNS)



Incoming narrow-band	Transit broadband	Outgoing narrow-band
Forward GVNS	Forward GVNS	Forward GVNS



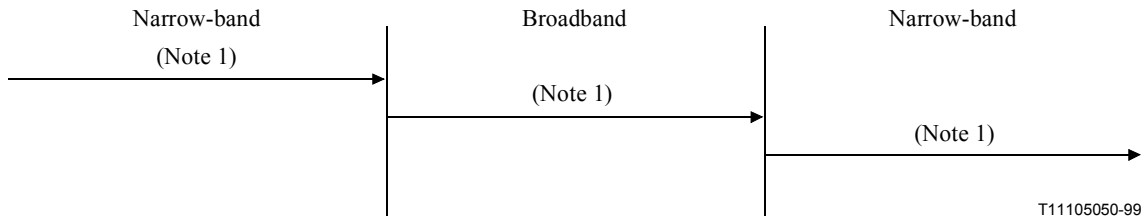
NOTE – Messages possible are:  
 – ANM;  
 – CPG;  
 – CON (applicable only to narrow-band).

Incoming narrow-band	Transit broadband	Outgoing narrow-band
Backward GVNS	Backward GVNS	Backward GVNS

## 8 Application Transport Mechanism

The tables in this clause show the mapping of information relevant to the application transport mechanism, in addition to the mapping of information relevant to the basic call.

## 8.1 Segmentation not required



T11105050-99

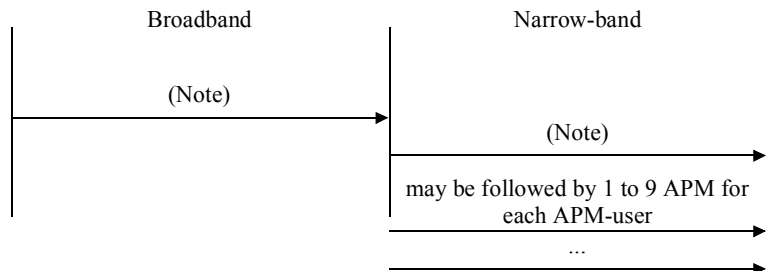
NOTE 1 – Messages possible are:

- IAM;
- ACM;
- CPG;
- ANM;
- CON (applicable only to narrow-band);
- PRI;
- APM.

NOTE 2 – No re-assembly procedures are performed at the narrow-band/broadband interworking node.

Incoming narrow-band	Transit broadband	Outgoing narrow-band
Application Transport	Application Transport	Application Transport

## 8.2 Segmentation required



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NOTE – Messages possible are:

- IAM;
- ACM;
- CPG;
- ANM;
- CON (applicable only to narrow-band);
- PRI;
- APM.

Broadband	Outgoing narrow-band
Application Transport	Application Transport





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