INTERNATIONAL TELECOMMUNICATION UNION

ITU-T Q.737

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

(03/93)

SPECIFICATIONS OF SIGNALLING SYSTEM No. 7

STAGE 3 DESCRIPTION FOR ADDITIONAL INFORMATION TRANSFER SUPPLEMENTARY SERVICES USING SS No. 7

Clause 1 – User-to-User Signalling (UUS)

ITU-T Recommendation Q.737

Superseded by a more recent version

(Previously "CCITT Recommendation")

FOREWORD

The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the International Telecommunication Union. 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, established the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

ITU-T Recommendation Q.737, clause 1 was prepared by the ITU-T Study Group XI (1988-1993) and was approved by the WTSC (Helsinki, March 1-12, 1993).

NOTES

1 As a consequence of a reform process within the International Telecommunication Union (ITU), the CCITT ceased to exist as of 28 February 1993. In its place, the ITU Telecommunication Standardization Sector (ITU-T) was created as of 1 March 1993. Similarly, in this reform process, the CCIR and the IFRB have been replaced by the Radiocommunication Sector.

In order not to delay publication of this Recommendation, no change has been made in the text to references containing the acronyms "CCITT, CCIR or IFRB" or their associated entities such as Plenary Assembly, Secretariat, etc. Future editions of this Recommendation will contain the proper terminology related to the new ITU structure.

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

CONTENTS

Recommendation Q.737

STAGE 3 DESCRIPTION FOR ADDITIONAL INFORMATION TRANSFER SUPPLEMENTARY SERVICES USING SS No. 7

(Helsinki, 1993)

1 User-to-User Signalling (UUS)

1.1 User-to-User Signalling service 1

1.1.1 Definition

The **User-to-User Signalling (UUS) supplementary service** allows an ISDN user to send/receive a limited amount of information to/from another ISDN user over the signalling channel in association with a call to the other ISDN user.

NOTE – These procedures are applicable to User-to-User Information (UUI) transfer in association with a circuit-switched telecommunication service only. Procedures to permit UUI transfer in association with other types of calls (e.g. packet bearer services) need to be investigated.

1.1.2 Description

1.1.2.1 General description

User-to-User Signalling service 1 is used to exchange information between two users as described in Recommendation I.257.1 (stage 1). The functional description (stage 2) for this service can be found in Recommendation Q.87. The stage 3 DSS 1 description is given in Recommendation Q.957.1. This clause is specific to Signalling System No. 7 and use is made of the ISDN user part protocol defined in Recommendations Q.761 to 764 and Recommendation Q.730. Service 1 allows users to communicate by transferring user-to-user information within ISDN user part messages during the call set-up and clearing phases. Up to 128 octets of user information may be transferred in each message (see Note 1). The 128 octets do not include the user-to-user information parameter name, the protocol control indicator or the length octets.

NOTE 1 – During an interim period of time, networks may support a lesser number (e.g. 32 octets) due to protocol restrictions; 32 octets will always be supported. Restrictions may apply to calls requesting user-to-user information more than 32 octets.

Service 1 is not a guaranteed service. If for any reason the combination of the basic and supplementary service information causes the overall maximum length of the message to be exceeded then if service 1 is included, the network shall perform segmentation of the ISUP message according to 2/Q.764. If the user-to-user information is to be discarded, the exceptional procedures as described in 1.1.5.2.5.2 shall be applied if possible. The treatment given to the user-to-user information parameter in the initial address message as described in this Recommendation is equally applicable to the case in which the user-to-user information parameter is carried in the segmentation message after segmentation of the initial address message.

NOTE 2 – For User-to-User Signalling service 1, subsequent to initial acceptance or rejection of the service at the calling user, further actions may be required to confirm that the service can be provided, or to indicate that it can no longer be provided (e.g. due to the presence of the Call Forwarding No Reply supplementary service). This Recommendation does not provide such requirements whose provision is for further study.

1.1.2.2 Specific terminology

user-to-user information (UUI): The information transferred by the UUS service.

user-to-user indicators (UUI ind): Indicators indicating request/acceptance/rejection of a UUS service or discarding of user-to-user information.

1.1.2.3 Qualification on the applicability to telecommunication services

See Recommendation I.257.1.

1.1.2.4 State definitions

No specific state definitions are required.

1.1.3 Operational requirements

1.1.3.1 Provision/withdrawal

See Recommendation I.257.1.

1.1.3.2 Requirements on the originating network side

Not applicable.

1.1.3.3 Requirements in the network

No specific requirements are needed in the network.

1.1.3.4 Requirements on the terminating network side

Not applicable.

1.1.4 Coding requirements

User-to-user information is carried in the user-to-user information parameter of variable length which may be contained in the initial address, address complete, call progress, connect, answer, segmentation, and release messages.

An explicit request for service 1 is carried in the user-to-user indicators parameter in the initial address message. An explicit indication of acceptance or rejection of service 1 is carried in the user-to-user indicators parameter in the address complete, call progress, answer, connect, or release messages.

The network indication when user-to-user information is discarded from the initial address message according to 1.1.5.2.5.2.3, is carried in the user-to-user indicators parameter in the first appropriate backward message, e.g. the address complete message.

1.1.5 Signalling requirements

1.1.5.1 Activation/deactivation/registration

UUS service 1 must be requested by the calling user at call set-up if UUI transfer is desired in either direction.

Once a UUS service is activated (see Note), the network will accept UUI in both directions according to the subscription of the calling user.

NOTE – Activation means request of UUS. Invocation means submission of UUI.

1.1.5.2 Invocation and operation

1.1.5.2.1 Actions at the originating local exchange

1.1.5.2.1.1 Normal operation

####### 1.1.5.2.1.1.1 Implicit service request

Service 1 may be requested implicitly by the presence of the user-to-user information parameter in the initial address message. An implicit request is “non-essential” by default.

Procedures for call set-up are as described in 2/Q.764, with the following changes.

On call set-up, the initial address message will contain the user-to-user information parameter. The user-to-user information will be received from call control and will be transported across the network and delivered unchanged to the terminating call control for the called user. The user-to-user indicators parameter will not be sent.

The reception of a user-to-user information parameter in a backward call control message from the terminating call control is an implicit indication of the acceptance of service 1.

1.1.5.2.1.1.2 Explicit service request

Service 1 may be explicitly requested in an initial address message. As an option at call set-up, the calling user may be able to specify whether the request for service 1 is essential or non-essential for the call (i.e. whether the call should be completed or not if user-to-user information cannot be passed).

Procedures for call set-up are as described in 2/Q.764, with the following changes:

- On call set-up, the initial address message will contain the user-to-user indicators parameter with service 1 indicated as "requested, essential" or "requested, not essential", as appropriate.
- For an essential request the ISUP preference indicator will be coded "ISUP required". The service request will be received from call control and will be passed to the call control at the terminating exchange.
- If the network and called user can support the transfer of user-to-user information, a service 1 acceptance will be returned to the originating exchange in an address complete, call progress, answer, connect, or release message with the indication "service 1 provided" in the user-to-user indicators parameter. This explicit indication shall be forwarded to the call control at the originating exchange.

1.1.5.2.1.1.3 Transfer of user-to-user information

User-to-user information may be contained in any of the messages that may be transferred in the call set-up and call release phases, independently of whether the service is requested implicitly or explicitly, provided that the explicit service 1 has not been rejected or the request for the implicit service 1 has not been discarded. If the explicit request for service 1 is included in the initial address message, then any user-to-user information included shall be considered part of the explicit service.

The user-to-user information parameter received at the distant exchange in a release message is passed to the call control for the remote user. In the case of simultaneous clearing of the call the release message may not reach the distant exchange and the user-to-user information will be lost.

1.1.5.2.1.2 Exceptional procedures

The originating exchange shall be able to interpret the discard and rejection indications generated by any succeeding exchange and act accordingly (see 1.1.5.2.5.2).

1.1.5.2.2 Actions at the transit exchange

1.1.5.2.2.1 Normal operation

The information which is generated as described in 1.1.5.2.1.1 is passed unchanged.

1.1.5.2.2.2 Exceptional procedures

The information which is generated as described in 1.1.5.2.5.2 is passed unchanged. Rejection of an explicit service request or discarding of user-to-user information (see 1.1.5.2.5.2) can also take place in the transit exchange.

1.1.5.2.3 Actions at the outgoing international gateway exchange

1.1.5.2.3.1 Normal operation

See 1.1.5.2.2.1.

1.1.5.2.3.2 Exceptional procedures

See 1.1.5.2.2.2.

1.1.5.2.4 Actions at the incoming international gateway exchange

1.1.5.2.4.1 Normal operation

See 1.1.5.2.2.1.

1.1.5.2.4.2 Exceptional procedures

See 1.1.5.2.2.2.

1.1.5.2.5 Actions at the destination local exchange

1.1.5.2.5.1 Normal operation

The information which is generated as described in 1.1.5.2.1.1 is passed to the access.

1.1.5.2.5.2 Exceptional procedures

1.1.5.2.5.2.1 Rejection of implicit service request

See 1.1.5.2.5.2.3.

1.1.5.2.5.2.2 Rejection of explicit service request

If service 1 is explicitly requested as essential and the network already has or has obtained knowledge that the network itself or the called user cannot support it, a release message is sent with cause value 29, "facility rejected", or cause value 69, "requested facility not implemented", and the diagnostic containing the user-to-user indicators parameter name.

If the network already has or has obtained the knowledge that the network itself or the called user cannot support service 1 and it was explicitly requested as non-essential, a "service 1 not provided" indication is returned in the user-to-user indicators parameter in the address complete, call progress, answer, connect, or release messages.

If the network does not understand the explicit service 1 request or the terminating call control does not indicate acceptance or rejection then none of the address complete, call progress, answer, connect or release messages returned to the originating exchange shall include either a service 1 acceptance or rejection. This type of response will be taken as an implicit rejection of service 1.

The first backward message that contains the user-to-user information shall also contain the acceptance of the service unless an acceptance was sent in a preceding backward message; otherwise the explicit service 1 shall be considered rejected.

1.1.5.2.5.2.3 Discard of user-to-user information

If for the implicit service 1 the network is unable to pass the user-to-user information in the initial address message, for example, because the network does not support the service, then the user-to-user indicators parameter is included in the first appropriate backward message, e.g. an address complete message, with the network discard indicator coded "UUI discarded by the network". However, this indication cannot be guaranteed as a segmentation message carrying user-to-user information can be discarded without any indication when peer-to-peer interworking with Q.767 ISUP takes place. If the network is unable to pass the user-to-user information parameter in any other message, no indication is provided.

If for the explicit service 1 the network is unable to pass the user-to-user information in any message, no indication is provided.

The user may not be able to interpret incoming user-to-user information. In such situations, the user should discard this information without disrupting normal call handling. No specific signalling is provided by the network to accommodate this situation.

1.1.6 Interaction with other supplementary services

1.1.6.1 Call Waiting (CW)

No impact on ISUP.

1.1.6.2 Call transfer services

No applicable interaction at this time.

1.1.6.3 Connected Line Identification Presentation (COLP)

No impact on ISUP.

1.1.6.4 Connected Line Identification Restriction (COLR)

No impact on ISUP.

1.1.6.5 Calling Line Identification Presentation (CLIP)

No impact on ISUP.

1.1.6.6 Calling Line Identification Restriction (CLIR)

No impact on ISUP.

1.1.6.7 Closed User Group (CUG)

No impact on ISUP.

1.1.6.8 Conference Calling (CONF)

No impact on ISUP.

1.1.6.9 Direct-Dialling-In (DDI)

No impact on ISUP.

1.1.6.10 Call diversion services

1.1.6.10.1 Call Forwarding Busy (CFB)

If the forwarding user does not subscribe to service 1 or inhibits service 1 on forwarded calls, two cases exist:

a) If service 1 was explicitly requested as “essential”, the call is cleared. The cause is “facility rejected”.

b) If service 1 was implicitly requested or explicitly requested as “non-essential”, the forwarding exchange will not include the user-to-user information parameter in the initial address message used to set up the forwarded leg of the call. Also, if the user-to-user indicators parameter is included in the outgoing initial address message, service 1 will be indicated as “no information”. The procedures specified in 1.1.5.2.5.2 will ensure that the calling user is informed, if applicable, of the lack of user-to-user signalling capability.

If the forwarding user subscribes to service 1 and does not inhibit it on forwarded calls, the forwarding exchange will try to supply the service requested. This will be accomplished by requesting service 1 in the outgoing initial address message using the same request information that was contained in the original initial address message. If the attempt is successful, user-to-user information transfer will be available between the calling user and the forwarded-to user.

In the case where a user determined user busy condition exists, the user-to-user indicators and/or user-to-user information are also delivered to the forwarding user when the call is offered.

1.1.6.10.2 Call Forwarding No Reply (CFNR)

The implicit or explicit request for service 1 is sent to the forwarding user. If the forwarding user does not subscribe to service 1, inhibits service 1 on forwarded calls, or explicitly rejects an explicit request, two cases exist:

a) If service 1 was explicitly requested as “essential”, the call is cleared. The cause is “facility rejected”.

b) If service 1 was implicitly requested or explicitly requested as “non-essential”, the forwarding exchange will not include the user-to-user information parameter in the initial address message used to set up the forwarded leg of the call. Also, if the user-to-user indicators parameter is included in the outgoing initial address message, service 1 will be indicated as “no information”. The procedures specified in 1.1.5.2.5.2 will ensure that the calling user is informed, if applicable, of the lack of user-to-user signalling capability.

If the forwarding user subscribes to service 1, does not inhibit it on forwarded calls and does not explicitly reject the request, the action is taken as described under Call Forwarding Busy (see 1.1.6.10.1).

1.1.6.10.3 Call Forwarding Unconditional (CFU)

As Call Forwarding Busy (see 1.1.6.10.1).

1.1.6.10.4 Call Deflection (CD)

Call Deflection before alerting: as Call Forwarding Busy (see 1.1.6.10.1); the call shall be treated as if the user determined user busy condition exists.

Call Deflection after alerting: as Call Forwarding No Reply (see 1.1.6.10.2).

1.1.6.11 Line Hunting (LH)

No impact on ISUP.

1.1.6.12 Three-Party Service (3PTY)

No impact on ISUP.

1.1.6.13 User-to-User Signalling (UUS)

1.1.6.13.1 User-to-User Signalling, service 1 (UUS1)

Not applicable.

1.1.6.13.2 User-to-User Signalling, service 2 (UUS2)

More than one User-to-User Signalling supplementary service may be requested in the initial address message. For any service which is not requested in conjunction with an explicit request for service 1, the corresponding indicator is set to "no information" in the user-to-user indicators parameter.

If more than one User-to-User Signalling supplementary service is requested, while at least one service is requested as essential, and that service cannot be provided, then the call will be cleared with an appropriate cause indication.

If no services were requested as "essential", the user-to-user indicators parameter in the backward direction will indicate independent acceptance or rejection of each service requested. When the user-to-user indicators parameter is sent, if neither an acceptance nor a rejection indication is appropriate for a particular service, that service will be indicated as "no information".

1.1.6.13.3 User-to-User Signalling, service 3 (UUS3)

As User-to-User Signalling, service 2 (see 1.1.6.13.2). If service 3 is requested after call set-up, the interaction as described under 1.3.6.13.1 is applicable.

1.1.6.14 Multiple Subscriber Number (MSN)

No impact on ISUP.

1.1.6.15 Call Hold (HOLD)

A held party that is disconnecting may send or receive UUI (service 1) during the clearing phase of the call.

1.1.6.16 Advice on Charge (AOC)

No impact on ISUP.

1.1.6.17 Sub-addressing (SUB)

No impact on ISUP.

1.1.6.18 Terminal Portability (TP)

No impact on ISUP.

1.1.6.19 Completion of Calls to Busy Subscriber (CCBS)

No applicable interaction at this time.

1.1.6.20 Malicious Call Identification (MCID)

No impact on ISUP.

1.1.6.21 Reverse Charging (REV)

No applicable interaction at this time.

1.1.6.22 Multi-Level Precedence and Preemption (MLPP)

No impact on ISUP.

1.1.6.23 Private Numbering Plan (PNP)

No applicable interaction at this time.

1.1.6.24 International Telecommunication Charge Card

No applicable interaction at this time.

1.1.7 Interaction with other networks

In the case of call control interworking from a network supporting the User-to-User Signalling service 1 to

- a non-No. 7 network;
- a No. 7 network, not ISUP;
- a No. 7 network not supporting the service,

the ISDN exchange receiving an initial address message including an implicit or explicit service request retains knowledge of this request and returns signalling information about the User-to-User Signalling service as specified in Table 1-1.

TABLE 1-1/Q.737

Service 1 rejection in case of interworking

Interworking network	Implicit request	Non-essential request	Essential request
Non-SS No. 7 network	ACM; interworking ind.: interw. encountered	ACM; UUI ind.: service 1 not provided	Rel #29 + diagnostics (Note 1)
SS No. 7 network, not ISUP	ACM; ISDN user part ind.: ISUP not all the way	ACM; UUI ind.: service 1 not provided	Rel #29 + diagnostics (Note 1)
SS No. 7 network not supporting the service	ACM or CON; UUI ind.: UUI discarded (Note 2)	ACM or CON; UUI ind.: service 1 not provided (Note 3)	Rel #29 + diagnostics (Notes 1 and 3)

NOTES

1 The diagnostics field contains the user-to-user indicators parameter name and length.

2 If the UUI in the IAM has been discarded, the user-to-user indicators parameter contains “UUI discarded by the network”.

If it is detected that the originating exchange has performed segmentation by sending UUI in the additional segment, and a subsequent exchange knows that the segmentation procedure is not supported by the succeeding network, the latter exchange will code the user-to-user indicators parameter as “UUI discarded by the network”. This knowledge may be obtained by reception of a confusion message indicating that the segmentation message has been discarded.

3 A transit or international gateway exchange may have to generate service rejection in case a confusion message is received indicating that the user-to-user indicators requesting the service are not supported by the succeeding network.

Two ISDN networks that interwork may have to retain knowledge of the service request until it is clear whether both can support the service.

1.1.8 Signalling flows

Figure 1-1 shows a successful use of UUS service 1 when implicitly requested in a point-to-point configuration. Figure 1-2 shows a successful use of UUS service 1 when explicitly requested in a point-to-point configuration.

The following Notes apply to Figures 1-1 and 1-2:

NOTES

1 In cases where an ALERTING indication is carried by a call progress message, the user-to-user indicators parameter and/or user-to-user information parameter may be transported in the call progress message.

2 In cases where the called user is an automatic answering terminal, the user-to-user indicators parameter and/or user-to-user information parameter may be transported in a connect message.

The following abbreviations are used in Figures 1-1 and 1-2:

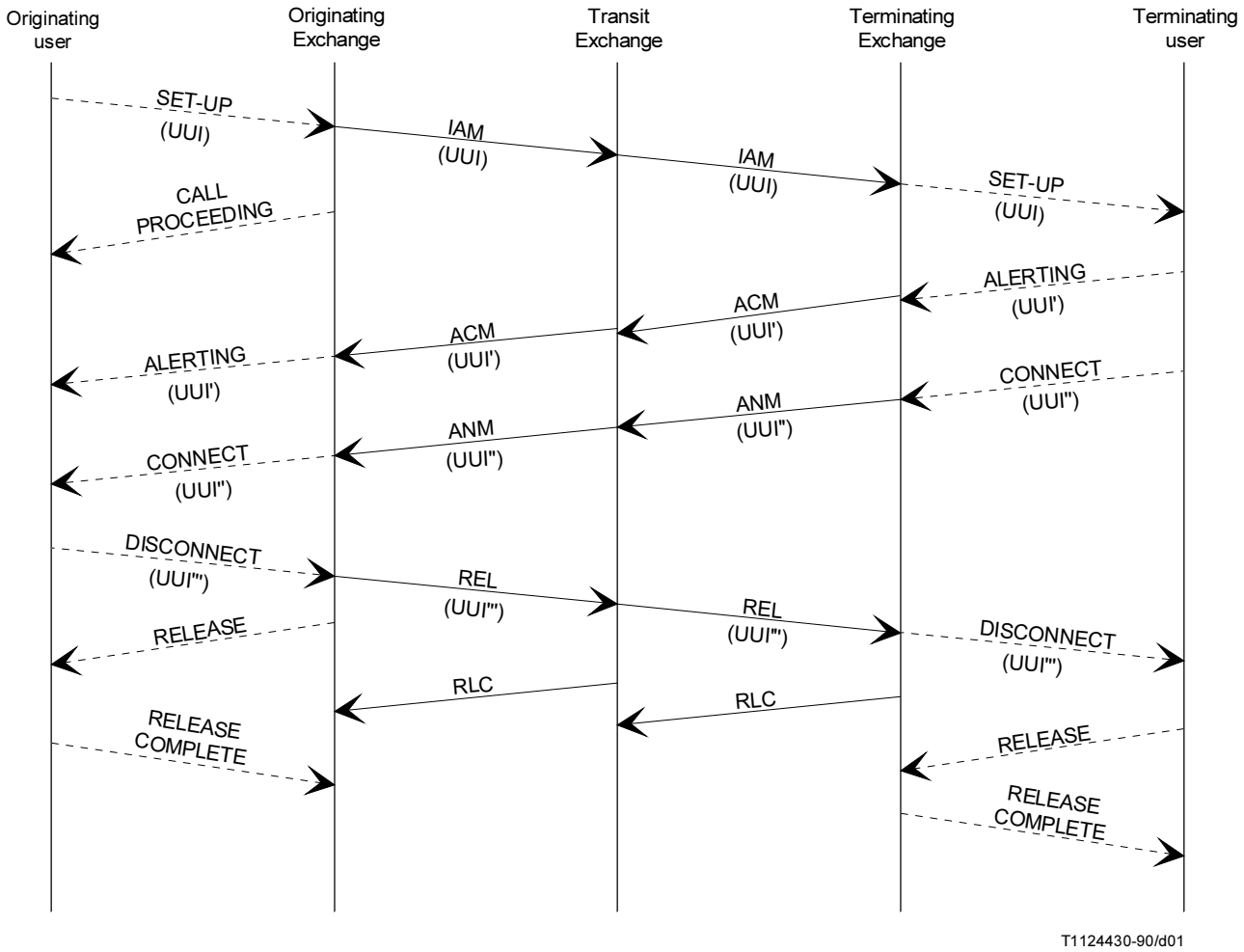


FIGURE 1-1/Q.737

UUS service 1 – Successful case
(implicit request, call is point-to-point)

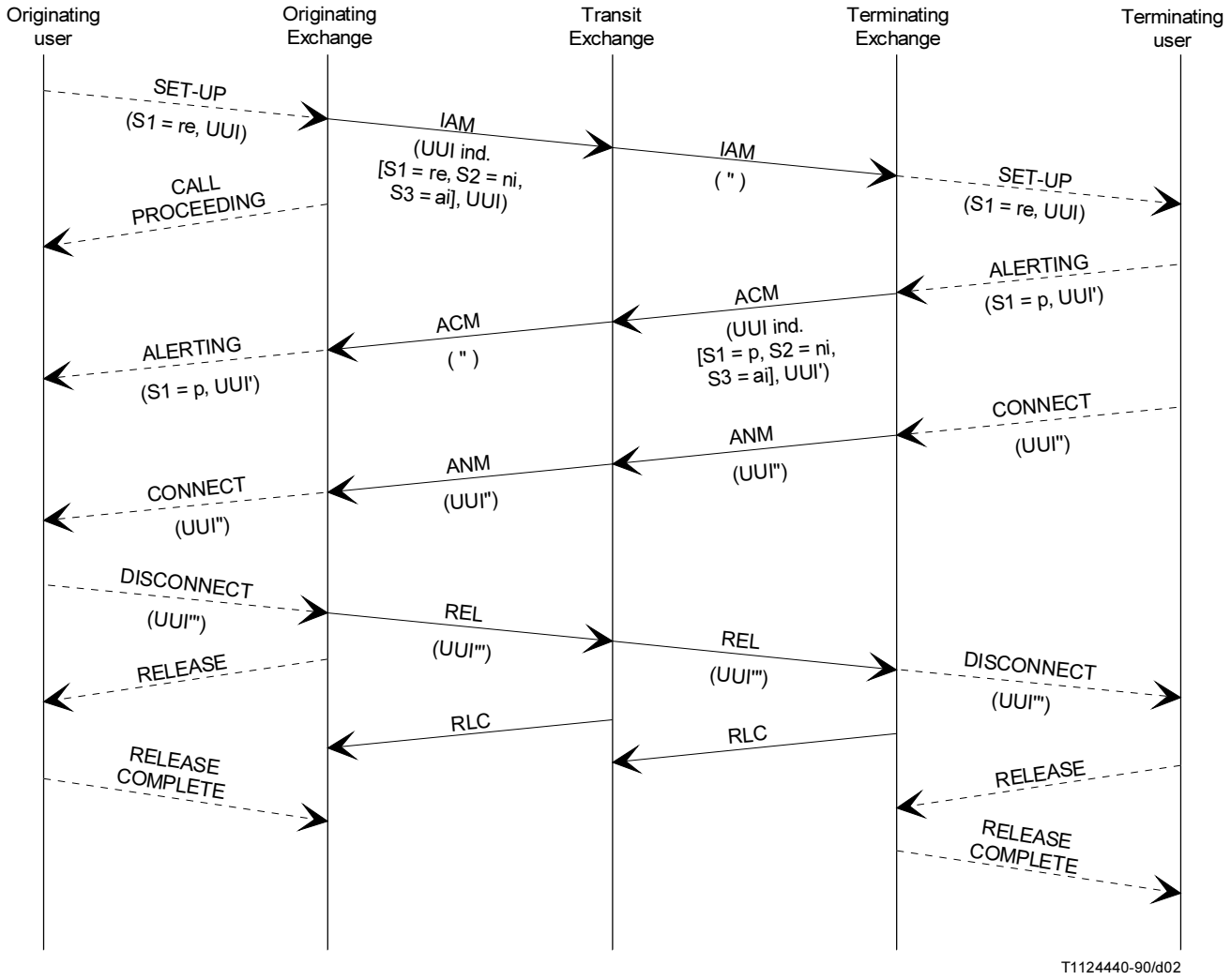


FIGURE 1-2/Q.737

UUS service 1 – Successful case
(explicit request, call is point-to-point)

Abbreviation	User-to-user indicator values
ni	No information
rne	Requested, non-essential
re	Requested, essential
p	Provided
np	Not provided
Abbreviation	**Parameter name**
UUI	User-to-user information
UUI ind.	User-to-user indicators
Abbreviation	**Message name**
ACM	Address complete
ANM	Answer
IAM	Initial address
REL	Release
RLC	Release complete

The messages shown with dashed lines are not part of the ISDN user part protocol and are for information only. For detailed information on the access protocol user-to-user procedures the ISDN access protocol Recommendations should be examined.

1.1.9 Parameter values (timers)

None identified.

1.1.10 Dynamic description

No dynamic description (SDLs) is included.

1.2 User-to-User Signalling service 2

1.2.1 Definition

See 1.1.1.

1.2.2 Description

1.2.2.1 General description

User-to-User Signalling service 2 is used to exchange information between two users as described in Recommendation I.257.1 (stage 1). The functional description (stage 2) for this service can be found in Recommendation Q.87. The stage 3 DSS 1 description is given in Recommendation Q.957.1. This clause is specific to Signalling System No. 7 and use is made of the ISDN user part protocol defined in Recommendations Q.761 to 764 and Recommendation Q.730. Service 2 allows the users to communicate by transferring up to two user-to-user information messages in each direction during the call set-up phase. Up to 128 octets of user information may be transferred in each message (see Note). The 128 octets do not include the user-to-user information parameter name, the protocol control indicator or the length octets.

NOTE – During an interim period of time, networks may support a lesser number (e.g. 32 octets) due to protocol restrictions; 32 octets will always be supported. Restrictions may apply to calls requesting user-to-user information more than 32 octets.

As a network option, user-to-user information may be delivered to the called user after the call is answered to accommodate situations where the information was sent at approximately the same time as the call was answered.

Service 2 is only applicable when a point-to-point configuration exists at the user-network interface at the destination exchange.

1.2.2.2 Specific terminology

See 1.1.2.2.

1.2.2.3 Qualification on the applicability to telecommunication services

See Recommendation I.257.1.

1.2.2.4 State definitions

No specific state definitions are required.

1.2.3 Operational requirements

1.2.3.1 Provision/withdrawal

See Recommendation I.257.1.

1.2.3.2 Requirements on the originating network side

Not applicable.

1.2.3.3 Requirements in the network

No specific requirements are needed in the network.

1.2.3.4 Requirements on the terminating network side

Not applicable.

1.2.4 Coding requirements

The request for service 2 is carried in the user-to-user indicators parameter in the initial address message. User-to-user information is carried in the user-to-user information parameter in the user-to-user information message.

The indication of acceptance or rejection of service 2 is carried in the user-to-user indicators parameter in an address complete or call progress message.

1.2.5 Signalling requirements

1.2.5.1 Activation/deactivation/registration

UUS service 2 must be requested by the calling user at call set-up if UUI transfer is desired in either direction.

Once a UUS service is activated (see Note), the network will accept UUI in both directions according to the subscription of the calling user.

NOTE – Activation means request of UUS. Invocation means submission of UUI.

1.2.5.2 Invocation and operation

1.2.5.2.1 Actions at the originating local exchange

1.2.5.2.1.1 Normal operation

1.2.5.2.1.1.1 Service request

Service 2 is explicitly requested in an initial address message. As an option at call set-up, the calling user may be able to specify whether the request for service 2 is essential or non-essential for the call (i.e. whether the call should be completed or not if user-to-user information cannot be passed).

Procedures for call set-up are as described in 2/Q.764, with the following changes:

- On call set-up, the initial address message will contain the user-to-user indicators parameter with service 2 indicated as “requested, essential” or “requested, not essential”, as appropriate.
- For an essential request the ISUP preference indicator will be coded “ISUP required”. The service request will be received from call control and will be passed to call control at the destination exchange.
- If the network and the called user can support the transfer of user-to-user information, a service 2 acceptance will be returned to the originating exchange in an address complete or call progress message with the indication “service 2 provided” in the user-to-user indicators parameter. This explicit indication shall be forwarded to the call control at the originating exchange.

1.2.5.2.1.1.2 Transfer of user-to-user information

Once acceptance of service 2 has been transmitted across the network, both of the involved users can transfer user-to-user information between themselves. Within the network the user-to-user information parameter will be carried in a user-to-user information message. The network provides for the transfer of these messages from the calling to the called side and vice versa.

If a MORE DATA information element is received from DSS 1 in a USER INFO message, this information is carried in the access transport parameter associated with the corresponding user-to-user information message for delivery at the destination access.

If service 2 is provided, no more than two user-to-user information messages carrying user-to-user information parameters may be transmitted in each direction during the call set-up phase. If more than two messages are received during call set-up, the additional messages are discarded. If only service 2 has been requested, one of the messages may also be received and passed after the answer state has been reached.

1.2.5.2.1.2 Exceptional procedures

The originating exchange shall be able to interpret a rejection indication generated by any succeeding exchange and act accordingly (see 1.2.5.2.5.2).

1.2.5.2.2 Actions at the transit exchange

1.2.5.2.2.1 Normal operation

The information which is generated as described in 1.2.5.2.1.1 is passed unchanged.

1.2.5.2.2.2 Exceptional procedures

The information which is generated as described in 1.2.5.2.5.2 is passed unchanged. Rejection of a service request (see 1.2.5.2.5.2) can also take place in the transit exchange.

1.2.5.2.3 Actions at the outgoing international gateway exchange

1.2.5.2.3.1 Normal operation

See 1.2.5.2.2.1.

1.2.5.2.3.2 Exceptional procedures

See 1.2.5.2.2.2.

1.2.5.2.4 Actions at the incoming international gateway exchange

1.2.5.2.4.1 Normal operation

See 1.2.5.2.2.1.

1.2.5.2.4.2 Exceptional procedures

See 1.2.5.2.2.2.

1.2.5.2.5 Actions at the destination local exchange

1.2.5.2.5.1 Normal operation

The information which is generated as described in 1.2.5.2.1.1 is passed to the access.

1.2.5.2.5.2 Exceptional procedures

1.2.5.2.5.2.1 Rejection of service request

If the call is point-to-multipoint then service 2 cannot be provided at the called interface because the user is not identified until the user is connected. Consequently, service 2 must be rejected.

If the network already has or has obtained knowledge that the network itself or the called user cannot support service 2 or the call is point-to-multipoint, and service 2 was requested with a non-essential indication, a service 2 rejection indication is returned in the address complete or call progress messages with the indication “service 2 not provided” in the user-to-user indicators parameter.

If service 2 was requested as essential and the network already has or has obtained knowledge that the network itself or the called user cannot support it or the call is point-to-multipoint, a release message is sent with cause value 29, “facility rejected”, cause value 69, “requested facility not implemented”, or in the case of a point-to-multipoint call cause value 88, “incompatible destination”, and the diagnostic containing the user-to-user indicators parameter name.

If the network does not understand the service 2 request or the terminating call control does not indicate acceptance or rejection, then the address complete or call progress messages returned to the originating exchange shall not include either a service 2 acceptance or rejection. This type of response will be taken as an implicit rejection of service 2.

1.2.6 Interaction with other supplementary services

1.2.6.1 Call Waiting (CW)

No impact on ISUP.

1.2.6.2 Call transfer services

No applicable interaction at this time.

1.2.6.3 Connected Line Identification Presentation (COLP)

No impact on ISUP.

1.2.6.4 Connected Line Identification Restriction (COLR)

No impact on ISUP.

1.2.6.5 Calling Line Identification Presentation (CLIP)

No impact on ISUP.

1.2.6.6 Calling Line Identification Restriction (CLIR)

No impact on ISUP.

1.2.6.7 Closed User Group (CUG)

No impact on ISUP.

1.2.6.8 Conference Calling (CONF)

No impact on ISUP.

1.2.6.9 Direct-Dialling-In (DDI)

No impact on ISUP.

1.2.6.10 Call diversion services

1.2.6.10.1 Call Forwarding Busy (CFB)

If the forwarding user does not subscribe to service 2 or inhibits service 2 on forwarded calls, two cases exist:

a) If service 2 was explicitly requested as “essential”, the call is cleared. The cause is “facility rejected”.

b) If service 2 was explicitly requested as “non-essential”, the forwarding exchange will include the user-to-user indicators parameter in the outgoing initial address message used to set up the forwarded leg of the call with service 2 indicated as “no information”. Procedures specified in 1.2.5.2.5.2 will ensure that the calling user is informed, if applicable, of the lack of user-to-user signalling capability.

If the forwarding user subscribes to service 2 and does not inhibit it on forwarded calls, the forwarding exchange will try to supply the service requested. This will be accomplished by requesting service 2 in the outgoing initial address message using the same request information that was contained in the original initial address message. If the attempt is successful, user-to-user information transfer will be available between the calling user and the forwarded-to user.

In the case where a user determined user busy condition exists, the user-to-user indicators are also delivered to the forwarding user when the call is offered.

1.2.6.10.2 Call Forwarding No Reply (CFNR)

Service 2 is not extended to the forwarded-to user in the case of call forwarding no reply, but the user-to-user indicators are delivered to the forwarding user when the call is offered.

If service 2 was explicitly requested as “essential”, the call is cleared. The cause is “facility rejected”.

If service 2 was explicitly requested as “non-essential”, the forwarding exchange will include the user-to-user indicators parameter in the outgoing initial address message used to set up the forwarded leg of the call with service 2 indicated as “no information”. Procedures specified in 1.2.5.2.5.2 will ensure that the calling user is informed, if applicable, of the lack of user-to-user signalling capability.

1.2.6.10.3 Call Forwarding Unconditional (CFU)

As Call Forwarding Busy (see 1.2.6.10.1).

1.2.6.10.4 Call Deflection (CD)

Call Deflection before alerting: as Call Forwarding Busy (see 1.2.6.10.1); the call shall be treated as if the user determined user busy condition exists.

Call Deflection after alerting: as Call Forwarding No Reply (see 1.2.6.10.2).

1.2.6.11 Line Hunting (LH)

No impact on ISUP.

1.2.6.12 Three-Party Service (3PTY)

No impact on ISUP.

1.2.6.13 User-to-User Signalling (UUS)

1.2.6.13.1 User-to-User Signalling, service 1 (UUS1)

More than one User-to-User Signalling supplementary service may be requested in the initial address message. For any service which is not explicitly requested in conjunction with a request for service 2, the corresponding indicator is set to "no information" in the user-to-user indicators parameter.

If more than one User-to-User Signalling supplementary service is requested, while at least one service is requested as essential, and that service cannot be provided, then the call will be cleared with an appropriate cause indication.

If no services were requested as "essential", the user-to-user indicators parameter in the backward direction will indicate independent acceptance or rejection of each service requested. When the user-to-user indicators parameter is sent, if neither an acceptance nor a rejection indication is appropriate for a particular service, that service will be indicated as "no information".

1.2.6.13.2 User-to-User Signalling, service 2 (UUS2)

Not applicable.

1.2.6.13.3 User-to-User Signalling, service 3 (UUS3)

As User-to-User Signalling, service 1 (see 1.2.6.13.1). If service 3 is requested after call set-up, the interaction as described under 1.3.6.13.1 is applicable.

1.2.6.14 Multiple Subscriber Number (MSN)

No impact on ISUP.

1.2.6.15 Call Hold (HOLD)

No impact on ISUP.

1.2.6.16 Advice on Charge (AOC)

No impact on ISUP.

1.2.6.17 Sub-addressing (SUB)

No impact on ISUP.

1.2.6.18 Terminal Portability (TP)

No impact on ISUP.

1.2.6.19 Completion of Calls to Busy Subscriber (CCBS)

No applicable interaction at this time.

1.2.6.20 Malicious Call Identification (MCID)

No impact on ISUP.

1.2.6.21 Reverse Charging (REV)

No applicable interaction at this time.

1.2.6.22 Multi-Level Precedence and Preemption (MLPP)

No impact on ISUP.

1.2.6.23 Private Numbering Plan (PNP)

No applicable interaction at this time.

1.2.6.24 International Telecommunication Charge Card

No applicable interaction at this time.

1.2.7 Interaction with other networks

In the case of call control interworking from a network supporting the User-to-User Signalling service 2 to

- a non-No. 7 network;
- a No. 7 network, not ISUP;
- a No. 7 network not supporting the service,

the ISDN exchange receiving an initial address message including an explicit service request retains knowledge of this request and returns signalling information about the User-to-User Signalling service as specified in Table 1-2.

TABLE 1-2/Q.737

Service 2 rejection in case of interworking

Interworking network	Non-essential request	Essential request
Non-SS No. 7 network	ACM; UUI ind.: service 2 not provided	Rel #29 + diagnostics (Note 1)
SS No. 7 network, not ISUP	ACM;UUI ind.: service 2 not provided	Rel #29 + diagnostics (Note 1)
SS No. 7 network not supporting the service	ACM or CON; UUI ind.: service 2 not provided (Note 2)	Rel #29 + diagnostics (Notes 1 and 2)

NOTES

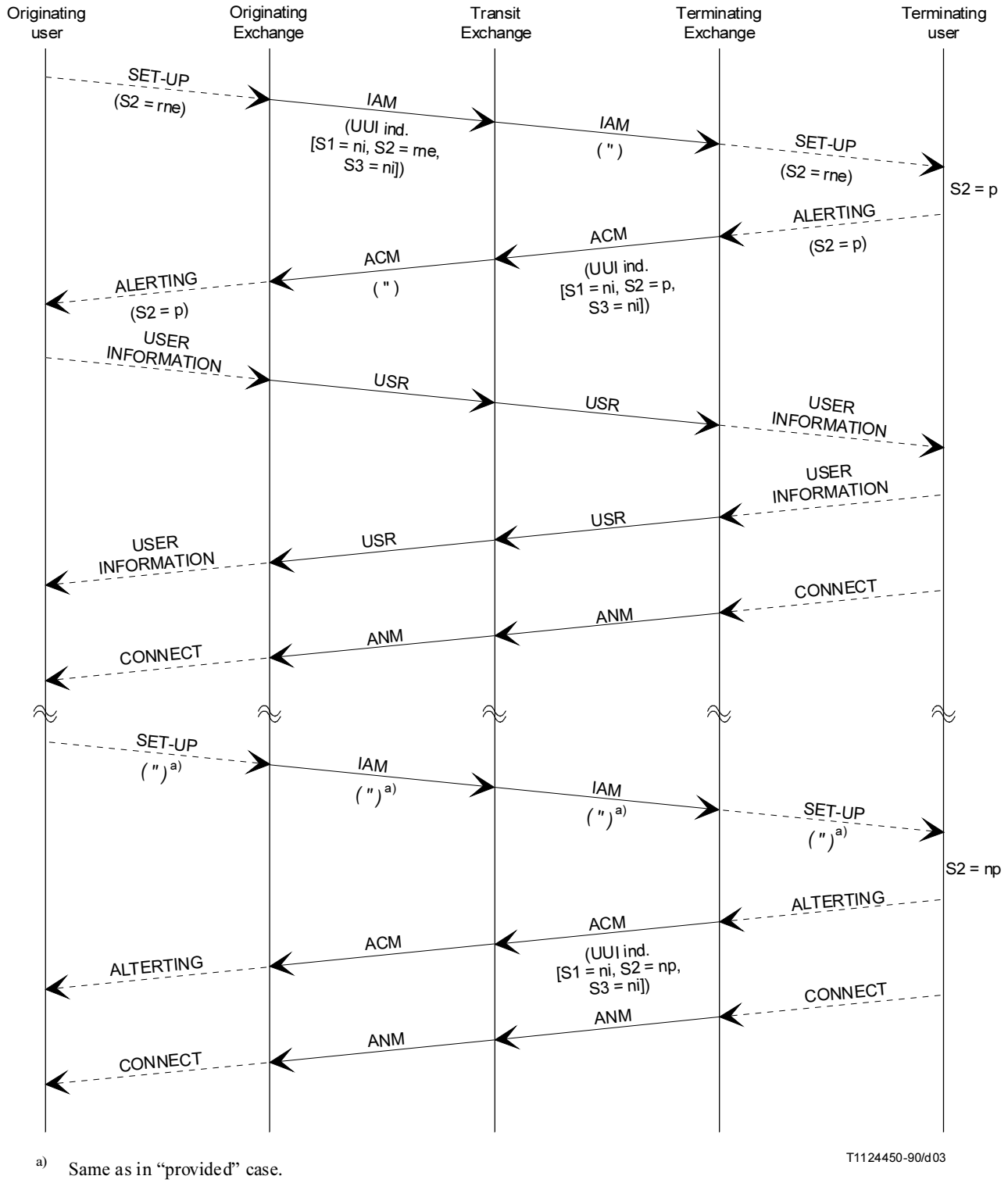
1 The diagnostics field contains the user-to-user indicators parameter name and length.

2 A transit or international gateway exchange may have to generate service rejection in case a confusion message is received indicating that the user-to-user indicators requesting the service are not supported by the succeeding network.

Two ISDN networks that interwork may have to retain knowledge of the service request until it is clear whether both can support the service.

1.2.8 Signalling flows

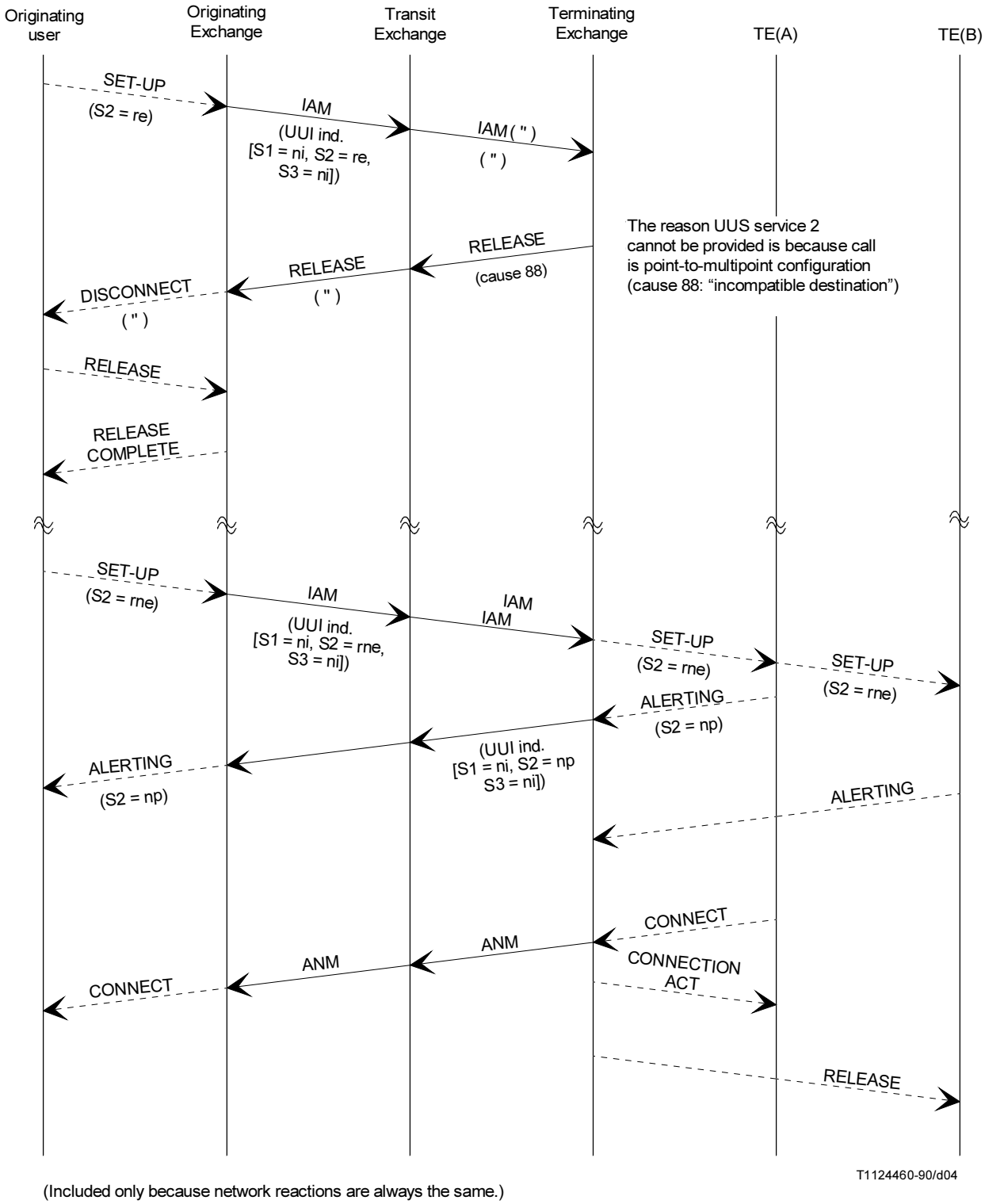
Figure 1-3 shows a successful use of UUS service 2 when requested in a point-to-point configuration. Figure 1-4 shows the unsuccessful use of UUS service 2 when requested in a point-to-multipoint configuration.



a) Same as in "provided" case.

FIGURE 1-3/Q.737

UUS service 2
(call is point-to-point)



(Included only because network reactions are always the same.)

NOTE – Network knows that the call is point-to-multipoint configuration.

FIGURE 1-4/Q.737

UUS service 2
(call is point-to-multipoint)

The following Notes apply to Figures 1-3 and 1-4:

NOTES

1 In cases where an ALERTING indication is carried by a call progress message, the user-to-user indicators parameter may be transported in the call progress message.

2 In cases where the called user is an automatic answering terminal, the user-to-user indicators parameter may be transported in a connect message.

The following abbreviations are used in Figures 1-3 and 1-4:

Abbreviation	User-to-user indicator values
ni	No information
rne	Requested, non-essential
re	Requested, essential
p	Provided
np	Not provided
Abbreviation	**Parameter name**
UUI	User-to-user information
UUI ind.	User-to-user indicators
Abbreviation	**Message name**
ACM	Address complete
ANM	Answer
IAM	Initial address
REL	Release
RLC	Release complete
USR	User-to-user information

The messages shown with dashed lines are not part of the ISDN user part protocol and are for information only. For detailed information on the access protocol user-to-user procedures the ISDN access protocol Recommendations should be examined.

1.2.9 Parameter values (timers)

None identified.

1.2.10 Dynamic description

No dynamic description (SDLs) is included.

1.3 User-to-User Signalling service 3

1.3.1 Definition

See 1.1.1.

1.3.2 Description

1.3.2.1 General description

User-to-User Signalling service 3 is used to exchange information between two users as described in Recommendation I.257.1 (stage 1). The functional description (stage 2) for this service can be found in Recommendation Q.87. The stage 3 DSS 1 description is given in Recommendation Q.957.1. This clause is specific to Signalling System No. 7 and use is made of the ISDN user part defined in Recommendations Q.761 to 764 and Recommendation Q.730. Use is also made of SCCP class 2 protocols defined in Recommendations Q.711 to 714 and Recommendation Q.730. However, the

procedures for the application of SCCP class 2 protocols for User-to-User Signalling service 3 are for further study. Service 3 allows users to communicate by transferring user-to-user information messages in each direction during the active phase of the call. Up to 128 octets of user information may be transferred in each message (see Note). The 128 octets do not include the user-to-user information parameter name, the protocol control indicator or the length octets.

NOTE – During an interim period of time, networks may support a lesser number (e.g. 32 octets) due to protocol restrictions; 32 octets will always be supported. Restrictions may apply to calls requesting user-to-user information more than 32 octets.

Service 3 allows the service to be requested either during call set-up or after call set-up. However, service 3 should not be requested after call set-up if it has been rejected during the call set-up phase.

1.3.2.2 Specific terminology

See 1.1.2.2.

1.3.2.3 Qualification on the applicability to telecommunication services

See Recommendation I.257.1.

1.3.2.4 State definitions

No specific state definitions are required.

1.3.3 Operational requirements

1.3.3.1 Provision/withdrawal

See Recommendation I.257.1.

1.3.3.2 Requirements on the originating network side

Not applicable.

1.3.3.3 Requirements in the network

No specific requirements are needed in the network.

1.3.3.4 Requirements on the terminating network side

Not applicable.

1.3.4 Coding requirements

The request for service 3 during call set-up is carried in the user-to-user indicators parameter in the initial address message. User-to-user information is carried in the user-to-user information parameter in the user-to-user information message.

The indication of acceptance or rejection of service 3 during call set-up is carried in the user-to-user indicators parameter in the answer or connect messages.

The request for service 3 after call set-up is carried in the facility request message. The acceptance of this request is carried in the facility accepted message; the rejection in the facility reject message. The facility indicator parameter (set to “user-to-user service”) and the user-to-user indicators parameter (containing the relevant service 3 information) are included in each of these messages.

1.3.5 Signalling requirements

1.3.5.1 Activation/deactivation/registration

UUS service 3 may be requested by the calling user at call set-up or either the calling or called user after call set-up if UUI transfer is desired in either direction.

Once a UUS service is activated (see Note), the network will accept UUI in both directions according to the subscription of the requesting user.

NOTE – Activation means request of UUS. Invocation means submission of UUI.

1.3.5.2 Invocation and operation

1.3.5.2.1 Actions at the originating local exchange

1.3.5.2.1.1 Normal operation

####### 1.3.5.2.1.1.1 Service request during call set-up

Service 3 is explicitly requested in an initial address message. As an option at call set-up, the calling user may be able to specify whether the request for service 3 is essential or non-essential for the call (i.e. whether the call should be completed or not if user-to-user information cannot be passed).

Procedures for call set-up are as described in 2/Q.764, with the following changes:

- On call set-up, the initial address message will contain the user-to-user indicators parameter with service 3 indicated as "requested, essential" or "requested, not essential", as appropriate. For an essential request the ISUP preference indicator will be coded "ISUP required". The service request will be received from call control and will be passed to the call control at the destination exchange.

- When service 3 has been requested in the initial address message, any acceptance or rejection is returned in an answer or connect message in the user-to-user indicators parameter.

- If the network and called user can support the transfer of user-to-user information, a service 3 acceptance will be returned to the originating exchange in an answer or connect message with the indication "service 3 provided" in the user-to-user indicators parameter. This explicit indication shall be forwarded to the call control at the originating exchange.

####### 1.3.5.2.1.1.2 Service request after call set-up

After call set-up has been completed either the calling or called user may request to transfer service 3 information. On reception of the request from call control the ISDN user part sends a facility request message containing the facility indicator parameter indicating "user-to-user service" and a user-to-user indicators parameter with service 3 indicated as "requested, not essential" to the distant local exchange using the appropriate transport method. On receipt of the facility request message at the distant exchange call control will be notified which will then notify the remote user. If the user wishes to support service 3 during the active phase, a service 3 acceptance will be returned to call control. On notification of the acceptance by call control the ISDN user part will generate a facility accepted message with the indication "service 3 provided" in the user-to-user indicators parameter. On receipt of the message this explicit acceptance indication shall be forwarded to call control which will then notify the requesting user.

####### 1.3.5.2.1.1.3 Transfer of user-to-user information

Once acceptance of service 3 has been transmitted across the network, both of the involved users can transfer user-to-user information between themselves. Within the network the user-to-user information parameter will be carried in a user-to-user information message. The network provides for the transfer of these messages from the calling to the called side and vice versa.

If a MORE DATA information element is received from DSS 1 in a USER INFO message, this information is carried in the access transport parameter associated with the corresponding user-to-user information message for delivery at the destination access.

####### 1.3.5.2.1.1.4 Flow control

The exchange of user-to-user information is limited by flow control procedures provided on the access by either the user or network. The need for inter-exchange flow control procedures by the ISDN user part for User-to-User Signalling should be evaluated.

1.3.5.2.1.2 Exceptional procedures

The originating exchange shall be able to interpret a rejection indication generated by any succeeding exchange and act accordingly (see 1.3.5.2.5.2).

1.3.5.2.2 Actions at the transit exchange

1.3.5.2.2.1 Normal operation

The information which is generated as described in 1.3.5.2.1.1 is passed unchanged.

1.3.5.2.2.2 Exceptional procedures

The information which is generated as described in 1.3.5.2.5.2 is passed unchanged. Rejection of a service request (see 1.3.5.2.5.2) can also take place in the transit exchange.

1.3.5.2.3 Actions at the outgoing international gateway exchange

1.3.5.2.3.1 Normal operation

See 1.3.5.2.2.1.

1.3.5.2.3.2 Exceptional procedures

See 1.3.5.2.2.2.

1.3.5.2.4 Actions at the incoming international gateway exchange

1.3.5.2.4.1 Normal operation

See 1.3.5.2.2.1.

1.3.5.2.4.2 Exceptional procedures

See 1.3.5.2.2.2.

1.3.5.2.5 Actions at the destination local exchange

1.3.5.2.5.1 Normal operation

The information which is generated as described in 1.3.5.2.1.1 is passed to the access.

1.3.5.2.5.2 Exceptional procedures

1.3.5.2.5.2.1 Rejection of service request during call set-up

If the network already has or has obtained knowledge that the network itself or the called user cannot support service 3, and it was requested with a non-essential indication, a service 3 rejection indication is returned in the answer or connect messages with the indication “service 3 not provided” in the user-to-user indicator parameter.

If the service 3 request is indicated as essential and the network already has or has obtained knowledge that the network itself or the called user cannot support it, a release message is sent with cause value 29, “facility rejected” or cause value 29, “requested facility not implemented” and the diagnostic containing the user-to-user indicators parameter name.

If the network does not understand the service 3 request or the terminating call control does not indicate acceptance or rejection then any message returned to the originating exchange shall not include either a service 3 acceptance or rejection. This type of response will be taken as an implicit rejection of service 3.

1.3.5.2.5.2.2 Rejection of service requested after call set-up

The network may not understand the service 3 request due to inconsistent or unrecognized information in the facility request message. If this occurs or the remote call control does not indicate acceptance or rejection then no message is returned. This response shall be taken as an implicit rejection of service 3. This may also occur if interworking takes place in which case a facility accepted or facility reject message may not always be returned.

It is also possible that the facility accepted or facility reject messages cannot be correctly interpreted due to inconsistent or unrecognized information. The network shall discard these messages in this case. Only the information pertaining to service 3 has to be interpreted in the facility request, facility accepted, and facility reject messages. Information related to services 1 and 2 shall be ignored.

If the network or remote user cannot support service 3, a service 3 rejection indication is returned in the facility reject message in the user-to-user indicator parameter with the indication "service 3 not provided".

1.3.6 Interaction with other supplementary services

1.3.6.1 Call Waiting (CW)

No impact on ISUP.

1.3.6.2 Call transfer services

No applicable interaction at this time.

1.3.6.3 Connected Line Identification Presentation (COLP)

No impact on ISUP.

1.3.6.4 Connected Line Identification Restriction (COLR)

No impact on ISUP.

1.3.6.5 Calling Line Identification Presentation (CLIP)

No impact on ISUP.

1.3.6.6 Calling Line Identification Restriction (CLIR)

No impact on ISUP.

1.3.6.7 Closed User Group (CUG)

No impact on ISUP.

1.3.6.8 Conference Calling (CONF)

No impact on ISUP.

1.3.6.9 Direct-Dialling-In (DDI)

No impact on ISUP.

1.3.6.10 Call diversion services

1.3.6.10.1 Call Forwarding Busy (CFB)

If the forwarding user does not subscribe to service 3 or inhibits service 3 on forwarded calls, two cases exist:

a) If service 3 was explicitly requested as "essential", the call is cleared. The cause is "facility rejected".

b) If service 3 was explicitly requested as "non-essential", the forwarding exchange will include the user-to-user indicators parameter in the outgoing initial address message used to set up the forwarded leg of the call with service 3 indicated as "no information". Procedures specified in 1.3.5.2.5.2 will ensure that the calling user is informed, if applicable, of the lack of user-to-user signalling capability.

If the forwarding user subscribes to service 3 and does not inhibit it on forwarded calls, the forwarding exchange will try to supply the service requested. This will be accomplished by requesting service 3 in the outgoing initial address message using the same request information that was contained in the original initial address message. If the attempt is successful, user-to-user signalling information transfer will be available between the calling user and the forwarded-to user.

In the case where a user determined user busy condition exists, the user-to-user indicators are also delivered to the forwarding user when the call is offered.

There is no interaction between call forwarding and a request for service 3 during the active phase of the call.

1.3.6.10.2 Call Forwarding No Reply (CFNR)

As Call Forwarding Busy (see 1.3.6.10.1) with one exception: the user-to-user indicators are delivered to the forwarding user when the call is offered.

1.3.6.10.3 Call Forwarding Unconditional (CFU)

As Call Forwarding Busy (see 1.3.6.10.1).

1.3.6.10.4 Call Deflection (CD)

Call Deflection before alerting: as Call Forwarding Busy (see 1.3.6.10.1); the call shall be treated as if the user determined user busy condition exists.

Call Deflection after alerting: as Call Forwarding No Reply (see 1.3.6.10.2).

1.3.6.11 Line Hunting (LH)

No impact on ISUP.

1.3.6.12 Three-Party Service (3PTY)

No impact on ISUP.

1.3.6.13 User-to-User Signalling (UUS)

1.3.6.13.1 User-to-User Signalling, service 1 (UUS1)

More than one User-to-User Signalling supplementary service may be requested in the initial address message. For any service which is not explicitly requested in conjunction with a request for service 3, the corresponding indicator is set to "no information" in the user-to-user indicators parameter.

If more than one User-to-User Signalling supplementary service is requested, while at least one service is requested as essential, and that service cannot be provided, then the call will be cleared with an appropriate cause indication.

If no services were requested as "essential", the user-to-user indicators parameter in the backward direction will indicate independent acceptance or rejection of each service requested. When the user-to-user indicators parameter is sent, if neither an acceptance nor a rejection indication is appropriate for a particular service, that service will be indicated as "no information".

If service 3 is requested after call set-up, the indicators for service 1 and service 2 in the user-to-user indicators parameter in a facility request, facility accepted, or facility reject message will be set to "no information".

1.3.6.13.2 User-to-User Signalling, service 2 (UUS2)

As User-to-User Signalling, service 1 (see 1.3.6.13.1).

1.3.6.13.3 User-to-User Signalling, service 3 (UUS3)

Not applicable.

1.3.6.14 Multiple Subscriber Number (MSN)

No impact on ISUP.

1.3.6.15 Call Hold (HOLD)

No impact on ISUP.

NOTE – Any party that has placed one or more calls on hold may continue to exchange (send or receive) UUI (service 3) with the party(ies) on hold as well as exchange UUI with an active party.

1.3.6.16 Advice on Charge (AOC)

No impact on ISUP.

1.3.6.17 Sub-addressing (SUB)

No impact on ISUP.

1.3.6.18 Terminal Portability (TP)

No impact on ISUP.

1.3.6.19 Completion of Calls to Busy Subscriber (CCBS)

No applicable interaction at this time.

1.3.6.20 Malicious Call Identification (MCID)

No impact on ISUP.

1.3.6.21 Reverse Charging (REV)

No applicable interaction at this time.

1.3.6.22 Multi-Level Precedence and Preemption (MLPP)

No impact on ISUP.

1.3.6.23 Private Numbering Plan (PNP)

No applicable interaction at this time.

1.3.6.24 International Telecommunication Charge Card

No applicable interaction at this time.

1.3.7 Interaction with other networks

1.3.7.1 Service request during call set-up

In the case of call control interworking from a network supporting the User-to-User Signalling service 3 to

- a non-No. 7 network;
- a No. 7 network, not ISUP;
- a No. 7 network not supporting the service,

the ISDN exchange receiving an initial address message including an explicit service request retains knowledge of this request and returns signalling information about the User-to-User Signalling service as specified in Table 1-3.

TABLE 1-3/Q.737

Service 3 rejection in case of interworking

Interworking network	Non-essential request	Essential request
Non-SS No. 7 network	ACM; UUI ind.: service 3 not provided	Rel #29 + diagnostics (Note 1)
SS No. 7 network, not ISUP	ACM;UUI ind.: service 3 not provided	Rel #29 + diagnostics (Note 1)
SS No. 7 network not supporting the service	ACM or CON; UUI ind.: service 3 not provided (Note 2)	Rel #29 + diagnostics (Notes 1 and 2)

NOTES

1 The diagnostics field contains the user-to-user indicators parameter name and length.

2 A transit or international gateway exchange may have to generate service rejection in case a confusion message is received indicating that the user-to-user indicators requesting the service are not supported by the succeeding network.

Two ISDN networks that interwork may have to retain knowledge of the service request until it is clear whether both can support the service.

1.3.7.2 Service request after call set-up

The rejection of the service as described in 1.3.5.2.5.2.2 shall be applicable for the interworking cases described in 1.3.7.1.

1.3.8 Signalling flows

Figure 1-5 shows a successful use of User-to-User Signalling service 3 when requested as non-essential during call set-up. Figure 1-6 shows a successful use of User-to-User Signalling service 1 when requested after call set-up.

The following Notes apply to Figures 1-5 and 1-6:

NOTES

1 In cases where an ALERTING indication is carried by a call progress message, the user-to-user indicators parameter may be transported in the call progress message.

2 In cases where the called user is an automatic answering terminal, the user-to-user indicators parameter may be transported in a connect message.

The following abbreviations are used in Figures 1-5 and 1-6:

Abbreviation	User-to-user indicator values
ni	No information
rne	Requested, non-essential
re	Requested, essential
p	Provided
np	Not provided
Abbreviation	**Parameter name**
UUI	User-to-user information
UUI ind.	User-to-user indicators
Abbreviation	**Message name**
ACM	Address complete
ANM	Answer
FAA	Facility accepted
FAR	Facility request
IAM	Initial address
REL	Release
RLC	Release complete
USR	User-to-user information

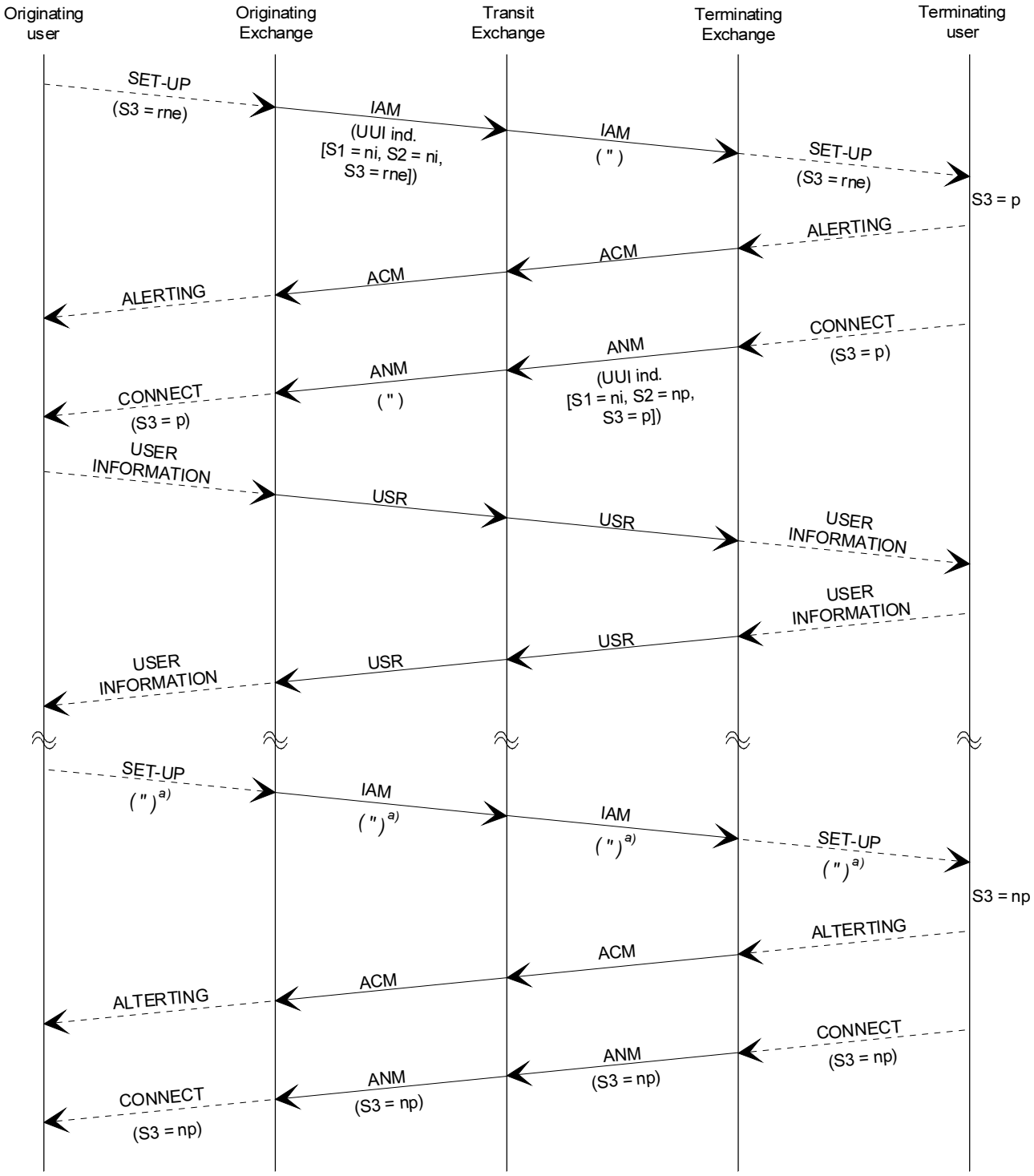
The messages shown with dashed lines are not part of the ISDN user part protocol and are for information only. For detailed information on the access protocol user-to-user procedures the ISDN access protocol Recommendations should be examined.

1.3.9 Parameter values (timers)

None identified.

1.3.10 Dynamic description

No dynamic description (SDLs) is included.



a) Same as in “provided” case.

FIGURE 1-5/Q.737

UUS service 3
(non-essential)

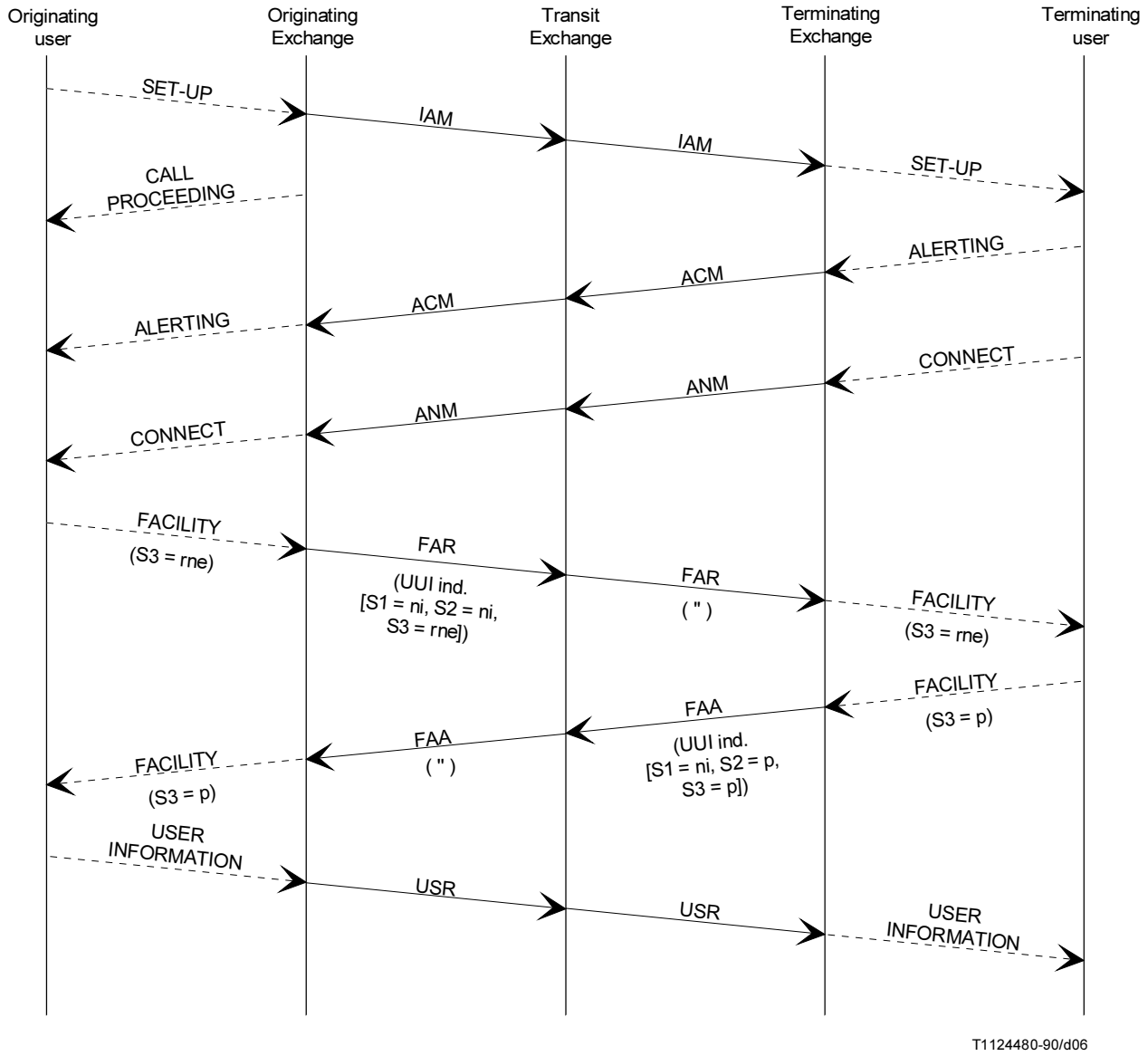


FIGURE 1-6/Q.737

UUS service 3 – Required after call is active (required to be non-essential)