INTERNATIONAL TELECOMMUNICATION UNION

ITU-T Q.734.2

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

(03/93)

SPECIFICATIONS OF SIGNALLING SYSTEM No. 7

STAGE 3 DESCRIPTION FOR MULTIPARTY SUPPLEMENTARY SERVICES USING SIGNALLING SYSTEM No. 7

CLAUSE 2 – THREE-PARTY SERVICE

ITU-T Recommendation Q.734-2
Superseded by a more recent version

(Previously "CCITT Recommendation")

Superseded by a more recent version

Printed in Switzerland

Geneva, 1994

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.734, clauses 1 and 2, 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 Similarly, in this reform process, the CCIR and the IFRB have been replaced by the Radiocommunication Sector.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.

Superseded by a more recent version

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STAGE 3 DESCRIPTION FOR MULTIPARTY SUPPLEMENTARY SERVICES USING SS No. 7

(Helsinki, 1993)

2 Three party

2.1 Definition

The **three-party supplementary service** enables a user to establish a three-way conversation, i.e. a simultaneous communication between the served user and two other parties.

2.2 Description

2.2.1 General description

The served user A, who has an active call with user B, asks the network to put that call on hold (see Recommendation Q.733.2) and initiates a second call or accepts an incoming call.

For the original call, the served user may have been either the calling or the called party.

Once the call to the third party is answered user A can:

a) alternate from one call to another as required;

b) disconnect the active party;

c) disconnect the held party;

d) disconnect the entire call;

e) request a three-way conversation.

During a three-way conversation user A can:

a) terminate the three-way conversation;

b) explicitly disconnect one of the remote parties;

c) place its connection to the three-way conversation on hold;

d) create a private conversation with one of the remote parties.

The stage 1 definitions for the three-party service is given in Recommendation I.254.2. The stage 2 description is given in Recommendation Q.84.2. The stage 3 DSS 1 description is given in Recommendation Q.954.2. This stage 3 description of the three-party service uses the ISDN user part protocol as defined in Recommendations Q.761-764 and Q.730.

2.2.2 Specific terminology

Served user (user A) – The user who has the service under his control during the invocation and the active phase.

Remote parties (user B and user C) – The parties involved in the two calls that are joined together into a three-way conversation.

2.2.3 Qualification on the applicability to telecommunication services

See Recommendation I.254.2.

2.2.4 State definitions

No specific states are required.

2.3 Operational requirements

2.3.1 Provision/withdrawal

See Recommendation I.254.2.

2.3.2 Requirements on the originating network side

This subclause is not applicable to SS No. 7.

2.3.3 Requirements in the network

No specific requirements are needed in the network.

2.3.4 Requirements on the terminating network side

This subclause is not applicable to SS No. 7.

2.4 Coding requirements

For the three-party supplementary service the call progress message, containing the generic notification indicator parameter, shall be used to send the appropriate notification towards the remote party.

The generic notification indicator is accompanied by the parameter compatibility information parameter. The procedures for compatibility are defined in 2.9.5/Q.764.

The event indicator is set to “Progress”.

The following notification descriptions are used:

– conference established;

– conference disconnected.

The generic notification indicator parameter field shall be coded as shown in Table 2.1.

TABLE 2-1/Q.734

Coding of the generic notification indicator parameter

Bits 7654321	Description
1000010	Conference established
1000011	Conference disconnected

2.5 Signalling requirements

2.5.1 Activation/deactivation/registration

This subclause is not applicable to SS No. 7.

2.5.2 Invocation and operation

2.5.2.1 Actions at the originating local exchange

The originating local exchange is the exchange where the service is controlled. The originating local exchange for this description is not necessarily the originating exchange for the basic call.

2.5.2.1.1 Normal operation

2.5.2.1.1.1 Requirements related to echo control

a) *General*

When the conference bridge is located in the originating local exchange, this exchange should have the capability to invoke echo control procedures. This is necessary in the case the total propagation delay for the two legs of the three-party call is above the value where echo control is necessary. (ref. 2.6/Q.764)

The exchange must also have the capability of storing propagation delay information received either in a received IAM (for incoming calls) or in ANM/CON (for outgoing calls) until call release. This must be done for both legs included in the three-party call.

b) *Criteria to initiate echo control procedures*

The originating local exchange has to sum up the propagation delay values of the calls A-B and A-C in order to determine the total value of propagation delay of the three-party call.

If echo control is necessary, the exchange will initiate echo control procedures for each of the legs concerned. (ref. 2.7/Q.764)

2.5.2.1.1.2 Beginning the three-way conversation

Prior to the invocation of the three-party supplementary service, the served user (user A) must be involved in two calls, both in the answered state: one call (e.g. with user B) in a held state and the other one (e.g. with user C) in an active state.

When the three-party supplementary service is invoked the originating local exchange, to which the served user's equipment is connected, shall:

a) join the two calls together in a three-way conversation;

b) send a call progress message to each remote party, containing the generic notification indicator parameter with the notification "conference established".

NOTES

1 For an interim period of time, some networks might not support the sending of notifications to the remote parties.

2 Procedure a) doesn't have any impact on ISUP protocol.

2.5.2.1.1.3 Managing the three-way conversation

During the three-way conversation mode the served user shall be able to:

a) *Split the three-way conversation*

In this case the local exchange shall send a notification indication to the remote by means of a call progress message, including the notification "conference disconnected".

b) *Disconnect one of the remote parties*

When the served user or one of the remote parties disconnects the call, the originating local exchange shall send a notification indication to the remaining remote party by means of a call progress message, including the notification "conference disconnected".

No notification is sent to the disconnected party.

c) *Disconnect the entire call*

Each call shall be cleared according to the proper call control procedures.

One party shall be disconnected first, according to procedure b), followed by the normal disconnection of the remaining remote party.

2.5.2.1.2 Exceptional procedures

No exceptional procedures are identified.

2.5.2.2 Actions at the transit exchange

2.5.2.2.1 Normal operation

The exchange shall transfer transparently the messages related to the notification mechanism.

See also 2.5.2.1.1.1.

2.5.2.2.2 Exceptional procedure

No exceptional procedures are identified.

2.5.2.3 Actions at the outgoing international gateway exchange

2.5.2.3.1 Normal operation

The exchange shall transfer transparently the messages related to the notification mechanism.

See also 2.5.2.1.1.1.

2.5.2.3.2 Exceptional procedures

No exceptional procedures are identified.

2.5.2.4 Actions at the incoming international gateway exchange

2.5.2.4.1 Normal operation

The exchange shall transfer the messages related to the notification mechanism.

See also 2.5.2.1.1.1.

2.5.2.4.2 Exceptional procedure

No exceptional procedures are identified.

2.5.2.5 Actions at the destination local exchange

The destination local exchange for this description is not necessarily the destination exchange for the basic call.

2.5.2.5.1 Normal operation

The information contained in the call progress message related to the notification mechanism received by the destination local exchange where the remote party (user B or user C) is connected are passed along to the access signalling system.

See also 2.5.2.1.1.1.

2.5.2.5.2 Exceptional procedures

No exceptional procedures are identified.

2.6 Interactions with other supplementary services

2.6.1 Call waiting (CW)

No impact on ISUP.

2.6.2 Call transfer services

No applicable interaction at this time.

2.6.3 Connected line identification presentation (COLP)

No impact on ISUP.

2.6.4 Connected line identification restriction (COLR)

No impact on ISUP.

2.6.5 Calling line identification presentation (CLIP)

No impact on ISUP.

2.6.6 Calling line identification restriction (CLIR)

No impact on ISUP.

2.6.7 Closed user group (CUG)

For the successful invocation of the three-party supplementary service, any CUG restrictions normally applied to individual CUG calls between users A-B, or A-C shall still apply when the three-party service is invoked, i.e. the CUG check procedure is only performed on each individual leg of the call.

NOTE – CUG restrictions cannot be guaranteed between users B and C.

2.6.8 Conference calling (CONF)

No impact on ISUP.

2.6.9 Direct dialling-in (DDI)

No impact on ISUP.

2.6.10 Call diversion (call forwarding) services (CDIV)

2.6.10.1 Call forwarding busy (CFB)

No impact on ISUP.

2.6.10.2 Call forwarding no reply (CFNR)

No impact on ISUP.

2.6.10.3 Call forwarding unconditional (CFU)

No impact on ISUP.

2.6.10.4 Call deflection (CD)

No impact on ISUP.

2.6.11 Line hunting (LH)

No impact on ISUP.

2.6.12 Three-party service (3PTY)

Not applicable.

2.6.13 User-to-user signalling (UUS)

2.6.13.1 Service 1 (UUS1)

No impact on ISUP.

2.6.13.2 Service 2 (UUS2)

No impact on ISUP.

2.6.13.3 Service 3 (UUS3)

No impact on ISUP.

2.6.14 Multiple subscriber number (MSN)

No impact on ISUP.

2.6.15 Call hold (HOLD)

In case of a hold request sent by a served user during the three-way conversation active phase, no notifications shall be sent toward the remote users.

2.6.16 Advice of charge (AOC)

No impact on ISUP.

2.6.17 Sub-addressing (SUB)

No impact on ISUP.

2.6.18 Terminal portability (TP)

No impact on ISUP.

2.6.19 Completion of call to busy subscriber (CCBS)

No applicable interaction at this time.

2.6.20 Malicious call identification (MCID)

No impact on ISUP.

2.6.21 Reverse charging (REV)

No applicable interaction at this time.

2.6.22 Multi-level precedence and preemption (MLPP)

No impact on ISUP.

2.6.23 Private numbering plan (PNP)

No applicable interaction at this time.

2.6.24 International telecommunication charge card

No applicable interaction at this time.

2.7 Interactions with other networks

In case of interactions with networks which do not provide the notification procedure, the interaction exchange will discard the call progress message. However, the three-way conversation will be completed according to the proper basic call procedures as described in Recommendation Q.764.

2.8 Signalling flows

Information flows for the three-party supplementary service are shown in Figures 2-1 through Figure 2-4/Q.734.

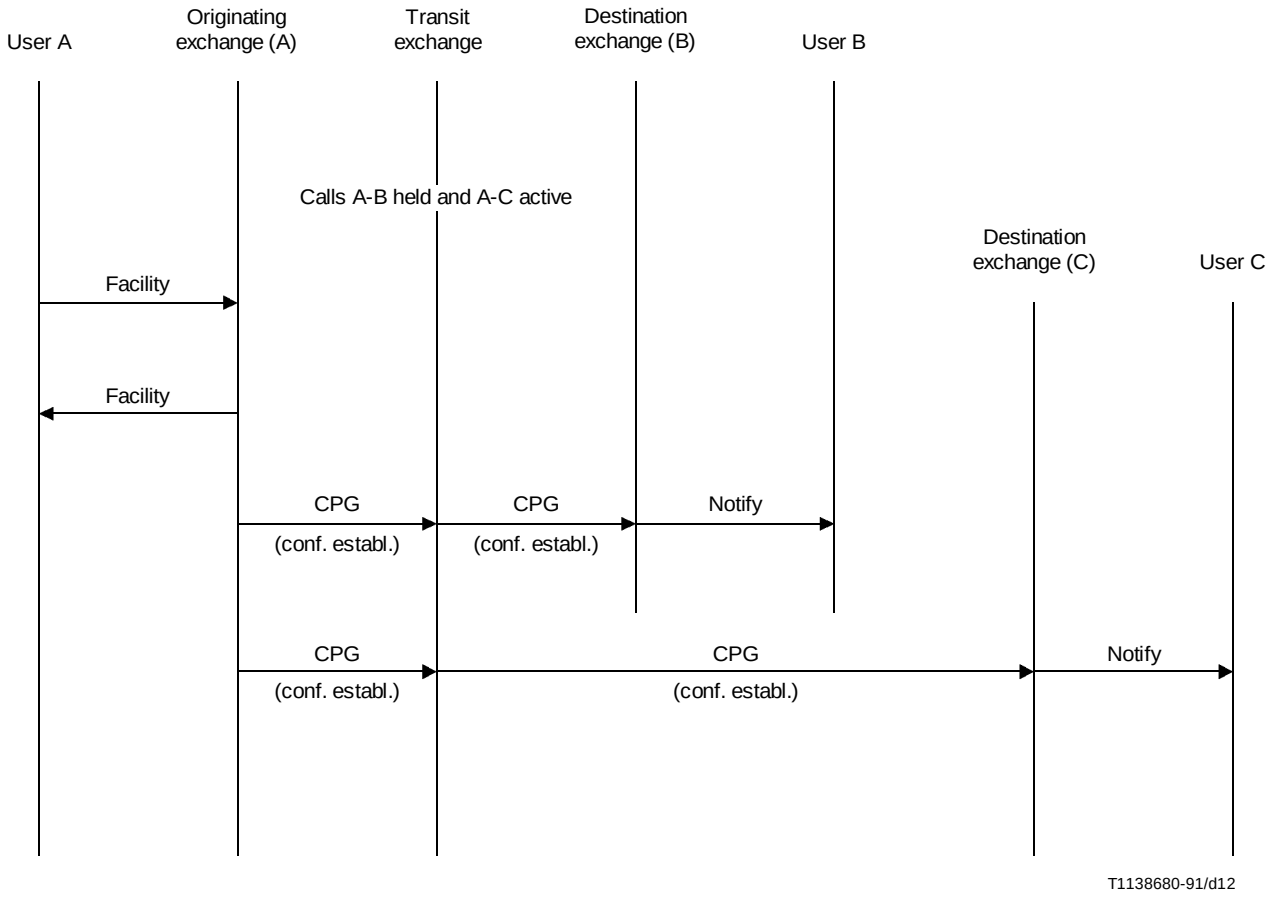


FIGURE 2-1/Q.734

Three-party service invocation

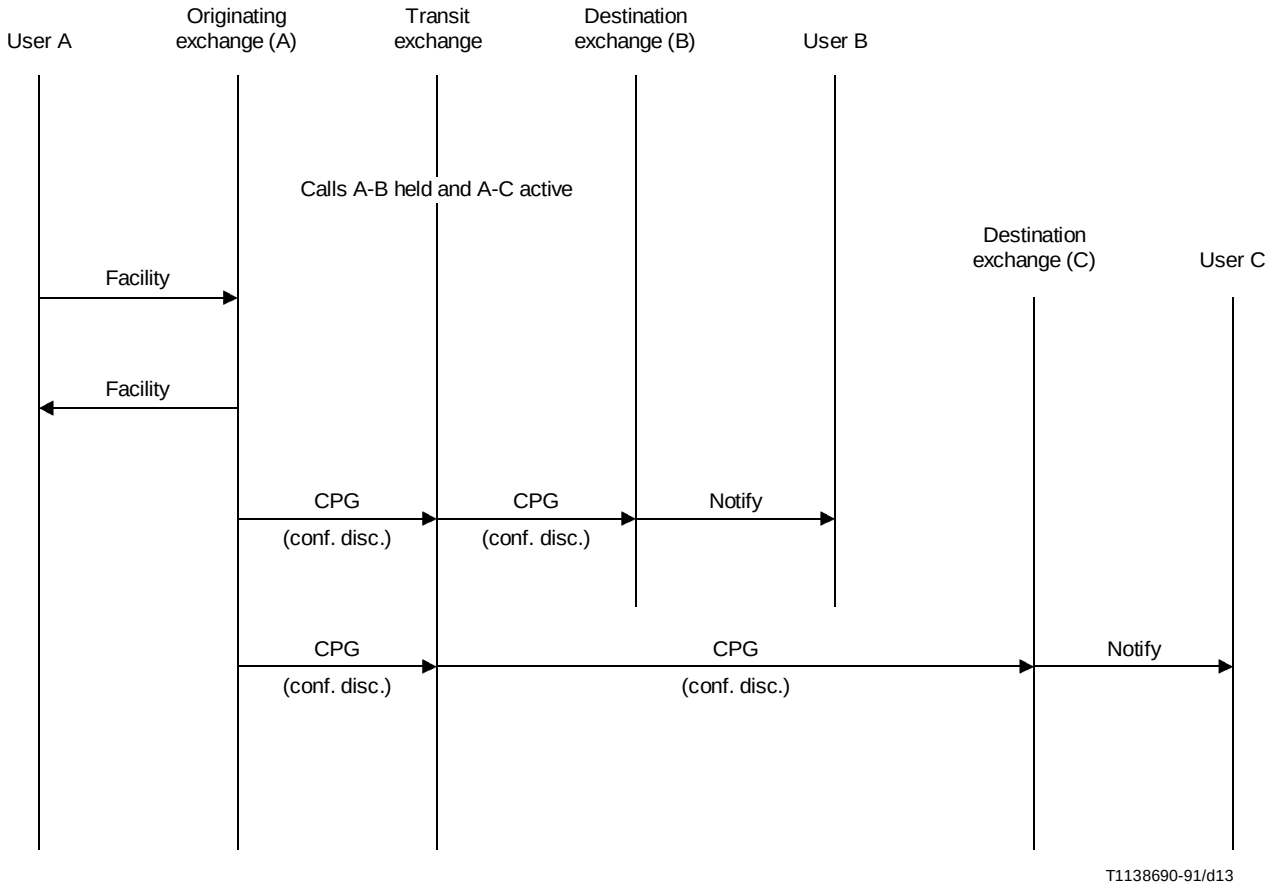
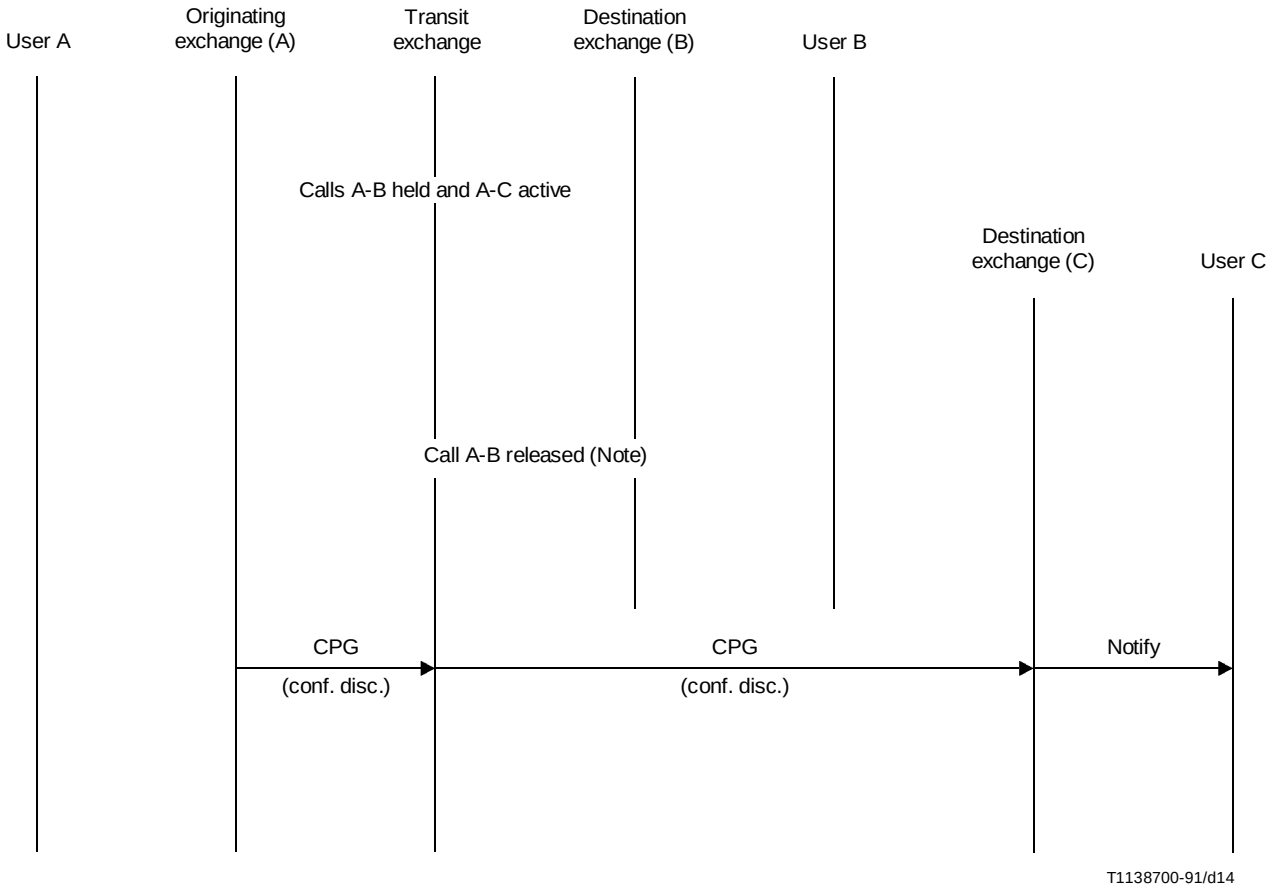


FIGURE 2-2/Q.734

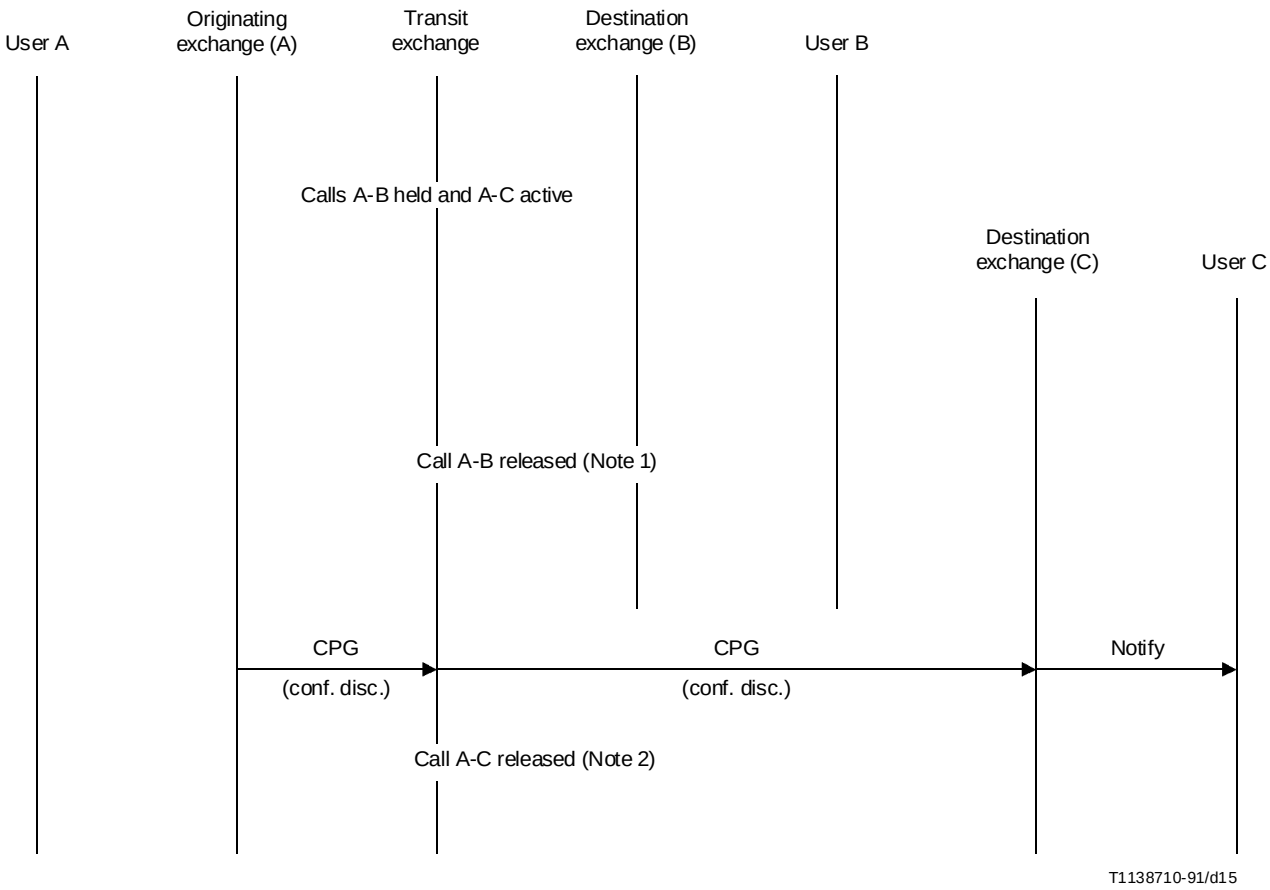
Split of a three-way conversation



NOTE – The call between user A and user B may be released either by the served or by the remote party.

FIGURE 2-3/Q.734

Disconnection of one remote party



NOTES

1 The call between user A and user B is released by the served user according to the "disconnection of one remote party" procedure (see Figure 2-3).

2 The call between user A and user C is released by the served user according to the basic call procedures.

FIGURE 2-4/Q.734

Disconnection of the entire three-party call

2.9 Parameter values (timers)

No specific timers are required.

2.10 Dynamic description

No dynamic description (SDLs) is required.