INTERNATIONAL TELECOMMUNICATION UNION

CCITT I.254.2

THE INTERNATIONAL
TELEGRAPH AND TELEPHONE
CONSULTATIVE COMMITTEE

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INTEGRATED SERVICES DIGITAL NETWORK (ISDN)

GENERAL STRUCTURE AND SERVICE CAPABILITIES

THREE-PARTY SUPPLEMENTARY SERVICE

Recommendation I.254.2

Geneva, 1992

FOREWORD

The CCITT (the International Telegraph and Telephone Consultative Committee) is a permanent organ of the International Telecommunication Union (ITU). CCITT 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 Plenary Assembly of CCITT which meets every four years, establishes the topics for study and approves Recommendations prepared by its Study Groups. The approval of Recommendations by the members of CCITT between Plenary Assemblies is covered by the procedure laid down in CCITT Resolution No. 2 (Melbourne, 1988).

Recommendation I.254.2 was revised by Study Group I and was approved under the Resolution No. 2 procedure on the 4th of August 1992.

CCITT NOTES

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

2) A list of abbreviations used in this Recommendation can be found in Annex A.

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Recommendation I.254.2

THREE-PARTY SUPPLEMENTARY SERVICE

(revised 1992)

1 Definition

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

2 Description

2.1 *General description*

2.1.1 *Beginning the Three-Party supplementary service*

The served user, user A, who is involved in at least two calls (one active call and at least one call on hold), each of which may be an incoming or outgoing call, can join the active and one held call together into a three-way conversation by requesting the Three-Party Service (3 PTY). Both calls shall be answered prior to the invocation of the Three-Party supplementary service.

2.1.2 *Controlling the three-way conversation*

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

i) disconnect one party;

ii) disconnect the entire three-way conversation;

iii) explicitly choose one party to have a private communication with that party.

Note – This last case will result in the served user having two calls available (one active and one held) similar to the situation before the invocation of the Three-Party supplementary service.

The Three-Party supplementary service shall be cancelled by the user actions listed above.

2.2 *Specific terminology*

Served user: During the invocation and the active phase, the service is under the control of the "served user", i.e. the one by whom the service was invoked. This user is also referred to as user A.

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

2.3 *Qualifications on the applicability to telecommunication services*

The Three-Party supplementary service shall be applicable to all telecommunication services carrying speech.

3 Procedures

3.1 *Provision/withdrawal*

The Three-Party supplementary service shall be provided by prior arrangement with the service provider.

Withdrawal of the service shall be made by the service provider upon request by the subscriber or for service provider reasons.

3.2 *Normal procedures*

3.2.1 *Activation/deactivation/registration*

Not applicable.

3.2.2 *Erasure*

Not applicable.

3.2.3 *Invocation and operation*

3.2.3.1 *Beginning the Three-Party Service*

The served user, user A, who is involved in at least two calls (an active call with one party and at least one call on hold with another party) can request that the service provider joins the active call and one specified call on hold together into a three-way conversation. Both calls shall be answered prior to the invocation of the Three-Party supplementary service.

Note – It shall be the responsibility of the served user to ensure that the two calls are compatible.

3.2.3.2 *Managing the three-way conversation*

Served user: During an active three-way conversation the served user shall be able to:

i) disconnect one of the parties. This shall result in a single active call between the served user and the other party. The Three-Party supplementary service shall automatically be terminated;

ii) disconnect the entire three-way conversation. Both calls shall be cleared;

iii) Explicitly choose one party to have a private communication with that party. This shall result in the termination of the Three-Party supplementary service (i.e. the release of the resources allocated for the three-way conversation). The served user shall be able to explicitly indicate the party which shall remain active afterwards. The call with the other party shall be placed on hold.

Note – If the served user again wants to join the two calls together into a three-way conversation, he has to request the Three-Party supplementary service again.

Other parties (B and C): Either of the remote parties (users B or C) shall be able to disconnect from the three-way conversation which shall result in the Three-Party supplementary service being terminated. There shall remain a single active call between the served user and the other party.

All participants of a three-way conversation shall receive a notification at the invocation and cancellation of this supplementary service.

Note – During an interim period of time some networks may not support the sending of notifications to the remote users.

3.2.4 *Interrogation*

Not applicable.

3.3 *Exceptional procedures*

3.3.1 *Activation/deactivation/registration*

Not applicable.

3.3.2 *Erasure*

Not applicable.

3.3.3 *Invocation and operation*

If the served user attempts to invoke the Three-Party supplementary service and the service provider cannot accept that request, the service provider shall reject the request with an appropriate cause.

Possible reasons for rejection are:

– service is not subscribed to;

– resources cannot be allocated;

– subscriber restrictions are not met (e.g. Closed User Group);

– calls are not in an appropriate state (e.g. both calls are on hold).

If the request is rejected, the calls shall remain in the same state as they were in before the attempt to invoke the Three-Party supplementary service.

3.3.4 *Interrogation*

Not applicable.

4 Network capabilities for charging

This Recommendation does not cover charging principles. Future Recommendations in the D-Series are expected to contain that information.

It shall be possible to charge the subscriber accurately for the service.

5 Intercommunication considerations

5.1 *Interworking with non-ISDN networks*

The served user shall be an ISDN subscriber. The other parties may belong to any non-ISDN.

In the case of interworking, users B and C may not be notified of changes occurring.

5.2 *Interworking with private ISDNs*

A private ISDN may transfer a user's request for the Three-Party supplementary service to a public ISDN. The resulting three-way conversation, as seen by the public ISDN, will be treated as the normal Three-Party supplementary service.

The users B and C may belong to any private ISDN.

Appropriate notifications will be accepted from a private ISDN and transferred through the public ISDN, if the service provider resides in a private ISDN.

6 Interaction with other supplementary services

6.1 *Call Waiting*

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.2 *Call Transfer*

The served user who has invoked the Three-Party supplementary service shall not be able to invoke explicit Call Transfer in order to transfer either of the calls involved. The served user shall cancel the Three-Party supplementary service in order to be able to transfer either of the calls involved in the three-way conversation.

6.3 *Connected Line Identification Presentation*

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.4 *Connected Line Identification Restriction*

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.5 *Calling Line Identification Presentation*

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.6 *Calling Line Identification Restriction*

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.7 *Closed User Group*

For the successful invocation of the Three-Party supplementary service any CUG restrictions applied to one call shall match with any Closed User Group (CUG) restrictions applied to the other call.

6.8 *Conference Calling*

It shall be possible for each party of a three-way conversation to be involved alternatively in the three-way conversation and an add-on conference.

Served user: In order to convert a three-way conversation into an add-on conference the served user shall cancel the Three-Party supplementary service first and then shall invoke the add-on conference from the active call as described in Recommendation I.254.1. Subsequently, the held call can be added to the conference.

Add-on conference controlled by another party: The network shall not be required to prevent that a leg to one of the remote parties can be part of an add-on conference controlled by that party.

6.9 *Direct-Dialling-In*

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.10 *Call diversion services*

6.10.1 *Call Forwarding Busy*

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.10.2 *Call Forwarding No Reply*

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.10.3 *Call Forwarding Unconditional*

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.10.4 *Call Deflection*

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.11 *Line Hunting*

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.12 *Three-Party Service*

It shall be possible for each party of a three-way conversation to be involved alternatively in another three-way conversation.

Served user: It shall not be possible to invoke the Three-Party supplementary service, if one or both calls involved are part of one or two other three-way conversations.

Three-way conversation controlled by one of the remote parties: The network shall not be required to prevent that a leg to one of the other parties can be part of another three-way conversation controlled by that party.

6.13 *User-to-User Signalling (UUS)*

6.13.1 *UUS, Service 1*

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.13.2 *UUS, Service 2*

UUS, Service 2 does not apply to calls that have been answered.

6.13.3 *UUS, Service 3*

Served user: No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

Other parties: User-to-user information (UUI) can be sent to and received from the served user. UUI shall not be transferred between users B and C.

6.14 *Multiple Subscriber Number*

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.15 *Call Hold*

Any party involved in a three-way conversation can place the connection to the three-way conversation on hold and later retrieve it.

While the connection of one party to the three-way conversation is held, the other parties can continue to communicate.

6.16 *Advice of Charge (AOC)*

6.16.1 *AOC, Charging information at call set-up time*

The served user shall be informed about the charging rate for those calls which that user has established.

Charges for the use of the Three-Party supplementary service: As a network option, the charging information can be sent to the served user.

Note – However, in some networks no charging information can be given in this case, e.g. due to off-line processing of the charges.

6.16.2 *AOC, Charging information during the call*

Charges for the different connections within the Three-Party supplementary service: charging information shall be given for each call for which the AOC-D supplementary service has been activated.

Charges for the use of the Three-Party supplementary service: As a network option, the charging information can be sent to the served user.

Note – However, in some networks no charging information can be given in this case, e.g. due to off-line processing of the charges.

6.16.3 *AOC, Charging information at the end of a call*

Charges for the different connections within the Three-Party supplementary service: At the end of each call for which the AOC-E supplementary service was activated, the served user shall be informed about the charges incurred.

Charges for the use of the Three-Party supplementary service: As a network option, the charging information can be sent to the served user.

Note – However, in some networks no charging information can be given in this case, e.g. due to off-line processing of the charges.

6.17 *Multi-level Precedence and Preemption*

The precedence levels of the calls are not changed by the use of the Three-Party supplementary service. In the three-way conversation, when one of two original calls is preempted, the remaining parties of the three-way conversation should be notified of the preemption. When the served user is preempted, all users are notified and the procedure is followed as though the served user requested that the entire three-way conversation be disconnected.

Note – Calls that are originated by, or made to, non Multi-Level Precedence and Preemption (MLPP) users will not be preempted.

6.18 *Priority*

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.19 *Malicious Call Identification*

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.20 *Outgoing Call Barring*

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

6.21 *Reverse Charging*

No impact, i.e. neither supplementary service affects the operation of the other supplementary service. [Reverse Charging (REV) applies independently to each call.]

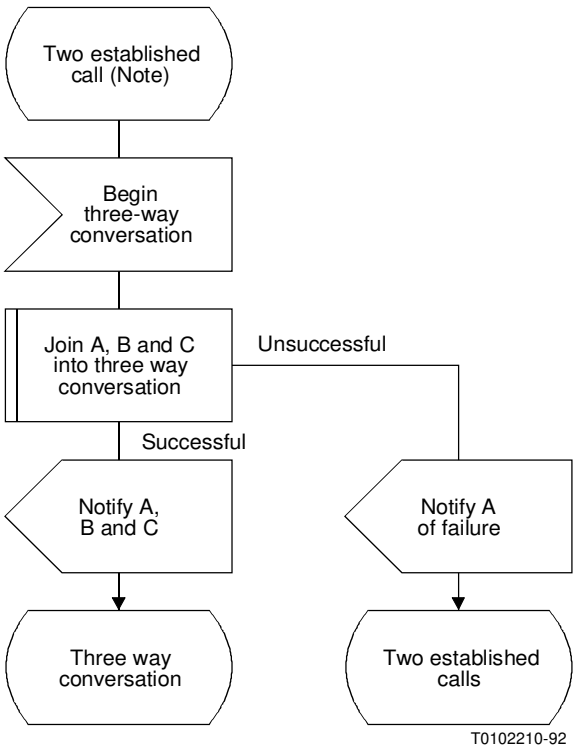
Note – Charges for the use of the Three-Party supplementary service will not be subjected to reverse charging.

6.22 *Sub-addressing*

No impact, i.e. neither supplementary service affects the operation of the other supplementary service.

7 Dynamic description

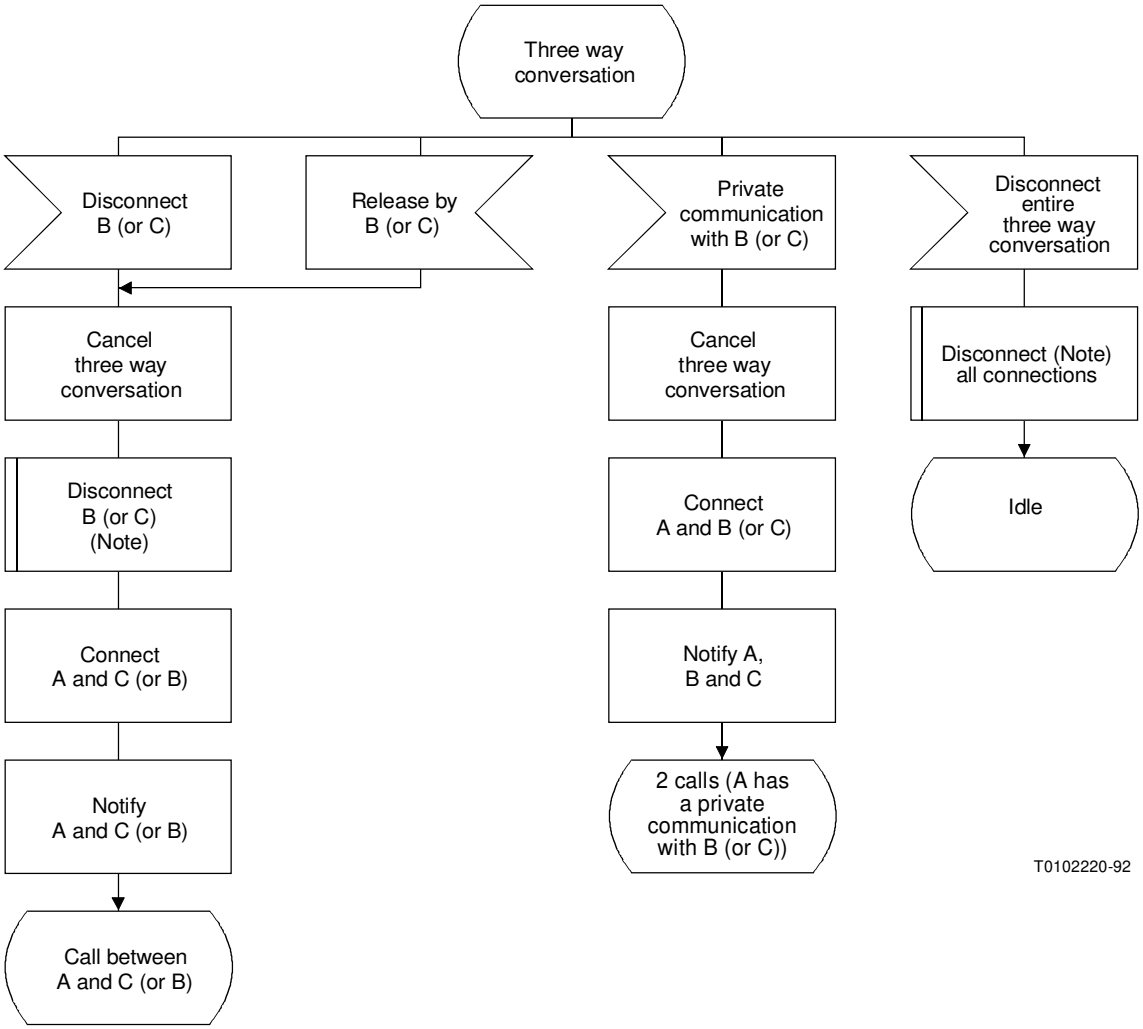
The dynamic description of this service is given in Figure 1/I.254.2.



Note – User A has a call with user B and a call with user C.

FIGURE 1/I.254.2 (sheet 1 of 2)

Overall SDL diagram of Three-Party Service



Note – Indications are sent as part of basic call procedures.

FIGURE 1/I.254.2 (sheet 2 of 2)

Overall SDL diagram of Three-Party-Service

ANNEX A

(to Recommendation I.254.2)

Alphabetical list of abbreviations used in this Recommendation

3PTY	Three-party service
AOC	Advice of charge
CUG	Closed user group
ISDN	Integrated services digital network
MLPP	Multi-level precedence and preemption
REV	Reverse charging
UUI	User-to-user information
UUS	User-to-user signalling