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OF ITU

Q.84

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GENERAL RECOMMENDATIONS ON TELEPHONE SWITCHING AND SIGNALLING

FUNCTIONS AND INFORMATION FLOWS FOR SERVICES IN THE ISDN

STAGE 2 DESCRIPTION FOR MULTIPARTY SUPPLEMENTARY SERVICES

CLAUSE 1 – CONFERENCE CALLING (CONF)

ITU-T Recommendation Q.84

(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.84, 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 Similarly, in this reform process, the CCIR and the IFRB have been replaced by the Radiocommunication Sector.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.

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CONTENTS

	<i>Page</i>
1 Conference calling (CONF)	1
1.1 Scope	1
1.2 References.....	1
1.3 Definitions	2
1.4 Symbols and abbreviations	2
1.5 Description.....	2
1.6 Derivation of a functional model	3
1.7 Information flows	4
1.8 SDL diagrams for functional entities.....	17
1.9 Functional Entity Actions (FEAs)	41
1.10 Allocation of functions to physical entities	43

SUMMARY

This Recommendation describes the stage 2 of the Conference calling supplementary service supported by an ISDN.

The stage 2 descriptions are comprised of the switching functions and signalling information flows.

The Conference calling supplementary service provides a user with the ability to have a multi-connection between more than two parties.

STAGE 2 DESCRIPTION FOR MULTIPARTY SUPPLEMENTARY SERVICES CLAUSE 1 – CONFERENCE CALLING (CONF)

(Helsinki, 1993)

1 Conference calling (CONF)

1.1 Scope

This Recommendation defines the stage 2 of the Integrated Services Digital Network (ISDN) as provided by telecommunications operators for the Conference calling (CONF) supplementary service. Stage 2 identifies the functional capabilities and the information flows needed to support the service as described in stage 1. The stage 2 description also identifies user operations not directly associated with a call (see Recommendation I.130 [1]).

This Recommendation is specified according to the methodology specified in Recommendation Q.65 [2].

This Recommendation does not formally describe the relationship between this supplementary service and the basic call [4] but where possible the information is included for guidance.

In addition, this Recommendation does not specify the requirements where the service is provided to the user via a private ISDN. This Recommendation does not specify the requirements for the allocation of defined functional entities within a private ISDN; it does however specify which functional entities may be allocated to a private ISDN.

This Recommendation does not specify the additional requirements where the service is provided to the user via a telecommunications network that is not an ISDN.

The Conference calling supplementary service provides a user with the ability to have a multi-connection call, i.e. a simultaneous communication between more than two parties.

The Conference calling supplementary service is defined for all telecommunication services carrying speech.

This Recommendation is applicable to the stage 3 Recommendations for the Integrated Services Digital Network Conference calling supplementary service. The term stage 3 is also defined in Recommendation I.130. Where the text indicates the status of a requirement, i.e. as strict command or prohibition, as authorization leaving freedom, as a capability or possibility, this shall be reflected in the text of the relevant stage 2 and 3 Recommendations.

Furthermore, conformance to this Recommendation is met by conforming to the stage 3 Recommendation with the field of application appropriate to the equipment being implemented. Therefore, no method of testing is provided for this Recommendation.

1.2 References

These references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references subsequent amendments to, or revisions of, any of these publications apply to this Recommendation only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies.

- [1] CCITT Recommendation I.130 *Method for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN*, 1988.
- [2] CCITT Recommendation Q.65 *Stage 2 of the method for the characterization of services supported by and ISDN*, 1988.

- [3] CCITT Recommendation I.112 *Vocabulary of terms for ISDNs*, 1988.
- [4] CCITT Recommendation Q.71 *ISDN 64 kbit/s circuit mode switched bearer service*, 1992.
- [5] CCITT Recommendation I.254.1 *Integrated Services Digital Network (ISDN); Conference calling (CONF) supplementary service; service description*.
- [6] CCITT Recommendation Z.100 *SDL Specification Description Language*, 1988.

1.3 Definitions

For the purpose of this Recommendation, the following definitions apply:

conference controller: The served user controlling the conference.

conferee: A conference participant not being the conference controller.

multi connection call control: A CC entity with the ability to control one connection directly and several others via OCCC entities.

one connection call control: A CC entity with the ability to control a single connection for a MCCC entity.

party: Either a conferee or the conference controller.

forward connection: The connection between a CC located with the Service Providing Entity and a conferee's CCA.

backward connection: The connection between the served user's CCA and a CC located with the Service Providing Entity.

1.4 Symbols and abbreviations

CId	Conference Identifier
CONF	Conference calling
FEA	Functional Entity Action
ISDN	Integrated Services Digital Network
LE	Local Exchange
MCCC	Multi Connection Call Control
OCCC	One Connection Call Control
PId	Party Identifier
PNX	Private Network Exchange
SDL	Specification and Description Language
TE	Terminal Equipment

1.5 Description

Conference calling supplementary service can be invoked either from the idle state or as a network option from an existing active call.

When conference calling supplementary service is invoked, conference resources (e.g. a "bridge") are allocated to the served user. In the case of invocation from an active call, this will be automatically connected by the network to the conference resources.

Once a conference is active, parties may be added, dropped, isolated (i.e. prevented from communicating with the conference), reattached or split (i.e. removed from the conference but remain connected to the conference controller).

1.6 Derivation of a functional model

1.6.1 Functional model description

The model has been based on the concept that the served user maintains by means of FE1 a single relation to the centre of the conference FE2. FE2 has the ability to have simultaneous relations with all the conferees.

This concept has been depicted in Figure 1-1.

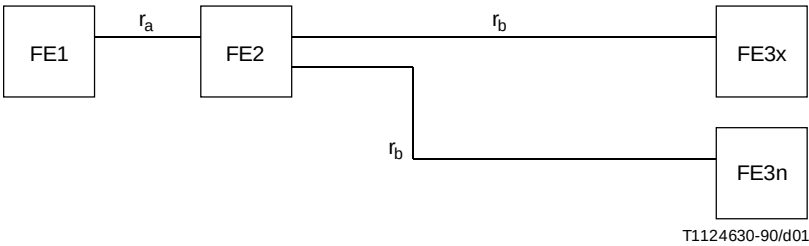


FIGURE 1-1/Q.84

NOTE – FE3x is the functional entity which belongs to that party which is explicitly identified by the conference controller (e.g. DROP party-X). FE3n are the functional entities which belong to the parties not identified by the conference controller (e.g. all parties except party-X).

1.6.2 Description of functional entities

- FE1 Originating service agent
- FE2 Service providing entity
- FE3 Destination service agent

1.6.3 Relation with a basic service

The relationship with a basic service is shown in Figure 1-2.

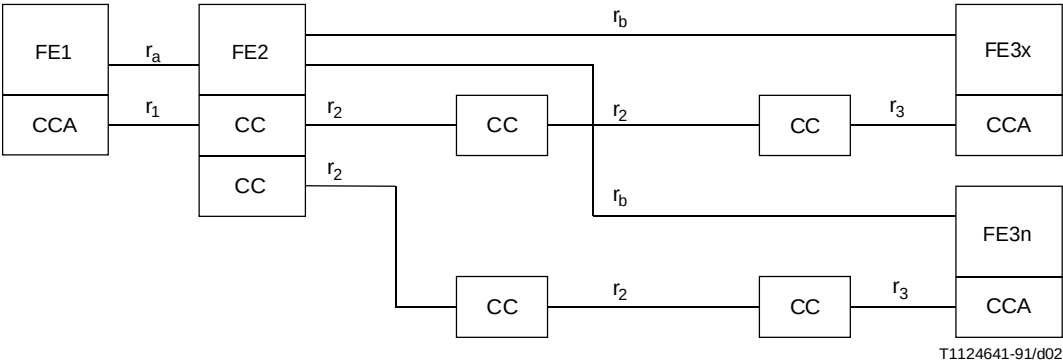


FIGURE 1-2/Q.84

1.7.1 Information flows diagrams

- Figure 1-3 Requesting a new conference call;
- Figure 1-4 Change normal call into a conference call;
- Figure 1-5 Adding a new conferee;
- Figure 1-6 Isolating a conferee;
- Figure 1-7 Reattaching a conferee;
- Figure 1-8 Dropping a conferee from the conference;
- Figure 1-9 Splitting a conferee from the conference;
- Figure 1-10 Call clearing by conferee;
- Figure 1-11 Disconnect when floating is not allowed;
- Figure 1-12 Disconnect when floating is allowed;
- Figure 1-13 Terminate conference;
- Figure 1-14 Disconnect controller.

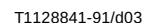
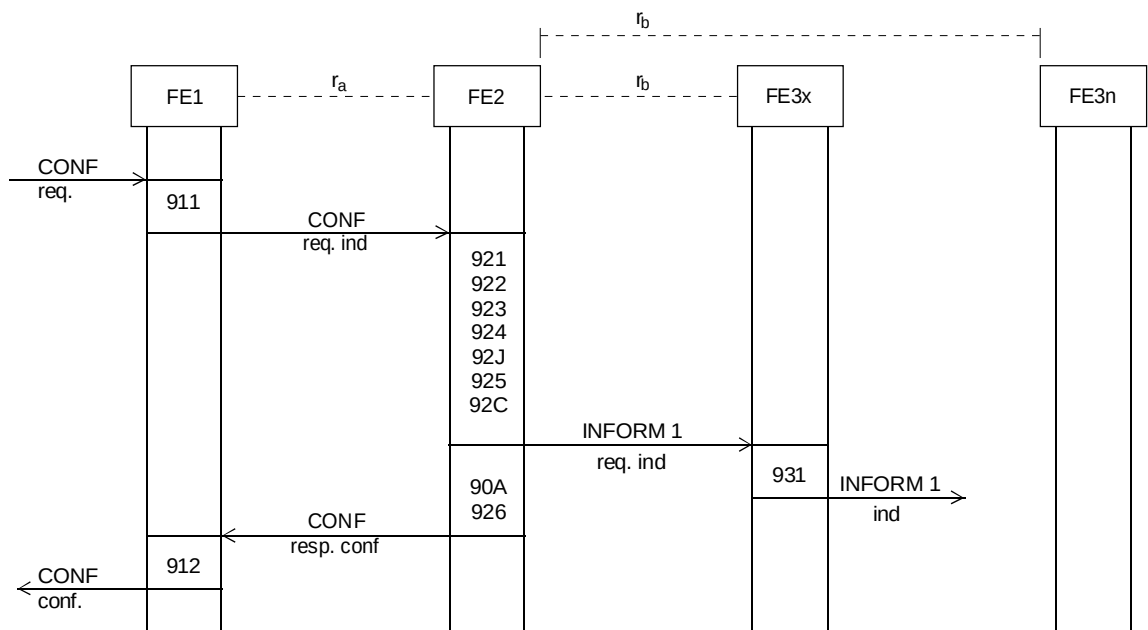


FIGURE 1-3/Q.84

Requesting a new conference call

1.7.2.1 Modification to relationship r_1 associated with r_a

The CONF supplementary service defines the following modifications to the r_1 relationship.



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FIGURE 1-4/Q.84
Change normal call into a conference call

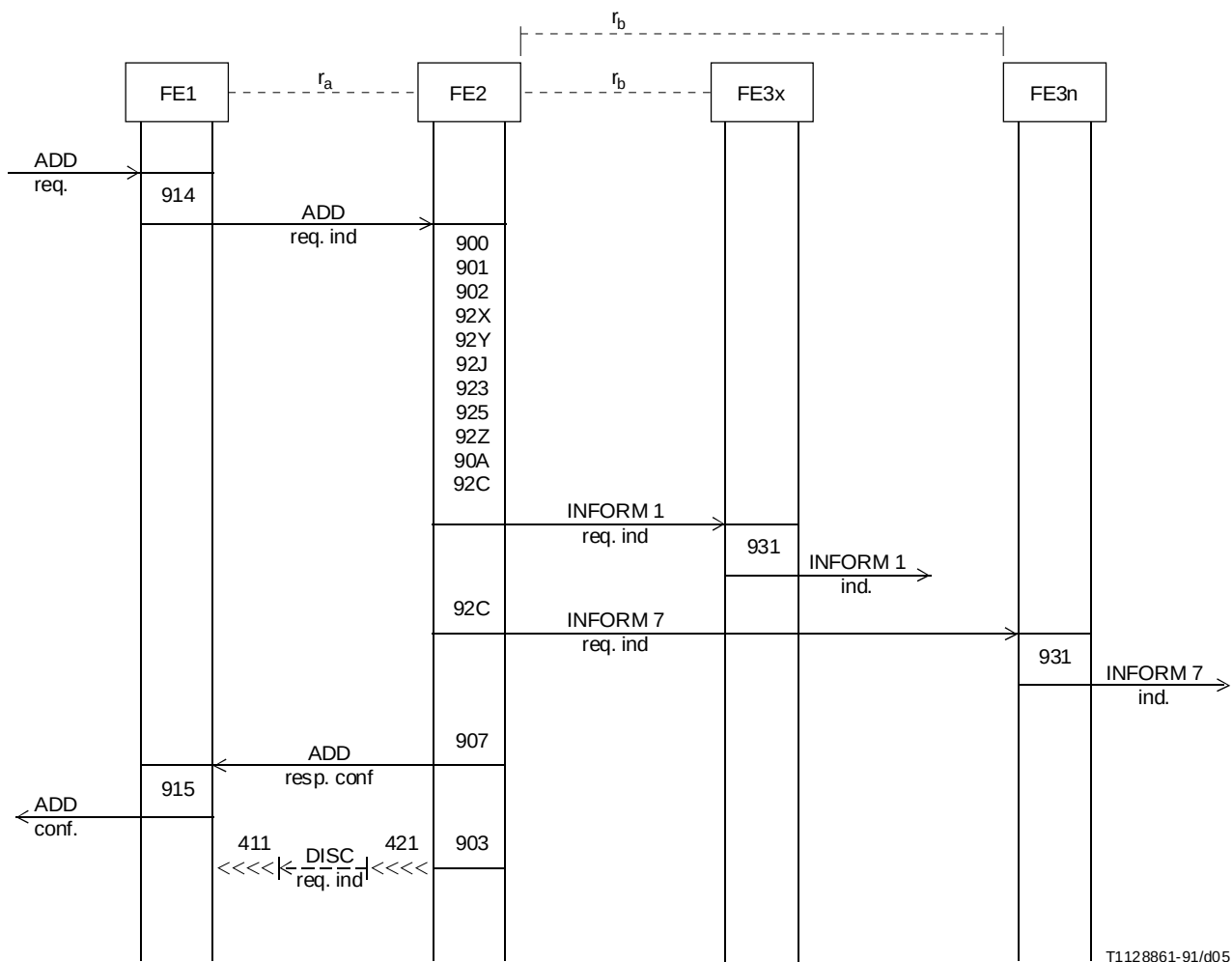


FIGURE 1-5/Q.84
Adding a new conferee

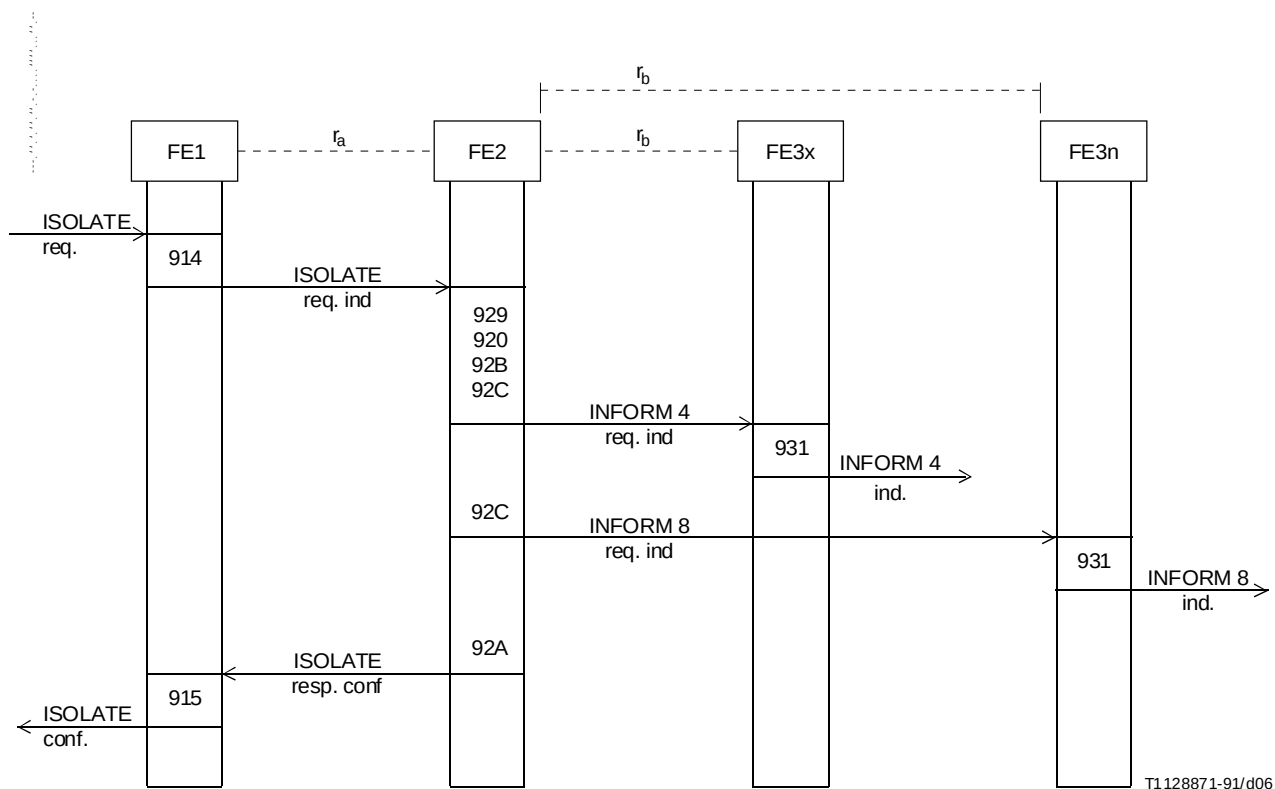
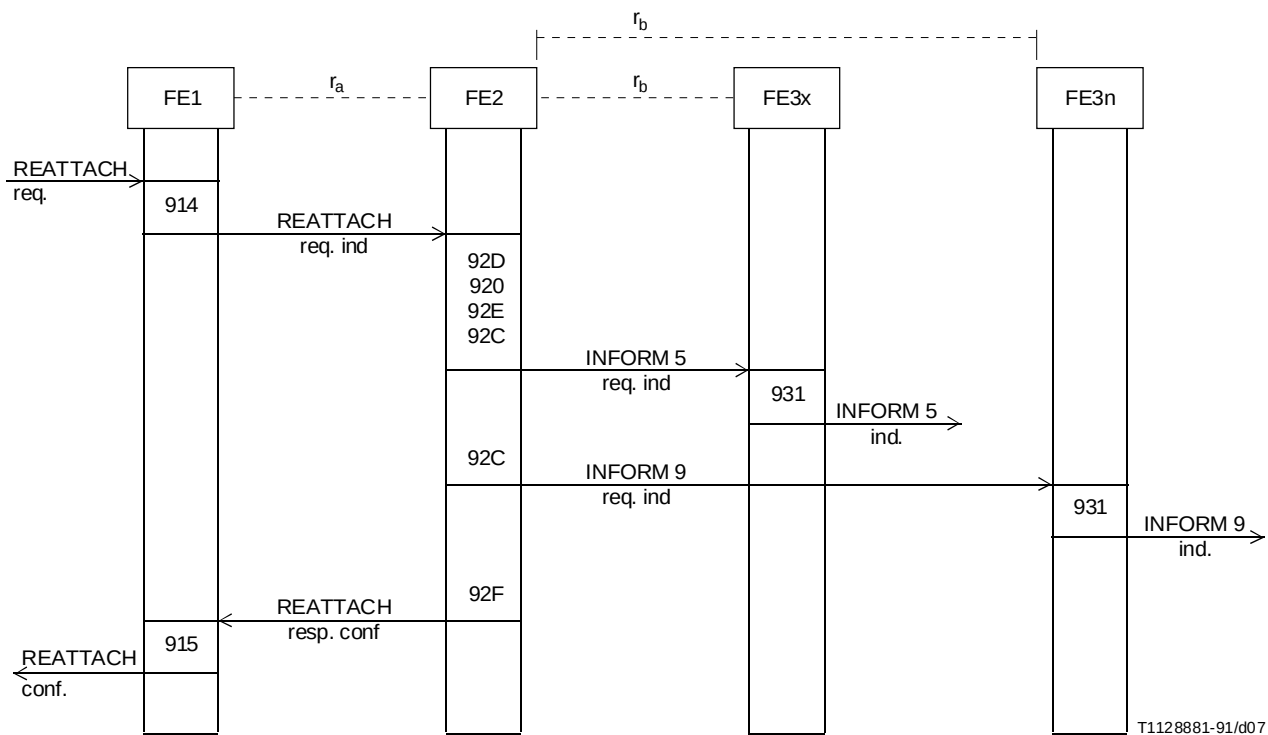


FIGURE 1-6/Q.84
Isolating a conferee



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FIGURE 1-7/Q.84
Reattaching a conferee

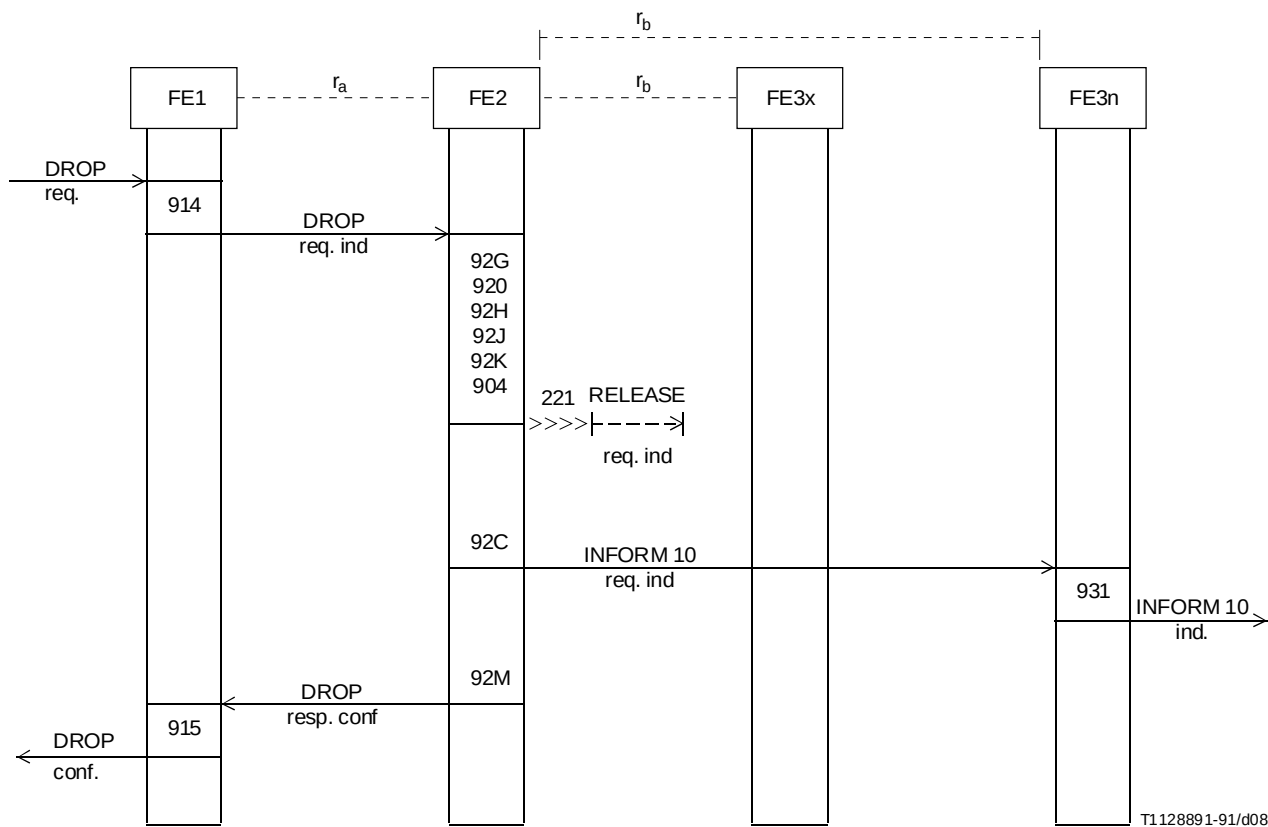
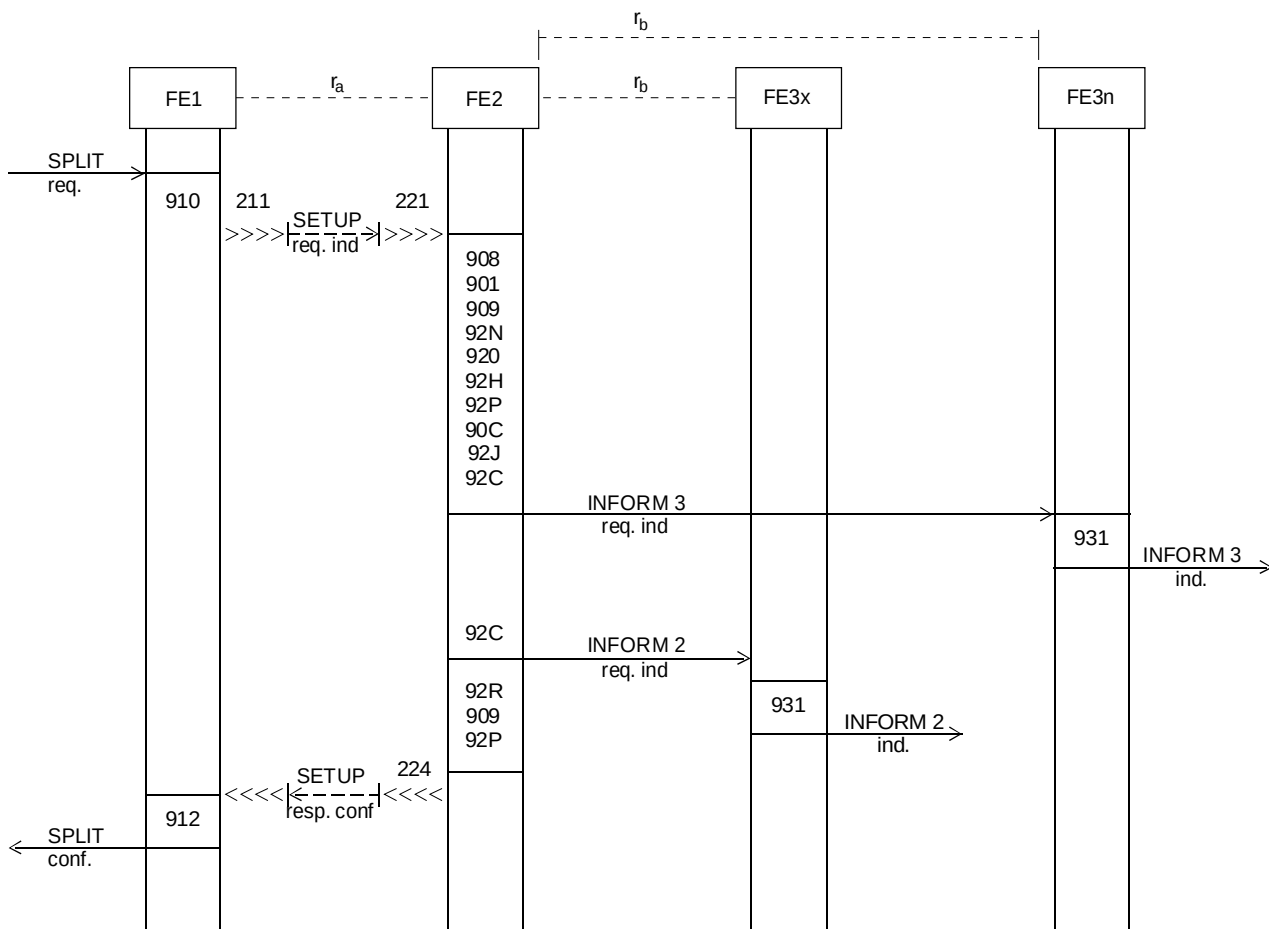


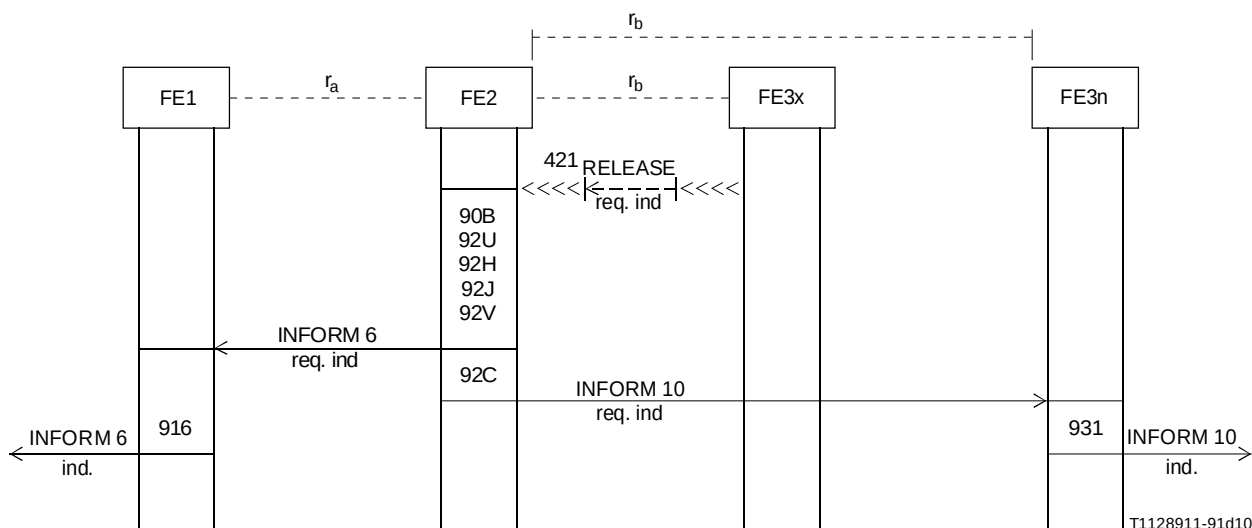
FIGURE 1-8/Q.84
Dropping a conferee



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FIGURE 1-9/Q.84

Splitting a conferee



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FIGURE 1-10/Q.84

Call clearing by conferee

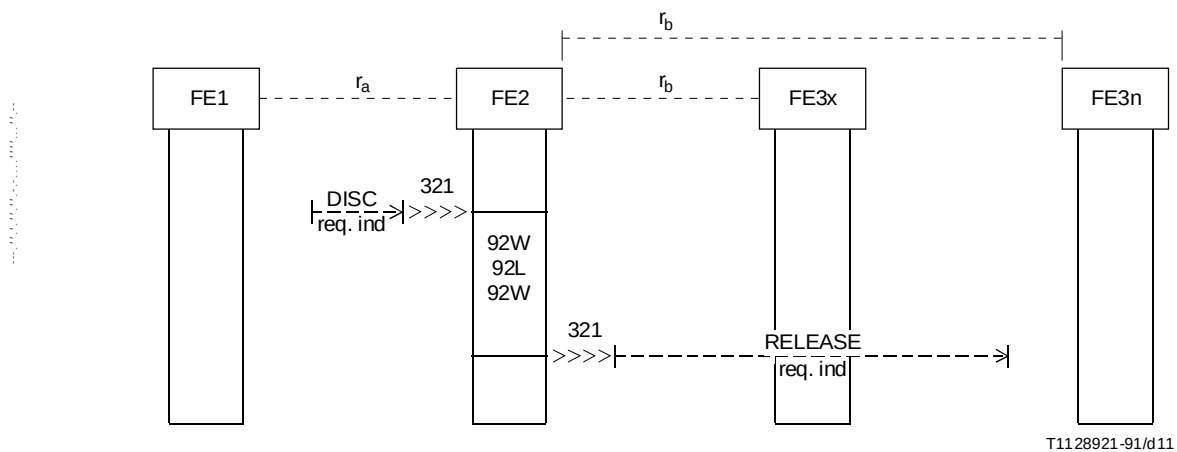


FIGURE 1-11/Q.84
Disconnect when floating is not allowed

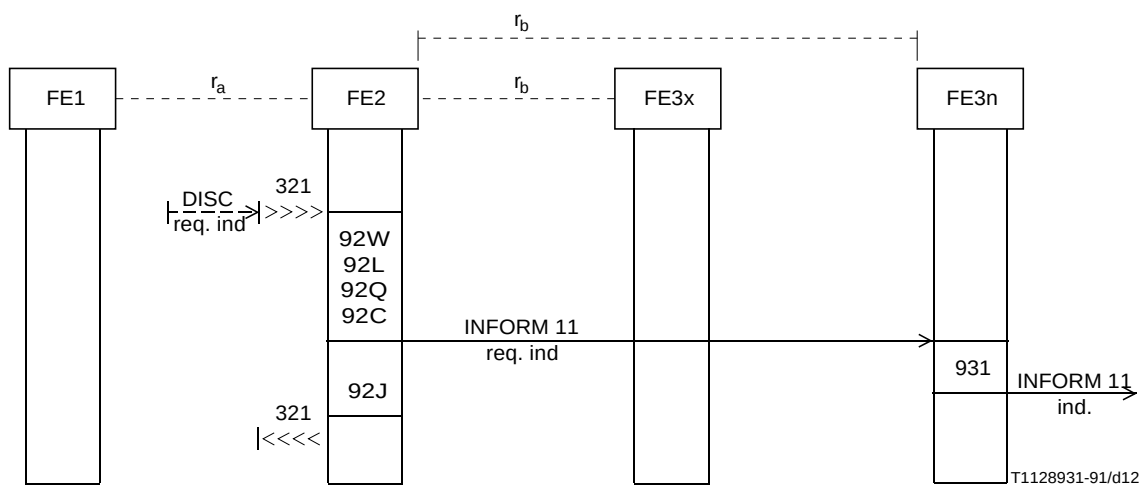


FIGURE 1-12/Q.84
Disconnect when floating is allowed