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SERIES Q: SWITCHING AND SIGNALLING

Technical Report TRQ.2100: Coordinated call control and bearer control signalling requirements – Root-party coordinated call and bearer control

ITU-T Q-series Recommendations – Supplement 12

(Formerly CCITT Recommendations)

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SUPPLEMENT 12 TO ITU-T Q-SERIES RECOMMENDATIONS

TECHNICAL REPORT TRQ.2100: COORDINATED CALL CONTROL AND BEARER CONTROL SIGNALLING REQUIREMENTS – ROOT-PARTY COORDINATED CALL AND BEARER CONTROL

Summary

This Supplement specifies the signalling requirements for the root-party coordinated call control and bearer control capability. These coordinated call control and bearer control functional entity actions are defined in terms of information flows.

This Supplement is intended to specify the essential UNI and NNI interactions required to develop root-party coordinated call control and bearer control functional entity actions.

Source

Supplement 12 to ITU-T Q-series Recommendations was prepared by ITU-T Study Group 11 (1997-2000) and was approved under the WTSC Resolution No. 5 procedure on 3 December 1999.

FOREWORD

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The World Telecommunication Standardization Conference (WTSC), which meets every four years, establishes the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

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

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

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

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CONTENTS

		Page
1	Scope	1
2	Normative references	2
3	Definitions	2
4	Abbreviations	2
5	Information flows used in this Supplement	3
6	Overview of Call Control Level Peer-to-Peer Functional Entity Actions	3
7	Coordinated call and network connection establishment	5
7.1	Two-party call establishment with one or more network connections	5
7.1.1	Call and network connection establishment – Single network connection – Without look-ahead	5
7.1.2	Call and network connection establishment – Single network connection – With look-ahead	10
7.1.3	Call and network connection establishment – Two network connections – Without look-ahead	16
7.2	Three- or more-party call establishment with one or more network connections	25
7.2.1	Call and network connection establishment – Originating node branch – Root-party	25
7.2.2	Call and network connection establishment – Relay node branch – Root-party	35
7.2.3	Call and network connection establishment – Two network connections – Without look-ahead	42
7.3	Multicast address establishment with one or more network connections	62
7.3.1	Call and connection establishment single network connection – Multicast address is used by requesting party – Mandatory Multicast Set-up	62
7.3.2	Call and connection establishment single network connection – Multicast address is used by requesting party – Optional multicast set-up	71
7.4	Any-cast address procedures	80
8	Addition of one or more new parties to an existing call with attachment to existing or new network connections	88
8.1	Addition of one or more new parties with attachment to one or more existing connections	88
8.1.1	Add one new party requested by a party which is the root of the network connection – Without network look-ahead	88
8.1.2	Add two new parties requested by a party which is the root of the network connection – Without network look-ahead	95
8.2	Addition of one or more new parties with attachment to one or more new network connections	105

Page

8.2.1 Add one new party requested by a party which will be the root of the new network connection – Without network look-ahead 106
8.2.2 Add two new parties requested by a party which will be the root of the new network connection – Without network look-ahead 112
9 Release one or more parties and their associated network connection branches from the call 124
9.1 General rules for release of a party 124
9.2 Release a party and its associated network connection branches from a two-party call 125
9.2.1 Release of a party by the call owner – Clear call option – Connection release from requesting party 125
9.2.2 Release of a party by the call owner – Clear all option – Connection release from addressed party 128
9.2.3 Release of a party by the call owner – Retain call option 132
9.3 Release one or more parties and their associated network connection branches from a three- or more-party call 136
9.3.1 Release of a party requested by the call owner – Root-party is the call owner 136
9.3.2 Release of a party requested by the party owner – Root-party is the call owner 140
10 Call release with one or more parties and their associated network connections 146
10.1 General rules for releasing a call 146
10.2 Release of a single-party call and its associated connections, requested by the call owner 147
10.3 Release of a two-party call and its associated connections, requested by the call owner 148
10.3.1 Release of the call by the call owner – Connection release from requesting party 148
10.3.2 Release of the call by the call owner – Connection release from both parties 151
10.4 Release of a multiparty call and its associated connections, requested by the call owner 154
10.5 Release of a call requested by a non-call owner 161
10.5.1 Release of a two-party call requested by a non-call owner 161
10.5.2 Release of a multiparty call requested by a non-call owner 164

Supplement 12 to Q-series Recommendations

TECHNICAL REPORT TRQ.2100: COORDINATED CALL CONTROL AND BEARER CONTROL SIGNALLING REQUIREMENTS – ROOT-PARTY COORDINATED CALL AND BEARER CONTROL

1 Scope

This Supplement presents the procedures, information flows and information elements needed for supporting root-party control of coordinated calls and bearers involving type 1, 2, 3 and type 5 network connections. Table 1-1 illustrates the scope of the capabilities contained within this Supplement.

Table 1-1 – Root-party call control capabilities

	Network connection type
Coordinated call and network connection establishment	
Two-party call establishment with one or more network connections	Type 1, 2, 3 and 5
Three- or more-party call establishment with one or more network connections	Type 2, 3, and 5
Multicast address establishment with one or more network connections	Type 2, 3 and 5
Any cast address establishment with one or more network connections	Type 1
Addition of one or more new parties to an existing call with attachment to existing or new network connections	
Addition of one or more new parties with attachment to one or more existing connections	Type 2, 3 and 5
Addition of one or more new parties with attachment to one or more new network connections	Type 2, 3 and 5
Release one or more parties and their associated network connection branches from the call	
Release a party and its associated network connection branches from a two-party call.	Type 1, 2, 3 and 5
Release one or more parties and their associated network connection branches from a three- or more party-call.	Type 1, 2, 3 and 5
Call release with one or more parties and their associated network connection	
Release of a single-party call and its associated connections, requested by the call owner	Type 1, 2, 3 and 5
Release of a two-party call and its associated connections, requested by the call owner	Type 1, 2, 3 and 5
Release of a multiparty call and its associated connections, requested by the call owner	Type 1, 2, 3 and 5
Release of a two-party call and its associated connections requested by a non-call owner party	Type 1, 2, 3 and 5
Release of a multiparty call and its associated connections, requested by a non-call owner party	Type 1, 2, 3 and 5

2 Normative references

The following Technical Reports and other references contain provisions which, through reference in this text, constitute provisions of this Supplement. At the time of publication, the editions indicated were valid. All supplements and other references are subject to revision; all users of this Supplement are therefore encouraged to investigate the possibility of applying the most recent edition of the supplements and other references listed below. A list of the currently valid ITU-T Recommendations and supplements are regularly published.

[1] ITU-T Q-series Recommendations, Supplement 7 (1999), *Technical Report TRQ.2001: General aspects for the development of unified signalling requirements.*

[2] ITU-T Q-series Recommendations, Supplement 10 (1999), *Technical Report TRQ.2002: Information flow elements.*

3 Definitions

This Supplement defines the following terms:

3.1 addressed party: The party addressed by the requested signalling capability.

3.2 addressed serving node: Network equipment associated with the party addressed by the requested signalling capability.

3.3 backward: The direction from the addressed party to the party requesting a signalling capability.

3.4 network connection: An ATM network connection of topology type 1 to 5 as defined in Supplement 7 [1].

3.5 call: An end-to-end communications service between two or more call party end points, or between one call party end point and its Serving Node.

3.6 call owner: One who initiates a call is the Call Owner. There is only one Call Owner per call.

3.7 forward: The direction from the requesting party to the addressed party.

3.8 party owner: One who adds a party to a call is the owner of that party. There may be several party owners within a call.

3.9 relay node: Network equipment, such as a transit bearer exchange, which contains a bearer control functional entity but no call control functional entity.

3.10 requesting party: The party requesting a signalling capability.

3.11 requesting serving node: Network equipment associated with the party requesting a signalling capability.

3.12 serving node: Network equipment, such as a local exchange or private branch exchange, which contains call control and bearer control functional entities.

4 Abbreviations

This Supplement uses the following abbreviations:

NA Not Applicable

PEP Party End Point

5 Information flows used in this Supplement

Table 5-1 contains the root-party control information flows that are used across the call control and bearer control interfaces illustrated in the Unified Functional Model contained in Supplement 7 [1]. These information flows are used to establish, modify and release root-party calls and network connections.

In addition to those information flows defined in Table 5-1, the full set of information flow definitions can be found in Supplement 10 [2].

Table 5-1 – Information flows used for root-party control

Information Flow	begin	ready	commit	cancel	indication
Add-Bearer-to-Call	✓	✓	✓		
Add-Party-&-Bearer-to-Call	✓	✓	✓		
Add-Party-to-Bearer	✓	✓	✓		
Call-&-Bearer-Set-up	✓	✓	✓	✓	
Call-Set-up	✓	✓	✓		
Detach-Party-from-Bearer		✓	✓		
Interrogation-Terminating-End-Point	✓	✓	✓		
Notify-Call-&-Bearer-Change					✓
Release-Bearer		✓	✓		
Release-Call		✓	✓		
Release-Call-&-Bearer		✓	✓		
Release-Party-from-Call		✓	✓		
Remote-Release-Party-from Call		✓	✓		

6 Overview of Call Control Level Peer-to-Peer Functional Entity Actions

Stage 2 flows for each signalling capability is illustrated via a high level overview. The overview model does not illustrate all possible configurations which could exist within an actual instant of the service, however, the examples have been chosen in order to illustrate the general principles. The overview will employ the network configuration shown in Figure 6-1. The actions illustrated in this figure can be used to describe signalling control actions associated with establishment or release of a coordinated Call and network connections.

Note that for the purpose of this overview, the information flows and actions illustrate the establishment of a two-party call with two network connections.

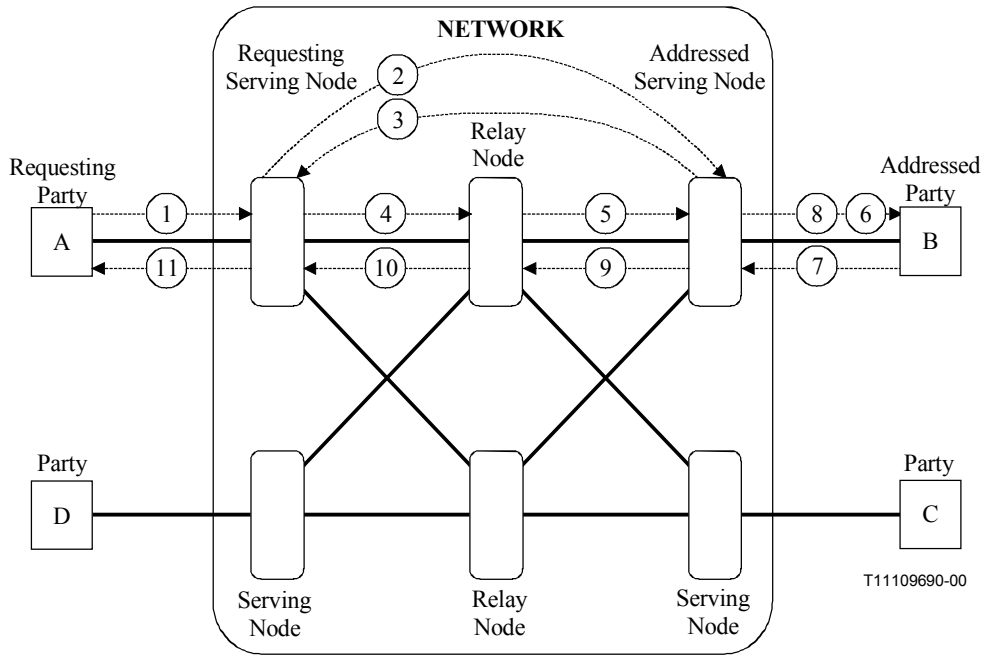


Figure 6-1 – Two party coordinated call and network connection establishment

The actions illustrated in Figure 6-1 are described as follows:

1) Signalling Service Request issued by service requester: Receiving entity validates request, modifies internal state information, and then issues action 2.

2) Relayed Signalling Service Request issued by requester's serving node: Receiving entity validates request, modifies internal state information, and then issues its response as action 3.

3) Signalling Service Response issued by addressed party's serving node. Receiving entity validates request, modifies internal state information, and then issues the request on the relay node as action 4.

4) Signalling Service Request issued by requester's serving node: Receiving entity records request, modifies internal state information and then relays request as action 5.

5) Relayed Signalling Service Request issued by relay node: Receiving entity records request, modifies internal state information and then issues the request on the addressed party's interface as action 6.

6) Signalling Service Request issued by addressed party's serving node: Receiving entity validates request, modifies internal state information, and then issues its response as action 7.

7) Signalling Service Response issued by addressed party: Receiving entity records response, modifies internal state information, and then issues its confirmation as action 8 and its response as action 9.

8) Signalling Service Confirmation issued by addressed party's serving node: Receiving entity records response, modifies internal state information, and notifies user of the outcome of the responded service.

9) Signalling Service Response issued by addressed party's serving node: Receiving entity records response, modifies internal state information and then relays response as action 10.

10) Signalling Service Response issued by relay node: Receiving entity records response, modifies internal state information and relays response to the service requester as action 11.

11) Signalling Service Response issued by requester's serving node: Receiving entity records response, modifies internal state information, and notifies user of the outcome of the requested service.

The purpose of this overview model is that it provides an end-to-end pictorial representation of the signalling capability in one figure. Again, note that the model does not present all possible network topologies, however, it illustrates the general configurations that would be encountered in intra-network operation. The extension to multiple networks can be extrapolated by replacing the serving nodes and relay nodes with local serving networks and transit networks.

The following clause will describe the basic coordinated call control and bearer control signalling capabilities using this model.

7 Coordinated call and network connection establishment

The coordinated establishment of a call and network connection has four variations, Two-party call establishment with one or more network connections, Three- or more-party call establishment with one or more network connections, Multicast address establishment with one or more network connections, and any cast address establishment with one or more network connections. These examples illustrate the necessary information to be carried in order that at the end of the example, each serving node associated with the call, contains a full description of the call and its associated bearer branches. In many service scenarios the full description of the call and bearers are not necessary, however, it was felt the illustration of a more complete signalling procedure would allow simplified variations to be constructed.

7.1 Two-party call establishment with one or more network connections

Three example variations of this capability will be illustrated in this subclause. These variations are as follows:

1) Call and network connection establishment of a single network connection with one associated resource. The establishment will be accomplished without network initiated look-ahead.
2) Call and network connection establishment of a single network connection with one associated resource. The establishment will be accomplished with network initiated look-ahead.
3) Call and network connection establishment of two network connections each with an associated resource. The establishment will be accomplished without network initiated look-ahead.

The overviews of the two-party coordinated call and network connection establishment capabilities are contained in the following subclauses.

7.1.1 Call and network connection establishment – Single network connection – Without look-ahead

The user (party A) requests a two-party call between party A and party B. One point-to-point network connection is to be associated with this call. Parties A and B are to be attached to the network connection. The user also specifies the higher layer service to be carried on this network connection and the desired bearer service that should be established. The requested service is of the non-human interactive type. Therefore, immediate answer can be performed by the party B's equipment. If the requested party B equipment can accept the requested service, the designated attachment method, and specified bearer service, the equipment will indicate acceptance of the call and network connection request. This example also assumes that the requested party is connected to a multi-signalling entity interface. In addition, the network does not perform a look-ahead procedure

before progressing with the call and network connection establishment. Figure 7-1 illustrates the before and after view of this example.

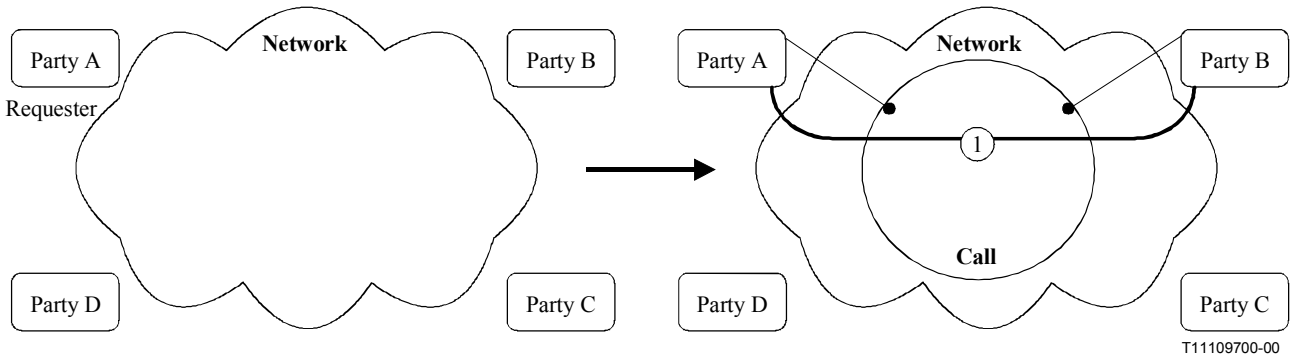


Figure 7-1 – Call and Bearer transition diagram

The signalling capability of coordinated control for establishing this call and network connection between the two parties without network look-ahead is illustrated in Figure 7-2.

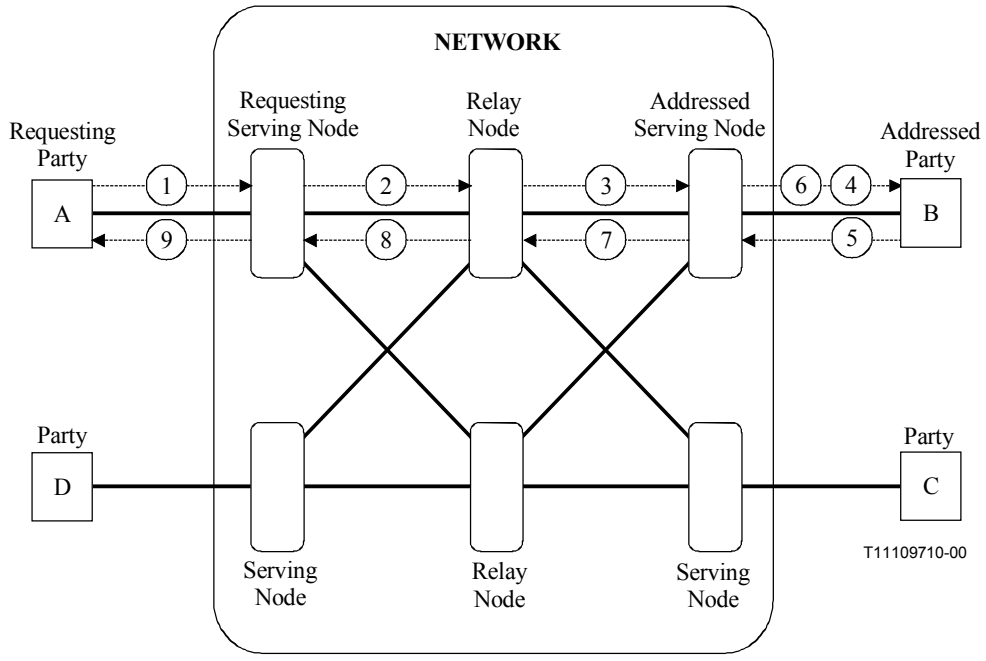


Figure 7-2 – Single network connection (between A and B) – No look-ahead

The actions illustrated in Figure 7-2 are as follows:

Requesting party's terminal equipment issues the following information flow towards it's serving node. The terminal equipment then attaches to the backward portion of the network connection assuming the bearer characteristics specified in the outgoing request.

1 Call-&-Bearer-Set-up.ready Party A to Serving Node A

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Addressed party Information
[PEP "B" ID, Network address],
Requesting party information
[PEP "A" ID, Network Address]

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type,
Parties connected
(PEP "A" ID, PEP "B" ID),
Addressed party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Initiation of information flow: The user initiates a coordinated call and bearer establishment request.

Processing upon receipt: The requester's serving node validates the request and the requesting party and determines the route and outgoing trunk facility towards the addressed serving node associated with the addressed party. (Note: these validation and routing flows are not illustrated in Figure 7-2 in order to simplify the diagram.) Since only one outgoing port is needed, the serving node can commit to the request and therefore issues information flow 2 towards the selected relay node. The network connection is backward through connected.

2 Call-&-Bearer-Set-up.ready Serving Node A to Relay Node 1

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Call Owner: PEP "A" ID,
Direct Call association
(SN(A):ref.a -SN(B):----) ID**,**
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID, PEP "B" ID),
Addressed party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Processing upon receipt: The selected relay node validates the request and determines the route and outgoing trunk facility. Since only one outgoing port is needed, the serving node can commit to the request and therefore issues information flow 3 towards the addressed serving node. The network connection is backward through connected.

3 Call-&-Bearer-Set-up.ready **Relay Node 1 to Serving Node B**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Call Owner: PEP "A" ID,
Direct Call association
(SN(A):ref.a - SN(B):----) ID,
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID, PEP "B" ID),
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Processing upon receipt: The addressed serving node selects the terminating interface facility. Since the interface is classified as a multiple signalling entity interface, the serving node cannot commit to the addressed end point and therefore issues information flow 4 towards the selected interface facility. The network connection is backward through connected.

4 Call-&-Bearer-Set-up.begin **Serving Node B to Party B**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Call Owner: PEP "A" ID,
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID, PEP "B" ID),
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Processing upon receipt: The addressed terminal equipment determines that it can accept the requested and issues information flow 5 towards its associated serving node. (Note: if the terminal cannot accept the network connection characteristics, it could either respond with an alternate set of network connection characteristics or issue a cancel information flow.) If an alternate set of characteristics is desired, the ready information flow would contain these characteristics.

5 Call-&-Bearer-Set-up.ready **Party B to Serving Node B**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "B" ID, Network address]

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Processing upon receipt: The addressed serving node validates the responding parties, records the responses to the action request and selects one of the responding terminals. (Note: the validation flows are not illustrated in order to simplify the example.) The selected terminal is sent information flow number 6. The serving node then clears the non-selected terminals. (Note: this action is not illustrated for simplicity.) The addressed serving node uses the network connection characteristics within the information flow to determine the final network connection characteristics to be assigned to the network connection branches between party B and the network, and the network connection branches between the addressed serving node and the requesting relay nodes. Information flow 6 towards the terminal and information flow 7 contain these network connection branch characteristics. The network connection is through connected in the forward direction, and if necessary, modifies the backward network connection characteristics.

6 Call-&-Bearer-Set-up.commit **Serving Node B to Party B**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID, Addressed party Information** [PEP "B" ID, Network address]	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: The terminal records the final network connection characteristics and through connects the network connections in both directions, and notifies the user of the call and connection establishment.

7 Call-&-Bearer-Set-up.commit **Serving Node B to Relay Node 1**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address]	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: When the relay node receives this information flow, it records the commitment, and uses the network connection characteristics within the information flow to determine the final network connection characteristics to be assigned to the network connection branch between serving node B and the relay node, and the network connection branch characteristics between the relay node and the requesting serving node. The relay node then issues information flow 8 towards the requesting serving node and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics in the backward direction.

8 Call-&-Bearer-Set-up.commit **Relay Node 1 to Serving Node A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address]	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: When the requesting serving node receives this information flow, it records the commitment and uses the network connection characteristics within the information flow to determine the final network connection characteristics to be assigned to the network connection branch between the relay node and the requesting serving node, and the network connection branch characteristics between the serving node and the requesting party. The serving node then issues information flow 9 towards the requesting party and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics in the backward direction.

9	Call-&-Bearer-Set-up.commit	Serving Node A to party A

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "A" ID, Service component characteristics)]	**Call Control Segment ID** **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "A" ID, Network address], Party Owner: PEP "A" ID,	**Network connection 1** [Bearer "1" ID, Connection owner: PEP "A", **Addressed party's bearer branch information** [(PEP "A" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: When the user equipment receives this information flow, it records the commitment, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics in the backward direction, and notifies the user of the completion of the call and bearer establishment procedure. (Note: if the terminal or the user is not satisfied with the resultant network connection characteristics, the call and/or network connection can be released.)

7.1.2 Call and network connection establishment – Single network connection – With look-ahead

The user (party A) requests a two-party call between party A and party B. One point-to-point network connection is to be associated with this call. Parties A and B are to be attached to the network connection. The user also specifies the higher layer service to be carried on this network connection and the desired network bearer service that should be established. The requested service is of the non-human interactive type. Therefore, immediate answer can be performed by the party B's equipment. If the requested party B equipment can accept the requested service, the designated attachment method, and specified bearer service, the equipment will indicate acceptance of the call and network connection request. This example also assumes that the requested party is connected to a multi-signalling entity interface. In addition, the network does perform a look-ahead procedure before progressing with the network connection establishment. If this look-ahead is successful then the network progresses with the establishment of the call and network connection in the same manner as if network look-ahead was not employed. Figure 7-3 illustrates the before and after view of this example.

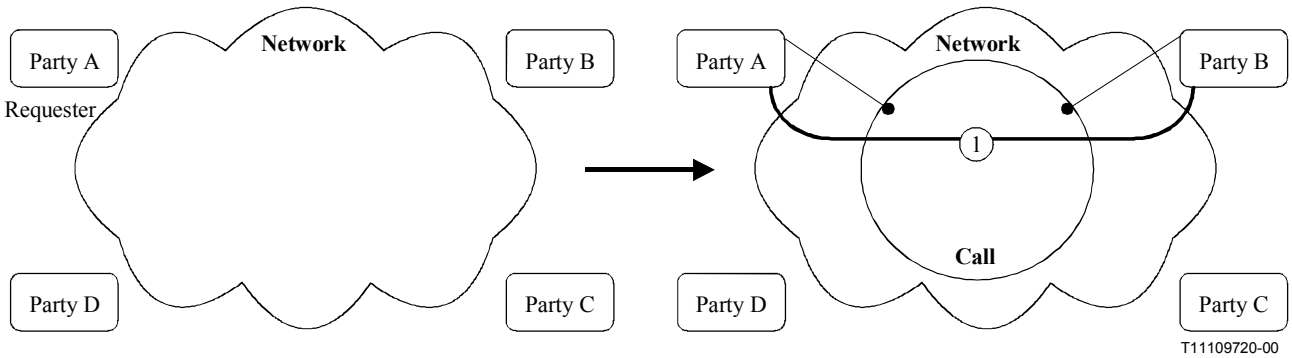


Figure 7-3 – Call and Bearer transition diagram

The signalling capability of coordinated control for establishing this call and network connection between the two requested parties with network look-ahead is illustrated in Figure 7-4.

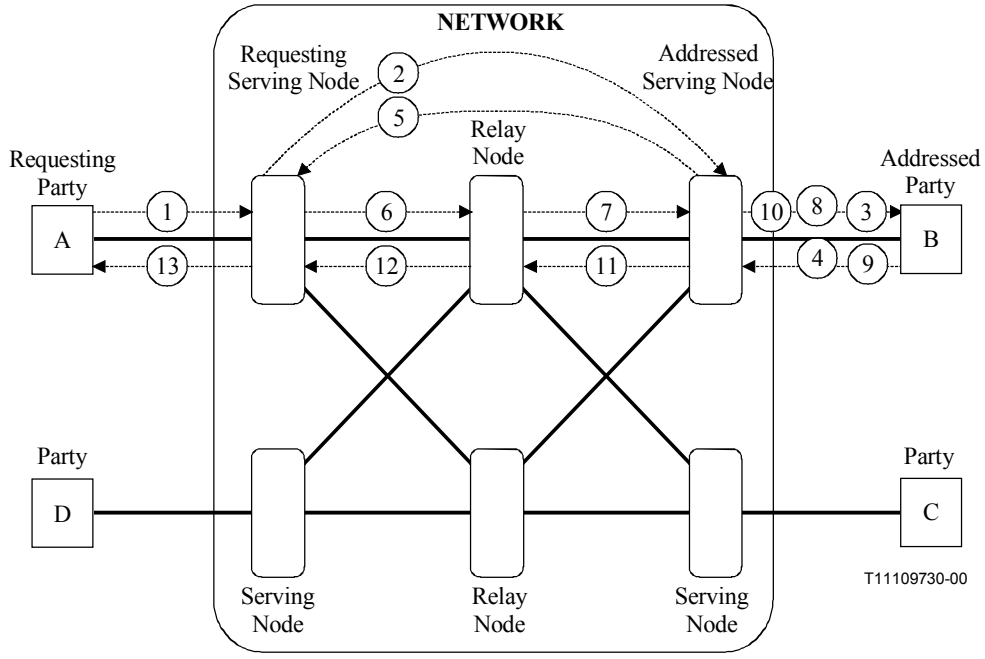


Figure 7-4 – Single network connection (type 1 between A and B) – Look-ahead

The actions illustrated in Figure 7-4 are as follows.

Requesting party's terminal equipment issues the following information flow towards its serving node. The terminal equipment then attaches to the backward portion of the network connection assuming the bearer characteristics specified in the outgoing request.

---

1 Call-&-Bearer-Set-up.ready **Party A to Serving Node A**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "B" ID, Network address],
Requesting party information
[PEP "A" ID, Network Address]

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type,
Parties connected
(PEP "A" ID, PEP "B" ID),
Addressed party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Initiation of information flow: The user initiates a coordinated call and bearer request.

Processing upon receipt: The requester's serving node validates the request and the requesting party and determines the route and outgoing trunk facility towards the addressed serving node associated with the addressed party. (Note: these validation and routing flows are not illustrated in Figure 7-4 in order to simplify the diagram.) Since only one outgoing port is needed, the serving node can commit to the request and therefore issues information flow 2 towards the selected relay node. The network connection is backward through connected.

2 Interrogation-Terminating-End-Point.ready Serving Node A to Serving Node B

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Transaction ID
Call Owner: PEP "A" ID
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID, PEP "B" ID),
Addressed party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Processing upon receipt: The Addressed serving node validates the request, selects the interface associated with Party B and broadcasts information flow 3 to all terminals connected to the selected interface.

3 Interrogation-Terminating-End-Point.ready Serving Node B to Party B

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Transaction ID
Call Owner: PEP "A" ID
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID, PEP "B" ID),
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Processing upon receipt: When this information flow is received, the equipment associated with party B determines if the requested service, attachment, and bearer characteristics can be accepted. If the request can be accepted, the terminal equipment will issue information flow 4. (Note: if the terminal cannot accept the network connection characteristics, it could either respond with an alternate set of network connection characteristics or issue a cancel information flow.) If an alternate set of characteristics is desired, the commit information flow would contain these characteristics.

4 Interrogation-Terminating-End-Point.commit Party B to Serving Node B

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Transaction ID
Addressed party Information
[PEP "B" ID, Network address]

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Processing upon receipt: When the addressed serving node receives at least one copy of the above information flow, it will issue information flow 5. If multiple terminals respond, only one commit message will be sent to the requesting serving node.

5 Interrogation-Terminating-End-Point.commit **Serving Node B to Serving Node A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Transaction ID** **Addressed party Information** [PEP "B" ID, Network address]	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: When the requesting serving node receives the commit information flow, it determines the route and outgoing trunk facility. Since only one outgoing port is needed, the serving node can commit to the request and therefore issues information flow 6 towards the selected relay node. The network connection is backward through connected. (Note: the network characteristics contained in this information flow represent the negotiated network connection characteristics.)

6 Call-&-Bearer-Set-up.ready **Serving Node A to Relay Node 1**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID), **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(B):----) ID, **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address]	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID, PEP "B" ID), **Addressed party's bearer branch information** [(PEP "B" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: The selected relay node validates the request and determines the route and outgoing trunk facility. Since only one outgoing port is needed, the serving node can commit to the request and therefore issues information flow 7 towards the addressed serving node. The network connection is backward through connected.

7 Call-&-Bearer-Set-up.ready **Relay Node 1 to Serving Node B**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID), **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(B):----) ID, **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address]	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID, PEP "B" ID), **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: The addressed serving selects the terminating interface facility. Since the interface is classified as a multiple signalling entity interface, the serving node cannot commit to the addressed end point and therefore issues information flow 8 towards the selected interface facility. The network connection is backward through connected.

8 Call-&-Bearer-Set-up.begin **Serving Node B to Party B**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID
Call Owner: PEP "A" ID
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID, PEP "B" ID),
Addressed party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Processing upon receipt: The addressed terminal equipment determines that it can accept the request and issues information flow 9 towards its associated serving node. (Note: if the terminal cannot accept the network connection characteristics it could either respond with an alternate set of network connection characteristics or issue a cancel information flow.) If an alternate set of characteristics is desired, the ready information flow would contain these characteristics.

9 Call-&-Bearer-Set-up.ready **Party B to Serving Node B**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "B" ID, Network address]

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Processing upon receipt: The addressed serving node validates the responding parties, records the responses to the action request and selects one of the responding terminals. (Note: the validation flows are not illustrated in order to simplify the example). The selected terminal is sent information flow number 10. The serving node then clears the non-selected terminals. (Note: this action is not illustrated for simplicity.) The addressed serving node uses the network connection characteristics within the information flow to determine the final network connection characteristics to be assigned to the network connection branches between party B and the network, and the network connection branches between the addressed serving node and the requesting relay nodes. Information flow 10 towards the terminal and information flow 11 contain these network connection branch characteristics. The network connection is through connected in the forward direction, and if necessary, modifies the backward network connection characteristics.

10 Call-&-Bearer-Set-up.commit **Serving Node B to Party B**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "B" ID, Network address]

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Processing upon receipt: The terminal records the final network connection characteristics and through connects the network connections in both directions, and notifies the user of the call and connection establishment.

11 Call-&-Bearer-Set-up.commit **Serving Node B to Relay Node 1**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address]	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: When the relay node receives this information flow, it records the commitment, and uses the network connection characteristics within the information flow to determine the final network connection characteristics to be assigned to the network connection branch between serving node B and the relay node, and the network connection branch characteristics between the relay node and the requesting serving node. The relay node then issues information flow 12 towards the requesting serving node and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics in the backward direction.

12 Call-&-Bearer-Set-up.commit **Relay Node 1 to Serving Node A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address]	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: When the requesting serving node receives this information flow, it records the commitment and uses the network connection characteristics within the information flow to determine the final network connection characteristics to be assigned to the network connection branch between the relay node and the requesting serving node, and the network connection branch characteristics between the serving node and the requesting party. The serving node then issues information flow 13 towards the requesting party and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics in the backward direction.

13 Call-&-Bearer-Set-up.commit **Serving Node A to Party A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "A" ID, Service component characteristics)]	**Call Control Segment ID** **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "A" ID, Network address], Party Owner: PEP "A" ID,	**Network connection 1** [Bearer "1" ID, Connection owner: PEP "A", **Addressed party's bearer branch information** [(PEP "A" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: When the user equipment receives this information flow, it records the commitment, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics in the backward direction, and notifies the user of the completion of the call and bearer establishment procedure. (Note: if the terminal or the user is not satisfied with the resultant network connection characteristics, the call and/or network connection can be released.)

7.1.3 Call and network connection establishment – Two network connections – Without look-ahead

The user (party A) requests a two-party call between party A and party B. Two point-to-point network connections are to be associated with this call. Parties A and B are to be attached to the network connections. The user also specifies the higher layer service to be carried on these network connections and the desired network bearer service that should be established for each network connection. The requested service of both bearers is of the non-human interactive type. Therefore, immediate answer can be performed by the party B's equipment when the bearers are offered. If the addressed party B equipment can accept the requested services, the designated attachment method, and specified bearer services, the user equipment will indicate acceptance of the call and network connection request. This example also assumes that the addressed party is connected to a multi-signalling entity interface. In addition, the network does not perform a look-ahead procedure before progressing with the network connection establishment. The example also assumes that the network connections will be separately routed through the network. The bearer are to be offered to the addressed party as a single request. In order to accomplish the coordination action within the addressed serving node, a call without connections is established to the addressed serving node and the addressed party. Then the two bearers are forwarded to the addressed serving node which in turn offers these two bearers to the user's terminal equipment. Figure 7-5 illustrates the before and after view of this example.

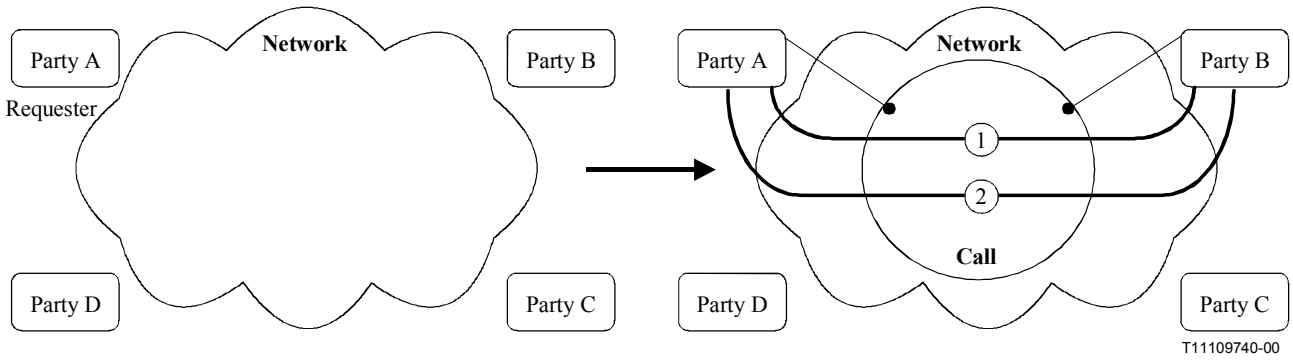


Figure 7-5 – Call and Bearer transition diagram

The signalling capability of coordinated control for establishing this call and its associated network connections between the two parties without network look-ahead is illustrated in Figure 7-6.

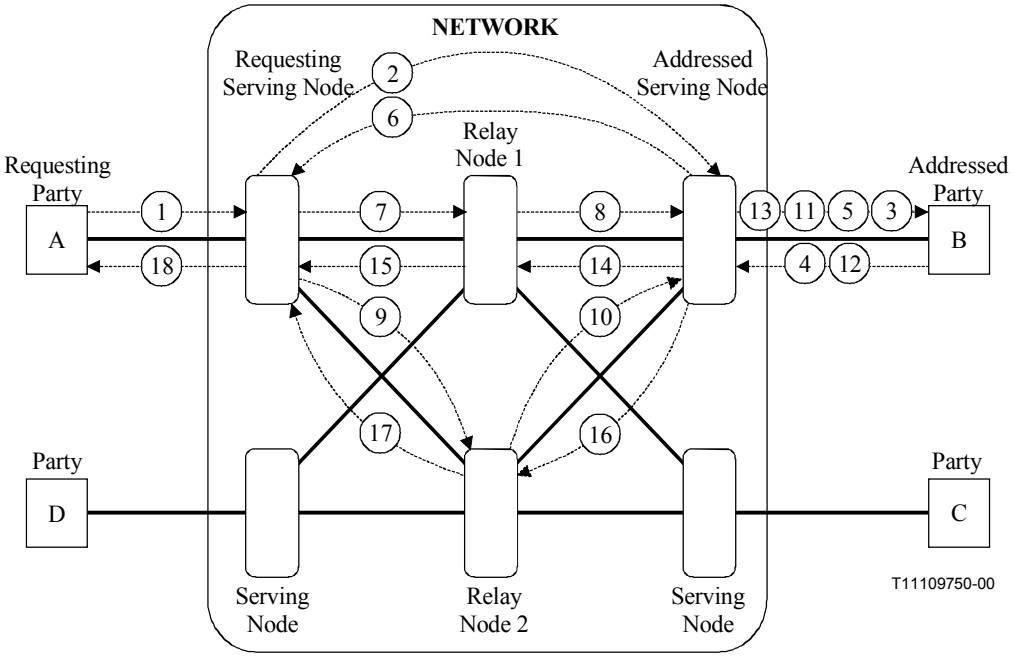


Figure 7-6 – Two network connections (between A and B) – Without look-ahead

The actions illustrated in Figure 7-6 are as follows.

Requesting party's terminal equipment issues the following information flow towards its serving node. The terminal equipment then attaches to the backward portion of both network connections assuming the bearer characteristics specified in the outgoing request.

---

1 Call-&-Bearer-Set-up.ready **Party A to Serving Node A**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]
Resource 2
[Resource 2 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "B" ID, Network address],
Requesting party information
[PEP "A" ID, Network Address]

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type,
Parties connected
(PEP "A" ID, PEP "B" ID),
Addressed party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]
Network connection 2
[Bearer "2" ID, Bearer type,
Parties connected
(PEP "A" ID, PEP "B" ID),
Addressed party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Initiation of information flow: The user initiates a coordinated call and bearer request indicating two bearers are to be established between parties A and B.

Processing upon receipt: The requester's serving node validates the request and the requesting party and determines the route and outgoing trunk facility towards the addressed serving node associated with the addressed party. (Note: these validation and routing flows are not illustrated in Figure 7-6 in order to simplify the diagram.) The requester's serving node initiates a outgoing call establishment procedure inviting party B to accept the call and the two bearers and awaits the result. The invitation information flow 2 is sent to the serving node associated with party B.

2 Call-Set-up.ready **Serving Node A to Serving Node B**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID), **Addressed party's service component information** (PEP "B" ID, Service component characteristics)] **Resource 2** [Resource 2 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID), **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(B):----) ID, **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, **Parties connected** (PEP "A" ID, PEP "B" ID), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)] **Network connection 2** [Bearer "2" ID, Bearer type, **Parties connected** (PEP "A" ID, PEP "B" ID), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Processing upon receipt: The addressed serving node initiates an incoming call establishment procedure and forwards the call set-up request towards the addressed party (flow 3). Since this party is associated with a multiparty signalling interface, the serving node issues a begin information flow. The serving node records that it is to expect two network connection establishment requests that it is to coordinate and offer to party B in a single action if the terminal accepts the call set-up request.

3 Call-Set-up.begin **Serving Node B to Party B**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID), **Addressed party's service component information** (PEP "B" ID, Service component characteristics)] **Resource 2** [Resource 2 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID), **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID,** **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, **Parties connected** (PEP "A" ID, PEP "B" ID), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)] **Network connection 2** [Bearer "2" ID, Bearer type, **Parties connected** (PEP "A" ID, PEP "B" ID), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Processing upon receipt: The addressed terminal determines if it can support the two network connections and their associated resources before it answers the call establishment request. In this case, the terminal determines that it could accept the network connections if they are offered in some future action, and initiates an incoming call establishment procedure and issues information flow 4 towards its associated serving node indicating that it is willing to accept the call. (Note: if the terminal cannot accept the network connection characteristics, it could either respond with an alternate set of network connection characteristics or issue a cancel information flow.) If an alternate set of characteristics is desired, the ready information flow would contain these characteristics.

4 Call-Set-up.ready **Party B to Serving Node B**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)] **Resource 2** [Resource 2 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID** **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, Bearer type, **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)] **Network connection 2** [Bearer "2" ID, Bearer type, **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Processing upon receipt: The addressed serving node validates the responding parties, records the responses to the action request and selects one of the responding terminals. (Note: the validation flows are not illustrated in order to simplify the example). The selected terminal is sent information flow number 5 indicating that it has been assigned the call. The serving node then clears the non-selected terminals (Note: this action is not illustrated for simplicity of presentation), and issues information flow 6 towards the requesting serving node.

5 Call-Set-up.commit **Serving Node B to Party B**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)] **Resource 2** [Resource 2 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID** **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, Bearer type, **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)] **Network connection 2** [Bearer "2" ID, Bearer type, **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Processing upon receipt: When the terminal receives this information flow, it records the allocation of the call. The user is not notified of the call association.

6 Call-Set-up.commit **Serving Node B to Serving Node A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)] **Resource 2** [Resource 2 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, Bearer type, **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)] **Network connection 2** [Bearer "2" ID, Bearer type, **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Processing upon receipt: The requesting node records the establishment of a call association with the addressed terminal and its acceptance of the two network connections. The requesting serving node determines the route of the network connections and selects the outgoing trunk facilities. In this example, each network connection is to be routed to the party B's associated serving node via different paths (one via relay node 1 and the other via relay node 2). The requesting serving node issues information flows 7 and 9. The network connections are backward through connected. (Note: the network characteristics contained in these information flows represent the negotiated network connection characteristics.)

7 Add-Bearer-to-Call.ready **Serving Node A to Relay Node 1**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID), **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address], **Requesting party information** [PEP "A" ID, Network Address]	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID, PEP "B" ID), **Addressed party's bearer branch information** [(PEP "B" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: The selected relay node validates the request and determines the route and outgoing trunk facility. Since only one outgoing port is needed, the serving node can commit to the request and therefore issues information flow 8 towards the addressed serving node. The network connection is backward through connected.

8 Add-Bearer-to-Call.ready **Relay Node 1 to Serving Node B**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID), **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address], **Requesting party information** [PEP "A" ID, Network Address]	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID, PEP "B" ID), **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Enabling Condition: The reception of information flows 8 and 10

Processing upon receipt: The addressed serving node issues information flow 11 towards the terminal associated with the call. The information flow contains the indication that two network connections are to be established. The network connections are backward through connected.

9 Add-Bearer-to-Call.ready **Serving Node A to Relay Node 2**

Resource information	Call information	Bearer information
Session ID **Resource 2** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID), **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address], **Requesting party information** [PEP "A" ID, Network Address]	**Network connection 2** [Bearer "2" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID, PEP "B" ID), **Addressed party's bearer branch information** [(PEP "B" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Initiation of information flow: Processing of information flow 6

Processing upon receipt: The selected relay node validates the request and determines the route and outgoing trunk facility. Since only one outgoing port is needed, the serving node can commit to the request and therefore issues information flow 10 towards the addressed serving node. The network connection is backward through connected.

10 Add-Bearer-to-Call.ready **Relay Node 2 to Serving Node B**

Resource information
Session ID
Resource 2
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):ref.b) ID**,**
Addressed party Information
[PEP "B" ID, Network address],
Requesting party information
[PEP "A" ID, Network Address]

Bearer information
Network connection 2
[Bearer "2" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID, PEP "B" ID),
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Enabling Condition: The reception of information flows 8 and 10

Processing upon receipt: The addressed serving node issues information flow 11 towards the terminal associated with the call. The information flow contains the indication that two network connections are to be established. The network connections are backward through connected.

11 Add-Bearer-to-Call.begin **Serving Node B to Party B**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]
Resource 2
[Resource 2 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "B" ID, Network address],
Requesting party information
[PEP "A" ID, Network Address]

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID, PEP "B" ID),
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]
Network connection 2
[Bearer "2" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID, PEP "B" ID),
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Initiation of information flow: The processing of information flows 8 and 10

Processing upon receipt: The addressed terminal equipment determines if it can accept the request and issues information flow 12 towards its associated serving node. Again the terminal may indicate different network characteristics within this information flow.

12 Add-Bearer-to-Call.ready **Party B to Serving Node B**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]
Resource 2
[Resource 2 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "B" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]
Network connection 2
[Bearer "2" ID, Bearer type,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Processing upon receipt: The addressed serving node validates the responding party, records the responses to the action request (Note: the validation flows are not illustrated in order to simplify the example), uses the network connection characteristics within the information flow to determine the final network connection characteristics to be assigned to the network connection branches between party B and the network, and the network connection branches between the addressed serving node and the requesting relay nodes. Information flow 13 towards the terminal and information flows 14 and 16 contain these network connection branch characteristics. The network connections are through connected in the forward direction, and if necessary, modifies the backward network connection characteristics.

13 Add-Bearer-to-Call.commit **Serving Node B to Party B**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]
Resource 2
[Resource 2 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "B" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]
Network connection 2
[Bearer "2" ID, Bearer type,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Processing upon receipt: The terminal records the final network connection characteristics and through connects the network connections in both directions, and notifies the user of the call and connection establishment.

14 Add-Bearer-to-Call.commit **Serving Node B to Relay Node 1**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Initiation of information flow: The processing of information flows 8 and 10

Processing upon receipt: When the relay node receives this information flow, it records the commitment, and uses the network connection characteristics within the information flow to determine the final network connection characteristics to be assigned to the network connection branch between serving node B and the relay node, and the network connection branch characteristics between the relay node and the requesting serving node. The relay node then issues information flow 15 towards the requesting serving node and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics in the backward direction.

15 Add-Bearer-to-Call.commit **Relay Node 1 to Serving Node A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Enabling Condition: The reception of information flows 15 and 17

Processing upon receipt: When the requesting serving node receives these information flows, it records the commitment and uses the network connection characteristics within the information flows to determine the final network connection characteristics to be assigned to the network connection branches between the relay nodes and the requesting serving node, and the network connection branch characteristics between the serving node and the requesting party. The serving node then issues information flow 18 towards the requesting party and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics in the backward direction.

16 Add-Bearer-to-Call.commit **Serving Node B to Relay Node 2**

Resource information	Call information	Bearer information
Resource 2 [Resource 2 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 2** [Bearer "2" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Processing upon receipt: When the relay node receives this information flow, it records the commitment, and uses the network connection characteristics within the information flow to determine the final network connection characteristics to be assigned to the network connection branch between serving node B and the relay node, and the network connection branch characteristics between the relay node and the requesting serving node. The relay node then issues information flow 17 towards the requesting serving node and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics in the backward direction.

17 Add-Bearer-to-Call.commit **Relay Node 2 to Serving Node A**

Resource information	Call information	Bearer information
Resource 2 [Resource 2 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 2** [Bearer "2" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Enabling Condition: The reception of information flows 15 and 17

Processing upon receipt: When the requesting serving node receives these information flows, it records the commitment, and uses the network connection characteristics within the information flows to determine the final network connection characteristics to be assigned to the network connection branches between the relay nodes and the requesting serving node, and the network connection branch characteristics between the serving node and the requesting party. The serving node then issues information flow 18 towards the requesting party and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics in the backward direction.

18	Call-&-Bearer-Set-up.commit	Serving Node A to Party A

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "A" ID, Service component characteristics)]
Resource 2
[Resource 2 ID, Resource type,
Addressed party's service component information
(PEP "A" ID, Service component characteristics)]

Call information
Call Control Segment ID
Call Owner: PEP "A" ID
Addressed party Information
[PEP "A" ID, Network address],
Party Owner: PEP "A" ID,

Bearer information
Network connection 1
[Bearer "1" ID, Connection owner: PEP "A",
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]
Network connection 2
[Bearer "2" ID, Connection owner: PEP "A",
Addressed party's bearer branch information
[(PEP "A" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Initiation of information flow: The processing of information flows 15 and 17

Processing upon receipt: When the user equipment receives this information flow, it records the commitment, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics in the backward direction, and notifies the user of the completion of the call and bearer establishment procedure. (Note: if the terminal or the user is not satisfied with the resultant network connection characteristics, the call and/or network connections can be released.)

7.2 Three- or more-party call establishment with one or more network connections

Three example variations of this capability will be illustrated in this subclause. These variations are as follows:

1) Call and network connection establishment of a single network connection with one associated resource with branching occurring at the originating exchange. The establishment will be accomplished without network initiated look-ahead.

2) Call and network connection establishment of a single network connection with one associated resource with branching occurring at the relay node. The establishment will be accomplished without network initiated look-ahead.

3) Call and network connection establishment of two network connections each with an associated resource with branching occurring at the relay node. The establishment will be accomplished without network initiated look-ahead.

The overviews of the three-party coordinated call and network connection establishment capabilities are contained in the following subclauses.

7.2.1 Call and network connection establishment – Originating node branch – Root-party

The user (party A) requests a three-party call between party A, B, and party C. One network connection is to be associated with this call. Parties A, B, and C are to be attached to the network connection. Party A is to be the "root" of the network connection. The user also specifies the higher layer service to be carried on this network connection and the desired network bearer service that should be established. The requested service is of the non-human interactive type. Therefore, immediate answer can be performed by both party B's and party C's equipment. If the requested parties equipment can accept the requested service, the designated attachment method and specified bearer service, the equipment will indicate acceptance of the call and network connection request. This example also assumes that the requested parties are connected to a multi-signalling entity interface. In addition, the network does not perform a look-ahead procedure before progressing with

the network connection establishment. Figure 7-7 illustrates the before and after view of this example.

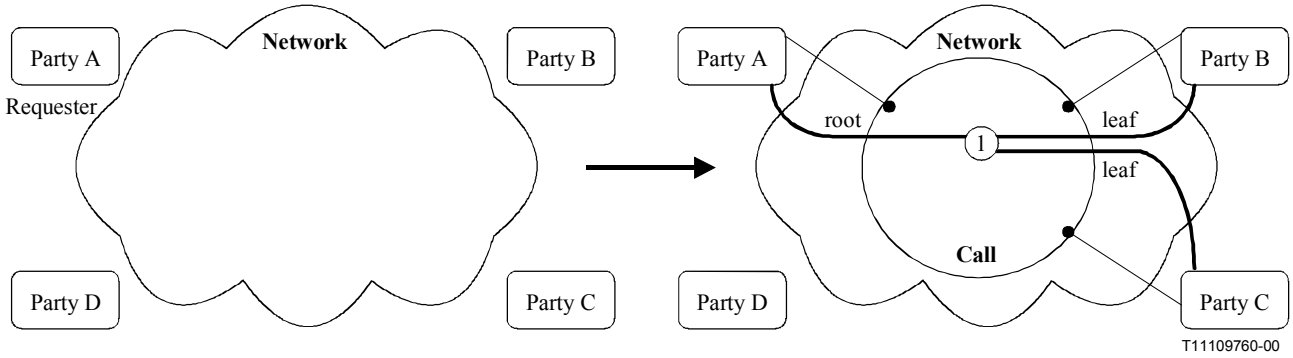


Figure 7-7 – Call and Bearer transition diagram

The signalling capability of coordinated control for establishing this call and network connection between the three requested parties without network look-ahead is illustrated in Figure 7-8.

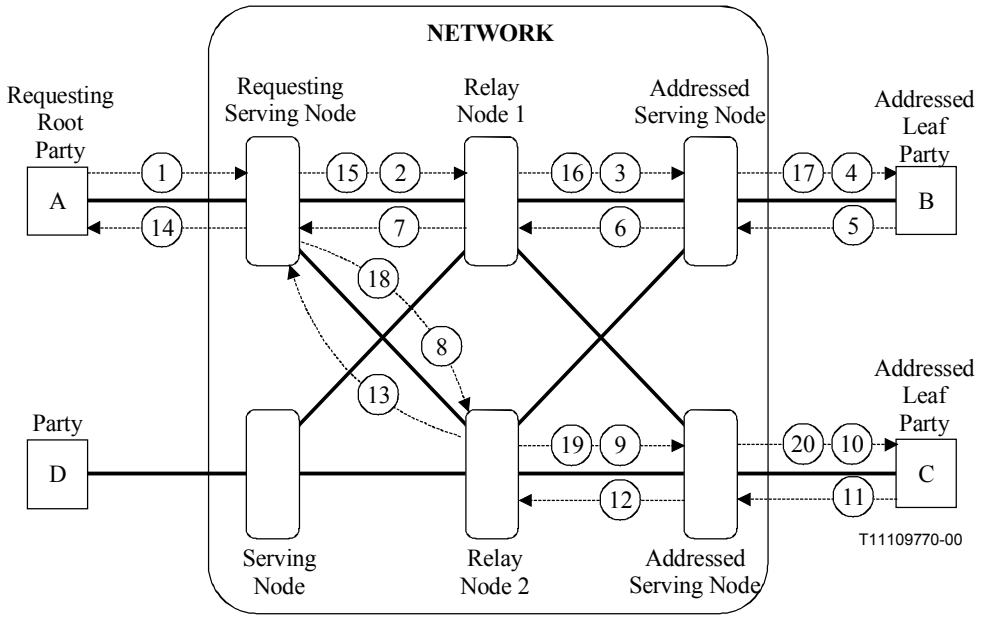


Figure 7-8 – Three-party call and network connection establishment – No look-ahead – Orig. branch-Root

The actions illustrated in Figure 7-8 are as follows.

Requesting party's terminal equipment issues the following information flow towards its serving node. The terminal equipment then attaches to the backward portion of the network connection assuming the bearer characteristics specified in the outgoing request.

1 Call-&-Bearer-Set-up.ready **Party A to serving Node A**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics),
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "B" ID, Network address],
Addressed party Information
[PEP "C" ID, Network address],
Requesting party information
[PEP "A" ID, Network Address]

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type,
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Addressed party's bearer branch information
[(PEP "C" ID, Transit Network Selection, bearer branch characteristics),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Initiation of information flow: The user initiates a coordinated call and bearer request.

Processing upon receipt: The requester's serving node validates the request and the requesting party and determines the route and outgoing trunk facilities towards the addressed serving nodes associated with the addressed parties. (Note: these validation and routing flows are not illustrated in Figure 7-8 in order to simplify the diagram.) For this example, the network connection will be routed through separate relay nodes, two signalling ports are needed, the serving node cannot commit to the request and therefore issues information flows 2 and 8 towards the selected relay nodes. The network connection are backward through connected.

2 Call-&-Bearer-Set-up.begin **Serving Node A to Relay Node 1**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):----) ID,
Call Owner: PEP "A" ID
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Remote party Information
[PEP "C" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),

Processing upon receipt: The selected relay node validates the request and determines the route and outgoing trunk facility. The selected relay node issues information flow 3 towards the addressed serving node. The network connection in the relay node is backward through connected.

3 Call-&-Bearer-Set-up.begin **Relay Node 1 to Serving Node B**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, PEP "C" ID), **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(B):----) ID, **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Remote party Information** [PEP "C" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)), **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Processing upon receipt: The addressed serving node selects the terminating interface facility. Since the interface is classified as a multiple signalling entity interface, the serving node cannot commit to the addressed end point and therefore issues information flow 4 towards the selected interface facility. The network connection is backward through connected.

4 Call-&-Bearer-Set-up.begin **Serving Node B to Party B**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, PEP "C" ID), **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID,** **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Remote party Information** [PEP "C" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)), **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Processing upon receipt: The addressed terminal equipment determines that it can accept the request and issues information flow 5 towards its associated serving node. (Note: if the terminal cannot accept the network connection characteristics it could either respond with an alternate set of network connection characteristics, or issue a cancel information flow.) If an alternate set of characteristics is desired, the ready information flow would contain these characteristics.

5 Call-&-Bearer-Set-up.ready **Party B to Serving Node B**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID** **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Processing upon receipt: The addressed serving node validates the responding parties, records the responses to the action request and selects one of the responding terminals. (Note: the validation flows are not illustrated in order to simplify the example.) The selected terminal is recorded and then the serving node clears the non-selected terminals. (Note: this clearing action is not illustrated for simplicity of the flow diagram.) The serving node issues information flow 6 towards its associated relay node.

6 Call-&-Bearer-Set-up.ready **Serving Node B to Relay Node 1**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Processing upon receipt: When the selected relay nodes receive the above responses, it records them and relays the responses to the requesting serving node in the form illustrated by the information flow 7.

7 Call-&-Bearer-Set-up.ready **Relay Node 1 to Serving Node A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Enabling Condition: Functional entity action will only begin after both 7 and 13 information flows are received.

Processing upon receipt: When the requesting serving node receives these information flows, it records the willingness of both parties to accept the call and network connection and that a common set of connection characteristics exist that both parties can accept, and it sends commitment information flows towards the requesting user equipment (flow 14) and the relay nodes (flows 15 and 18), and performs forward through-connect of the network connection and if necessary, modifies the network connection characteristics of backward through-connect.

8 Call-&-Bearer-Set-up.begin **Serving Node A to Relay Node 2**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, PEP "C" ID), **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a -SN(C):----) ID, **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "A" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)), **Addressed party's bearer branch information** [(PEP "C" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Initiation of information flow: Processing of information flow 1

Processing upon receipt: The selected relay node validates the request and determines the route and outgoing trunk facility. The selected relay node issues information flow 9 towards the addressed serving node. The network connection in the relay node is backward through connected.

9 Call-&-Bearer-Set-up.begin **Relay Node 2 to Serving Node C**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, PEP "C" ID), **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a -SN(C):----) ID, **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "A" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)), **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: The addressed serving node selects the terminating interface facility. Since the interface is classified as a multiple signalling entity interface, the serving node cannot commit to the addressed end point and therefore issues information flow 10 towards the selected interface facility. The network connection is backward through connected.

10 Call-&-Bearer-Set-up.begin **Serving Node C to Party C**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, PEP "C" ID), **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID,** **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "A" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)), **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

The addressed terminal equipment determines that it can accept the request and issues information flow 11 towards its associated serving node. (Note: if the terminal cannot accept the network connection characteristics, it could either respond with an alternate set of network connection characteristics or issue a cancel information flow.) If an alternate set of characteristics is desired, the ready information flow would contain these characteristics.

11 Call-&-Bearer-Set-up.ready **Party C to Serving Node C**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID** **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: The addressed serving node validates the responding parties, records the responses to the action request and selects one of the responding terminals. (Note: the validation flows are not illustrated in order to simplify the example). The selected terminal is recorded and then the serving node clears the non-selected terminals. (Note: this clearing action is not illustrated for simplicity of the flow diagram.) The serving node issues information flow 12 towards its associated relay node.

12 Call-&-Bearer-Set-up.ready **Serving Node C to Relay Node 2**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a -SN(C):ref.c) ID, **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: When the selected relay nodes receive the above responses it records them and relays the responses to the requesting serving node in the form illustrated by the information flow 14.

13 Call-&-Bearer-Set-up.ready **Relay Node 2 to Serving Node A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a -SN(C):ref.C) ID, **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Enabling Condition: Functional entity action will only begin after both information flows 7 and 13 are received.

Processing upon receipt: When the requesting serving node receives these information flows, it records the willingness of both parties to accept the call and network connection and that a common set of connection characteristics exist that both parties can accept, and it sends the commitment information flows towards the requesting user equipment (flow 14) and the relay nodes (flows 15 and 18), and performs forward through-connect of the network connection and if necessary, modifies the network connection characteristics of backward through-connect.

14 Call-&-Bearer-Set-up.commit Serving Node A to Party A

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "A" ID, Service component characteristics)
Remote party's service component information
(PEP "B" ID, Service component characteristics),
Remote party's service component information
(PEP "C" ID, Service component characteristics)]

Call information
Call Control Segment ID
Call Owner: PEP "A" ID
Addressed party Information
[PEP "A" ID, Network address],
Party Owner: PEP "A" ID,

Bearer information
Network connection 1
[Bearer "1" ID, Connection owner: PEP "A",
Addressed party's bearer branch information
[(PEP "A" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "C" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Processing upon receipt: When the user equipment receives this information flow, it records the commitment, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics in the backward direction, and notifies the user of the completion of the call and bearer establishment procedure. (Note: if the terminal or the user is not satisfied with the resultant network connection characteristics, the call and/or network connections can be released.)

15 Call-&-Bearer-Set-up.commit Serving Node A to Relay Node 1

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]
Remote party's service component information
(PEP "C" ID, Service component characteristics)]
Remote party's service component information
(PEP "A" ID, Service component characteristics

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Remote Call association
(SN(A):ref.a - SN(C):ref.c) ID,
Addressed party Information
[PEP "B" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID),

Initiation of information flow: Processing of information flows 7 and 13

Processing upon receipt: When the selected relay node receives the above information flow, it records the commitment and relays this commitment to the addressed serving node by issuing information flow number 16, performs forward through-connect of the network connection and if necessary, modifies the network connection characteristics of backward through-connect.

16 Call-&-Bearer-Set-up.commit **Relay Node 1 to Serving Node B**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]
Remote party's service component information
(PEP "C" ID, Service component characteristics)] **Remote party's service component information**
(PEP "A" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Remote Call association
(SN(A):ref.a - SN(C):ref.c) ID,
Addressed party Information
[PEP "B" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID),

Processing upon receipt: When the addressed serving node receives this information flow, it records the commitment, it sends a commitment information flow (17) to the selected terminal. The addressed serving node then through connects network connection in the forward direction, and if necessary, modifies the network connection characteristics of backward through-connect.

17 Call-&-Bearer-Set-up.commit **Serving Node B to Party B**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]
Remote party's service component information
(PEP "C" ID, Service component characteristics)
Remote party's service component information
(PEP "A" ID, Service component characteristics)]]

Call information
Call Control Segment ID,
Addressed party Information
[PEP "B" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID),

Processing upon receipt: The terminal records the final network connection characteristics and through connects the network connections in both directions, and notifies the user of the call and connection establishment.

18 Call-&-Bearer-Set-up.commit **Serving Node C to Relay Node 2**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]
Remote party's service component information
(PEP "B" ID, Service component characteristics)]
Remote party's service component information
(PEP "A" ID, Service component characteristics

Call information
Call Control Segment ID, Direct Call association
(SN(A):ref.a - SN(C):ref.c) ID,
Remote Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Addressed party Information
[PEP "C" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID)
Remote party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),]
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID),]

Initiation of information flow: Processing of information flows 7 and 13

Processing upon receipt: When the selected relay node receives the above information flow, it records the commitment, and relays this commitment to the addressed serving node by issuing information flow number 19, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

19 Call-&-Bearer-Set-up.commit **Relay Node 2 to Serving Node C**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]
Remote party's service component information
(PEP "B" ID, Service component characteristics)]
Remote party's service component information
(PEP "A" ID, Service component characteristics)]

Call information
Call Control Segment ID, Direct Call association
(SN(A):ref.a - SN(C):ref.c) ID,
Remote Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Addressed party Information
[PEP "C" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID)
Remote party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID),]

Processing upon receipt: When the addressed serving node receives this information flow, it records the commitment, it sends a commitment information flow (20) to the selected terminal. The addressed serving node then through-connects network connection in the forward direction, and if necessary, modifies the network connection characteristics of backward through-connect.

20	Call-&-Bearer-Set-up.commit	Serving Node C to Party C

Resource information	Call information	Bearer information
Resource 1	**Call Control Segment ID**	**Network connection 1**
[Resource 1 ID, Resource type,	**Addressed party Information**	[Bearer "1" ID,
Addressed party's service component information	[PEP "C" ID, Network address],	**Addressed party's bearer branch information**
(PEP "C" ID, Service component characteristics)]		[(PEP "C" ID, bearer branch characteristics),
Remote party's service component information		**Addressed party's service module information**
(PEP "B" ID, Service component characteristics)		[(PEP "C" ID, Service module characteristics
Remote party's service component information		**Service component list**
(PEP "A" ID, Service component characteristics)]]		[(Resource 1 ID)
		Remote party's bearer branch information
		[(PEP "B" ID, bearer branch characteristics),
		Remote party's service module information
		[(PEP "B" ID, Service module characteristics
		Service component list
		[(Resource 1 ID
		Remote party's bearer branch information
		[(PEP "A" ID, bearer branch characteristics),
		Remote party's service module information
		[(PEP "A" ID, Service module characteristics
		Service component list
		[(Resource 1 ID

Processing upon receipt: The terminal records the final network connection characteristics and through connects the network connections in both directions, and notifies the user of the call and connection establishment.

7.2.2 Call and network connection establishment – Relay node branch – Root-party

The user (party A) requests a three-party call between party A, B, and party C. One network connection is to be associated with this call. Parties A, B, and C are to be attached to the network connection. Party A is to be the "root" of the network connection. The user also specifies the Higher Layer service to be carried on this network connection and the desired network Bearer service that should be established. The requested service is of the non-human interactive type. Therefore, immediate answer can be performed by both party B's and party C's equipment. If the requested parties equipment can accept the requested service, the designated attachment method, and specified bearer service, the equipment will indicate acceptance of the call and network connection request. This example also assumes that the requested parties are connected to a Multi-signalling entity interface. In addition, the network does not perform a look-ahead procedure before progressing with the network connection establishment. Figure 7-9 illustrates the before and after view of this example.

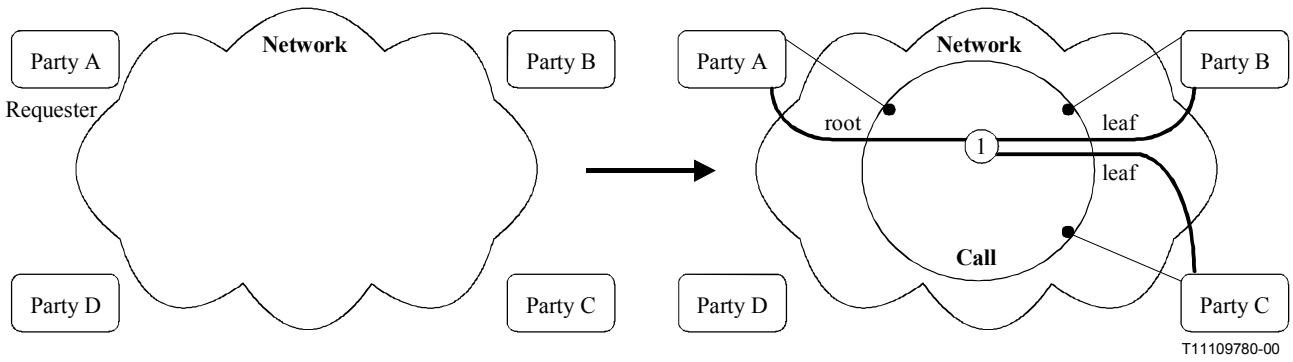


Figure 7-9 – Call and Bearer transition diagram

The signalling capability of coordinated control for establishing this call and network connection between the three requested parties without network look-ahead is illustrated in Figure 7-10.

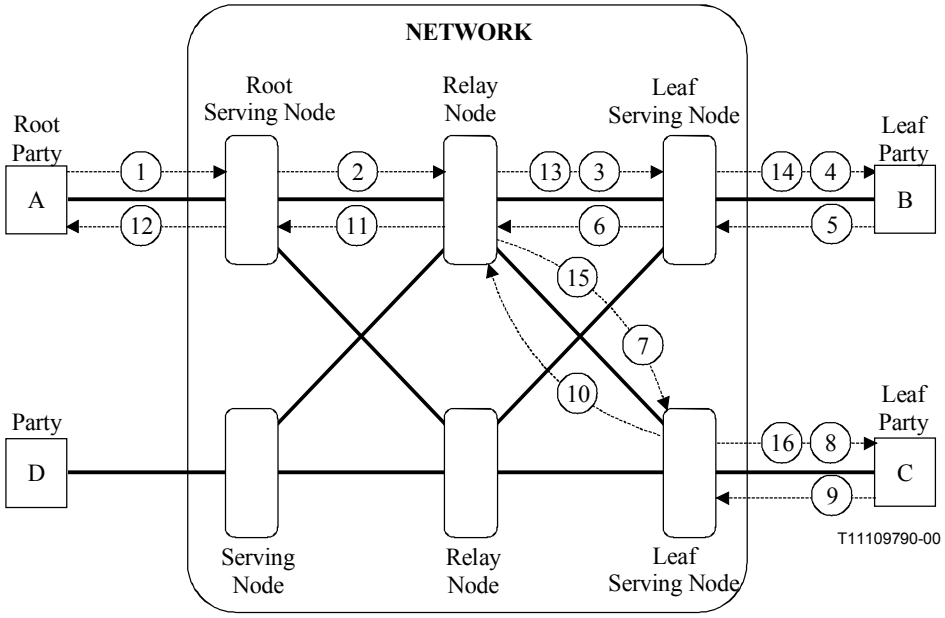


Figure 7-10 – Three-party call and network connection establishment – No look-ahead – Relay. branch-Root)

The actions illustrated in Figure 7-10 are as follows.

Requesting party's terminal equipment issues the following information flow towards its serving node. The terminal equipment then attaches to the backward portion of the network connection assuming the bearer characteristics specified in the outgoing request.

1 Call-&-Bearer-Set-up.ready **Party A to Serving Node A**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics),
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "B" ID, Network address],
Addressed party Information
[PEP "C" ID, Network address],
Requesting party information
[PEP "A" ID, Network Address]

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type,
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Addressed party's bearer branch information
[(PEP "C" ID, Transit Network Selection, bearer branch characteristics),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Initiation of information flow: The user initiates a coordinated call and bearer request.

Processing upon receipt: The requester's serving node validates the request and the requesting party and determines the route and outgoing trunk facility towards the addressed serving nodes associated with the addressed parties. (Note: these validation and routing flows are not illustrated in Figure 7-10 in order to simplify the diagram). For this example, the network connection will be routed through single relay node, the serving node can commit to the request and therefore issues the following information flows towards the selected relay node. The network connection is backward through connected.

2 Call-&-Bearer-Set-up.ready Serving Node A to Relay Node 1

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics),
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):----) ID,
Direct Call association
(SN(A):ref.a - SN(C):----) ID,
Call Owner: PEP "A" ID
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Addressed party Information
[PEP "C" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Addressed party's bearer branch information
[(PEP "C" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Processing upon receipt: The selected relay node validates the request and determines the route and outgoing trunk facility. As a result of this routing, two separate routes are required to get to parties B and C. The selected relay node issues information flows 3 and 7 towards the addressed serving nodes. The network connection in the relay node is backward through connected.

3 Call-&-Bearer-Set-up.begin Relay Node 1 to Serving Node B

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):----) ID,
Call Owner: PEP "A" ID
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Remote party Information
[PEP "C" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),

Processing upon receipt: The addressed serving node selects the terminating interface facility. The serving node relays information flow 4 towards the selected interface facility. The network connection is backward through connected.

4 Call-&-Bearer-Set-up.begin Serving Node B to Party B

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Call Owner: PEP "A" ID
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Remote party Information
[PEP "C" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),

Processing upon receipt: The addressed terminal equipment determines that it can accept the request and issues 5 information flow towards its associated serving node. (Note: if the terminal cannot accept the network connection characteristics, it could either respond with an alternate set of network connection characteristics or issue a cancel information flow.) If an alternate set of characteristics is desired, the ready information flow would contain these characteristics.

5 Call-&-Bearer-Set-up.ready **Party B to Serving Node B**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID** **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Processing upon receipt: The addressed serving node validates the responding parties, records the responses to the action request and selects one of the responding terminals. (Note: the validation flows are not illustrated in order to simplify the example.) The selected terminal is recorded and then the serving node clears the non-selected terminals. (Note: this clearing action is not illustrated for simplicity of the flow diagram.) The serving node issues information flow 6 towards its associated relay node.

6 Call-&-Bearer-Set-up.ready **Serving Node B to Relay Node 1**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID'** **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Enabling Condition: Functional entity action will only begin after both information flows 6 and 10 are received.

Processing upon receipt: When the requesting relay node receives these information flows, it records the willingness of both parties to accept the call and network connection and that a common set of connection characteristics exist that both parties can accept, the relay node sends commitment information flow towards the requesting user equipment (flow 11) and commitment flows towards the addressed serving nodes (flows 13 and 15), and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

7 Call-&-Bearer-Set-up.begin **Relay Node 1 to Serving Node C**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, PEP "C" ID), **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(C):----) ID, **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "A" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)), **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Initiation of information flow: Processing of information flow 2

Processing upon receipt: The addressed serving node selects the terminating interface facility. The serving node relays information flow 8 towards the selected interface facility. The network connection is backward through connected.

8 Call-&-Bearer-Set-up.begin **Serving Node C to Party C**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, PEP "C" ID), **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID** **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "A" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)), **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: The addressed terminal equipment determines that it can accept the request and issues information flow 9 towards its associated serving node. (Note: if the terminal cannot accept the network connection characteristics, it could either respond with an alternate set of network connection characteristics or issue a cancel information flow.) If an alternate set of characteristics is desired, the ready information flow would contain these characteristics.

9 Call-&-Bearer-Set-up.ready **Party C to Serving Node C**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID,** **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: The addressed serving node validates the responding parties, records the responses to the action request and selects one of the responding terminals. (Note: the validation flows are not illustrated in order to simplify the example.) The selected terminal is recorded and then the serving node clears the non-selected terminals. (Note: this clearing action is not illustrated for simplicity of the flow diagram.) The serving node issues information flow 10 towards its associated relay node.

10 Call-&-Bearer-Set-up.ready **Serving Node C to Relay Node 1**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(C):ref.c) ID, **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Enabling Condition: Functional entity action will only begin after both 6 and 10 information flows are received.

Processing upon receipt: When the requesting relay node receives these information flows, it records the willingness of both parties to accept the call and network connection and that a common set of connection characteristics exist that both parties can accept, the relay node sends commitment information flow towards the requesting user equipment (flow11) and commitment flows towards the addressed serving nodes (flows 13 and 15), and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

11 Call-&-Bearer-Set-up.commit **Relay Node 1 to Serving Node A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Requesting party's service component information** (PEP "A" ID, Service component characteristics), **Remote party's service component information** (PEP "B" ID, Service component characteristics), **Remote party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Direct Call association** (SN(A):ref.a - SN(C):ref.c) ID, **Requesting party Information** [PEP "A" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Requesting party's bearer branch information** [(PEP "A" ID, bearer branch characteristics,), **Requesting party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 1 ID), **Remote party's bearer branch information** [(PEP "B" ID, bearer branch characteristics,), **Remote party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID), **Remote party's bearer branch information** [(PEP "C" ID, bearer branch characteristics,), **Remote party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Initiation of information flow: Processing of information flows 6 and 10

Processing upon receipt: When the requesting serving node receives this information flow, it records the commitment of both addressed parties, notifies party A of this commitment, and through-connects the network connection in the forward direction and if necessary, modifies the network connection characteristics of backward through-connect. The serving node then issues information flow 12 towards the requesting party. (Note: the bearer branch information in the flow is actually the bearer branch between the relay node 1 and the serving node A.)

12 Call-&-Bearer-Set-up.commit **Serving Node A to Party A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "A" ID, Service component characteristics), **Remote party's service component information** (PEP "B" ID, Service component characteristics), **Remote party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID** **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "A" ID, Network address], Party Owner: PEP "A" ID,	**Network connection 1** [Bearer "1" ID, Connection owner: PEP "A", **Addressed party's bearer branch information** [(PEP "A" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 1 ID), **Remote party's bearer branch information** [(PEP "B" ID, bearer branch characteristics,), **Remote party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID), **Remote party's bearer branch information** [(PEP "C" ID, bearer branch characteristics,), **Remote party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: When the user equipment receives this information flow, it records the commitment, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics in the backward direction, and notifies the user of the completion of the call and bearer establishment procedure. (Note: if the terminal or the user is not satisfied with the resultant network connection characteristics, the call and/or network connections can be released.)

13 Call-&-Bearer-Set-up.commit **Relay Node 1 to Serving Node B**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]
Remote party's service component information
(PEP "C" ID, Service component characteristics)
Remote party's service component information
(PEP "A" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):ref.b) ID**,**
Remote Call association
(SN(A):ref.a - SN(C):ref.c) ID,
Addressed party Information
[PEP "B" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID),

Initiation of information flow: Processing of information flows 6 and 10

Processing upon receipt: When the selected serving node receives the above information flow, it records the commitment and relays this commitment to the addressed party by issuing information flow number 14, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

14 Call-&-Bearer-Set-up.commit **Serving Node B to Party B**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]
Remote party's service component information
(PEP "C" ID, Service component characteristics),
Remote party's service component information
(PEP "A" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Addressed party Information
[PEP "B" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID),]

Processing upon receipt: The terminal records the final network connection characteristics and through connects the network connections in both directions, and notifies the user of the call and connection establishment.

15 Call-&-Bearer-Set-up.commit **Relay Node 1 to Serving Node C**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "C" ID, Service component characteristics),
Remote party's service component information
(PEP "B" ID, Service component characteristics),
Remote party's service component information
(PEP "A" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(C):ref.c) ID,
Remote Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Addressed party Information
[PEP "C" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID)
Remote party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID),]

Initiation of information flow: Processing of information flows 6 and 10

Processing upon receipt: When the selected serving node receives the above information flow, it records the commitment and relays this commitment to the addressed party by issuing information flow number 16, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

16 Call-&-Bearer-Set-up.commit **Serving Node C to Party C**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]
Remote party's service component information
(PEP "B" ID, Service component characteristics),
Remote party's service component information
(PEP "A" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Addressed party Information
[PEP "C" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID)
Remote party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID),]]

Processing upon receipt: The terminal records the final network connection characteristics and through connects the network connections in both directions, and notifies the user of the call and connection establishment.

7.2.3 Call and network connection establishment – Two network connections – Without look-ahead

The user (party A) requests a three-party call between parties A, B and C. Two network connections are to be associated with this call. All three parties are to be attached to the network connections. The user also specifies the higher layer service to be carried on these network connections and the desired network bearer service that should be established for each network connection. The requested service of both bearers is of the non-human interactive type. Therefore, immediate answer can be performed by the addressed parties terminal equipment when the bearers are offered. If the addressed party's equipment can accept the requested services, the designated attachment method,

and specified bearer services, the user equipment will indicate acceptance of the call and network connection request. This example also assumes that both addressed parties are connected to a multi-signalling entity interface. In addition, the network does not perform a look-ahead procedure before progressing with the network connection establishment. The example also assumes that the network connections will be separately routed through the network. The bearers are to be offered to the addressed parties as a single request. In order to accomplish the coordination action within the addressed serving node, a call without connections is established to the addressed serving nodes and the addressed parties. Then the two bearers are forwarded to the addressed serving nodes which in turn offers these two bearers to the user's terminal equipment. Figure 7-11 illustrates the before and after view of this example.

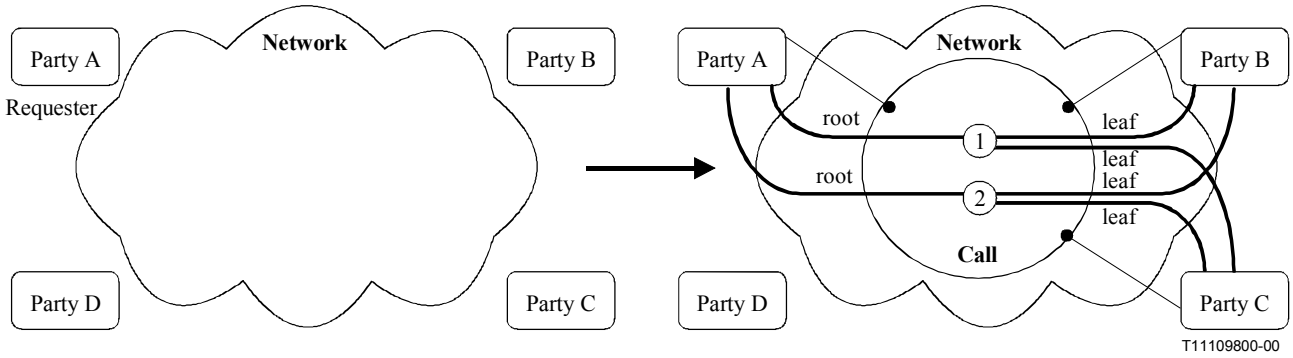


Figure 7-11 – Call and Bearer transition diagram

The signalling capability of coordinated control for establishing this call and its associated network connections between the two parties without network look-ahead is illustrated in Figure 7-12.

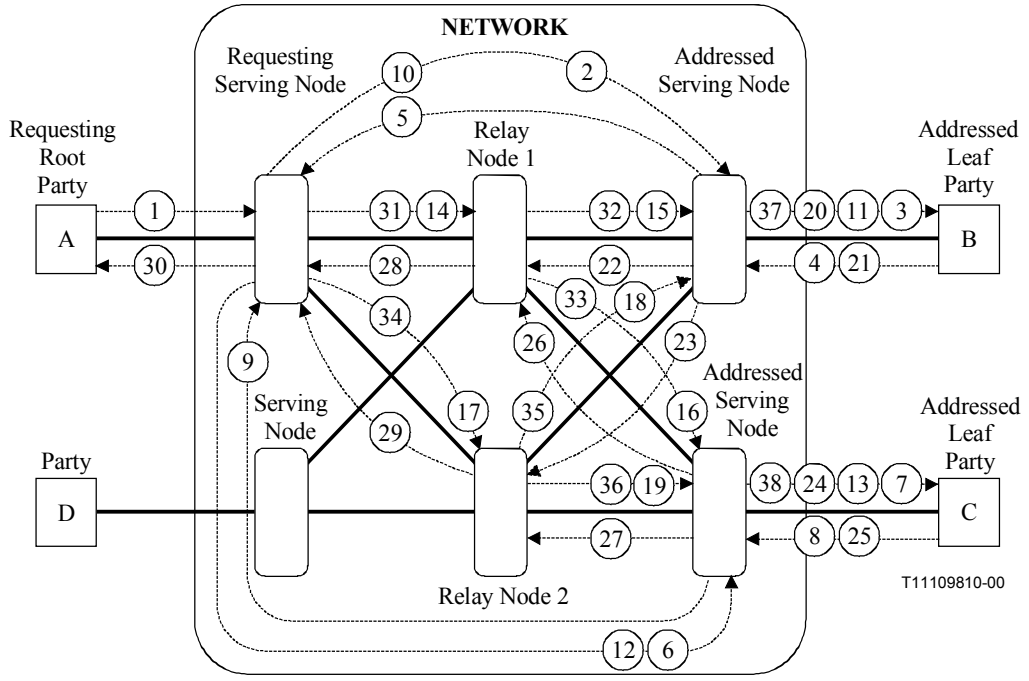


Figure 7-12 – Three Party-two network connections call and bearer establishment (between A, B and C) – Without look-ahead

The actions illustrated in Figure 7-12 are as follows.

Requesting party's terminal equipment issues the following information flow towards its serving node. The terminal equipment then attaches to the backward portion of both network connections assuming the bearer characteristics specified in the outgoing request.

1 Call-&-Bearer-Set-up.ready Party A to Serving Node A

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]
Resource 2
[Resource 2 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "B" ID, Network address],
Addressed party Information
[PEP "B" ID, Network address],
Requesting party information
[PEP "A" ID, Network Address]

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type,
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]
Addressed party's bearer branch information
[(PEP "C" ID, Transit Network Selection, bearer branch characteristics),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID)]
Network connection 2
[Bearer "2" ID, Bearer type,
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID)]
Addressed party's bearer branch information
[(PEP "C" ID, Transit Network Selection, bearer branch characteristics),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Initiation of information flow: The user initiates a coordinated call and bearer request indicating two bearers are to be established between parties A, B and C.

Processing upon receipt: The requester's serving node validates the request and the requesting party and determines the route and outgoing trunk facilities towards the addressed serving node associated with the addressed parties. (Note: these validation and routing flows are not illustrated in Figure 7-12 in order to simplify the diagram.) The requester's serving node initiates an outgoing call establishment procedure inviting parties B and C to accept the call and the two bearers and awaits the result. The invitation information flows 2 and 6 are sent to the serving nodes associated with these parties.

2 Call-Set-up.begin **Serving Node A to Serving Node B**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, PEP "C" ID), **Addressed party's service component information** (PEP "B" ID, Service component characteristics)] **Resource 2** [Resource 2 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, PEP "C" ID), **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(B):----) ID, **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Remote party Information** [PEP "C" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)] **Network connection 2** [Bearer "2" ID, Bearer type, **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Processing upon receipt: The addressed serving node initiates an incoming call establishment procedure and forwards the call set-up request towards the addressed party (flow 3). Since this party is associated with a multiparty signalling interface, the serving node issues a begin information flow. The serving node records that it is to expect two network connection establishment requests that it is to coordinate and offer to party B in a single action if the terminal accepts the call set-up request.

3 Call-Set-up.begin **Serving Node B to Party B**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, PEP "C" ID), **Addressed party's service component information** (PEP "B" ID, Service component characteristics)] **Resource 2** [Resource 2 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, PEP "C" ID), **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID,** **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Remote party Information** [PEP "C" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)] **Network connection 2** [Bearer "2" ID, Bearer type, **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Processing upon receipt: The addressed terminal determines if it can support the two network connections and their associated resources before it answers the call establishment request. In this case, the terminal determines that it could accept the network connections if they are offered in some future action, and initiates an incoming call establishment procedure and issues information flow 4 towards its associated serving node indicating that it is willing to accept the call. (Note: if the terminal cannot accept the network connection characteristics, it could either respond with an alternate set of network connection characteristics or issue a cancel information flow.) If an alternate set of characteristics is desired, the ready information flow would contain these characteristics.

4 Call-Set-up.ready **Party B to Serving Node B**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)] **Resource 2** [Resource 2 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID** **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, Bearer type, **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)] **Network connection 2** [Bearer "2" ID, Bearer type, **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Processing upon receipt: The addressed serving node records the responses to the action request, validates the responding parties, and selects one of the responding terminals. The serving node clears the non-selected terminals (Note: this action is not illustrated for simplicity of presentation), and issues information flow 5 towards the requesting serving node.

5 Call-Set-up.ready **Serving Node B to Serving Node A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)] **Resource 2** [Resource 2 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, Bearer type, **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)] **Network connection 2** [Bearer "2" ID, Bearer type, **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Enabling Condition: The reception of information flows 5 and 9

Processing upon receipt: The requesting node records the establishment of a call association with the addressed terminals and their acceptance of the two network connections and that there is a compatible set of bearer characteristics that all parties can use. The requesting serving node issues the commitment information flows towards the addressed serving nodes (6 and 12). The requesting serving node also determines the route of the network connections and selects the outgoing trunk facilities. In this example, each network connection is to be routed to the addressed parties' associated serving nodes via different paths (one via relay node 1 and the other via relay node 2). The requesting serving node issues information flows 14 and 17. The network connections are backward through connected. (Note: the network characteristics contained in these information flows represent the negotiated network connection characteristic.)

6	Call-Set-up.begin	Serving Node A to Serving Node C

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]
Resource 2
[Resource 2 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(C):----) ID,
Call Owner: PEP "A" ID
Addressed party Information
[PEP "C" ID, Network address],
Party Owner: PEP "A" ID,
Remote party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type,
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID)]
Network connection 2
[Bearer "2" ID, Bearer type,
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Initiation of information flow: Processing of information flow 1

Processing upon receipt: The addressed serving node initiates an incoming call establishment procedure and forwards the call set-up request towards the addressed party (flow 7). Since this party is associated with a multiparty signalling interface, the serving node issues a begin information flow. The serving node records that it is to expect two network connection establishment requests that it is to coordinate and offer to party C in a single action if the terminal accepts the call set-up request.

7	Call-Set-up.begin	Serving Node C to Party C

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]
Resource 2
[Resource 2 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]

Call information
Call Control Segment ID
Call Owner: PEP "A" ID
Addressed party Information
[PEP "C" ID, Network address],
Party Owner: PEP "A" ID,
Remote party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type,
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID)]
Network connection 2
[Bearer "2" ID, Bearer type,
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Processing upon receipt: The addressed terminal determines if it can support the two network connections and its associated resources before it answers the call establishment request. In this case, the terminal determines that it could accept the network connections if they are offered in some future action, and initiates an incoming call establishment procedure and issues information flow 8 towards its associated serving node indicating that it is willing to accept the call. (Note: if the terminal cannot accept the network connection characteristics, it could either respond with an alternate set of network connection characteristics or issue a cancel information flow.) If an alternate set of characteristics is desired, the ready information flow would contain these characteristics.

8 Call-Set-up.ready **Party C to Serving Node C**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)] **Resource 2** [Resource 2 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID** **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 1** [Bearer "1" ID, Bearer type, **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)] **Network connection 2** [Bearer "2" ID, Bearer type, **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Processing upon receipt: The addressed serving node records the responses to the action request, validates the responding parties, and selects one of the responding terminals. The serving node then clears the non-selected terminals (Note: this action is not illustrated for simplicity of presentation), and issues information flow 9 towards the requesting serving node.

9 Call-Set-up.ready **Serving Node C to Serving Node A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)] **Resource 2** [Resource 2 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(C):ref.c) ID, **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 1** [Bearer "1" ID, Bearer type, **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)] **Network connection 2** [Bearer "2" ID, Bearer type, **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Enabling Condition: The reception of information flows 5 and 9

Processing upon receipt: The requesting node records the establishment of a call association with the addressed terminals and their acceptance of the two network connections and that there is a compatible set of bearer characteristics that all parties can use. The requesting serving node issues the commitment information flows towards the addressed serving nodes (6 and 12). The requesting serving node also determines the route of the network connections and selects the outgoing trunk facilities. In this example, each network connection is to be routed to the addressed parties' associated serving nodes via different paths (one via relay node 1 and the other via relay node 2). The requesting serving node issues information flows 14 and 17. The network connections are backward through connected. (Note: the network characteristics contained in these information flows represent the negotiated network connection characteristics.)

10 Call-Set-up.commit **Serving Node A to Serving Node B**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)] **Resource 2** [Resource 2 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, Bearer type, **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)] **Network connection 2** [Bearer "2" ID, Bearer type, **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Initiation of information flow: Processing of information flows 5 and 9

Processing upon receipt: When the addressed serving node receives this information flow, it records the allocation of the call to the previously selected terminal. It then relays the commitment information flow (11) towards the selected terminal and awaits the reception of the bearer establishment information flows.

11 Call-Set-up.commit **Serving Node B to Party B**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)] **Resource 2** [Resource 2 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID** **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, Bearer type, **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)] **Network connection 2** [Bearer "2" ID, Bearer type, **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Processing upon receipt: When the terminal receives this information flow, it records the allocation of the call. The user is not notified of the call association.

12 Call-Set-up.commit **Serving Node A to Serving Node C**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)] **Resource 2** [Resource 2 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 1** [Bearer "1" ID, Bearer type, **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)] **Network connection 2** [Bearer "2" ID, Bearer type, **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Initiation of information flow: Processing of information flows 5 and 9

Processing upon receipt: When the addressed serving node receives this information flow, it records the allocation of the call to the previously selected terminal. It then relays the commitment information flow (13) towards the selected terminal and awaits the reception of the bearer establishment information flows.

13 Call-Set-up.commit **Serving Node C to Party C**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]
Resource 2
[Resource 2 ID, Resource type,
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "C" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type,
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID)]
Network connection 2
[Bearer "2" ID, Bearer type,
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Processing upon receipt: When the terminal receives this information flow, it records the allocation of the call. The user is not notified of the call association.

14 Add-Bearer-to-Call.begin **Serving Node A to Relay Node 1**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Direct Call association
(SN(A):ref.a - SN(C):ref.c) ID,
Addressed party Information
[PEP "B" ID, Network address],
Addressed party Information
[PEP "C" ID, Network address],
Requesting party information
[PEP "A" ID, Network Address]

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]
Addressed party's bearer branch information
[(PEP "C" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP C" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Initiation of information flow: The processing of information flows 5 and 9

Processing upon receipt: The selected relay node validates the request and determines the route and outgoing trunk facilities. The serving node issues information flows 15 and 16 towards the addressed serving nodes. The network connection is backward through connected.

15 Add-Bearer-to-Call.begin **Relay Node 1 to Serving Node B**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Remote Call association
(SN(A):ref.a - SN(C):ref.c) ID,
Addressed party Information
[PEP "B" ID, Network address],
Remote party Information
[PEP "C" ID, Network address],
Requesting party information
[PEP "A" ID, Network Address]

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Enabling Condition: The reception of information flows 15 and 18

Processing upon receipt: The addressed serving node issues information flow 20 towards the terminal associated with the call. The information flow contains the indication that two network connections are to be established. The network connections are backward through connected.

16 Add-Bearer-to-Call.begin **Relay Node 1 to Serving Node C**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(C):ref.c) ID,
Remote Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Addressed party Information
[PEP "C" ID, Network address],
Remote party Information
[PEP "B" ID, Network address],
Requesting party information
[PEP "A" ID, Network Address]

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Addressed party's bearer branch information
[(PEP "C" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Enabling Condition: The reception of information flows 16 and 19

Processing upon receipt: The addressed serving node issues information flow 24 towards the terminal associated with the call. The information flow contains the indication that two network connections are to be established. The network connections are backward through connected.

17 Add-Bearer-to-Call.begin **Serving Node A to Relay Node 2**

Resource information
Session ID
Resource 2
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Direct Call association
(SN(A):ref.a - SN(C):ref.c) ID,
Addressed party Information
[PEP "B" ID, Network address],
Addressed party Information
[PEP "C" ID, Network address],
Requesting party information
[PEP "A" ID, Network Address]

Bearer information
Network connection 2
[Bearer "2" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID)]
Addressed party's bearer branch information
[(PEP "C" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Initiation of information flow: The processing of information flows 5 and 9

Processing upon receipt: The selected relay node validates the request and determines the route and outgoing trunk facilities. The serving node issues information flows 18 and 19 towards the addressed serving nodes. The network connection is backward through connected.

18 Add-Bearer-to-Call.begin **Relay Node 2 to Serving Node B**

Resource information
Session ID
Resource 2
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Direct Call association
(SN(A):ref.a - SN(C):ref.c) ID,
Addressed party Information
[PEP "B" ID, Network address],
Remote party Information
[PEP "C" ID, Network address],
Requesting party information
[PEP "A" ID, Network Address]

Bearer information
Network connection 2
[Bearer "2" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Enabling Condition: The reception of information flows 15 and 18

Processing upon receipt: The addressed serving node issues information flow 20 towards the terminal associated with the call. The information flow contains the indication that two network connections are to be established. The network connections are backward through connected.

19 Add-Bearer-to-Call.begin **Relay Node 2 to Serving Node C**

Resource information
Session ID
Resource 2
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(C):ref.c) ID,
Remote Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Addressed party Information
[PEP "C" ID, Network address],
Remote party Information
[PEP "B" ID, Network address],
Requesting party information
[PEP "A" ID, Network Address]

Bearer information
Network connection 2
[Bearer "2" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Addressed party's bearer branch information
[(PEP "C" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Enabling Condition: The reception of information flows 16 and 19

Processing upon receipt: The addressed serving node validates the requests and issues information flow 24 towards the terminal associated with the call. The information flow contains the indication that two network connections are to be established. The network connections are backward through connected.

20 Add-Bearer-to-Call.begin **Serving Node B to Party B**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]
Resource 2
[Resource 2 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "B" ID, Network address],
Remote party Information
[PEP "C" ID, Network address],
Requesting party information
[PEP "A" ID, Network Address]

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID Leaf), PEP "C" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]
Network connection 2
[Bearer "2" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Initiation of information flow: Processing of information flows 15 and 18

Processing upon receipt: The addressed terminal equipment determines if it can accept the request and issues information flow 21 towards its associated serving node.

21 Add-Bearer-to-Call.ready **Party B to Serving Node B**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]
Resource 2
[Resource 2 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "B" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]
Network connection 2
[Bearer "2" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics,),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Processing upon receipt: The addressed serving node validates the responding party, records the responses to the action request. (Note: the validation flows are not illustrated in order to simplify the example), and issues information flows 22 and 23 towards the associated relay nodes. The serving node awaits commitment to the connections along with the final bearer branch characteristics to be used on the connections.

22 Add-Bearer-to-Call.ready **Serving Node B to Relay Node 1**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Addressed party Information
[PEP "B" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Enabling Condition: The reception of information flows 22 and 26

Processing upon receipt: When the relay node receives these information flows, it records that the addressed users are ready for commitment of both parties. The relay node then issues information flow 28 towards the requesting serving node.

23 Add-Bearer-to-Call.ready **Serving Node B to Relay Node 2**

Resource information
Resource 2
[Resource 2 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Addressed party Information
[PEP "B" ID, Network address],

Bearer information
Network connection 2
[Bearer "2" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Enabling Condition: The reception of information flows 23 and 27

Processing upon receipt: When the relay node receives these information flows, it records that the addressed users are ready for commitment of both parties. The relay node then issues information flow 29 towards the requesting serving node.

24 Add-Bearer-to-Call.begin **Serving Node C to Party C**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]
Resource 2
[Resource 2 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "C" ID, Network address],
Remote party Information
[PEP "B" ID, Network address],
Requesting party information
[PEP "A" ID, Network Address]

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Addressed party's bearer branch information
[(PEP "C" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID)]
Network connection 2
[Bearer "2" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Addressed party's bearer branch information
[(PEP "C" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Initiation of information flow: Processing of information flows 16 and 19

Processing upon receipt: The addressed terminal equipment determines if it can accept the request and issues information flow 25 towards its associated serving node.

25 Add-Bearer-to-Call.ready **Party C to Serving Node C**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]
Resource 2
[Resource 2 ID, Resource type,
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "C" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID)]
Network connection 2
[Bearer "2" ID,
Addressed party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Processing upon receipt: The addressed serving node validates the responding party, records the responses to the action request. (Note: the validation flows are not illustrated in order to simplify the example), and issues information flows 26 and 27 towards the associated relay nodes. The serving node awaits commitment to the connections along with the final bearer branch characteristics to be used on the connections.

26 Add-Bearer-to-Call.ready **Serving Node C to Relay Node 1**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(C):ref.c) ID, **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Enabling Condition: The reception of information flows 22 and 26

Processing upon receipt: When the relay node receives these information flows, it records that the addressed users are ready for commitment of both parties. The relay node then issues information flow 28 towards the requesting serving node.

27 Add-Bearer-to-Call.ready **Serving Node C to Relay Node 2**

Resource information	Call information	Bearer information
Resource 2 [Resource 2 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(C):ref.c) ID, **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 2** [Bearer "2" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Enabling Condition: The reception of information flows 23 and 27

Processing upon receipt: When the relay node receives these information flows, it records that the addressed users are ready for commitment of both parties. The relay node then issues information flow 29 towards the requesting serving node.

28 Add-Bearer-to-Call.ready **Relay Node 1 to Serving Node A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)] **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Direct Call association** (SN(A):ref.a - SN(C):ref.c) ID, **Addressed party Information** [PEP "B" ID, Network address], **Addressed party Information** [PEP "C" ID, Network address]	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)] **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Enabling Condition: The reception of information flows 28 and 29

Processing upon receipt: When the requesting serving node receives these information flows, it records that the addressed users are ready for commitment to both network connections, and uses the network connection characteristics within the information flows to determine the final network connection characteristics to be assigned to the network connection branches between the relay nodes and the requesting serving node, and the network connection branch characteristics between the serving node and the requesting party. The serving node then issues information flow 30 towards the requesting party and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics in the backward direction. The serving node then issues the commit flows towards the addressed users (31 and 34).

29	Add-Bearer-to-Call.ready	Relay Node 2 to Serving Node A

Resource information	**Call information**	**Bearer information**
Resource 2 [Resource 2 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)] **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Direct Call association** (SN(A):ref.a - SN(C):ref.c) ID, **Addressed party Information** [PEP "B" ID, Network address], **Addressed party Information** [PEP "C" ID, Network address]	**Network connection 2** [Bearer "2" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 2 ID)] **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Enabling Condition: The reception of information flows 28 and 29

Processing upon receipt: When the requesting serving node receives these information flows, it records that the addressed users are ready for commitment to both network connections, and uses the network connection characteristics within the information flows to determine the final network connection characteristics to be assigned to the network connection branches between the relay nodes and the requesting serving node, and the network connection branch characteristics between the serving node and the requesting party. The serving node then issues information flow 30 towards the requesting party and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics in the backward direction. The serving node then issues the commit flows towards the addressed users (31 and 34).

30 Call-&-Bearer-Set-up.commit Serving Node A to Party A

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "A" ID, Service component characteristics)]
Remote party's service component information
(PEP "B" ID, Service component characteristics)]
Remote party's service component information
(PEP "C" ID, Service component characteristics)]
Resource 2
[Resource 2 ID, Resource type,
Addressed party's service component information
(PEP "A" ID, Service component characteristics)
Remote party's service component information
(PEP "B" ID, Service component characteristics)]
Remote party's service component information
(PEP "C" ID, Service component characteristics)]

Call information
Call Control Segment ID
Call Owner: PEP "A" ID
Remote party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Remote party Information
[PEP "C" ID, Network address],
Party Owner: PEP "A" ID,
Addressed party Information
[PEP "A" ID, Network address],
Party Owner: PEP "A" ID,

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Addressed party's bearer branch information
[(PEP "A" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID)]
Remote party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]
Remote party's bearer branch information
[(PEP "C" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID)]
Network connection 2
[Bearer "2" ID, Bearer type, Connection owner: PEP "A",
Addressed party's bearer branch information
[(PEP "A" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 2 ID)]
Remote party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID)]
Remote party's bearer branch information
[(PEP "C" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Processing upon receipt: When the user equipment receives this information flow, it records the commitment, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics in the backward direction, and notifies the user of the completion of the call and bearer establishment procedure. (Note: if the terminal or the user is not satisfied with the resultant network connection characteristics, the call and/or network connections can be released.)

31 Add-Bearer-to-Call.commit **Serving Node A to Relay Node 1**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]
Remote party's service component information
(PEP "A" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Direct Call association
(SN(A):ref.a - SN(C):ref.c) ID,
Addressed party Information
[PEP "B" ID, Network address],
Addressed party Information
[PEP "C" ID, Network address]

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]
Addressed party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID)]
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Initiation of information flow: The processing of information flows 28 and 29

Processing upon receipt: When the relay node receives this information flow, it records that the requesting service node is committing to both connections, and uses the network connection characteristics within the information flow to determine the final network connection characteristics to be assigned to the network connection branches between relay node 1 and the serving nodes B and C, and the network connection branch characteristics between the relay node and the requesting serving node. The relay node then issues information flows 32 and 33 towards the addressed serving nodes and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics in the backward direction.

32 Add-Bearer-to-Call.commit **Relay Node 1 to Serving Node B**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics),
Remote party's service component information
(PEP "C" ID, Service component characteristics),
Remote party's service component information
(PEP "A" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):ref.b) ID**,**
Addressed party Information
[PEP "B" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]
Remote party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID)]]

Enabling Condition: The reception of information flows 32 and 35

Processing upon receipt: The addressed serving node records the commitment from the requesting serving node, uses the network connection characteristics within the information flow to determine the final network connection characteristics to be assigned to the network connection branch between party B and the network, and issues information flow 37 towards the terminal. The network connections are through connected in the forward direction, and if necessary, the serving node modifies the backward network connection characteristics.

33 Add-Bearer-to-Call.commit **Relay Node 1 to Serving Node C**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "C" ID, Service component characteristics)
Remote party's service component information
(PEP "B" ID, Service component characteristics),
Remote party's service component information
(PEP "A" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(C):ref.c) ID,
Addressed party Information
[PEP "C" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID)
Remote party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Enabling Condition: The reception of information flows 33 and 36

Processing upon receipt: The addressed serving node records the commitment from the requesting serving node, uses the network connection characteristics within the information flow to determine the final network connection characteristics to be assigned to the network connection branch between party C and the network, and issues information flow 38 towards the terminal. The network connections are through connected in the forward direction, and if necessary, the serving node modifies the backward network connection characteristics.

34 Add-Bearer-to-Call.ready **Serving Node A to Relay Node 2**

Resource information
Resource 2
[Resource 2 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]
Addressed party's service component information
(PEP "C" ID, Service component characteristics)
Remote party's service component information
(PEP "A" ID, Service component characteristics)]]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Direct Call association
(SN(A):ref.a - SN(C):ref.c) ID,
Addressed party Information
[PEP "B" ID, Network address],
Addressed party Information
[PEP "C" ID, Network address]

Bearer information
Network connection 2
[Bearer "2" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID)]
Addressed party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 2 ID)
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 2 ID]

Initiation of information flow: The processing of information flows 28 and 29

Processing upon receipt: When the relay node receives this information flow, it records that the requesting service node is committing to both connections, and uses the network connection characteristics within the information flow to determine the final network connection characteristics to be assigned to the network connection branches between relay node 1 and the serving nodes B and C, and the network connection branch characteristics between the relay node and the requesting serving node. The relay node then issues information flows 35 and 36 towards the addressed serving nodes and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics in the backward direction.

35 Add-Bearer-to-Call.commit **Relay Node 2 to Serving Node B**

Resource information	Call information	Bearer information
Resource 2 [Resource 2 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics) **Remote party's service component information** (PEP "C" ID, Service component characteristics), **Remote party's service component information** (PEP "A" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 2** [Bearer "2" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 2 ID) **Remote party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 2 ID), **Remote party's bearer branch information** [(PEP "A" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Enabling Condition: The reception of information flows 32 and 35

Processing upon receipt: The addressed serving node records the commitment from the requesting serving node, uses the network connection characteristics within the information flow to determine the final network connection characteristics to be assigned to the network connection branch between party B and the network, and issues information flow 37 towards the terminal. The network connections are through connected in the forward direction, and if necessary, the serving node modifies the backward network connection characteristics.

36 Add-Bearer-to-Call.commit **Relay Node 2 to Serving Node C**

Resource information	Call information	Bearer information
Resource 2 [Resource 2 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics), **Remote party's service component information** (PEP "B" ID, Service component characteristics), **Remote party's service component information** (PEP "A" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(C):ref.c) ID, **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 2** [Bearer "2" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 2 ID)] **Remote party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 2 ID), **Remote party's bearer branch information** [(PEP "A" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Enabling Condition: The reception of information flows 33 and 36

Processing upon receipt: The addressed serving node records the commitment from the requesting serving node, uses the network connection characteristics within the information flow to determine the final network connection characteristics to be assigned to the network connection branch between party C and the network, and issues information flow 38 towards the terminal. The network connections are through connected in the forward direction, and if necessary, the serving node modifies the backward network connection characteristics.

37 Add-Bearer-to-Call.commit **Serving Node B to Party B**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics),
Remote party's service component information
(PEP "C" ID, Service component characteristics),
Remote party's service component information
(PEP "A" ID, Service component characteristics)]
Resource 2
[Resource 2 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics),
Remote party's service component information
(PEP "C" ID, Service component characteristics),
Remote party's service component information
(PEP "A" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Addressed party Information
[PEP "B" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID)]
Network connection 2
[Bearer "2" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID),
Remote party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 2 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Initiation of information flow: Processing of information flows 32 and 35

Processing upon receipt: The terminal records the final network connection characteristics and through connects the network connections in both directions, and notifies the user of the call and connection establishment.

38	Add-Bearer-to-Call.commit	Serving Node C to Party C

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics), **Remote party's service component information** (PEP "B" ID, Service component characteristics), **Remote party's service component information** (PEP "A" ID, Service component characteristics)] **Resource 2** [Resource 2 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics), **Remote party's service component information** (PEP "B" ID, Service component characteristics), **Remote party's service component information** (PEP "A" ID, Service component characteristics)]	**Call Control Segment ID,** **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID), **Remote party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID), **Remote party's bearer branch information** [(PEP "A" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 1 ID)] **Network connection 2** [Bearer "2" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 2 ID), **Remote party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 2 ID), **Remote party's bearer branch information** [(PEP "A" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Initiation of information flow: Processing of information flows 33 and 36

Processing upon receipt: The terminal records the final network connection characteristics and through connects the network connections in both directions, and notifies the user of the call and connection establishment.

7.3 Multicast address establishment with one or more network connections

Whenever a multicast address is used in a signalling capability, it shall be treated as a set of multiple addresses. The set is determined by translating/associating the address with a multicast address database that contains the party addresses associated with the designated multicast address. Included with this database are three parameters; one to designate the root of the network connection(s), one that designates the action condition (Mandatory Action/Optional Action), and the other which indicates in the case of optional action, if the requesting party should be notified when the additional parties respond. The Multicast Address can be included with any of the signalling capabilities.

The following subclauses contain two examples that illustrate the multicast address capability. In these examples, party A is to be the root of the network connections.

7.3.1 Call and connection establishment single network connection – Multicast address is used by requesting party – Mandatory Multicast Set-up

The user (party A) requests a multicast address call. This call example is associated with a single connection. The multicast address is translated by the requesting serving node upon receipt. The number of parties offered this call and network connection will depend on the translation of the

multicast address. In this example, the address translation indicates that parties B and C are to be connected to party A via the requested network connection. The connection may be either a type 2, 3, or 5 network connection as a result of the multicast address translation. The requested service is of the non-human interaction type. If the addressed parties equipment can accept the requested service, the designated attachment method, and specified bearer service, the equipment will indicate acceptance of the call and network connection request. This example also assumes that the addressed parties are connected to a multi-signalling entity interface. In addition, it is assumed that the network does not perform a look-ahead procedure before progressing with the network connection establishment. (The look-ahead procedure could be applied, however, to simplify the example the look-ahead procedure is not illustrated.)

Note that only one address is supplied by the user. The number of parties to be offered this call and network connection will depend on the translation of the multicast address. In this example the mandatory/optional designator associated with the multicast address is set to mandatory. Figure 7-13 illustrates the before and after view of this example.

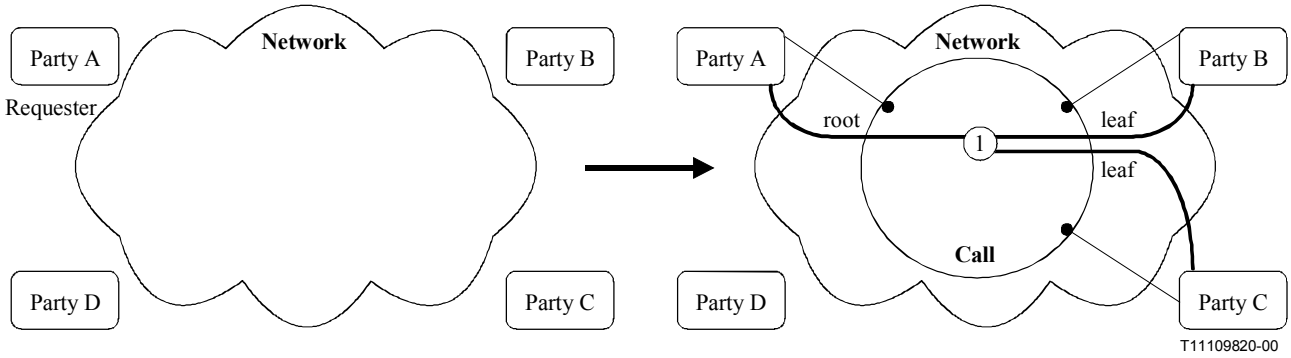


Figure 7-13 – Call and Bearer transition diagram

The signalling capability of coordinated control for establishing this mandatory multicast address call and network connection between three parties without network look-ahead is illustrated in Figure 7-14.

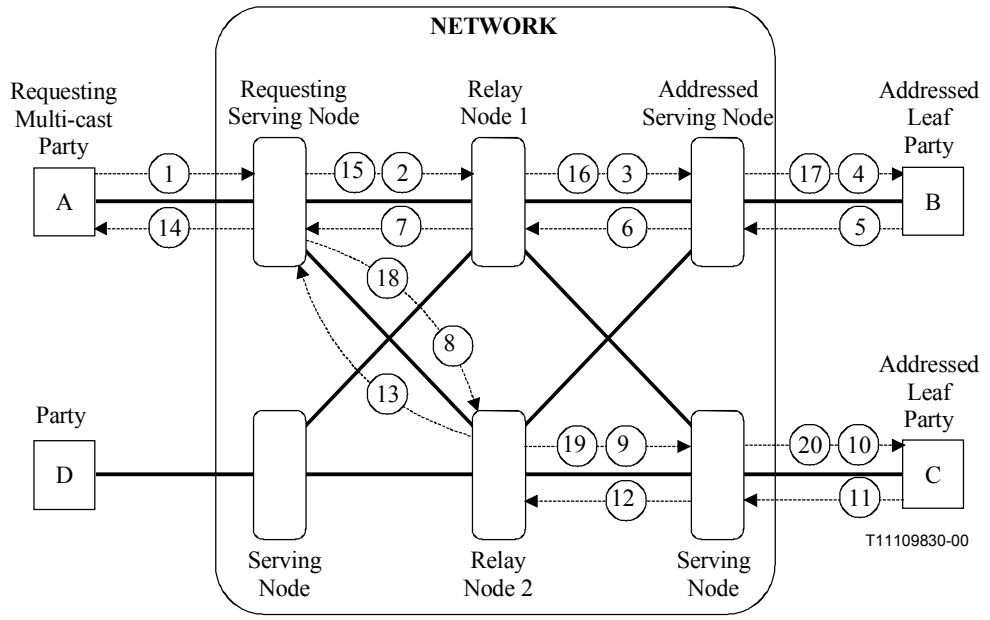


Figure 7-14 – Mandatory multicast address call and bearer establishment

The actions illustrated in Figure 7-14 are as follows.

Requesting party's terminal equipment issues the following information flow towards its serving node. The terminal equipment then attaches to the backward portion of the network connection assuming the bearer characteristics specified in the outgoing request.

1 Call-&-Bearer-Set-up.ready **Party A to serving Node A**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "Group" ID),
Addressed party's service component information
(PEP "Group" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "Group" ID, Network group address],
Requesting party information
[PEP "A" ID, Network Address]

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type,
Parties connected
(PEP "A" ID, PEP "Group" ID),
Addressed party's bearer branch information
[(PEP "Group" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "Group" ID, Service module characteristics
Service component list
[(Resource 1 ID),

Initiation of information flow: The user initiates a coordinated call and bearer request containing a multicast address.

Processing upon receipt: The requester's serving node validates the request and the requesting party. The requester's serving node translates the requested address and determines that a multicast address points to three parties (A, B and C) which are to be treated as a mandatory group of parties. Party A is to be the root of the network connection. The serving node then determines the route and outgoing trunk facilities towards the addressed serving nodes associated with the addressed parties. (Note: these flows necessary to validate and determine the routing are not illustrated in order to simplify the diagram.) For this example, the network connection will be routed through separate relay nodes, two signalling ports are needed, the serving node cannot commit to the request and therefore issues information flows 2 and 8 towards the selected relay nodes. The network connection is backward through connected.

2 Call-&-Bearer-Set-up.begin **Serving Node A to Relay Node 1**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):----) ID,
Call Owner: PEP "A" ID
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Remote party Information
[PEP "C" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP"C" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),

Processing upon receipt: The selected relay node validates the request and determines the route and outgoing trunk facility. The selected relay node issues information flow 3 towards the addressed serving node. The network connection in the relay node is backward through connected.

3 Call-&-Bearer-Set-up.begin **Relay Node 1 to Serving Node B**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):----) ID,
Call Owner: PEP "A" ID
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Remote party Information
[PEP "C" ID, Network address],
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID,

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),

Processing upon receipt: The addressed serving node selects the terminating interface facility. Since the interface is classified as a multiple signalling entity interface, the serving node cannot commit to the addressed end point and therefore issues information flow 4 towards the selected interface facility. The network connection is backward through connected.

4 Call-&-Bearer-Set-up.begin **Serving Node B to Party B**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID
Call Owner: PEP "A" ID
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Remote party Information
[PEP "C" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),

Processing upon receipt: The addressed terminal equipment determines that it can accept the request and issues information flow 5 towards its associated serving node. (Note: if the terminal cannot accept the network connection characteristics, it could either respond with an alternate set of network connection characteristics or issue a cancel information flow.) If an alternate set of characteristics is desired, the ready information flow would contain these characteristics.

5 Call-&-Bearer-Set-up.ready **Party B to Serving Node B**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID** **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Processing upon receipt: The addressed serving node validates the responding parties, records the responses to the action request and selects one of the responding terminals. (Note: the validation flows are not illustrated in order to simplify the example.) The selected terminal is recorded and then the serving node clears the non-selected terminals. (Note: this clearing action is not illustrated for simplicity of the flow diagram.) The serving node issues information flow 6 towards its associated relay node.

6 Call-&-Bearer-Set-up.ready **Serving Node B to Relay Node 1**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Processing upon receipt: When the selected relay nodes receive the above responses, it records them and relays the responses to the requesting serving node in the form illustrated by information flow 7.

7 Call-&-Bearer-Set-up.ready **Relay Node 1 to Serving Node A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Enabling Condition: Functional entity action will only begin after both information flows 7 and 13 are received.

Processing upon receipt: When the requesting serving node receives these information flows, it records the willingness of both parties to accept the call and network connection and that a common set of connection characteristics exist that both parties can accept, and send commitment information flows towards the requesting user equipment (flow 14) and the relay nodes (flows 15 and 18), and performs forward through-connect of the network connection and if necessary, modifies the network connection, characteristics of backward through-connect.

8 Call-&-Bearer-Set-up.begin **Serving Node A to Relay Node 2**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B"ID, PEP "C" ID), **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(C):----) ID, **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "A" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root),PEP "B" ID (leaf), PEP "C" ID (leaf)), **Addressed party's bearer branch information** [(PEP "C" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Initiation of information flow: Processing of information flow 1

Processing upon receipt: The selected relay node validates the request and determines the route and outgoing trunk facility. The selected relay node issues information flow 9 towards the addressed serving node. The network connection in the relay node is backward through connected.

9 Call-&-Bearer-Set-up.begin **Relay Node 2 to Serving Node C**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, PEP "C" ID), **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(C):----) ID, **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "A" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)), **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: The addressed serving node selects the terminating interface facility. Since the interface is classified as a multiple signalling entity interface, the serving node cannot commit to the addressed end point and therefore issues information flow 10 towards the selected interface facility. The network connection is backward through connected.

10 Call-&-Bearer-Set-up.begin **Serving Node C to Party C**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, PEP "C" ID), **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID** **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "A" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)), **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: The addressed terminal equipment determines that it can accept the request and issues information flow 11 towards its associated serving node. (Note: if the terminal cannot accept the network connection characteristics it could either respond with an alternate set of network connection characteristics or issue a cancel information flow.) If an alternate set of characteristics is desired, the ready information flow would contain these characteristics.

11 Call-&-Bearer-Set-up.ready **Party C to Serving Node C**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID** **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: The addressed serving node validates the responding parties, records the responses to the action request and selects one of the responding terminals. (Note: the validation flows are not illustrated in order to simplify the example.) The selected terminal is recorded and then the serving node clears the non-selected terminals. (Note: this clearing action is not illustrated for simplicity of the flow diagram.) The serving node issues information flow 12 towards its associated relay node.

12 Call-&-Bearer-Set-up.ready **Serving Node C to Relay Node 2**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(C):ref.c) ID, **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: When the selected relay node receives the above responses, it records them and relays the responses to the requesting serving node in the form illustrated by information flow 13.

13 Call-&-Bearer-Set-up.ready **Relay Node 2 to Serving Node A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(C):ref.c) ID, **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Enabling Condition: Functional entity action will only begin after both 7 and 13 information flows are received.

Processing upon receipt: When the requesting serving node receives these information flows, it records the willingness of both parties to accept the call and network connection and that a common set of connection characteristics exist that both parties can accept, and sends the commitment information flows towards the requesting user equipment (flow 14) and the relay nodes (flows 15 and 18), and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

14 Call-&-Bearer-Set-up.commit **Serving Node A to Party A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "A" ID, Service component characteristics)]	**Call Control Segment ID** **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "A" ID, Network address], Party Owner: PEP "A" ID,	**Network connection 1** [Bearer "1" ID, Bearer type, **Addressed party's bearer branch information** [(PEP "A" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: When the user equipment receives this information flow, it records the commitment, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics in the backward direction, and notifies the user of the completion of the call and bearer establishment procedure. (Note: if the terminal or the user is not satisfied with the resultant network connection characteristics, the call and/or network connections can be released.) Note that the requesting party is not notified as to the parties that have been actually connected since a group address has been used to establish the initial request.

15 Call-&-Bearer-Set-up.commit **Serving Node A to Relay Node 1**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics), **Remote party's service component information** (PEP "A" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID), **Remote party's bearer branch information** [(PEP "A" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Initiation of information flow: Processing of information flows 7 and 13

Processing upon receipt: When the selected relay node receive the above information flow, it records the commitment, and relays this commitment to the addressed serving node by issuing information flow number 16, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect. Since this call and connection service request was initiated by a group address, each party is only aware of its relationship with the requesting party. Remote party information other than the requesting party is not conveyed by the commitment information flow.

16 Call-&-Bearer-Set-up.commit **Relay Node 1 to Serving Node B**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics), **Remote party's service component information** (PEP "A" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID), **Remote party's bearer branch information** [(PEP "A" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: When the addressed serving node receives this information flow, it records the commitment, it sends a commitment information flow (17) to the selected terminal. The

addressed serving node then through connects the network connection in the forward direction, and if necessary, modifies the network connection characteristics of backward through-connect.

17 Call-&-Bearer-Set-up.commit **Serving Node B to Party B**

Resource information	**Call information**	**Bearer information**
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics), **Remote party's service component information** (PEP "A" ID, Service component characteristics)]]	**Call Control Segment ID** **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID), **Remote party's bearer branch information** [(PEP "A" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Processing upon receipt: The terminal records the final network connection characteristics and through connects the network connections in both directions, and notifies the user of the call and connection establishment.

18 Call-&-Bearer-Set-up.commit **Serving Node A to Relay Node 2**

Resource information	**Call information**	**Bearer information**
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics), **Remote party's service component information** (PEP "A" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(C):ref.c) ID, **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID) **Remote party's bearer branch information** [(PEP "A" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 1 ID),]

Initiation of information flow: Processing of information flows 7 and 13

Processing upon receipt: When the selected relay node receives the above information flow, it records the commitment, and relays this commitment to the addressed serving node by issuing information flow number 19, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect. Since this call and connection service request was initiated by a group address, each party is only aware of its relationship with the requesting party. Remote party information other than the requesting party is not conveyed by the commitment information flow.

19 Call-&-Bearer-Set-up.commit **Relay Node 2 to Serving Node C**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics), **Remote party's service component information** (PEP "A" ID, Service component characteristics)]]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(C):ref.c) ID, **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID), **Remote party's bearer branch information** [(PEP "A" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 1 ID),]

Processing upon receipt: When the addressed serving node receives this information flow, it records the commitment, it sends a commitment information flow (20) to the selected terminal. The addressed serving node then through connects the network connection in the forward direction, and if necessary, modifies the network connection characteristics of backward through-connect.

20 Call-&-Bearer-Set-up.commit **Serving Node C to Party C**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics), **Remote party's service component information** (PEP "A" ID, Service component characteristics)]	**Call Control Segment ID** **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID), **Remote party's bearer branch information** [(PEP "A" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: The terminal records the final network connection characteristics and through connects the network connections in both directions, and notifies the user of the call and connection establishment.

7.3.2 Call and connection establishment single network connection – Multicast address is used by requesting party – Optional multicast set-up

The user (party A) requests a multicast address call. This call example is associated with a single connection. The multicast address is translated by the requesting serving node upon receipt. The number of parties offered this call and network connection will depend on the translation of the multicast address. In this example, the address translation indicates that parties B and C could be connected to party A via the requested single network connection. The connection may be either a type 2, 3, or 5 network connection as a result of the multicast address translation. The requested service is of the non-human interaction type. If the addressed parties equipment can accept the requested service, the designated attachment method, and specified bearer service, the equipment will indicate acceptance of the call and network connection request. This example also assumes that the requested parties are connected to a multi-signalling entity interface. In addition, it is assumed that the network does not perform a look-ahead procedure before progressing with the network connection establishment. (The look-ahead procedure could be applied, however, to simplify the example the look-ahead procedure is not illustrated.)

Note that only one address is supplied by the user. In this example the mandatory/optional designator associated with the multicast address is set to optional. In addition, when the operation is designated

as optional, two modes of operation are possible, notify all parties whenever a party is added or do not notify any party as each party is added. In this example notification is illustrated and party A is the root of the network connection. Figure 7-15 illustrates the before and after view of this example.

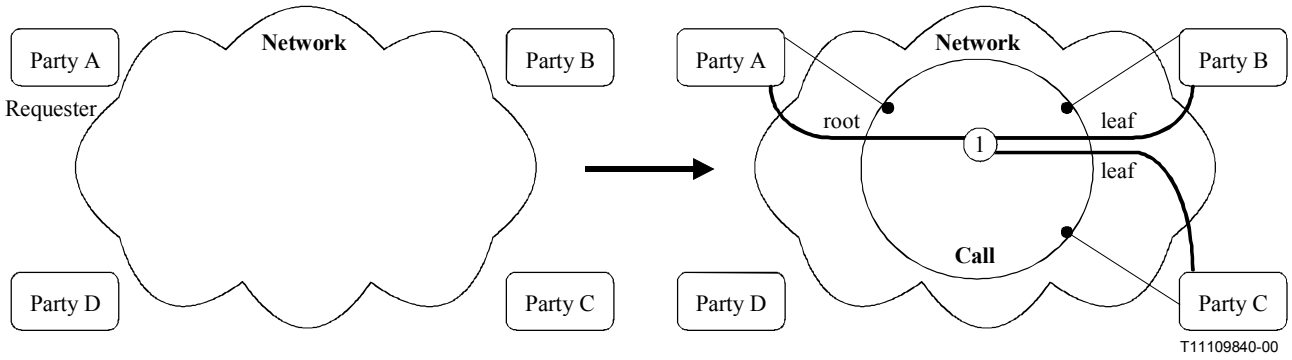


Figure 7-15 – Call and Bearer transition diagram

The signalling capability of coordinated control for establishing this optional multicast address call and network connection between the three parties without network look-ahead is illustrated in Figure 7-16.

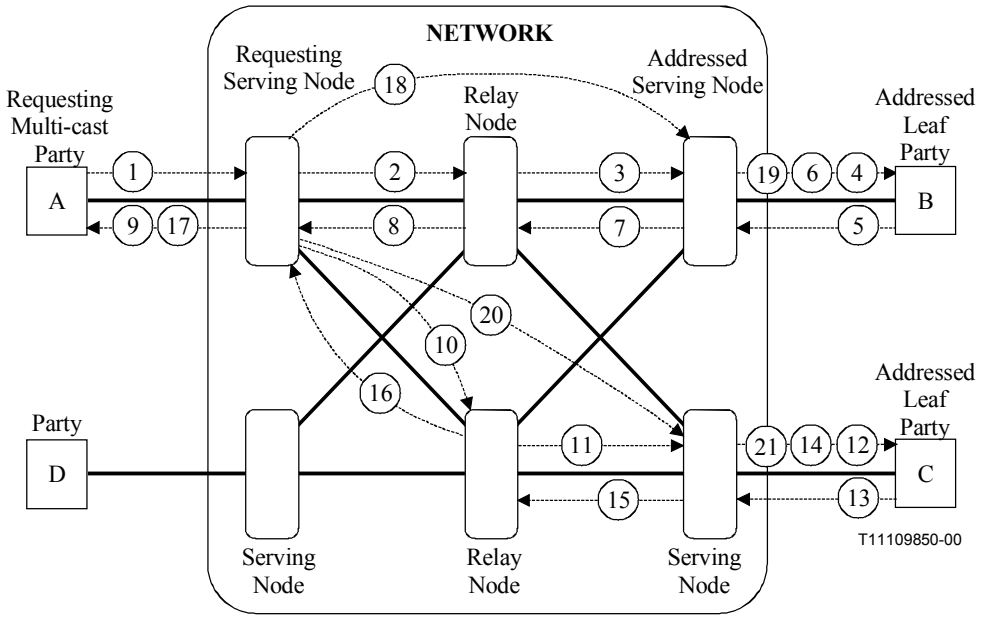


Figure 7-16 – Optional multicast address call and bearer establishment

The actions illustrated in Figure 7-16 are as follows.

Requesting party's terminal equipment issues the following information flow towards its serving node. The terminal equipment then attaches to the backward portion of the network connection assuming the bearer characteristics specified in the outgoing request.

1 Call-&-Bearer-Set-up.ready **Party A to serving Node A**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "Group" ID), **Addressed party's service component information** (PEP "Group" ID, Service component characteristics)]	**Call Control Segment ID** **Addressed party Information** [PEP "Group" ID, Network group address], **Requesting party information** [PEP "A" ID, Network Address]	**Network connection 1** [Bearer "1" ID, Bearer type, **Parties connected** (PEP "A" ID, PEP "Group" ID), **Addressed party's bearer branch information** [(PEP "Group" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "Group" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Initiation of information flow: The user initiates a coordinated call and bearer request containing a multicast address.

Processing upon receipt: The requester's serving node validates the request and the requesting party. The requester's serving node translates the requested address, determines that a multicast address points to two parties (B and C) which are to be treated as a optional group of parties with individual party A notification. The serving node then determines the route and outgoing trunk facilities towards the serving nodes associated with the addressed parties. (Note: the validation and route determination flows are not illustrated in order to simplify the diagram.) For this example, the network connection will be routed through separate relay nodes, two signalling ports are therefore needed, the serving node can commit to the request and therefore issues information flows 2 and 10 towards the selected relay nodes. The network connection is backward through connected.

2 Call-&-Bearer-Set-up.ready **Serving Node A to Relay Node 1**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID) **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(B):----) ID, **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf)"), **Addressed party's bearer branch information** [(PEP "B" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Processing upon receipt: The selected relay node validates the request and determines the route and outgoing trunk facility. The selected relay node issues information flow 3 towards the addressed serving node. The network connection in the relay node is backward through connected.

3 Call-&-Bearer-Set-up.ready **Relay Node 1 to Serving Node B**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID), **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(B):----) ID, **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf)), **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Processing upon receipt: The addressed serving node selects the terminating interface facility. Since the interface is classified as a multiple signalling entity interface, the serving node cannot commit to the addressed end point and therefore issues information flow 4 towards the selected interface facility. The network connection is backward through connected.

4 Call-&-Bearer-Set-up.begin **Serving Node B to Party B**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID), **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID,** **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf)), **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Processing upon receipt: The addressed terminal equipment determines that it can accept the request and issues information flow 5 towards its associated serving node. (Note: if the terminal cannot accept the network connection characteristics, it could either respond with an alternate set of network connection characteristics or issue a cancel information flow.) If an alternate set of characteristics is desired, the ready information flow would contain these characteristics.

5 Call-&-Bearer-Set-up.ready **Party B to Serving Node B**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID** **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Processing upon receipt: The addressed serving node validates the responding parties, records the responses to the action request and selects one of the responding terminals. (Note: the validation flows are not illustrated in order to simplify the example.) The selected terminal is recorded and then the serving node clears the non-selected terminals. (Note: this clearing action is not illustrated for simplicity of the flow diagram.) The serving node issues 6 information flow towards party B and information flow 7 towards its associated relay node.

6 Call-&-Bearer-Set-up.commit **Serving Node B to Party B**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID** **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Processing upon receipt: The terminal records the final network connection characteristics and through-connects the network connections in both directions, and notifies the user of the call and connection establishment.

7 Call-&-Bearer-Set-up.commit **Serving Node B to Relay Node 1**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Initiation of information flow: Processing of information flow 5

Processing upon receipt: When the selected relay node receives the above information flow, it records the commitment and relays this commitment to the requesting serving node by issuing information flow number 8, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

8 Call-&-Bearer-Set-up.commit **Relay Node 1 to Serving Node A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID**,** **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Processing upon receipt: When the requesting serving node receives this information flow, it records the commitment, it sends a commitment information flow (9) to the requesting terminal. The requesting serving node then through connects the network connection in the forward direction, and if necessary, modifies the network connection characteristics of backward through-connect. (Note: in this example, it is assumed that information flow 8 arrives before 16.) If this is not the case, 16 would issue information flow 9, and information flow 8 would issue information flow 17.

9 Call-&-Bearer-Set-up.commit **Serving Node A to Party A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID), **Addressed party's service component information** (PEP "A" ID, Service component characteristics), **Remote party's service component information** (PEP "B" ID, Service component characteristics)]]	**Call Control Segment ID** **Call Owner: PEP "A" ID** **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Addressed party Information** [PEP "A" ID, Network address], Party Owner: PEP "A" ID,	**Network connection 1** [Bearer "1" ID, Connection owner: PEP "A", **Parties connected** (PEP "A" ID, PEP "B" ID), **Addressed party's bearer branch information** [(PEP "A" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 1 ID) **Remote party's bearer branch information** [(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Remote party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID]

Initiation of information flow: Processing of information flow 8 or 16

Processing upon receipt: When the user equipment receives this information flow, it records the commitment, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics in the backward direction, and notifies the user of the completion of the call and bearer establishment procedure. (Note: if the terminal or the user is not satisfied with the resultant network connection characteristics, the call and/or network connections can be released.)

10 Call-&-Bearer-Set-up.ready **Serving Node A to Relay Node 2**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "C" ID), **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(C):----) ID, **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "C" ID (leaf)), **Addressed party's bearer branch information** [(PEP "C" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Initiation of information flow: Processing of information flow 1

Processing upon receipt: The selected relay node validates the request and determines the route and outgoing trunk facility. The selected relay node issues information flow 11 towards the addressed serving node. The network connection in the relay node is backward through connected.

11 Call-&-Bearer-Set-up.ready **Relay Node 2 to Serving Node C**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "C" ID), **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(C):----) ID, **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "C" ID (leaf)), **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: The addressed serving node selects the terminating interface facility. Since the interface is classified as a multiple signalling entity interface, the serving node cannot commit to the addressed end point and therefore issues information flow 12 towards the selected interface facility. The network connection is backward through connected.

12 Call-&-Bearer-Set-up.begin **Serving Node C to Party C**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "C" ID), **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID** **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "C" ID (leaf)), **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

The addressed terminal equipment determines that it can accept the request and issues information flow 13 towards its associated serving node. (Note: if the terminal cannot accept the network connection characteristics it could either respond with an alternate set of network connection characteristics or issue a cancel information flow.) If an alternate set of characteristics is desired, the ready information flow would contain these characteristics.

13 Call-&-Bearer-Set-up.ready **Party C to Serving Node C**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID** **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: The addressed serving node validates the responding parties, records the responses to the action request and selects one of the responding terminals. (Note: the validation flows are not illustrated in order to simplify the example.) The selected terminal is recorded and then the serving node clears the non-selected terminals. (Note: this clearing action is not illustrated for simplicity of the flow diagram.) The serving node issues information flow 14 towards party C and information flow 15 towards its associated relay node.

14 Call-&-Bearer-Set-up.commit **Serving Node C to Party C**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID** **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: The terminal records the final network connection characteristics and through connects the network connections in both directions, and notifies the user of the call and connection establishment.

15 Call-&-Bearer-Set-up.commit **Serving Node C to Relay Node 2**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(C):ref.c) ID, **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Initiation of information flow: Processing of information flow 13

Processing upon receipt: When the selected relay node receive the above information flow, it records the commitment, and relays this commitment to the requesting serving node by issuing information flow number 16, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

16 Call-&-Bearer-Set-up.commit **Relay Node 2 to Serving Node A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(C):ref.c) ID, **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: When the requesting serving node receives this information flow, it records the commitment, it sends a notification information flow (17) to the requesting terminal. The requesting serving node then through connects the network connection in the forward direction, and if necessary, modifies the network connection characteristics of backward through-connect. Note that in this example it is assumed that information flow 8 arrives before 16. If this is not the case, 16 would issue information flow 9 and information flow 8 would issue information flow 17.

17 Notify-Call-&-Bearer-Change.indication **Serving Node A to Party A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, PEP "C" ID), **Addressed party's service component information** (PEP "A" ID, Service component characteristics), **Remote party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID** **Remote party Information** [PEP "C" ID, Network address], Party Owner: PEP "A" ID, **Addressed party Information** [PEP "A" ID, Network address], Party Owner: PEP "A" ID, **Event:** Party C added to call and attached to Network Connection 1	**Network connection 1** [Bearer "1" ID, **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)), **Addressed party's bearer branch information** [(PEP "A" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 1 ID), **Remote party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)]]

Initiation of information flow: Processing of information flow 16 or 8

Enabling Condition: Notify option active

Processing upon receipt: When the user equipment receives this information flow, it records the party answer, if necessary, modifies the network connection characteristics in the backward direction, and notifies the user. (Note: if the terminal or the user is not satisfied with the resultant network connection characteristics, the call and/or network connections can be released.)

18 Notify-Call-&-Bearer-Change.indication **Serving Node A to Serving Node B**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, PEP "C" ID), **Remote party's service component information** (PEP "C" ID, Service component characteristics), **Remote party's service component information** (PEP "A" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Remote Call association** (SN(A):ref.a - SN(C):ref.c) ID, **Remote party Information** [PEP "C" ID, Network address], **Addressed party Information** [PEP "B" ID, Network address], **Event:** Party C added to call and attached to Network Connection 1	**Network connection 1** [Bearer "1" ID, **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)), **Remote party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID), **Remote party's bearer branch information** [(PEP "A" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Initiation of information flow: Processing of information flow 16 and 8

Enabling Condition: Notify option active

Processing upon receipt: When the serving node receives this information flow, it records that party C has been added to the call and is attached to the network connection. This notify information flow is forwarded to party B via information flow 19.

19 Notify-Call-&-Bearer-Change.indication **Serving Node B to party B**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, PEP "C" ID), **Remote party's service component information** (PEP "C" ID, Service component characteristics), **Remote party's service component information** (PEP "A" ID, Service component characteristics)]	**Call Control Segment ID,** **Remote party Information** [PEP "C" ID, Network address], **Addressed party Information** [PEP "B" ID, Network address], **Event:** Party C added to call and attached to Network Connection 1	**Network connection 1** [Bearer "1" ID, **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)), **Remote party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID), **Remote party's bearer branch information** [(PEP "A" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 1 ID)],

Enabling Condition: Notify option active

Processing upon receipt: When the terminal receives this information flow, it records that party C has been added to the call and is attached to the network connection and will inform the user of this call and bearer state change.

20	Notify-Call-&-Bearer-Change.indication	Serving Node A to Serving Node C

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, PEP "C" ID), **Remote party's service component information** (PEP "B" ID, Service component characteristics), **Remote party's service component information** (PEP "A" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(C):ref.c) ID, **Remote Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Remote party Information** [PEP "C" ID, Network address], **Addressed party Information** [PEP "B" ID, Network address], **Event:** Party C added to call and attached to Network Connection 1	**Network connection 1** [Bearer "1" ID, **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)), **Remote party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID), **Remote party's bearer branch information** [(PEP "A" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Initiation of information flows: Processing of information flow 16 and 8

Enabling Condition: Notify option active

Processing upon receipt: When the serving node receives this information flow, it records that party C has been added to the call and is attached to the network connection. This notify information flow is forwarded to party B via information flow 21.

21	Notify-Call-&-Bearer-Change.indication	Serving Node C to party C

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, PEP "C" ID), **Remote party's service component information** (PEP "B" ID, Service component characteristics), **Remote party's service component information** (PEP "A" ID, Service component characteristics)]	**Call Control Segment ID,** **Remote party Information** [PEP "C" ID, Network address], **Addressed party Information** [PEP "B" ID, Network address], **Event:** Party B added to call and attached to Network Connection 1	**Network connection 1** [Bearer "1" ID, **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)), **Remote party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID), **Remote party's bearer branch information** [(PEP "A" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Enabling Condition: Notify option active

Processing upon receipt: When the terminal receives this information flow, it records that party B has been added to the call and is attached to the network connection and will inform the user of this call and bearer state change.

7.4 Any-cast address procedures

The user (party A) requests a any-cast address call. This call is associated with a single connection. The any-cast address is translated by the requesting serving node upon receipt. The number of parties offered this call and network connection will depend on the translation of the multicast address. In this example, the address translation indicates that parties B and C can be connected to party A via the requested single network connection. The connection is a type 1 network connection. The requested service is of the non-human interaction type. If the addressed party equipment can accept the requested service, the designated attachment method, and specified bearer service, the equipment will indicate acceptance of the call and network connection request. The first terminal to respond will be allocated the call and network connection. This example also assumes that the addressed parties are connected to a multi-signalling entity interface. In addition, it is assumed that the network does not perform a look-ahead procedure before progressing with the network

connection establishment. (The look-ahead procedure could be applied, however, to simplify the example the look-ahead procedure is not illustrated.) Figure 7-17 illustrates the before and after view of this example.

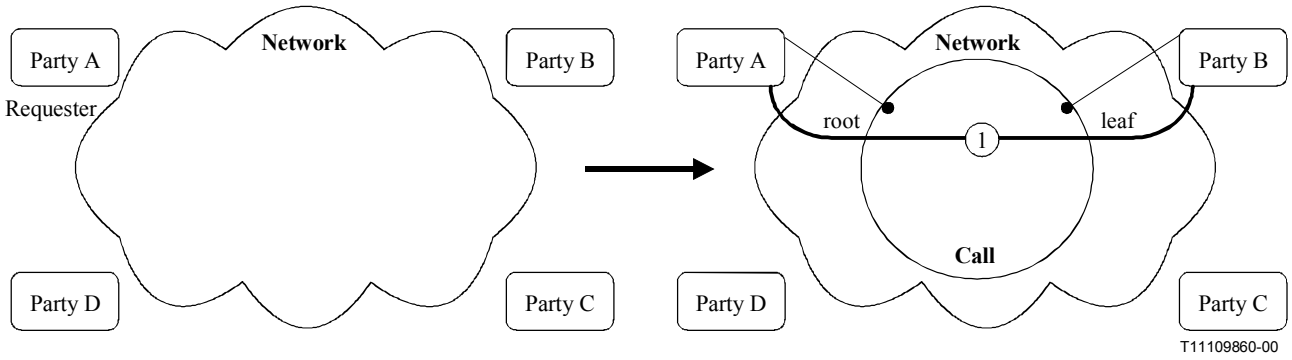


Figure 7-17 – Call and Bearer transition diagram

The signalling capability of coordinated control for establishing this any-cast address call and network connection between three parties without network look-ahead is illustrated in Figure 7-18.

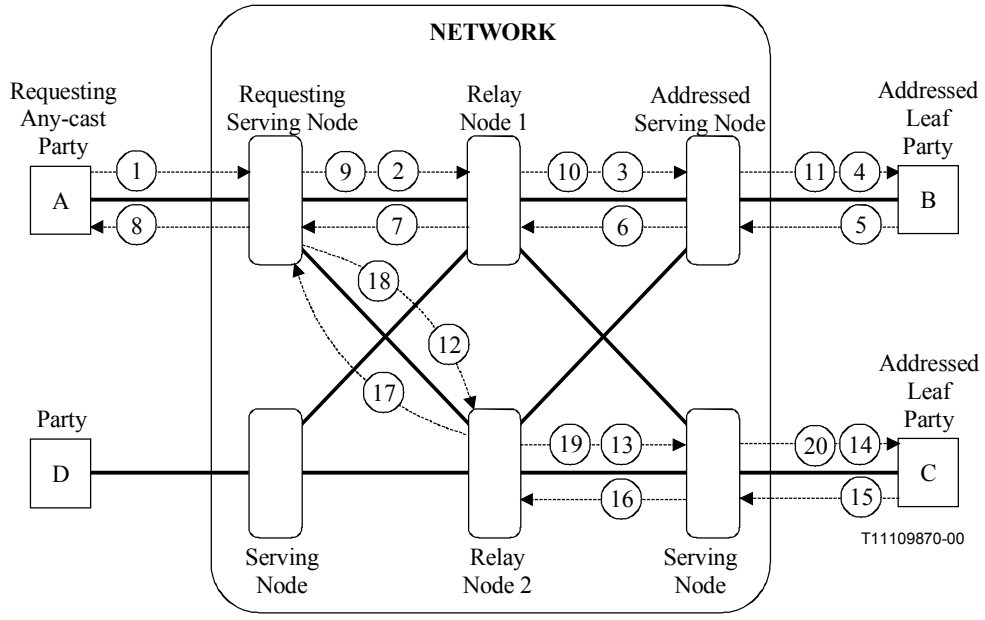


Figure 7-18 – Any-cast address call and bearer establishment

The actions illustrated in Figure 7-18 are as follows.

Requesting party's terminal equipment issues the following information flow towards its serving node. The terminal equipment then attaches to the backward portion of the network connection assuming the bearer characteristics specified in the outgoing request.

1 Call-&-Bearer-Set-up.ready Party A to serving Node A

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "Group" ID), **Addressed party's service component information** (PEP "Group" ID, Service component characteristics)]	**Call Control Segment ID** **Addressed party Information** [PEP "Group" ID, Network group address], **Requesting party information** [PEP "A" ID, Network Address]	**Network connection 1** [Bearer "1" ID, Bearer type, **Parties connected** (PEP "A" ID, PEP "Group" ID), **Addressed party's bearer branch information** [(PEP "Group" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "Group" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Initiation of information flow: The user initiates a coordinated call and bearer request containing a multicast address.

Processing upon receipt: The requester's serving node validates the request and the requesting party. The requester's serving node translates the requested address, determines that a multicast address points to two parties (B and C) which are to be treated as a mandatory group of parties. The serving node then determines the route and outgoing trunk facilities towards the serving nodes associated with the addressed parties. (Note: these validation and route determination flows are not illustrated in order to simplify the diagram.) For this example, the network connection will be routed through separate relay nodes, two signalling ports are needed, the serving node cannot commit to the request and therefore issues information flows 2 and 12 towards the selected relay nodes. The network connection is backward through-connected.

2 Call-&-Bearer-Set-up.begin Serving Node A to Relay Node 1

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID), **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(B):----) ID, **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf)), **Addressed party's bearer branch information** [(PEP "B" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Processing upon receipt: The selected relay node validates the request and determines the route and outgoing trunk facility. The selected relay node issues information flow 3 towards the addressed serving node. The network connection in the relay node is backward through connected.

3 Call-&-Bearer-Set-up.begin Relay Node 1 to Serving Node B

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID), **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(B):----) ID, **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf)), **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Processing upon receipt: The addressed serving node selects the terminating interface facility. Since the interface is classified as a multiple signalling entity interface, the serving node cannot commit to the addressed end point and therefore issues information flow 4 towards the selected interface facility. The network connection is backward through-connected.

4 Call-&-Bearer-Set-up.begin **Serving Node B to Party B**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID), **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID** **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf)), **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Processing upon receipt: The addressed terminal equipment determines that it can accept the request and issues information flow 5 towards its associated serving node. (Note: if the terminal cannot accept the network connection characteristics, it could either respond with an alternate set of network connection characteristics or issue a cancel information flow.) If an alternate set of characteristics is desired, the ready information flow would contain these characteristics.

5 Call-&-Bearer-Set-up.ready **Party B to Serving Node B**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID** **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Processing upon receipt: The addressed serving node validates the responding parties, records the responses to the action request and selects one of the responding terminals. (Note: the validation flows are not illustrated in order to simplify the example.) The selected terminal is recorded and then the serving node clears the non-selected terminals. (Note: this clearing action is not illustrated for simplicity of the flow diagram.) The serving node issues information flow 6 towards its associated relay node.

6 Call-&-Bearer-Set-up.ready **Serving Node B to Relay Node 1**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Processing upon receipt: When the selected relay nodes receive the above responses it records them and relays the responses to the requesting serving node in the form illustrated by information flow 7.

7 Call-&-Bearer-Set-up.ready **Relay Node 1 to Serving Node A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Enabling Condition: This example assumes that party B responds first and that information flow 7 arrives ahead of information flow 17.

Processing upon receipt: When the requesting serving node receives this information flow, it records the willingness of party B to accept the call and network connection and that a common set of connection characteristics exist that both parties A and B can accept. The serving node sends a commitment information flows towards the requesting user equipment (flow 8) and relay node 1 (flow 9), and performs forward through-connect of the network connection and if necessary, modifies the network connection characteristics of backward through-connect.

8 Call-&-Bearer-Set-up.commit **Serving Node A to Party A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID), **Addressed party's service component information** (PEP "A" ID, Service component characteristics), **Remote party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID** **Call Owner: PEP "A" ID** **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Addressed party Information** [PEP "A" ID, Network address], Party Owner: PEP "A" ID,	**Network connection 1** [Bearer "1" ID, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf)), **Addressed party's bearer branch information** [(PEP "A" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 1 ID), **Remote party's bearer branch information** [(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Remote party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: When the user equipment receives this information flow, it records the commitment, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics in the backward direction, and notifies the user of the completion of the call and bearer establishment procedure. (Note: if the terminal or the user is not satisfied with the resultant network connection characteristics, the call and/or network connections can be released.)

9 Call-&-Bearer-Set-up.commit **Serving Node A to Relay Node 1**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics),
Remote party's service component information
(PEP "A" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Addressed party Information
[PEP "B" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Processing upon receipt: When the selected relay node receives the above information flow, it records the commitment and relays this commitment to the addressed serving node by issuing information flow number 10, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

10 Call-&-Bearer-Set-up.commit **Relay Node 1 to Serving Node B**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics),
Remote party's service component information
(PEP "A" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):ref.b) ID
Addressed party Information
[PEP "B" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Processing upon receipt: When the addressed serving node receives this information flow, it records the commitment, it sends a commitment information flow (11) to the selected terminal. The addressed serving node then through connects the network connection in the forward direction, and if necessary, modifies the network connection characteristics of backward through-connect.

11 Call-&-Bearer-Set-up.commit **Serving Node B to Party B**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics),
Remote party's service component information
(PEP "A" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "B" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Processing upon receipt: The terminal records the final network connection characteristics and through connects the network connections in both directions, and notifies the user of the call and connection establishment.

12 Call-&-Bearer-Set-up.begin **Serving Node A to Relay Node 2**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, ID, PEP "C" ID), **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(C):----) ID, **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "C" ID (leaf)), **Addressed party's bearer branch information** [(PEP "C" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Initiation of information flow: Processing of information flow 1.

Processing upon receipt: The selected relay node validates the request and determines the route and outgoing trunk facility. The selected relay node issues information flow 13 towards the addressed serving node. The network connection in the relay node is backward through connected.

13 Call-&-Bearer-Set-up.begin **Relay Node 2 to Serving Node C**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "C" ID), **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(C):----) ID, **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "C" ID (leaf)), **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: The addressed serving node selects the terminating interface facility. Since the interface is classified as a multiple signalling entity interface, the serving node cannot commit to the addressed end point and therefore issues information flow 14 towards the selected interface facility. The network connection is backward through connected.

14 Call-&-Bearer-Set-up.begin **Serving Node C to Party C**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "C" ID), **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID** **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "C" ID (leaf)), **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

The addressed terminal equipment determines that it can accept the request and issues information flow 15 towards its associated serving node. (Note: if the terminal cannot accept the network connection characteristics, it could either respond with an alternate set of network connection characteristics or issue a cancel information flow.) If an alternate set of characteristics is desired, the ready information flow would contain these characteristics.

15 Call-&-Bearer-Set-up.ready **Party C to Serving Node C**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID** **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: The addressed serving node validates the responding parties, records the responses to the action request and selects one of the responding terminals. (Note: the validation flows are not illustrated in order to simplify the example.) The selected terminal is recorded and then the serving node clears the non-selected terminals. (Note this clearing action is not illustrated for simplicity of the flow diagram.) The serving node issues information flow 16 towards its associated relay node.

16 Call-&-Bearer-Set-up.ready **Serving Node C to Relay Node 2**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(C):ref.c) ID, **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: When the selected relay node receives the above responses, it records them and relays the responses to the requesting serving node in the form illustrated by the information flow 17.

17 Call-&-Bearer-Set-up.ready **Relay Node 2 to Serving Node A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(C):ref.c) ID, **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Enabling Condition: This example assumes that party B responds first and that information flow 7 arrives ahead of information flow 17.

Processing upon receipt: When the requesting serving node receives this information flow, it sends a cancel information flows towards relay node 2 (flow 18).

18 Call-&-Bearer-Set-up.cancel **Serving Node A to Relay Node 2**

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(C):ref.c) ID **Addressed party Information** [PEP "C" ID, Network address],	

Processing upon receipt: When the selected relay node receives the above information flow, it records the cancel operation, and relays this cancel operation to the addressed serving node by issuing information flow number 19, and performs call and network connection release.

19	Call-&-Bearer-Set-up.cancel	Relay Node 2 to Serving Node C
Resource information	**Call information** **Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(C):ref.c) ID **Addressed party Information** [PEP "C" ID, Network address],	**Bearer information**

Processing upon receipt: When the selected relay node receives the above information flow, it records the cancel operation, and relays this cancel operation to the addressed party by issuing information flow number 20, and performs call and network connection release.

20	Call-&-Bearer-Set-up.cancel	Serving Node C to Party C
Resource information	**Call information** **Call Control Segment ID** **Addressed party Information** [PEP "C" ID, Network address],	**Bearer information**

Processing upon receipt: The terminal performs call and network connection release.

8 Addition of one or more new parties to an existing call with attachment to existing or new network connections

The following capabilities will be illustrated:

1) Addition of one or more new parties with attachment to one or more existing connections.
2) Addition of one or more new parties with attachment to one or more new network connections.

These examples illustrate the necessary information to be carried in order that at the end of the example, each party contains a full description of the call and its associated bearer branches. In many service scenarios the full description of the call and bearers are not necessary, however, it was felt the illustration of a more complete signalling procedure would allow simplified variations to be constructed.

8.1 Addition of one or more new parties with attachment to one or more existing connections

The following capabilities will be illustrated:

1) Add one new party requested by a party which is the root of the network connection (without network look-ahead).
2) Add two new parties requested by a party which is the root of the network connection (without network look-ahead).

8.1.1 Add one new party requested by a party which is the root of the network connection – Without network look-ahead

In this example, a call association and a network connection exist between party A and party D. The party A, which is the root of the network connection and the call owner, requests that a new party B is to be added to the call and be attached to this connection. This example also assumes that party B is connected to a point-to-multipoint signalling interface. The network does not perform a look-ahead procedure before progressing with the connection branch establishment. It is assumed that the new branching point will be at the relay node. Notification of the addition of the new party and its attachment will be sent to party D at the completion of the procedure. Figure 8-1 illustrates the before and after view of this example.

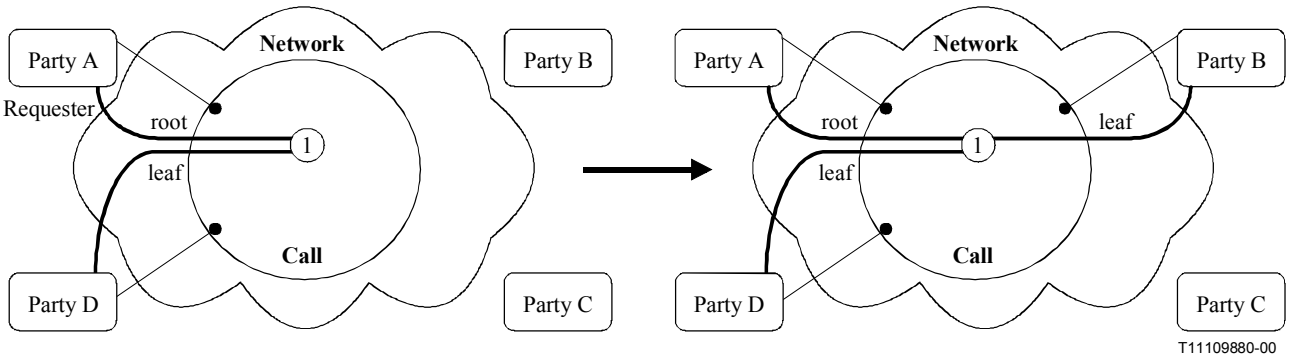


Figure 8-1 – Call and Bearer transition diagram

The signalling capability of coordinated control for adding a new party and attaching this party to an existing connection is illustrated in Figure 8-2.

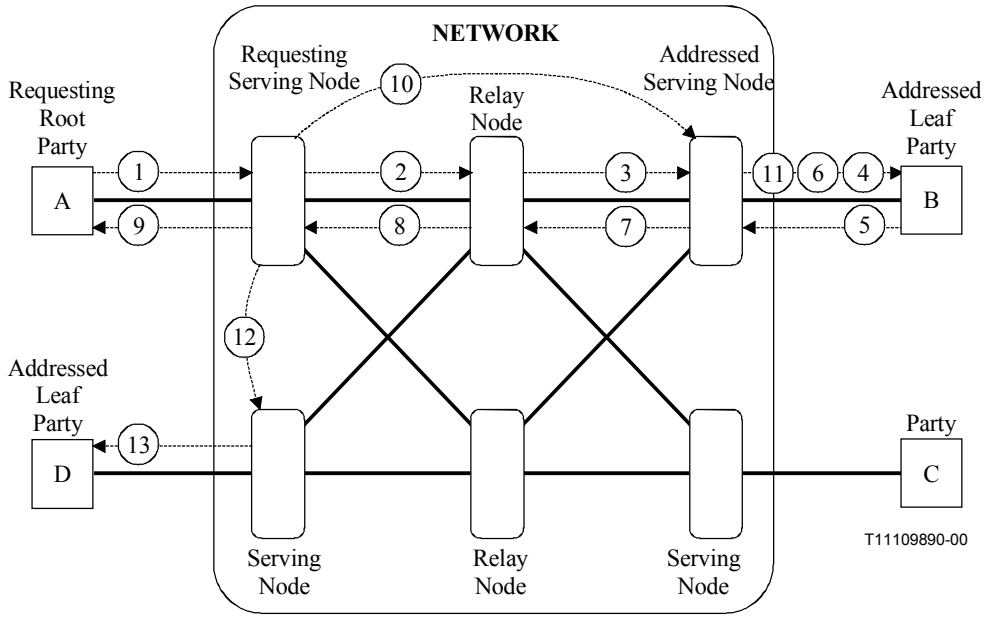


Figure 8-2 – Add one new party requested by a party which is the call owner and the root of the existing network connection

The actions illustrated in Figure 8-2 are as follows.

Requesting party's terminal equipment issues the following information flow towards its serving node.

1 Add-Party-to-Bearer.ready **Party A to Serving Node A**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "D" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "B" ID, Network address],
Requesting party information
[PEP "A" ID, Network Address]

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type,
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "D" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Initiation of information flow: The user initiates an add party to bearer procedure request.

Processing upon receipt: The requester's serving node validates the request and the requesting party and determines the route and outgoing trunk facility towards the addressed serving node associated with the addressed party. (Note: these validation and routing flows are not illustrated in Figure 8-2 in order to simplify the diagram.) It determines that it will not be the branching point of the network connection. It therefore relays the following information flow (2) towards the selected relay node.

2 Add-Party-to-Bearer.ready **Serving Node A to Relay Node 1**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "D" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):----) ID,
Call Owner: PEP "A" ID
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Remote party Information
[PEP "D" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "D" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Processing upon receipt: The selected relay node validates the request and determines the route and outgoing trunk facility of the network connection. It determines that it will be the new branching point of the existing connection. The relay node commits to the request and issues the following information flow (3) towards the addressed serving node of the new party. The new connection branch may be through connected in backward direction.

3 Call-&-Bearer-Set-up.ready **Relay Node 1 to Serving Node B**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "D" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):----) ID,
Call Owner: PEP "A" ID
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Remote party Information
[PEP "D" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "D" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Processing upon receipt: The addressed serving node selects the terminating interface. Since the interface is classified as a point-to-multipoint signalling interface, the addressed serving node cannot

commit to the request and issues the following information flow (4) towards the selected interface. The network connection is backward through connected.

4 Call-&-Bearer-Set-up.begin **Serving Node B to Party B**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "D" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Call Owner: PEP "A" ID
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Remote party Information
[PEP "D" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "D" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Processing upon receipt: The addressed terminal equipment determines that it can accept the requested and issues information flow 5 towards it's associated serving node. (Note: if the terminal cannot accept the network connection characteristics, it could either respond with an alternate set of network connection characteristics or issue a cancel information flow.) If an alternate set of characteristics is desired, the ready information flow would contain these characteristics.

5 Call-&-Bearer-Set-up.ready **Party B to Serving Node B**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "B" ID, Network address]

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Processing upon receipt: The addressed serving node validates the responding parties, records the responses to the action request and selects one of the responding terminals. (Note: the validation flows are not illustrated in order to simplify the example.) The selected terminal is sent information flow number 6. The serving node then clears the non-selected terminals. (Note: this action is not illustrated for simplicity.) The addressed serving node uses the network connection characteristics within the information flow to determine the final network connection characteristics to be assigned to the network connection branches between party B and the network, and the network connection branches between the addressed serving node and the requesting relay node. Information flow 6 towards the terminal and information flow 7 contain these network connection branch characteristics. The network connection is through connected in the forward direction, and if necessary, modifies the backward network connection characteristics.

6 Call-&-Bearer-Set-up.commit **Serving Node B to Party B**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "B" ID, Network address]

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Processing upon receipt: The terminal records the final network connection characteristics and through connects the network connections in both directions, and notifies the user of the call and connection establishment.

7 Call-&-Bearer-Set-up.commit **Serving Node B to Relay Node 1**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address]	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: When the relay node receives this information flow, it records the commitment and uses the network connection characteristics within the information flow to determine the final network connection characteristics to be assigned to the network connection branch between serving node B and the relay node, and the network connection branch characteristics between the relay node and the requesting serving node. The relay node then issues information flow 8 towards the requesting serving node and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics in the backward direction.

8 Add-Party-to-Bearer.commit **Relay Node 1 to Serving Node A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address]	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: When the requesting serving node receives this information flow, it records the commitment and uses the network connection characteristics within the information flow to determine the final network connection characteristics to be assigned to the network connection branch between the relay node and the requesting serving node, and the network connection branch characteristics between the serving node and the requesting party. The serving node then issues information flow 9 towards the requesting party and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics in the backward direction. The requesting serving node notifies party B that party D is a member of the call and connection via information flow 10. The serving node also notifies party D of the change of the call and connection status by issuing information flow 12.

9 Add-Party-to-Bearer.commit **Serving Node A to Party A**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "A" ID, Service component characteristics),
Remote party's service component information
(PEP "B" ID, Service component characteristics)]]

Call information
Call Control Segment ID
Addressed party Information
[PEP "A" ID, Network address],
Party Owner: PEP "A" ID,

Bearer information
Network connection 1
[Bearer "1" ID, Connection owner: PEP "A",
Addressed party's bearer branch information
[(PEP "A" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID)
Remote party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]]

Processing upon receipt: When the user equipment receives this information flow, it records the commitment, and if necessary, modifies the network connection characteristics in the backward direction, and notifies the user of the completion of the call and bearer establishment procedure. (Note: if the terminal or the user is not satisfied with the resultant network connection characteristics, the party could be detached from the connection or the party could be released.)

10 Notify-Call-&-Bearer-Change.indication **Serving Node A to Serving Node B**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "D" ID),
Remote party's service component information
(PEP "D" ID, Service component characteristics)
Remote party's service component information
(PEP "A" ID, Service component characteristics)]]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Remote Call association
(SN(A):ref.a - SN(D):ref.d) ID,
Remote party Information
[PEP "D" ID, Network address],
Party Owner: PEP "A" ID,
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Event: Party D added to call and attached to Network Connection 1

Bearer information
Network connection 1
[Bearer "1" ID,
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "D" ID (leaf)),
Remote party's bearer branch information
[(PEP "D" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "D" ID, Service module characteristics
Service component list
[(Resource 1 ID)
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID)]]

Initiation of information flow: Processing of information flow 8

Enabling Condition: Notify option active

Processing upon receipt: When the serving node receives this information flow, it records party D's service characteristics associated with this call, and network connection has been added to the call and network information. This notify information flow is forwarded to party B via information flow 11.

11 Notify-Call-&-Bearer-Change.indication **Serving Node B to Party B**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "D" ID),
Remote party's service component information
(PEP "D" ID, Service component characteristics),
Remote party's service component information
(PEP "A" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Remote party Information
[PEP "D" ID, Network address],
Party Owner: PEP "A" ID,
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Event: Party D added to call and attached to Network Connection 1

Bearer information
Network connection 1
[Bearer "1" ID,
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "D" ID (leaf)),
Remote party's bearer branch information
[(PEP "D" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "D" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Enabling Condition: Notify option active

Processing upon receipt: When the terminal receives this information flow, it records that party D has been added to the call and is attached to the network connection and will inform the user of this call and bearer state change.

12 Notify-Call-&-Bearer-Change.indication **Serving Node A to Serving Node D**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "D" ID),
Remote party's service component information
(PEP "B" ID, Service component characteristics)
Remote party's service component information
(PEP "A" ID, Service component characteristics)]]

Call information
Call Control Segment ID,
Direct Call association (SN(A):ref.a - SN(D):ref.d) ID,
Remote Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Remote party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Addressed party Information
[PEP "D" ID, Network address],
Party Owner: PEP "A" ID,
Event: Party B added to call and attached to Network Connection 1

Bearer information
Network connection 1
[Bearer "1" ID,
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "D" ID (leaf)),
Remote party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID)]]

Initiation of information flow: Processing of information flow 8

Enabling Condition: Notify option active

Processing upon receipt: When the serving node receives this information flow, it records that party B has been added to the call and is attached to the network connection. This notify information flow is forwarded to party D via information flow 13.

13	Notify-Call-&-Bearer-Change.indication	Serving Node D to Party D

Resource information
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "D" ID),
Remote party's service component information
(PEP "B" ID, Service component characteristics),
Remote party's service component information
(PEP "A" ID, Service component characteristics)]]

Call information
Call Control Segment ID,
Remote party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Addressed party Information
[PEP "D" ID, Network address],
Party Owner: PEP "A" ID,
Event: Party B added to call and attached to Network Connection 1

Bearer information
Network connection 1
[Bearer "1" ID,
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "D" ID (leaf)),
Remote party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID)]]

Enabling Condition: Notify option active

Processing upon receipt: When the terminal receives this information flow, it records that party B has been added to the call and is attached to the network connection and will inform the user of this call and bearer state change.

8.1.2 Add two new parties requested by a party which is the root of the network connection – Without network look-ahead

In this example, a call association and a network connection exist between party A and party D. The party A, which is the root of the network connection and the call owner request that two new parties (B and C) are to be added to the call and be attached to this connection. This example also assumes that both parties B and C are connected to a point-to-multipoint signalling interface. The network does not perform a look-ahead procedure before progressing with the connection branch establishment. It is assumed that the new branching point will be at the relay node 1 for party B and at serving node A for party C. Notification of the addition of the new parties and their attachment will be sent to party D at the completion of the procedure. Figure 8-3 illustrates the before and after view of this example.

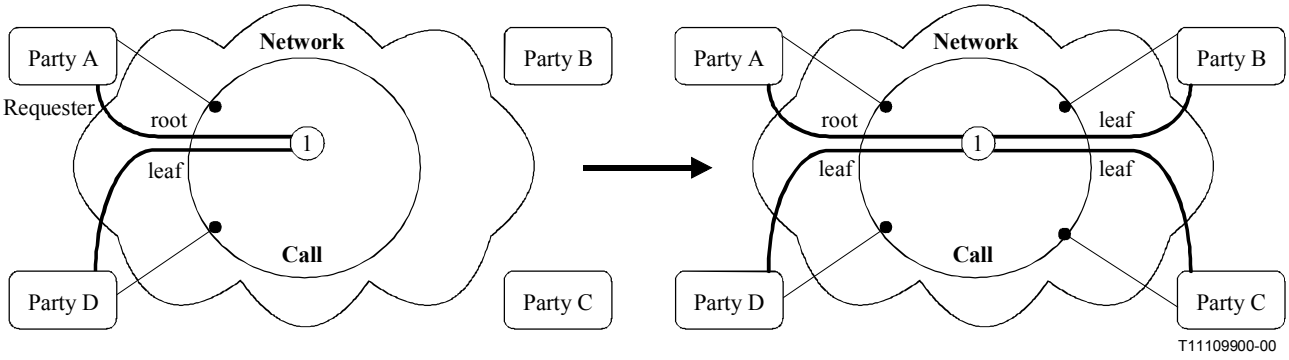


Figure 8-3 – Call and Bearer transition diagram

The signalling capability of coordinated control for adding a new party and attaching this party to an existing connection is illustrated in Figure 8-4.

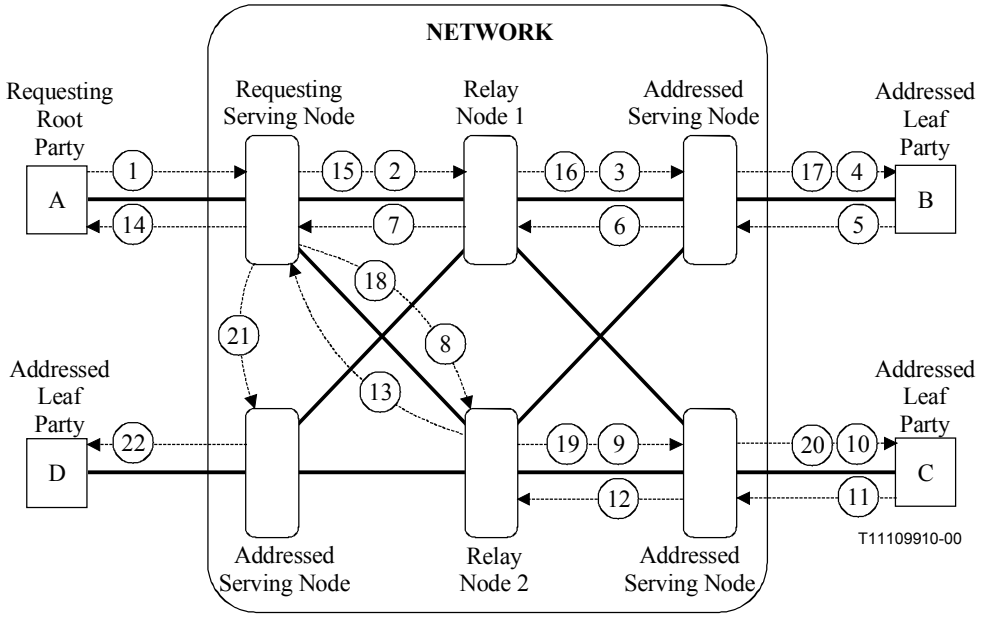


Figure 8-4 – Add two new parties requested by a party which is the call owner and the root of the existing network connection

The actions illustrated in Figure 8-4 are as follows.

Requesting party's terminal equipment issues the following information flow towards its serving node. The terminal equipment then attaches to the backward portion of the network connection assuming the bearer characteristics specified in the outgoing request.

1	**Add-Party-to-Bearer.ready**	**Party A to serving Node A**

Resource information	**Call information**	**Bearer information**
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, PEP "C" ID, PEP "D" ID), **Addressed party's service component information** (PEP "B" ID, Service component characteristics), **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID** **Addressed party Information** [PEP "B" ID, Network address], **Addressed party Information** [PEP "C" ID, Network address], **Remote party Information** [PEP "D" ID, Network address], **Requesting party information** [PEP "A" ID, Network Address]	**Network connection 1** [Bearer "1" ID, Bearer type, **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf), PEP "D" ID (leaf)), **Addressed party's bearer branch information** [(PEP "B" ID, Transit Network Selection, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID), **Addressed party's bearer branch information** [(PEP "C" ID, Transit Network Selection, bearer branch characteristics,), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Initiation of information flow: The user initiates an add party to bearer procedure request.

Processing upon receipt: The requester's serving node validates the request and the requesting party and determines the route and outgoing trunk facility towards the addressed serving node associated with the addressed party. (Note: these validation and routing flows are not illustrated in Figure 8-4 in order to simplify the diagram.) For this example, the network connection will be routed through separate relay nodes, two signalling ports are needed, the serving node cannot commit to the request and therefore issues information flows 2 and 8 towards the selected relay nodes. The new network connection branch is backward through connected.

2 Add-Party-to-Bearer.begin **Serving Node A to Relay Node 1**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID, PEP "D" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):----) ID,
Call Owner: PEP "A" ID
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Remote party Information
[PEP "C" ID, Network address],
Party Owner: PEP "A" ID,
Remote party Information
[PEP "D" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf), PEP "D" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),

Processing upon receipt: The selected relay node validates the request and determines the route and outgoing trunk facility. The selected relay node issues information flow 3 towards the addressed serving node. The network connection branch in the relay node is backward through connected.

3 Call-&-Bearer-Set-up.begin **Relay Node 1 to Serving Node B**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID, PEP "D" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):----) ID,
Call Owner: PEP "A" ID
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Remote party Information
[PEP "C" ID, Network address],
Party Owner: PEP "A" ID,
Remote party Information
[PEP "D" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf), PEP "D" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),

Processing upon receipt: The addressed serving node selects the terminating interface facility. Since the interface is classified as a multiple signalling entity interface, the serving node cannot commit to the addressed end point and therefore issues information flow 4 towards the selected interface facility. The network connection is backward through connected.

4 Call-&-Bearer-Set-up.begin **Serving Node B to Party B**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID, PEP "D" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Call Owner: PEP "A" ID
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Remote party Information
[PEP "C" ID, Network address],
Party Owner: PEP "A" ID,
Remote party Information
[PEP "D" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf), PEP "D" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),

Processing upon receipt: The addressed terminal equipment determines that it can accept the request and issues information flow 5 towards its associated serving node. (Note: if the terminal cannot accept the network connection characteristics, it could either respond with an alternate set of network connection characteristics or issue a cancel information flow.) If an alternate set of characteristics is desired, the ready information flow would contain these characteristics.

5 Call-&-Bearer-Set-up.ready **Party B to Serving Node B**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "B" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),

Processing upon receipt: The addressed serving node validates the responding parties, records the responses to the action request and selects one of the responding terminals. (Note: the validation flows are not illustrated in order to simplify the example.) The selected terminal is recorded and then the serving node clears the non-selected terminals. (Note: this clearing action is not illustrated for simplicity of the flow diagram.) The serving node issues information flow 6 towards its associated relay node.

6 Call-&-Bearer-Set-up.ready **Serving Node B to Relay Node 1**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Addressed party Information
[PEP "B" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),

Processing upon receipt: When the selected relay nodes receive the above responses, it records them and relays the responses to the requesting serving node in the form illustrated by the information flow 7.

7 Add-Party-to-Bearer.ready **Relay Node 1 to Serving Node A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Enabling Condition: Functional entity action will only begin after both information flows 7 and 13 are received.

Processing upon receipt: When the requesting serving node receives these information flows, it records the willingness of both parties to accept the call and network connection and that a common set of connection characteristics exist that both parties can accept, and it sends commitment information flows towards the requesting user equipment (flow 14) and the relay nodes (flows 15 and 18), and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect. The serving node also notifies party D of the change of the call and connection status by issuing information flow 21.

8 Call-&-Bearer-Set-up.begin **Serving Node A to Relay Node 2**

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, PEP "C" ID, PEP "D" ID), **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(C):----) ID, **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "A" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Remote party Information** [PEP "D" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf), PEP "D" ID (leaf)), **Addressed party's bearer branch information** [(PEP "C" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Initiation of information flow: The processing of information flow 1

Processing upon receipt: The selected relay node validates the request and determines the route and outgoing trunk facility. The selected relay node issues information flow 9 towards the addressed serving node. The network connection in the relay node is backward through connected.

9 Call-&-Bearer-Set-up.begin **Relay Node 2 to Serving Node C**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID, PEP "D" ID),
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(C):----) ID,
Call Owner: PEP "A" ID
Addressed party Information
[PEP "C" ID, Network address],
Party Owner: PEP "A" ID,
Remote party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Remote party Information
[PEP "D" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf), PEP "D" ID (leaf)),
Addressed party's bearer branch information
[(PEP "C" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Processing upon receipt: The addressed serving node selects the terminating interface facility. Since the interface is classified as a multiple signalling entity interface, the serving node cannot commit to the addressed end point and therefore issues information flow 10 towards the selected interface facility. The network connection is backward through connected.

10 Call-&-Bearer-Set-up.begin **Serving Node C to Party C**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID, PEP "D" ID),
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]

Call information
Call Control Segment ID
Call Owner: PEP "A" ID
Addressed party Information
[PEP "C" ID, Network address],
Party Owner: PEP "A" ID,
Remote party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Remote party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf), PEP "D" ID (leaf)),
Addressed party's bearer branch information
[(PEP "C" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

The addressed terminal equipment determines that it can accept the request and issues information flow 11 towards its associated serving node. (Note: if the terminal cannot accept the network connection characteristics, it could either respond with an alternate set of network connection characteristics or issue a cancel information flow.) If an alternate set of characteristics is desired, the ready information flow would contain these characteristics.

11 Call-&-Bearer-Set-up.ready **Party C to Serving Node C**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "C" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Processing upon receipt: The addressed serving node validates the responding parties, records the responses to the action request and selects one of the responding terminals. (Note: the validation flows are not illustrated in order to simplify the example.) The selected terminal is recorded and then the serving node clears the non-selected terminals. (Note: this clearing action is not illustrated for simplicity of the flow diagram.) The serving node issues information flow 12 towards its associated relay node.

12 Call-&-Bearer-Set-up.ready **Serving Node C to Relay Node 2**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(C):ref.c) ID, **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: When the selected relay nodes receive the above responses, it records them and relays the responses to the requesting serving node in the form illustrated by the information flow 13.

13 Call-&-Bearer-Set-up.ready **Relay Node 2 to Serving Node A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(C):ref.c) ID, **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Enabling Condition: Functional entity action will only begin after both information flows 7 and 13 are received.

Processing upon receipt: When the requesting serving node receives these information flows, it records the willingness of both parties to accept the call and network connection and that a common set of connection characteristics exist that both parties can accept, and it sends commitment information flows towards the requesting user equipment (flow 14) and the relay nodes (flows 15 and 18), and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect. The serving node also notifies party D of the change of the call and connection status by issuing information flow 21.

14 Add-Party-to-Bearer.commit **Serving Node A to Party A**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "A" ID, Service component characteristics)]	**Call Control Segment ID** **Addressed party Information** [PEP "A" ID, Network address],	**Network connection 1** [Bearer "1" ID, Connection owner: PEP "A", **Addressed party's bearer branch information** [(PEP "A" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Initiation of information flow: The processing of information flows 7 and 13

Processing upon receipt: When the user equipment receives this information flow, it records the commitment, and if necessary, modifies the network connection characteristics in the backward direction, and notifies the user of the completion of the call and bearer establishment procedure. (Note: if the terminal or the user is not satisfied with the resultant network connection characteristics, the call and/or network connections can either detach the parties or the parties could be released.)

15 Add-Party-to-Bearer.commit **Serving Node A to Relay Node 1**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]
Remote party's service component information
(PEP "C" ID, Service component characteristics)]
Remote party's service component information
(PEP "D" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Remote Call association
(SN(A):ref.a - SN(C):ref.c) ID,
Remote Call association
(SN(A):ref.a - SN(D):ref.d) ID
Addressed party Information
[PEP "B" ID, Network address],
Remote party Information
[PEP "C" ID, Network address],
Remote party Information
[PEP "D" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "D" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "D" ID, Service module characteristics
Service component list
[(Resource 1 ID),

Initiation of information flow: The processing of information flows 7 and 13

Processing upon receipt: When the selected relay node receives the above information flow, it records the commitment and relays this commitment to the addressed serving node by issuing information flow number 16, performs forward through-connect of the network branch connection, and if necessary, modifies the network connection characteristics of backward through-connect.

16 Call-&-Bearer-Set-up.commit **Relay Node 1 to Serving Node B**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]
Remote party's service component information
(PEP "C" ID, Service component characteristics)]
Remote party's service component information
(PEP "D" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Remote Call association
(SN(A):ref.a - SN(C):ref.c) ID,
Remote Call association
(SN(A):ref.a - SN(D):ref.d) ID,
Addressed party Information
[PEP "B" ID, Network address],
Remote party Information
[PEP "C" ID, Network address],
Remote party Information
[PEP "D" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "D" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "D" ID, Service module characteristics
Service component list
[(Resource 1 ID),

Processing upon receipt: When the addressed serving node receives this information flow, it records the commitment, it sends a commitment information flow (17) to the selected terminal. The addressed serving node then through connects network connection in the forward direction, and if necessary, modifies the network connection characteristics of backward through-connect.

17 Call-&-Bearer-Set-up.commit **Serving Node B to Party B**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]
Remote party's service component information
(PEP "C" ID, Service component characteristics)]
Remote party's service component information
(PEP "D" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Addressed party Information
[PEP "B" ID, Network address],
Remote party Information
[PEP "C" ID, Network address],
Remote party Information
[PEP "D" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "D" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "D" ID, Service module characteristics
Service component list
[(Resource 1 ID),

Processing upon receipt: The terminal records the final network connection characteristics and through connects the network connections in both directions, and notifies the user of the call and connection establishment.

18 Call-&-Bearer-Set-up.commit **Serving Node C to Relay Node 2**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]
Remote party's service component information
(PEP "B" ID, Service component characteristics)]
Remote party's service component information
(PEP "D" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(C):ref.c) ID,
Remote Call association
(SN(A):ref.a - SN(D):ref.d) ID,
Remote Call association
(SN(A):ref.a - SN(D):ref.d) ID
Addressed party Information
[PEP "C" ID, Network address],
Remote party Information
[PEP "B" ID, Network address],
Remote party Information
[PEP "D" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "D" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "D" ID, Service module characteristics
Service component list
[(Resource 1 ID),

Initiation of information flow: The processing of information flows 7 and 13

Processing upon receipt: When the selected relay node receives the above information flow, it records the commitment, and relays this commitment to the addressed serving node by issuing information flow number 19, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

19 Call-&-Bearer-Set-up.commit **Relay Node 2 to Serving Node C**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]
Remote party's service component information
(PEP "B" ID, Service component characteristics)]
Remote party's service component information
(PEP "D" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(C):ref.c) ID,
Remote Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Remote Call association
(SN(A):ref.a - SN(D):ref.d) ID
Addressed party Information
[PEP "C" ID, Network address],
Remote party Information
[PEP "B" ID, Network address],
Remote party Information
[PEP "D" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "D" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "D" ID, Service module characteristics
Service component list
[(Resource 1 ID),

Processing upon receipt: When the addressed serving node receives this information flow, it records the commitment, it sends a commitment information flow (20) to the selected terminal. The addressed serving node then through connects network connection in the forward direction, and if necessary, modifies the network connection characteristics of backward through-connect.

20 Call-&-Bearer-Set-up.commit **Serving Node C to Party C**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]
Remote party's service component information
(PEP "B" ID, Service component characteristics)]
Remote party's service component information
(PEP "D" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Addressed party Information
[PEP "C" ID, Network address],
Remote party Information
[PEP "B" ID, Network address],
Remote party Information
[PEP "D" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "D" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "D" ID, Service module characteristics
Service component list
[(Resource 1 ID),

Processing upon receipt: The terminal records the final network connection characteristics and through connects the network connections in both directions, and notifies the user of the call and connection establishment.

21 Notify-Call-&-Bearer-Change.indication **Serving Node A to Serving Node D**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, PEP "C" ID, PEP "D" ID), **Remote party's service component information** (PEP "B" ID, Service component characteristics)] **Remote party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(D):ref.d) ID**,** **Remote Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Remote Call association** (SN(A):ref.a - SN(C):ref.c) ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Remote party Information** [PEP "C" ID, Network address], Party Owner: PEP "A" ID, **Addressed party Information** [PEP "D" ID, Network address], **Event:** Party B added to call and attached to Network Connection 1	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf), PEP "D" ID (leaf)), **Remote party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID), **Remote party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Initiation of information flow: The processing of information flows 7 and 13

Processing upon receipt: When the serving node receives this information flow, it records that party B has been added to the call and is attached to the network connection. This notify information flow is forwarded to party D via information flow 22.

22 Notify-Call-&-Bearer-Change.indication **Serving Node D to Party D**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, PEP "C" ID, PEP "D" ID), **Remote party's service component information** (PEP "B" ID, Service component characteristics)] **Remote party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID,** **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Remote party Information** [PEP "C" ID, Network address], Party Owner: PEP "A" ID, **Addressed party Information** [PEP "D" ID, Network address], **Event:** Party B added to call and attached to Network Connection 1	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf), PEP "D" ID (leaf)), **Remote party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID), **Remote party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Remote party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Enabling Condition: Notify option active

Processing upon receipt: When the terminal receives this information flow, it records that parties B and C have been added to the call and is attached to the network connection, and will inform the user of this call and bearer state change.

8.2 Addition of one or more new parties with attachment to one or more new network connections

The following capabilities will be illustrated:

1) Add one new party requested by a party which will be the root of the new network connection (without network look-ahead).

2) Add two new parties requested by a party which will be the root of the new network connection (without network look-ahead).

8.2.1 Add one new party requested by a party which will be the root of the new network connection – Without network look-ahead

In this example, a call association and a network connection (network Connection 1) exists between party A and party D. Party A, which is the call owner, requests that a new party B and a new connection between party A and party B be added to the call. Party A will become the root of the new connection (network connection 2). This example also assumes that party B is connected to a point-to-multipoint signalling interface. The network does not perform a look-ahead procedure before progressing with the connection establishment. Notification of the addition of the new party and the new connection will be sent to party D at the completion of the procedure. In addition, party B will be notified of the additional connection and additional party at the completion of the procedure. Figure 8-5 illustrates the before and after view of this example.

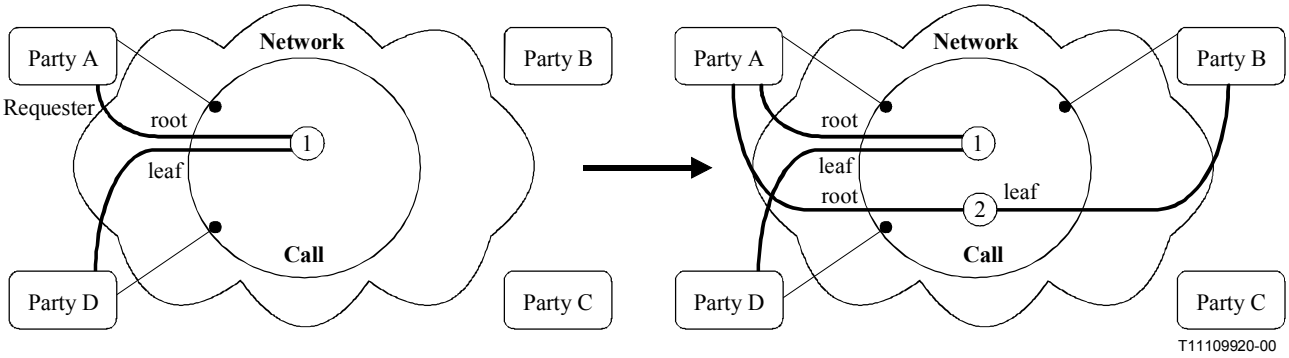


Figure 8-5 – Call and Bearer transition diagram

The signalling capability of coordinated control for adding a new party and new connection to an existing call is illustrated in Figure 8-6.

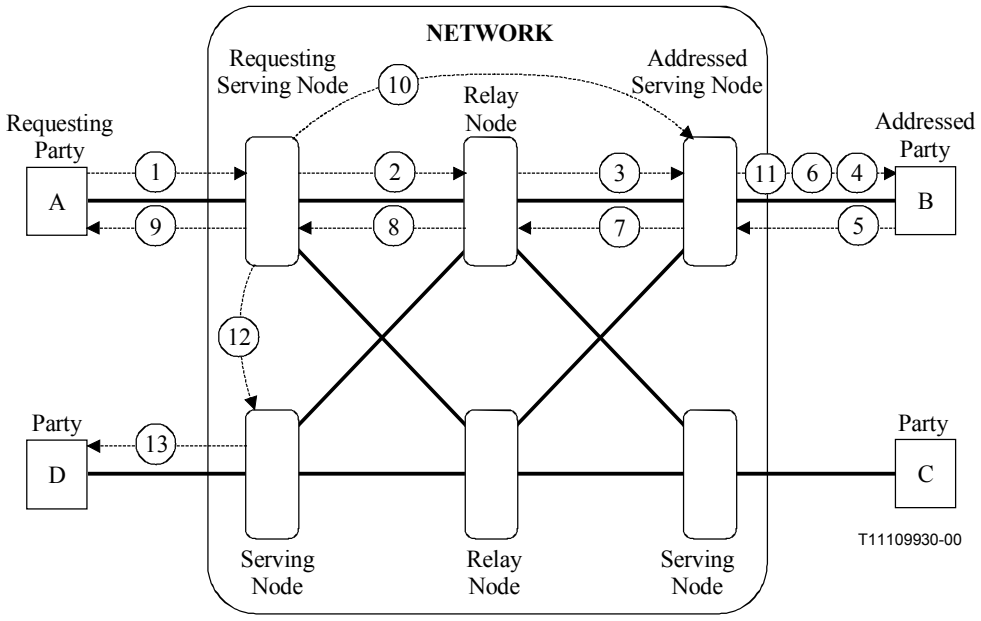


Figure 8-6 – Add one new party and a new connection requested by a party which is the call owner and will be the root of the new network connection

The actions illustrated in Figure 8-6 are as follows.

Requesting party's terminal equipment issues the following information flow towards its serving node. The terminal equipment then attaches to the backward portion of the network connection assuming the bearer characteristics specified in the outgoing request.

1 Add-Party-&-Bearer-to-Call.ready Party A to Serving Node A

Resource information
Session ID
Resource 2
[Resource 2 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "B" ID, Network address],
Requesting party information
[PEP "A" ID, Network Address]

Bearer information
Network connection 2
[Bearer "2" ID, Bearer type,
Parties connected
(PEP "A" ID, PEP "B" ID),
Addressed party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Initiation of information flow: The user initiates an add party and bearer procedure request.

Processing upon receipt: The requester's serving node validates the request and the requesting party and determines the route and outgoing trunk facility towards the addressed serving node associated with the addressed party. (Note: these validation and routing flows are not illustrated in Figure 8-6 in order to simplify the diagram.) It determines that it will not be the branching point of the network connection. It therefore relays the following information flow (2) towards the selected relay node. The network connection is backward through connected.

2 Call-&-Bearer-Set-up.ready Serving Node A to Relay Node 1

Resource information
Session ID
Resource 2
[Resource 2 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):----) ID,
Call Owner: PEP "A" ID
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 2
[Bearer "2" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID, PEP "B" ID),
Addressed party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Processing upon receipt: The selected relay node validates the request and determines the route and outgoing trunk facility of the network connection. The relay node commits to the request and issues the following information flow (3) towards the addressed serving node of the new party. The new connection is through connected in backward direction.

3 Call-&-Bearer-Set-up.ready Relay Node 1 to Serving Node B

Resource information
Session ID
Resource 2
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):----) ID,
Call Owner: PEP "A" ID
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 2
[Bearer "2" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID, PEP "B" ID),
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Processing upon receipt: The addressed serving node selects the terminating interface. Since the interface is classified as a point-to-multipoint signalling interface, the addressed serving node cannot

commit to the request and issues the following information flow (4) towards the selected interface. The network connection is backward through connected.

4 Call-&-Bearer-Set-up.begin **Serving Node B to Party B**

Resource information
Session ID
Resource 2
[Resource 2 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID
Call Owner: PEP "A" ID
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 2
[Bearer "2" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID, PEP "B" ID),
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Processing upon receipt: The addressed terminal equipment determines that it can accept the request and issues information flow 5 towards its associated serving node. (Note: if the terminal cannot accept the network connection characteristics it could either respond with an alternate set of network connection characteristics or issue a cancel information flow.) If an alternate set of characteristics is desired, the ready information flow would contain these characteristics.

5 Call-&-Bearer-Set-up.ready **Party B to Serving Node B**

Resource information
Resource 2
[Resource 2 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "B" ID, Network address]

Bearer information
Network connection 2
[Bearer "2" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Processing upon receipt: The addressed serving node validates the responding parties, records the responses to the action request and selects one of the responding terminals. (Note: the validation flows are not illustrated in order to simplify the example.) The selected terminal is sent information flow number 6. The serving node then clears the non-selected terminals. (Note: this action is not illustrated for simplicity.) The addressed serving node uses the network connection characteristics within the information flow to determine the final network connection characteristics to be assigned to the network connection branches between party B and the network, and the network connection branches between the addressed serving node and the requesting relay node. Information flow 6 towards the terminal and information flow 7 contain these network connection branch characteristics. The network connection is through connected in the forward direction, and if necessary, modifies the backward network connection characteristics.

6 Call-&-Bearer-Set-up.commit **Serving Node B to Party B**

Resource information
Resource 2
[Resource 2 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "B" ID, Network address]

Bearer information
Network connection 2
[Bearer "2" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Processing upon receipt: The terminal records the final network connection characteristics and through connects the network connections in both directions, and notifies the user of the call and connection establishment.

7 Call-&-Bearer-Set-up.commit **Serving Node B to Relay Node 1**

Resource information	Call information	Bearer information
Resource 2 [Resource 2 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID**,** **Addressed party Information** [PEP "B" ID, Network address]	**Network connection 2** [Bearer "2" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Processing upon receipt: When the relay node receives this information flow, it records the commitment and uses the network connection characteristics within the information flow to determine the final network connection characteristics to be assigned to the network connection branch between serving node B and the relay node, and the network connection branch characteristics between the relay node and the requesting serving node. The relay node then issues information flow 8 towards the requesting serving node and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics in the backward direction.

8 Call-&-Bearer-Set-up.commit **Relay Node 1 to Serving Node A**

Resource information	Call information	Bearer information
Resource 2 [Resource 2 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address]	**Network connection 2** [Bearer "2" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Processing upon receipt: When the requesting serving node receives this information flow, it records the commitment, and uses the network connection characteristics within the information flow to determine the final network connection characteristics to be assigned to the network connection branch between the relay node and the requesting serving node, and the network connection branch characteristics between the serving node and the requesting party. The serving node then issues information flow 9 towards the requesting party and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics in the backward direction. The serving node also notifies party D of the change of the call and connection status by issuing information flow 12. In addition, the requesting serving node notifies party B that there is an additional connection and an additional party in the call via information flow 10.

9 Add-Party-&-Bearer-to-Call.commit **Serving Node A to party A**

Resource information
Resource 2
[Resource 2 ID, Resource type,
Addressed party's service component information
(PEP "A" ID, Service component characteristics),
Remote party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID
Addressed party Information
[PEP "A" ID, Network address]

Bearer information
Network connection 2
[Bearer "2" ID,
Addressed party's bearer branch information
[(PEP "A" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 2 ID),
Remote party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Processing upon receipt: When the user equipment receives this information flow, it records the commitment, and if necessary, modifies the network connection characteristics in the backward direction, and notifies the user of the completion of the add party and connection establishment procedure. (Note: if the terminal or the user is not satisfied with the resultant network connection characteristics, the connection or the party could be released.)

10 Notify-Call-&-Bearer-Change.indication **Serving Node A to Serving Node B**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "D" ID),
Remote party's service component information
(PEP "D" ID, Service component characteristics),
Remote party's service component information
(PEP "A" ID, Service component characteristics)]]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Remote Call association
(SN(A):ref.a - SN(D):ref.d) ID,
Remote party Information
[PEP "D" ID, Network address],
Party Owner: PEP "A" ID,
Addressed party Information
[PEP "B" ID, Network address],
Event: Party D added to call and a new Network Connection (1) has been added to call

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID, PEP "D" ID),
Remote party's bearer branch information
[(PEP "D" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "D" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID),

Initiation of information flow: Processing of information flow 8 with notify option active

Processing upon receipt: When the serving node receives this information flow, it records that party D has been added to the call and a new network connection has also been added to the call. This notify information flow is forwarded to party B via information flow 11.

11 Notify-Call-&-Bearer-Change.indication **Serving Node B to Party B**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "D" ID), **Remote party's service component information** (PEP "D" ID, Service component characteristics), **Remote party's service component information** (PEP "A" ID, Service component characteristics)]]	**Call Control Segment ID** **Remote party Information** [PEP "D" ID, Network address], Party Owner: PEP "A" ID, **Addressed party Information** [PEP "B" ID, Network address], **Event:** Party D added to call and a new Network Connection (1) has been added to the call.	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID, PEP "D" ID), **Remote party's bearer branch information** [(PEP "D" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Remote party's service module information** [(PEP "D" ID, Service module characteristics **Service component list** [(Resource 1 ID), **Remote party's bearer branch information** [(PEP "A" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Remote party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Enabling Condition: Notify option active

Processing upon receipt: When the terminal receives this information flow, it records that party D has been added to the call and a new network connection has been also added to the call. The terminal will inform the user of this call and bearer state change.

12 Notify-Call-&-Bearer-Change.indication **Serving Node A to Serving Node D**

Resource information	Call information	Bearer information
Resource 2 [Resource 2 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID), **Remote party's service component information** (PEP "B" ID, Service component characteristics), **Remote party's service component information** (PEP "A" ID, Service component characteristics)]]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(D):ref.d) ID, **Remote Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Addressed party Information** [PEP "D" ID, Network address], **Event:** Party B added to call and a new Network Connection (2) has been added to call	**Network connection 2** [Bearer "2" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID, PEP "B" ID), **Remote party's bearer branch information** [(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Remote party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 2 ID), **Remote party's bearer branch information** [(PEP "A" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Remote party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 2 ID),

Initiation of information flow: Processing of information flow 8 with notify option active

Processing upon receipt: When the serving node receives this information flow, it records that party B has been added to the call and a new network connection has been also added to the call. This notify information flow is forwarded to party D via information flow 13.

13	Notify-Call-&-Bearer-Change.indication	Serving Node D to Party D

Resource information
Resource 2
[Resource 2 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID),
Remote party's service component information
(PEP "B" ID, Service component characteristics),
Remote party's service component information
(PEP "A" ID, Service component characteristics)]]

Call information
Call Control Segment ID
Remote party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Addressed party Information
[PEP "D" ID, Network address],
Event: Party B added to call and a new Network Connection (2) has been added to the call.

Bearer information
Network connection 2
[Bearer "2" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID, PEP "B" ID),
Remote party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 2 ID),

Enabling Condition: Notify option active

Processing upon receipt: When the terminal receives this information flow, it records that party B has been added to the call and a new network connection has been also added to the call. The terminal will inform the user of this call and bearer state change.

8.2.2 Add two new parties requested by a party which will be the root of the new network connection – Without network look-ahead

In this example, a call association and a network connection (network Connection 1) exists between party A and party D. Party A, which is the call owner, requests that two new parties (B and C) and a new connection between party A, B, and C be added to the call. Party A will become the root of the new connection (network connection 2). This example also assumes that party B & C are connected to a point-to-multipoint signalling interface. The network does not perform a look-ahead procedure before progressing with the connection establishment. Notification of the addition of the new parties and the new connection will be sent to party D at the completion of the procedure. In addition, parties B and C will be notified of the additional connection and the additional party at the completion of the procedure. Figure 8-7 illustrates the before and after view of this example.

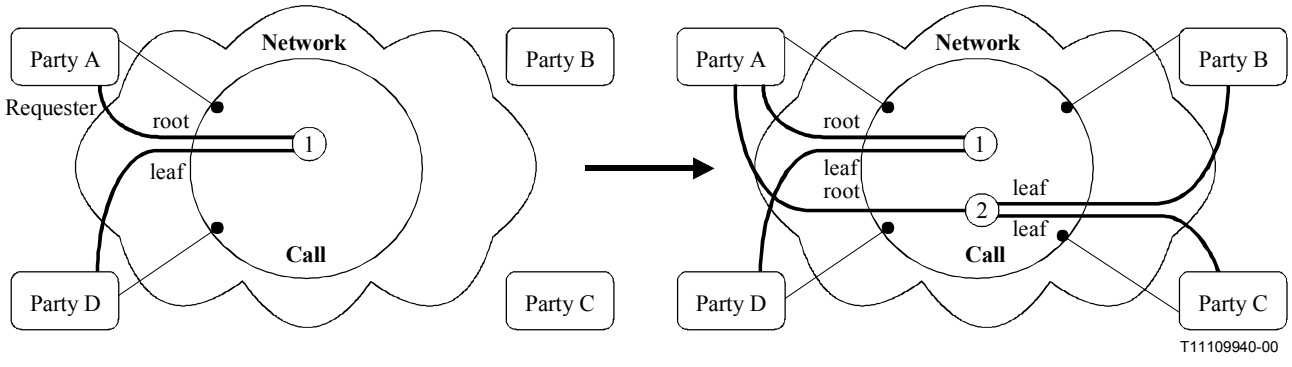


Figure 8-7 – Call and Bearer transition diagram

The signalling capability of coordinated control for adding a new party and new connection to an existing call is illustrated in Figure 8-8.

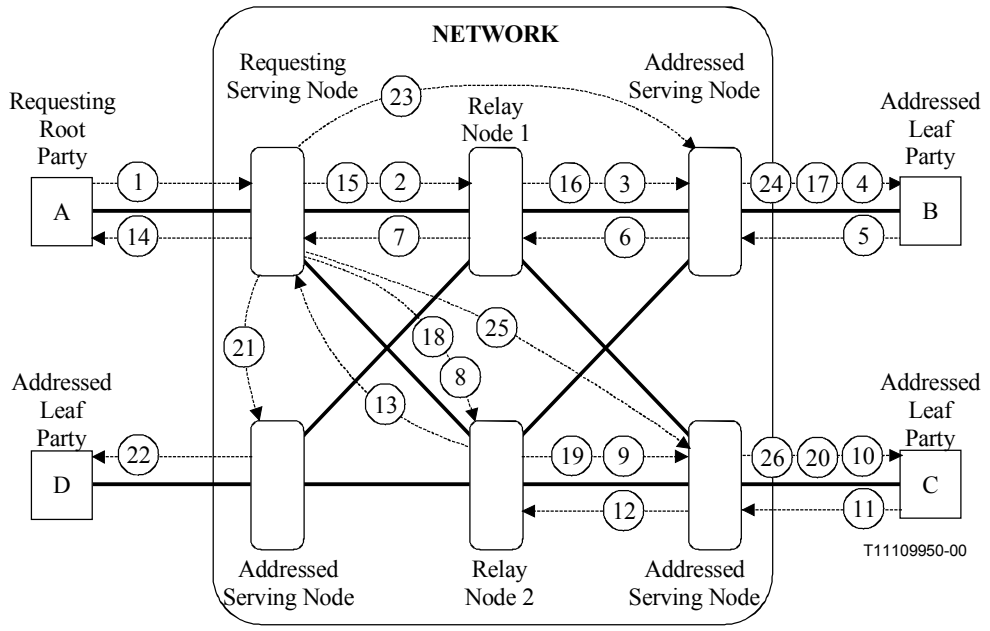


Figure 8-8 – Add two new parties and a new connection requested by a party which is the call owner and will be the root of the new network connection

The actions illustrated in Figure 8-8 are as follows.

Requesting party's terminal equipment issues the following information flow towards its serving node. The terminal equipment then attaches to the backward portion of the network connection assuming the bearer characteristics specified in the outgoing request.

1 Add-Party-&-Bearer-to-Call.ready **Party A to serving Node A**

Resource information
Session ID
Resource 2
[Resource 2 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)
Addressed party's service component information
(PEP "C" ID, Service component characteristics)]]

Call information
Call Control Segment ID
Addressed party Information
[PEP "B" ID, Network address],
Addressed party Information
[PEP "C" ID, Network address],
Addressed information
[PEP "A" ID, Network Address]

Bearer information
Network connection 2
[Bearer "2" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP"C" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID)]
Addressed party's bearer branch information
[(PEP "C" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 2 ID)]

Initiation of information flow: The user initiates a coordinated call and bearer operation request.

Processing upon receipt: The requester's serving node validates the request and the requesting party and determines the route and outgoing trunk facility towards the addressed serving node associated with the addressed party. (Note: these validation and routing flows are not illustrated in Figure 8-8 in order to simplify the diagram.) For this example, the network connection will be routed through separate relay nodes, two signalling ports are needed, the serving node cannot commit to the request and therefore issues information flows 2 and 8 towards the selected relay nodes. The new network connection is backward through connected.

2 Call-&-Bearer-Set-up.begin **Serving Node A to Relay Node 1**

Resource information
Session ID
Resource 2
[Resource 2 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):----) ID,
Call Owner: PEP "A" ID
Addressed party Information
[PEP "B" ID, Network address],
Remote party Information
[PEP "C" ID, Network address],
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 2
[Bearer "2" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID),

Processing upon receipt: The selected relay node validates the request and determines the route and outgoing trunk facility. The selected relay node issues information flow 3 towards the addressed serving node. The network connection branch in the relay node is backward through connected.

3 Call-&-Bearer-Set-up.begin **Relay Node 1 to Serving Node B**

Resource information
Session ID
Resource 2
[Resource 2 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):----) ID,
Call Owner: PEP "A" ID
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Remote party Information
[PEP "C" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 2
[Bearer "2" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID),

Processing upon receipt: The addressed serving node selects the terminating interface facility. Since the interface is classified as a multiple signalling entity interface, the serving node cannot commit to the addressed end point and therefore issues information flow 4 towards the selected interface facility. The network connection is backward through connected.

4 Call-&-Bearer-Set-up.begin **Serving Node B to Party B**

Resource information
Session ID
Resource 2
[Resource 2 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]

Call information
Call Control Segment ID
Call Owner: PEP "A" ID
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Remote party Information
[PEP "C" ID, Network address],
Party Owner: PEP "A" ID,
Requesting party information
[PEP "A" ID, Network Address]
Party Owner: PEP "A" ID

Bearer information
Network connection 2
[Bearer "2" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID),

Processing upon receipt: The addressed terminal equipment determines that it can accept the request and issues information flow 5 towards its associated serving node. (Note: if the terminal cannot accept the network connection characteristics, it could either respond with an alternate set of network connection characteristics or issue a cancel information flow.) If an alternate set of characteristics is desired, the ready information flow would contain these characteristics.

5 Call-&-Bearer-Set-up.ready **Party B to Serving Node B**

Resource information	Call information	Bearer information
Resource 2 [Resource 2 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID** **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 2** [Bearer "2" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 2 ID),

Processing upon receipt: The addressed serving node validates the responding parties, records the responses to the action request and selects one of the responding terminals. (Note: the validation flows are not illustrated in order to simplify the example.) The selected terminal is recorded and then the serving node clears the non-selected terminals. (Note this clearing action is not illustrated for simplicity of the flow diagram.) The serving node issues information flow 6 towards its associated relay node.

6 Call-&-Bearer-Set-up.ready **Serving Node B to Relay Node 1**

Resource information	Call information	Bearer information
Resource 2 [Resource 2 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 2** [Bearer "2" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 2 ID),

Processing upon receipt: When the selected relay node receives the above responses, it records them and relays the responses to the requesting serving node in the form illustrated by information flow 7.

7 Add-Party-to-Bearer.ready **Relay Node 1 to Serving Node A**

Resource information	Call information	Bearer information
Resource 2 [Resource 2 ID, Resource type, **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 2** [Bearer "2" ID, **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 2 ID),

Enabling Condition: Functional entity action will only begin after both information flows 7 and 13 are received.

Processing upon receipt: When the requesting serving node receives these information flows, it records the willingness of both parties to accept the call and network connection and that a common set of connection characteristics exist that both parties can accept, and it sends commitment information flows towards the requesting user equipment (flow 14) and the relay nodes (flows 15 and 18), and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect. The serving node also notifies party D of the change of the call and connection status by issuing information flow 21. In addition, the requesting serving node notifies parties B and C of the additional connection associated with the call via information flows 23 and 25.

8 Call-&-Bearer-Set-up.begin **Serving Node A to Relay Node 2**

Resource information	Call information	Bearer information
Session ID **Resource 2** [Resource 2 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, PEP "C" ID), **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(C):----) ID, **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "A" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 2** [Bearer "2" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)), **Addressed party's bearer branch information** [(PEP "C" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Initiation of information flow: Processing of information flow 1

Processing upon receipt: The selected relay node validates the request and determines the route and outgoing trunk facility. The selected relay node issues information flow 9 towards the addressed serving node. The network connection in the relay node is backward through connected.

9 Call-&-Bearer-Set-up.begin **Relay Node 2 to Serving Node C**

Resource information	Call information	Bearer information
Session ID **Resource 2** [Resource 2 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, PEP "C" ID), **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(C):----) ID, **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "A" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 2** [Bearer "2" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)), **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Processing upon receipt: The addressed serving node selects the terminating interface facility. Since the interface is classified as a multiple signalling entity interface, the serving node cannot commit to the addressed end point and therefore issues information flow 10 towards the selected interface facility. The network connection is backward through connected.

10 Call-&-Bearer-Set-up.begin **Serving Node C to Party C**

Resource information	Call information	Bearer information
Session ID **Resource 2** [Resource 2 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, PEP "C" ID), **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID** **Call Owner: PEP "A" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "A" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "A" ID	**Network connection 2** [Bearer "2" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)), **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

The addressed terminal equipment determines that it can accept the request and issues information flow 11 towards its associated serving node. (Note: if the terminal cannot accept the network connection characteristics, it could either respond with an alternate set of network connection characteristics or issue a cancel information flow.) If an alternate set of characteristics is desired, the ready information flow would contain these characteristics.

11 Call-&-Bearer-Set-up.ready **Party C to Serving Node C**

Resource information	Call information	Bearer information
Resource 2 [Resource 2 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID** **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 2** [Bearer "2" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Processing upon receipt: The addressed serving node validates the responding parties, records the responses to the action request and selects one of the responding terminals. (Note: the validation flows are not illustrated in order to simplify the example.) The selected terminal is recorded and then the serving node clears the non-selected terminals. (Note: this clearing action is not illustrated for simplicity of the flow diagram.) The serving node issues information flow 12 towards its associated relay node.

12 Call-&-Bearer-Set-up.ready **Serving Node C to Relay Node 2**

Resource information	Call information	Bearer information
Resource 2 [Resource 2 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(C):ref.c) ID, **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 2** [Bearer "2" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Processing upon receipt: When the selected relay node receives the above responses, it records them and relays the responses to the requesting serving node in the form illustrated by information flow 13.

13 Call-&-Bearer-Set-up.ready **Relay Node 2 to Serving Node A**

Resource information	Call information	Bearer information
Resource 2 [Resource 2 ID, Resource type, **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(C):ref.c) ID, **Addressed party Information** [PEP "C" ID, Network address],	**Network connection 2** [Bearer "2" ID, **Addressed party's bearer branch information** [(PEP "C" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Enabling Condition: Functional entity action will only begin after both information flows 7a and 13 are received.

Processing upon receipt: When the requesting serving node receives these information flows, it records the willingness of both parties to accept the call and network connection and that a common set of connection characteristics exist that both parties can accept, and it sends the commitment information flows towards the requesting user equipment (flow 14) and the relay nodes (flows 15 and 18), and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect. The serving node also notifies party D of the change of the call and connection status by issuing information flow 21. In addition, the requesting serving node notifies parties B and C of the additional connection associated with the call via information flows 23 and 25.

14 Add-Party-to-Bearer.commit **Serving Node A to Party A**

Resource information
Resource 2
[Resource 2 ID, Resource type,
Addressed party's service component information
(PEP "A" ID, Service component characteristics),
Remote party's service component information
(PEP "B" ID, Service component characteristics),
Remote party's service component information
(PEP "C" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Addressed party Information
[PEP "A" ID, Network address],

Bearer information
Network connection 2
[Bearer "2" ID, Connection owner: PEP "A",
Addressed party's bearer branch information
[(PEP "A" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 2 ID),
Remote party's bearer branch information
[(PEP "B" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID)],
Remote party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 2 ID)]]

Processing upon receipt: When the user equipment receives this information flow, it records the commitment, and if necessary, modifies the network connection characteristics in the backward direction, and notifies the user of the completion of the call and bearer establishment procedure. (Note: if the terminal or the user is not satisfied with the resultant network connection characteristics, the call and/or network connections can either detach the parties or the parties could be released.)

15 Add-Party-to-Bearer.commit **Serving Node A to Relay Node 1**

Resource information
Resource 2
[Resource 2 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]
Remote party's service component information
(PEP "C" ID, Service component characteristics),
Remote party's service component information
(PEP "A" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Addressed party Information
[PEP "B" ID, Network address],

Bearer information
Network connection 2
[Bearer "2" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics,),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID),
Remote party's bearer branch information
[(PEP "C" ID, bearer branch characteristics,),
Remote party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 2 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics,),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 2 ID),

Initiation of information flow: Processing of information flows 7 and 13

Processing upon receipt: When the selected relay node receive the above information flow, it records the commitment and relays this commitment to the addressed serving node by issuing information flow number 16, performs forward through-connect of the network branch connection, and if necessary, modifies the network connection characteristics of backward through-connect.

16 Call-&-Bearer-Set-up.commit **Relay Node 1 to Serving Node B**

Resource information
Resource 2
[Resource 2 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]
Remote party's service component information
(PEP "C" ID, Service component characteristics),
Remote party's service component information
(PEP "A" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Addressed party Information
[PEP "B" ID, Network address],

Bearer information
Network connection 2
[Bearer "2" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics,),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID),
Remote party's bearer branch information
[(PEP "C" ID, bearer branch characteristics,),
Remote party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 2 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics,),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 2 ID),

Processing upon receipt: When the addressed serving node receives this information flow, it records the commitment, it sends a commitment information flow (17) to the selected terminal. The addressed serving node then through connects network connection in the forward direction, and if necessary, modifies the network connection characteristics of backward through-connect.

17 Call-&-Bearer-Set-up.commit **Serving Node B to Party B**

Resource information
Resource 2
[Resource 2 ID, Resource type,
Addressed party's service component information
(PEP "B" ID, Service component characteristics)]
Remote party's service component information
(PEP "C" ID, Service component characteristics),
Remote party's service component information
(PEP "A" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Addressed party Information
[PEP "B" ID, Network address],

Bearer information
Network connection 2
[Bearer "2" ID,
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics,),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID),
Remote party's bearer branch information
[(PEP "C" ID, bearer branch characteristics,),
Remote party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 2 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics,),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 2 ID),

Processing upon receipt: The terminal records the final network connection characteristics and through connects the network connections in both directions and notifies the user of the call and connection establishment.

18 Call-&-Bearer-Set-up.commit **Serving Node C to Relay Node 2**

Resource information
Resource 2
[Resource 2 ID, Resource type,
Addressed party's service component information
(PEP "C" ID, Service component characteristics),
Remote party's service component information
(PEP "B" ID, Service component characteristics),
Remote party's service component information
(PEP "A" ID, Service component characteristics)]

Call information
Call Control Segment ID, Direct Call association
(SN(A):ref.a - SN(C):ref.c) ID,
Addressed party Information
[PEP "C" ID, Network address],

Bearer information
Network connection 2
[Bearer "2" ID,
Addressed party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 2 ID),
Remote party's bearer branch information
[(PEP "B" ID, bearer branch characteristics,),
Remote party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics,),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 2 ID),]

Initiation of information flow: Processing of information flows 7 and 13

Processing upon receipt: When the selected relay node receives the above information flow, it records the commitment, and relays this commitment to the addressed serving node by issuing information flow number 19, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

19 Call-&-Bearer-Set-up.commit **Relay Node 2 to Serving Node C**

Resource information
Resource 2
[Resource 2 ID, Resource type,
Addressed party's service component information
(PEP "C" ID, Service component characteristics),
Remote party's service component information
(PEP "B" ID, Service component characteristics),
Remote party's service component information
(PEP "A" ID, Service component characteristics)]

Call information
Call Control Segment ID, Direct Call association
(SN(A):ref.a - SN(C):ref.c) ID,
Addressed party Information
[PEP "C" ID, Network address],

Bearer information
Network connection 2
[Bearer "2" ID,
Addressed party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 2 ID),
Remote party's bearer branch information
[(PEP "B" ID, bearer branch characteristics,),
Remote party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics,),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 2 ID),]

Processing upon receipt: When the addressed serving node receives this information flow, it records the commitment, it sends a commitment information flow (11 b) to the selected terminal. The addressed serving node then through connects network connection in the forward direction, and if necessary, modifies the network connection characteristics of backward through-connect.

20 Call-&-Bearer-Set-up.commit **Serving Node C to Party C**

Resource information
Resource 2
[Resource 2 ID, Resource type,
Addressed party's service component information
(PEP "C" ID, Service component characteristics),
Remote party's service component information
(PEP "B" ID, Service component characteristics),
Remote party's service component information
(PEP "A" ID, Service component characteristics)]

Call information
Call Control Segment ID,
Addressed party Information
[PEP "C" ID, Network address],

Bearer information
Network connection 2
[Bearer "2" ID,
Addressed party's bearer branch information
[(PEP "C" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 2 ID),
Remote party's bearer branch information
[(PEP "B" ID, bearer branch characteristics,),
Remote party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics,),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 2 ID),]

Processing upon receipt: The terminal records the final network connection characteristics and through connects the network connections in both directions, and notifies the user of the call and connection establishment.

21 Notify-Call-&-Bearer-Change.indication **Serving Node A to Serving Node D**

Resource information
Resource 2
[Resource 2 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Remote party's service component information
(PEP "B" ID, Service component characteristics),
Remote party's service component information
(PEP "C" ID, Service component characteristics),
Remote party's service component information
(PEP "A" ID, Service component characteristics)]]

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(D):ref.d) ID,
Remote Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Remote Call association
(SN(A):ref.a - SN(C):ref.c) ID,
Remote party Information
[PEP "B" ID, Network address],
Party Owner: PEP "A" ID,
Remote party Information
[PEP "C" ID, Network address],
Party Owner: PEP "A" ID,
Addressed party Information
[PEP "D" ID, Network address],
Event: Parties B and C added to call and a new Network Connection (2) has been added to the call

Bearer information
Network connection 2
[Bearer "2" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)),
Remote party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 2 ID),
Remote party's bearer branch information
[(PEP "C" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 2 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 2 ID),

Initiation of information flow: Processing of Information flows 7 and 13 and the notify option is active.

Processing upon receipt: When the serving node receives this information flow, it records that parties B and C have been added to the call and is attached to the network connection. This notify information flow is forwarded to party D via information flow 22.

22 Notify-Call-&-Bearer-Change.indication Serving Node D to Party D

Resource information	Call information	Bearer information
Resource 2 [Resource 2 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, PEP "C" ID), **Remote party's service component information** (PEP "B" ID, Service component characteristics), **Remote party's service component information** (PEP "C" ID, Service component characteristics), **Remote party's service component information** (PEP "A" ID, Service component characteristics)]]	**Call Control Segment ID** **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "A" ID, **Remote party Information** [PEP "C" ID, Network address], Party Owner: PEP "A" ID, **Addressed party Information** [PEP "D" ID, Network address], **Event:** Parties B and C added to call and a new Network Connection (2) has been added to the call.	**Network connection 2** [Bearer "2" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "C" ID (leaf)), **Remote party's bearer branch information** [(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Remote party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 2 ID), **Remote party's bearer branch information** [(PEP "C" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Remote party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 2 ID), **Remote party's bearer branch information** [(PEP "A" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Remote party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 2 ID),

Enabling Condition: Notify option active

Processing upon receipt: When the terminal receives this information flow, it records that parties B and C have been added to the call and is attached to the network connection and will inform the user of this call and bearer state change.

23 Notify-Call-&-Bearer-Change.indication Serving Node A to Serving Node B

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "D" ID), **Remote party's service component information** (PEP "D" ID, Service component characteristics), **Remote party's service component information** (PEP "A" ID, Service component characteristics)]]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Remote Call association** (SN(A):ref.a - SN(C):ref.c) ID, **Remote Call association** (SN(A):ref.a - SN(D):ref.d) ID, **Remote party Information** [PEP "D" ID, Network address], Party Owner: PEP "A" ID, **Addressed party Information** [PEP "B" ID, Network address], **Event:** Party D added to call and a new Network Connection (1) has been added to the call.	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "D" ID (leaf)), **Remote party's bearer branch information** [(PEP "D" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Remote party's service module information** [(PEP "D" ID, Service module characteristics **Service component list** [(Resource 1 ID), **Remote party's bearer branch information** [(PEP "A" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Remote party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Initiation of information flow: Processing of information flows 7 and 13 with notify option active

Processing upon receipt: When the serving node receives this information flow, it records that party D has been added to the call and a new network connection has also been added to the call. This notify information flow is forwarded to party B via information flow 24.

24 Notify-Call-&-Bearer-Change.indication **Serving Node B to Party B**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "D" ID),
Remote party's service component information
(PEP "D" ID, Service component characteristics),
Remote party's service component information
(PEP "A" ID, Service component characteristics)]]

Call information
Call Control Segment ID
Remote party Information
[PEP "D" ID, Network address],
Party Owner: PEP "A" ID,
Addressed party Information
[PEP "B" ID, Network address],
Event: Party D added to call and a new Network Connection (1) has been added to the call.

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "D" ID (leaf)),
Remote party's bearer branch information
[(PEP "D" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "D" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID),

Enabling Condition: Notify option active

Processing upon receipt: When the terminal receives this information flow, it records that party D has been added to the call and a new network connection has been also added to the call. The terminal will inform the user of this call and bearer state change.

25 Notify-Call-&-Bearer-Change.indication **Serving Node A to Serving Node C**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "D" ID),
Remote party's service component information
(PEP "D" ID, Service component characteristics),
Remote party's service component information
(PEP "A" ID, Service component characteristics)]]

Call information
Call Control Segment ID
Remote party Information
[PEP "D" ID, Network address],
Party Owner: PEP "A" ID,
Addressed party Information
[PEP "C" ID, Network address],
Event: Party D added to call and a new Network Connection (1) has been added to the call.

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "D" ID (leaf)),
Remote party's bearer branch information
[(PEP "D" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "D" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID),

Initiation of information flow: Processing of information flows 7 and 13 with notify option active

Processing upon receipt: When the serving node receives this information flow, it records that party D has been added to the call and a new network connection has also been added to the call. This notify information flow is forwarded to party C via information flow 26.

26	Notify-Call-&-Bearer-Change.indication	Serving Node C to Party C

Resource information
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "D" ID),
Remote party's service component information
(PEP "D" ID, Service component characteristics),
Remote party's service component information
(PEP "A" ID, Service component characteristics)]]

Call information
Call Control Segment ID
Remote party Information
[PEP "D" ID, Network address],
Party Owner: PEP "A" ID,
Addressed party Information
[PEP "C" ID, Network address],
Event: Party D added to call and a new Network Connection (1) has been added to the call.

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "A",
Parties connected
(PEP "A" ID (root), PEP "D" ID (leaf)),
Remote party's bearer branch information
[(PEP "D" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "D" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Remote party's bearer branch information
[(PEP "A" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID),

Enabling Condition: Notify option active

Processing upon receipt: When the terminal receives this information flow, it records that party D has been added to the call and a new network connection has been also added to the call. The terminal will inform the user of this call and bearer state change.

9 Release one or more parties and their associated network connection branches from the call

The examples associated with the release of one or more parties from a call consist of two variations as listed below:

1) Release a party and its associated network connection branches from a two-party call.

2) Release one or more parties and their associated network connection branches from a three- or more-party call.

The following subclauses contain the example flows associated with these variations.

9.1 General rules for release of a party

The request to remove a party from a call may be initiated by either the call owner or the designated party owner. In either case, however, the serving node associated with the party to be removed will only honour a party removal request from the serving node associated with the call owner.

When a party owner requests removal of the party it owns, the serving node associated with the party owner will relay the request to the call owner' serving node. The call owners serving node will either invoke the call owners service logic profile or relay the request to the call owner in order to determine if the call owner gives permission to remove the party:

- If permission is granted, the serving node associated with the call owner will transfer the ownership characteristics associated with the party to be removed into its own domain. The serving node will then issue a party removal request to the serving node associated with the party to be removed. The addressed serving node will release the party from the call and will issue bearer release information flows for all the bearers associated with the removed party and issues a release conformation to the call owner's serving node. When conformation of the party's removal is received by the call owner's serving node, it will issue a release request conformation to the requesting serving node associated with the party owner, and will notify all serving nodes still associated with the call that a party has been removed from the call. The serving node will confirm that the party has been removed. The other serving nodes associated with the call will notify their associated parties about the removal of a party from the call, if their service logic profiles indicate party notify is active.

- If permission is not granted, the party ownership of the party to be removed is transferred to the call ownership. The serving node associated with the previous party owner is sent a party removal denied information flow indicating that the party ownership has been transferred to the call owner. In addition, all serving nodes associated with the call are notified that party ownership has been transferred to the call owner. The serving node associated with the party owner will notify that the party has not been removed and may indicate that the party ownership has been transferred to the call owner. The other serving nodes associated with the call will notify their associated parties about the transfer of ownership transfer, if their service logic profiles indicate party notify is active.

9.2 Release a party and its associated network connection branches from a two-party call

This subclause contains three example flows illustrating the release of a party from an existing call:

1) The first example covers the call release option case where the call and the network connection will be cleared within the network. The network connection release information flows progress from the requester towards the addressed party. This example is provided for backward compatibility with existing protocol implementations. This method implicitly notifies the addressed party that it is being removed from the call (removal of the last network connection releases the party).

2) The second example covers the call release option case where the call and its associated network connections will be cleared within the network. The network connection release information flows progress from the addressed party towards the requesting party. This example is included for the case where the call owner may not be aware that one or more additional parties are included within the call who are associated with the addressed party to be removed. This could be caused by the no notify option being specified at the time of call establishment. It is recommended that future implementations follow the procedure of explicitly notifying the party to be removed so that proper handling of the unknown remote parties can be handled.

3) The third example covers the call release option case where the call is not cleared within the network after the release of the addressed party from the call. The network connection branch to the addressed party is released while the network connection branch between the requesting party and the network remains intact. The network connection branch release information flows progress from the addressed party's serving node towards the requesting party.

Which call release option is to be used was specified at the time of call establishment. The default option is that the call will be cleared. The details of these examples are contained in the following subclauses.

9.2.1 Release of a party by the call owner – Clear call option – Connection release from requesting party

In this example, a two-party call associated with a single connection has been established. The call owner, party owner, and the network connection owner is party A. Party A requests the release of party B. This request will result in the removal of party B from the call and will detach this party from the network connection. The network connection will be cleared forward towards the serving node associated with the addressed party (party B). The call will be cleared within the network. Figure 9-1 illustrates the before and after view of this example.

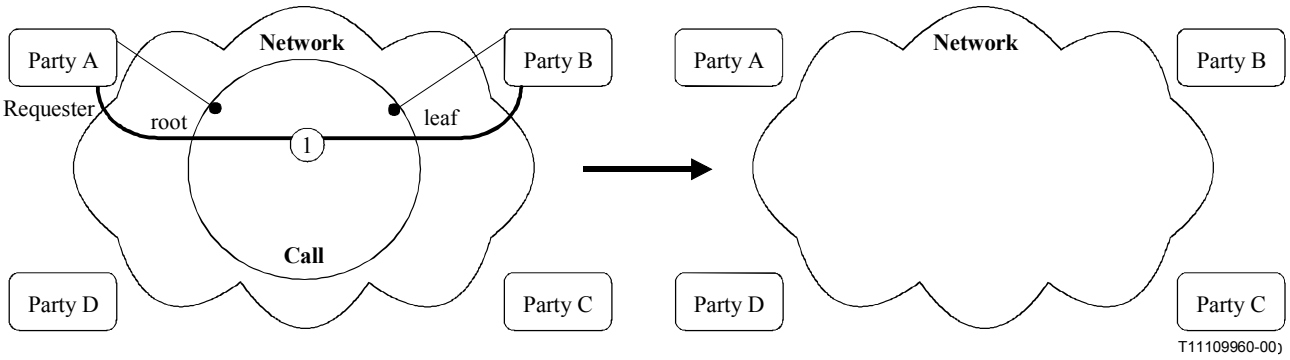


Figure 9-1 – Call and Bearer transition diagram

Figure 9-2 illustrates the information flows necessary to accomplish this procedure.

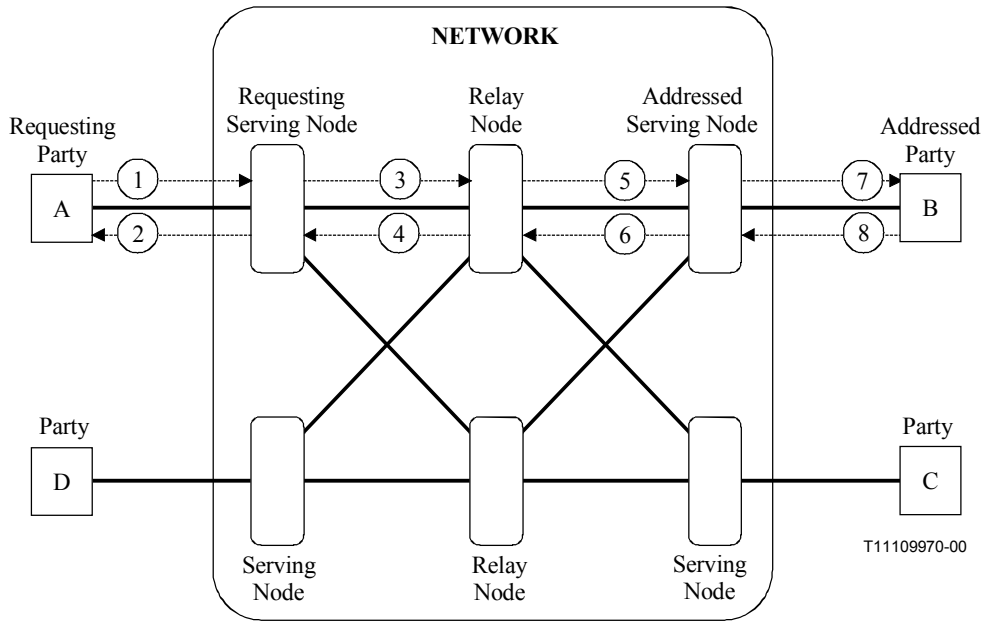


Figure 9-2 – Release party "B" from Call requested by party "A" – One network connection between parties A and B with party A as the call and connection owner

The actions illustrated in Figure 9-2 are as follows.

Requesting party's terminal equipment issues the following information flow towards its serving node.

1	Release-Party-from Call.ready	Party A to Serving Node A

Resource information	Call information	Bearer information
	Call Control Segment ID **Addressed party Information** [PEP "B" ID],	

Initiation of information flow: The call owner initiates a remove party from call procedure request.

Processing upon receipt: When the serving node associated with the requesting party receives this information flow, it will authenticate the requesting party, determine that it is the call owner and notes that the requested call release option is to release the call. The requesting serving node then issues information flow 2 confirming the removal of the party, issues information flow 3 towards the relay node of the party to be removed requesting that the party be removed from the call. Since no other parties are associated with the call and bearer, there is no need to issue any notify call and bearer change information flows.

2	Release-Party-from Call.commit	Serving Node A to Party A

Resource information	Call information	Bearer information
	Call Control Segment ID **Remote party Information** [PEP "B" ID, Network address],	

Processing upon receipt: When the terminal receives this information flow, it clears the call and bearer within its domain.

3	Release-Party-from Call.ready	Serving Node A to Relay Node 1

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address], **Requesting party Information** [PEP "A" ID, Network address],	

Processing upon receipt: When the relay node receives this information flow, it then issues information flow 4 towards the requesting serving node committing to the remove party, removes the connection branch between the requesting serving node and the relay node, and issues a release-party-from call information flow towards the addressed serving node.

4	Release-Party-from Call.commit	Relay Node 1 to Serving Node A

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID,	

Processing upon receipt: When the requesting service node receives this information flow, it clears its call and bearer states within its domain.

5	Release-Party-from Call.ready	Relay Node 1 to Serving Node B

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "B" ID, Network address], **Requesting party Information** [PEP "A" ID, Network address],	

Processing upon receipt: When the addressed serving node receives this information flow, it then issues information flow 6 towards the relay node committing to the remove party, removes the network connection branch between the addressed serving node and the relay node, notes that the call clearing option is active, and issues a call clearing information flow towards the addressed party B (information flow 7).

6	Release-Party-from Call.commit	Serving Node A to Relay Node 1

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID,	

Processing upon receipt: When the relay node receives this information flow, it clears its bearer states within its domain.

7	Release-Call.ready	Serving Node B to Party B

Resource information	Call information	Bearer information
	Call Control Segment ID, **Addressed party Information** [PEP "B" ID, Network address], **Requesting party Information** [PEP "A" ID, Network address]	

Processing upon receipt: When the terminal receives this information flow, it clears the call and bearer states and issues a commitment flow (8) towards the addressed serving node.

8	Release-Call.commit	Party B to Serving Node B

Resource information	Call information	Bearer information
	Call Control Segment ID,	

Processing upon receipt: When the serving node receives this flow, it clears the call and associated bearer states within its domain.

9.2.2 Release of a party by the call owner – Clear all option – Connection release from addressed party

In this example, a two-party call associated with a single connection has been established. The call owner, party owner, and the network connection owner is party A. Party A requests the release of party B. This request will result in the removal of party B from the call and will detach this party from the network connection. The network connection will be cleared back to the serving node associated with the call owner (party A). The call will be cleared within the network. Figure 9-3 illustrates the before and after view of this example.

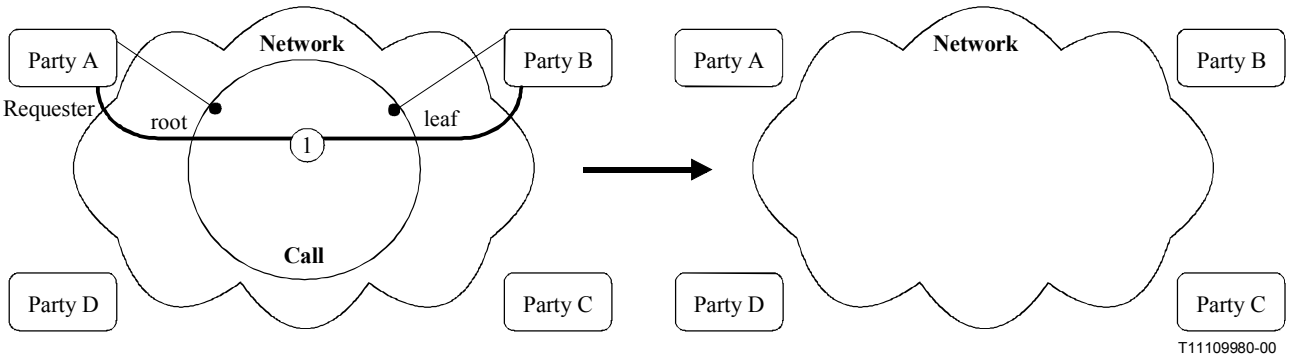


Figure 9-3 – Call and Bearer transition diagram

Figure 9-4 illustrates the information flows necessary to accomplish this procedure.

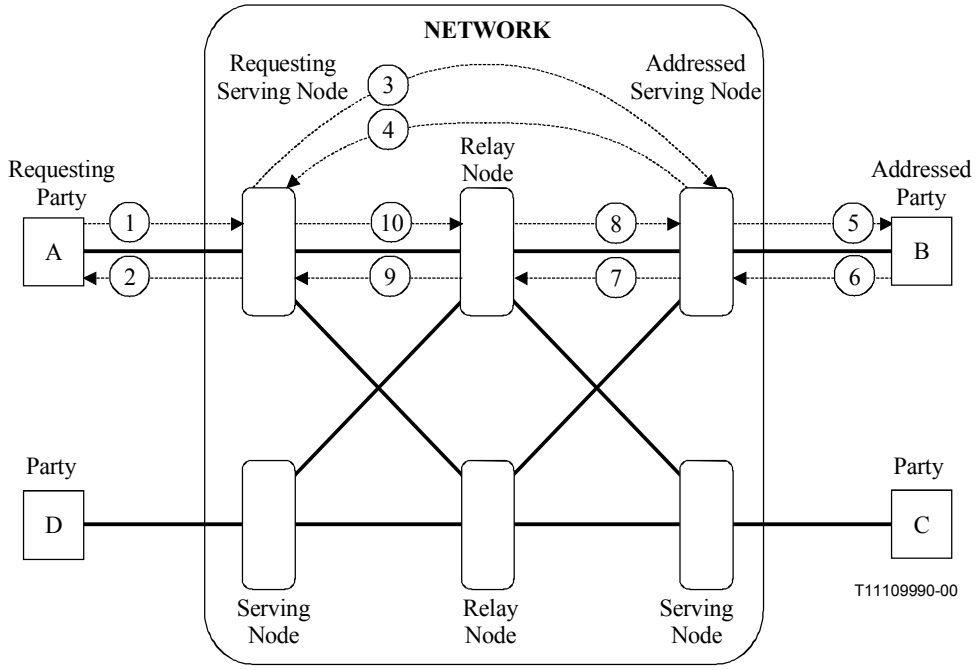


Figure 9-4 – Release party "B" from Call requested by party "A" – One network connection between parties A and B with party A as the call and connection owner

The actions illustrated in Figure 9-4 are as follows.

Requesting party's terminal equipment issues the following information flow towards its serving node.

1	Release-Party-from Call.ready	Party A to Serving Node A

Resource information	Call information	Bearer information
	Call Control Segment ID **Remote party Information** [PEP "B" ID, Network address],	

Initiation of information flow: The call owner initiates a remove party from call procedure request.

Processing upon receipt: When the serving node associated with the requesting party receives this information flow, it will authenticate the requesting party, determine that it is the call owner and notes that the requested call release option is to release the call. The requesting serving node then issues information flow 2 confirming the removal of the party, issues information flow 3 towards the serving node of the party to be removed requesting that the call should be cleared for party B. Since no other parties are associated with the call and bearer, there is no need to issue any notify call and bearer change information flows.

2	Release-Party-from Call.commit	Serving Node A to Party A

Resource information	Call information	Bearer information
	Call Control Segment ID **Remote party Information** [PEP "B" ID, Network address],	

Processing upon receipt: When the terminal receives this information flow, it clears the call and bearer within its domain.

3	Release-Party-from Call.ready	Serving Node A to Serving Node B

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Remote party Information** [PEP "B" ID, Network address], **Requesting party Information** [PEP "A" ID, Network address],	

Processing upon receipt: When the addressed serving node receives this information flow, it then issues information flow 4 towards the requesting serving node committing to the remove party and issues a call clearing information flow towards the addressed party B (information flow 5).

4	Release-Party-from Call.commit	Serving Node B to Serving Node A

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Remote party Information** [PEP "B" ID, Network address],	

Enabling Condition: Reception of information flows 4 and 9.

Processing upon receipt: When the requesting service node receives these information flows, it clears its call and bearer states. The serving node then issues information flow 10 towards relay node 1 indicating commitment.

5 Release-Call.ready **Serving Node B to Party B**

Resource information	Call information	Bearer information
	Call Control Segment ID, **Addressed party Information** [PEP "B" ID, Network address], **Requesting party Information** [PEP "A" ID, Network address]	

Processing upon receipt: When the terminal receives this information flow, it clears the call and bearer states and issues a commitment flow (6) towards the addressed serving node.

6 Release-Call.commit **Party B to Serving Node B**

Resource information	Call information	Bearer information
	Call Control Segment ID,	

Processing upon receipt: When the serving node receives this flow, it issues information flow 7 requesting connection removal towards the relay node and awaits its response.

7 Release-Bearer.ready **Serving Node B to Relay Node 1**

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** **(**SN(A):ref.a - SN(B):ref.b) ID, **Remote party Information** [PEP "B" ID, Network address], **Requesting party Information** [PEP "A" ID, Network address]	**Network connection 1** [Bearer "1" ID]

Processing upon receipt: When the addressed relay node receives this information flow, it removes the network connection branch between the requesting serving node (serving node B) and the relay node. It then issues information flow 8 towards serving node B indicating commitment of the requested operation, and issues information flow 9 towards serving node A requesting network connection release.

8 Release-Bearer.commit **Relay Node 1 to Serving Node B**

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Remote party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID]

Processing upon receipt: When the serving node B receives this information flow, it is aware that the network connection branch between the relay node and the serving node has been removed. It then clears the call and bearer within its domain.

9	Release-Bearer.ready	Relay Node 1 to Serving Node A

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Remote party Information** [PEP "B" ID, Network address], **Requesting party Information** [PEP "A" ID, Network address]	**Network connection 1** [Bearer "1" ID]

Enabling Condition: Reception of information flows 4 and 9

Processing upon receipt: When the requesting service node receives these information flows, it modifies its call and bearer states to indicate a single party call and network connection branch exist in this serving node. The single party is party A and the network connection branch is between the serving node and party A. The serving node then issues information flow 10 towards relay node 1 indicating commitment.

10	Release-Bearer.commit	Serving Node A to Relay Node 1

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Remote party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID]

Processing upon receipt: When the relay node receives this information flow, it is aware that the network connection branch between the relay node and the serving node has been removed. It then clears the call and bearer within its domain.

9.2.3 Release of a party by the call owner – Retain call option

In this example, a two-party call associated with a single connection has been established. The call owner, party owner, and the network connection owner is party A. Call retention option has been specified by the call owner at the time of the call establishment. Party A requests the release of party B. This request will result in the removal of party B from the call and will detach this party from the network connection. The network connection will be cleared back to the serving node associated with the call owner (party A). The call will not be cleared within the network. It will still persist in the serving node associated with party A. In addition, party A and serving node A will be attached by a branch of the network connection originally in place. Figure 9-5 illustrates the before and after view of this example.

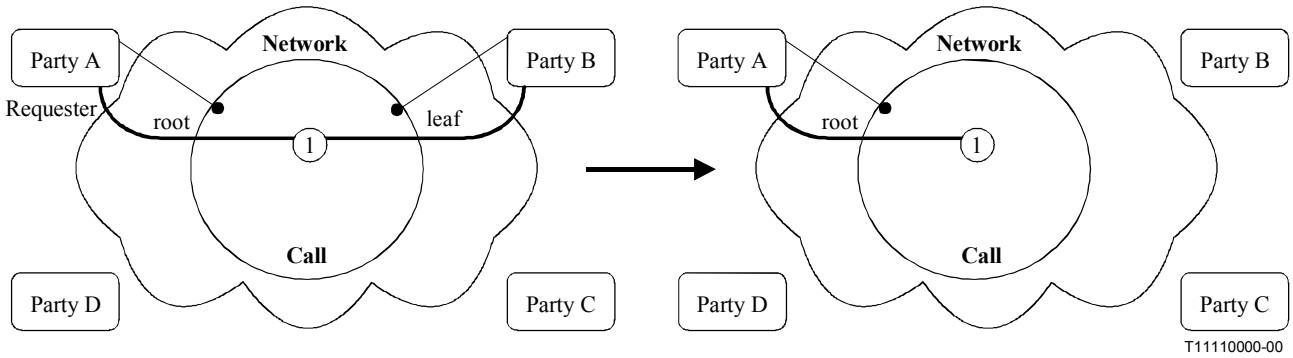


Figure 9-5 – Call and Bearer transition diagram

Figure 9-6 illustrates the information flows necessary to accomplish this procedure.

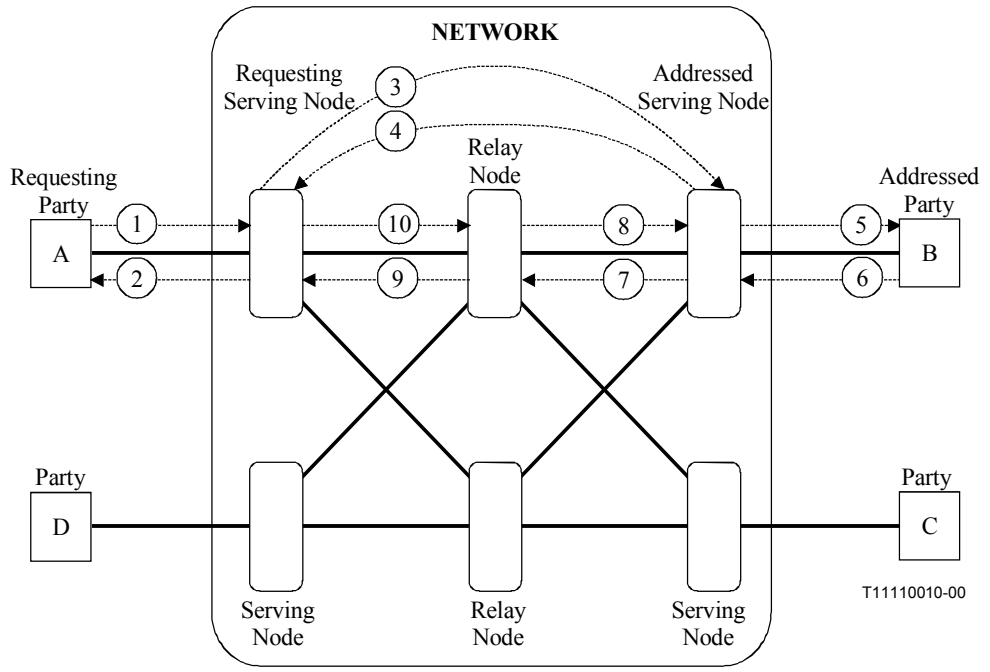


Figure 9-6 – Release party "B" from Call requested by party "A" – One network connection between parties A and B with party A as the call and connection owner

The actions illustrated in Figure 9-6 are as follows.

Requesting party's terminal equipment issues the following information flow towards its serving node.

1	**Release-Party-from Call.ready**	**Party A to Serving Node A**

Resource information	**Call information**	**Bearer information**
	Call Control Segment ID **Remote party Information** [PEP "B" ID, Network address],	

Initiation of information flow: The call owner initiates a remove party from call procedure request.

Processing upon receipt: When the serving node associated with the requesting party receives this information flow, it will authenticate the requesting party, determine that it is the call owner and notes that the requested call release option is to retain the call. The requesting serving node then issues information flow 2 confirming the removal of the party, issues information flow 3 towards the serving node of the party to be removed requesting that the call be cleared for party B. The call and the bearer still remains active in both the requesting party and its associated serving node. Since no other parties are associated with the call and bearer, there is no need to issue any notify call and bearer change information flows.

2 Release-Party-from Call.commit **Serving Node A to Party A**

Resource information	Call information	Bearer information
	Call Control Segment ID **Remote party Information** [PEP "B" ID, Network address],	

Processing upon receipt: When the terminal receives this information flow, it modifies the call and bearer states indicating that a single party is connected to the bearer and is associated with the call. The call remains in the active state.

3 Release-Party-from Call.ready **Serving Node A to Serving Node B**

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Remote party Information** [PEP "B" ID, Network address], **Requesting party Information** [PEP "A" ID, Network address],	

Processing upon receipt: When the addressed serving node receives this information flow, it then issues information flow 4 towards the requesting serving node committing to the remove party and issues a call clearing information flow towards the addressed party B (information flow 5).

4 Release-Party-from Call.commit **Serving Node B to Serving Node A**

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Remote party Information** [PEP "B" ID, Network address],	

Enabling Condition: Reception of information flows 4 and 9

Processing upon receipt: When the requesting service node receives these information flows, it modifies its call and bearer states to indicate a single party call and network connection branch exist in this serving node. The single party is party A and the network connection branch is between the serving node and party A. The serving node then issues information flow 10 towards relay node 1 indicating commitment.

5 Release-Call.ready **Serving Node B to Party B**

Resource information	Call information	Bearer information
	Call Control Segment ID, **Addressed party Information** [PEP "B" ID, Network address], **Requesting party Information** [PEP "A" ID, Network address]	

Processing upon receipt: When the terminal receives this information flow, it clears the call and bearer states and issues a commitment flow (6) towards the addressed serving node.

6 Release-Call.commit **Party B to Serving Node B**

Resource information	Call information	Bearer information
	Call Control Segment ID,	

Processing upon receipt: When the serving node receives this flows, it issues information flow 7 requesting connection removal towards the relay node and awaits its response.

7	Release-Bearer.ready	Serving Node B to Relay Node 1

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Remote party Information** [PEP "B" ID, Network address], **Requesting party Information** [PEP "A" ID, Network address]	**Network connection 1** [Bearer "1" ID]

Processing upon receipt: When the addressed relay node receives this information flow, it removes the network connection branch between the requesting serving node (serving node B) and the relay node. It then issues information flow 8 towards serving node B indicating commitment of the requested operation, and issues information flow 9 towards serving node A requesting network connection release.

8	Release-Bearer.commit	Relay Node 1 to Serving Node B

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Remote party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID]

Processing upon receipt: When the serving node B receives this information flow, it is aware that the network connection branch between the relay node and the serving node has been removed. It then clears the call and bearer within its domain.

9	Release-Bearer.ready	Relay Node 1 to Serving Node A

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Remote party Information** [PEP "B" ID, Network address], **Requesting party Information** [PEP "A" ID, Network address]	**Network connection 1** [Bearer "1" ID]

Enabling Condition: Reception of information flows 4 and 9

Processing upon receipt: When the requesting service node receives these information flows, it modifies its call and bearer states to indicate a single party call and network connection branch exist in this serving node. The single party is party A and the network connection branch is between the serving node and party A. The serving node then issues information flow 10 towards relay node 1 indicating commitment.

10	Release-Bearer.commit	Serving Node A to Relay Node 1

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Remote party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID]

Processing upon receipt: When the relay node receives this information flow, it is aware that the network connection branch between the relay node and the serving node has been removed. It then clears the call and bearer within its domain.

9.3 Release one or more parties and their associated network connection branches from a three- or more-party call

This subclause illustrates two example information flows associated with the release of a single party from a multiple party call.

1) This example illustrates the release of a party requested by the call owner.

2) This example illustrates the release of a party requested by the party owner.

The following subclauses contain the detail information flows for these examples.

9.3.1 Release of a party requested by the call owner – Root-party is the call owner

In this example, a call exists consisting of four parties (parties A, B, C and D). Party A is the call owner, party B's owner, and the network connection owner and root of the connection between parties A, B and C. The branching point of the network connection occurs within relay node 1. Party A requests removal of the B party. This will result in the removal of the network connection branch between the relay node 1 and serving node B and the network connection branch between serving node B and party B. Party B will be removed from the call. Parties C and D will be notified of the change within the call and connection configuration. Figure 9-7 illustrates the before and after view of this example.

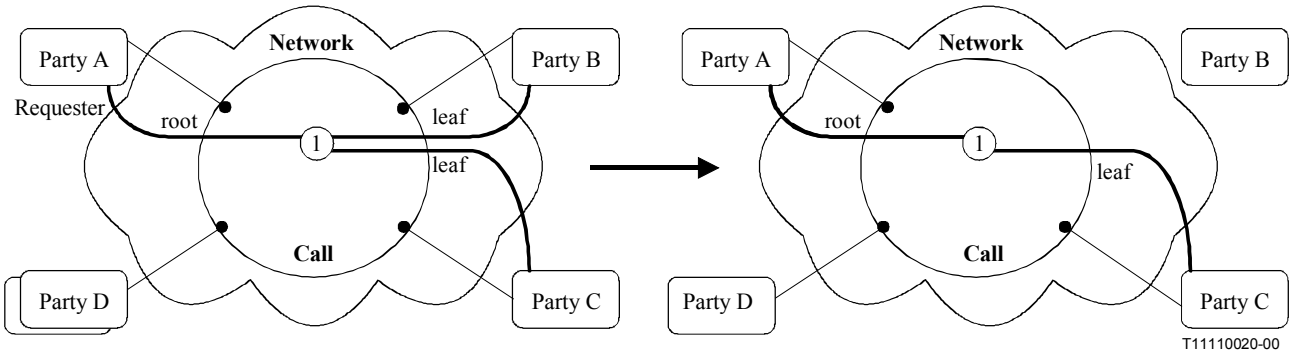


Figure 9-7 – Call and Bearer transition diagram

Figure 9-8 illustrates the information flows necessary to accomplish this procedure.

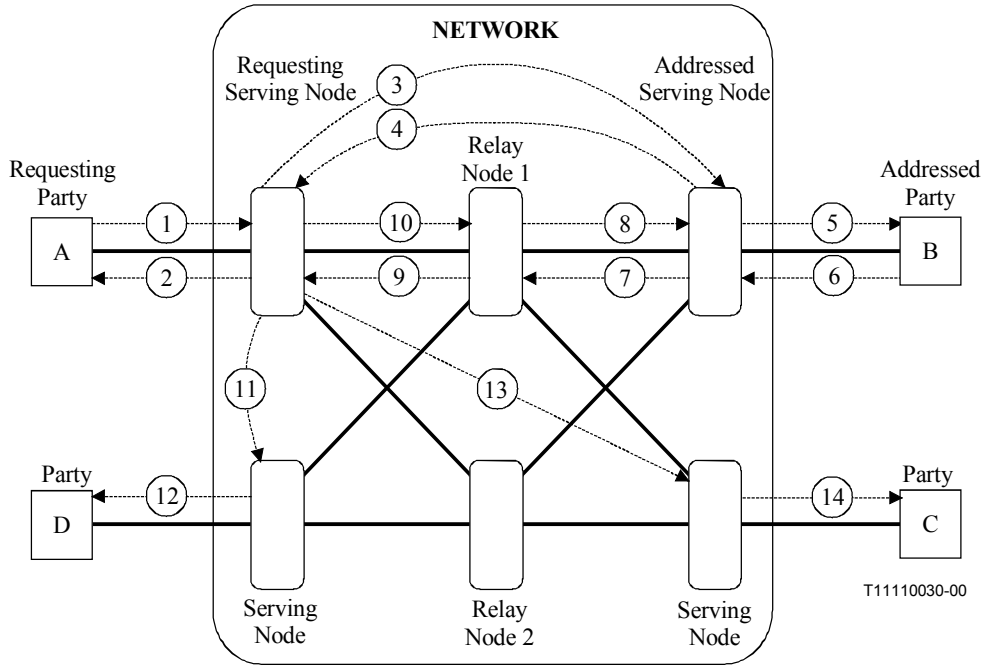


Figure 9-8 – Release party "B" from Call requested by party "A" – One network connection between parties A, B and C, Party D is a member of the call – Party A is the call and connection owner and the root-party of the connection – Branching point occurs in the relay node 1

The actions illustrated in Figure 9-8 are as follows.

Requesting party's terminal equipment issues the following information flow towards its serving node.

---

1 Release-Party-from Call.ready **Party A to Serving Node A**

Resource information	**Call information**	**Bearer information**
	Call Control Segment ID **Remote party Information** [PEP "B" ID, Network address]	

Initiation of information flow: The call owner initiates a remove party from call procedure request.

Processing upon receipt: When the serving node associated with the requesting party receives this information flow, it will authenticate the requesting party, determine that it is the call owner and it is also the party owner of the party to be removed from the call. The requesting serving node then issues information flow 2 confirming the removal of the party, issues information flow 3 towards the serving node of the party to be removed requesting that the call be cleared for party B.

---

2 Release-Party-from Call.commit **Serving Node A to Party A**

Resource information	**Call information**	**Bearer information**
	Call Control Segment ID **Remote party Information** [PEP "B" ID, Network address]	

Processing upon receipt: When the terminal receives this information flow, it modifies the call and bearer states indicating that an addressed party has been removed from the call and has been detached from the network connection.

3	Release-Party-from Call.ready	Serving Node A to Serving Node B

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Remote party Information** [PEP "B" ID, Network address], **Requesting party Information** [PEP "A" ID, Network address]	

Processing upon receipt: When the addressed serving node receives this information flow, it then issues information flow 4 towards the requesting serving node committing to the remove party and issues a call clearing information flow towards the addressed party B (information flow 5).

4	Release-Party-from Call.commit	Serving Node B to Serving Node A

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Remote party Information** [PEP "A" ID, Network address]	

Enabling Condition: Reception of information flows 4 and 9

Processing upon receipt: When the requesting service node receives these information flows, it modifies its call and bearer states to indicate that the party has been removed from the call and detached from the network connection. The serving node proceeds with the notification of the call and bearer change to the other parties associated with the call by issuing information flows 11 and 13. In addition, the serving node then issues information 10 towards relay node 1 indicating commitment.

5	Release-Call.ready	Serving Node B to Party B

Resource information	Call information	Bearer information
	Call Control Segment ID, **Addressed party Information** [PEP "B" ID, Network address], **Requesting party Information** [PEP "A" ID, Network address]	

Processing upon receipt: When the terminal receives this information flow, it clears the call and bearer states and issues a commitment flow (6) towards the addressed serving node.

6	Release-Call.commit	Party B to Serving Node B

Resource information	Call information	Bearer information
	Call Control Segment ID,	

Processing upon receipt: When the serving node receives this flows, it issues information flow 7 requesting connection removal towards the relay node and awaits its response.

7 Release-Bearer.ready **Serving Node B to Relay Node 1**

Resource information	Call information	Bearer information
	Call Control Segment ID, Direct Call association (SN(A):ref.a - SN(B):ref.b) ID, **Remote party Information** [PEP "B" ID, Network address], **Requesting party Information** [PEP "A" ID, Network address]	**Network connection 1** [Bearer "1" ID]

Processing upon receipt: When the addressed relay node receives this information flow, it removes the network connection branch between the requesting serving node (serving node B) and the relay node. It then determines that another party is connected to the specified connection and therefore issues information flow 8 towards serving node B indicating commitment of the requested operation, and issues information flow 9 towards serving node A requesting a detach party B from connection operation.

8 Release-Bearer.commit **Relay Node 1 to Serving Node B**

Resource information	Call information	Bearer information
	Call Control Segment ID, Direct Call association (SN(A):ref.a - SN(B):ref.b) ID, **Remote party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID]

Processing upon receipt: When the serving node B receives this information flow, it is aware that the network connection branch between the relay node and the serving node has been removed. It then clears the call and bearer within its domain.

9 Detach-Party-from-Bearer.ready **Relay Node 1 to Serving Node A**

Resource information	Call information	Bearer information
	Call Control Segment ID, Direct Call association (SN(A):ref.a - SN(B):ref.b) ID, **Remote party Information** [PEP "B" ID, Network address], **Requesting party Information** [PEP "A" ID, Network address]	**Network connection 1** [Bearer "1" ID]

Enabling Condition: Reception of information flows 4 and 9

Processing upon receipt: When the requesting service node receives these information flows, it modifies its call and bearer states to indicate that the party has been removed from the call and detached from the network connection. The serving node proceeds with the notification of the call and bearer change to the other parties associated with the call by issuing information flows 11 and 13. In addition, the serving node then issues information 10 towards relay node 1 indicating commitment.

10 Detach-Party-from-Bearer.commit **Serving Node A to Relay Node 1**

Resource information	Call information	Bearer information
	Call Control Segment ID, Direct Call association (SN(A):ref.a - SN(B):ref.b) ID, **Remote party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID]

Processing upon receipt: When the relay node receives this information flow, it is aware that serving node A has detached the specified party. It then modifies the call and bearer configuration within its domain.

11	Notify-Call-&-Bearer-Change.indication	Serving Node A to Serving Node D

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "C" ID),	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(D):ref.d) ID, **Addressed party Information** [PEP "D" ID, Network address, **Event:** Party B removed from call	**Network connection 2** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "C" ID (leaf)),

Initiation of information flow: Processing of information flows 4 and 9

Processing upon receipt: The addressed serving node records the removal of party B from the call and issues information flow 12 towards party D.

12	Notify-Call-&-Bearer-Change.indication	Serving Node D to Party D

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "C" ID),	**Call Control Segment ID,** **Addressed party Information** [PEP "D" ID, Network address, **Event:** Party B removed from call	**Network connection 2** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "C" ID (leaf)),

Processing upon receipt: The addressed party records the removal of party B from the call and notifies the user of the change in the call and bearer configuration.

13	Notify-Call-&-Bearer-Change.indication	Serving Node A to Serving Node C

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "C" ID),	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(D):ref.d) ID, **Addressed party Information** [PEP "D" ID, Network address] **Event:** Party B removed from call	**Network connection 2** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "C" ID (leaf)),

Initiation of information flow: Processing of information flows 4 and 9

Processing upon receipt: The addressed serving node records the removal of party B from the call and issues information flow 14 towards party C.

14	Notify-Call-&-Bearer-Change.indication	Serving Node C to Party C

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "C" ID),	**Call Control Segment ID,** **Addressed party Information** [PEP "D" ID, Network address] **Event:** Party B removed from call	**Network connection 2** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "C" ID (leaf)),

Processing upon receipt: The addressed party records the removal of party B from the call and notifies the user of the change in the call and bearer configuration.

9.3.2 Release of a party requested by the party owner – Root-party is the call owner

In this example, party D which is party B's owner requests the removal of party B from the call. However, party A is the owner of the call and party D must obtain agreement of the call owner before party B can be removed. If party A or its service logic agrees to the removal, it will initiate the removal procedure and notify party D that party B has been removed from the call and notify all other parties associated with the call that party B has been removed. In this example, party A is not only the call owner but is also the root of the network connection to which party B is attached. Party A also initiates the party B detachment procedure for network connection 1. Note that if the call owner or its service logic does not agree to the removal of party B, ownership of party B is transferred to the call owner. In this example, it is assumed that the call owner agrees to the removal. Figure 9-9 illustrates the before and after view of this example.

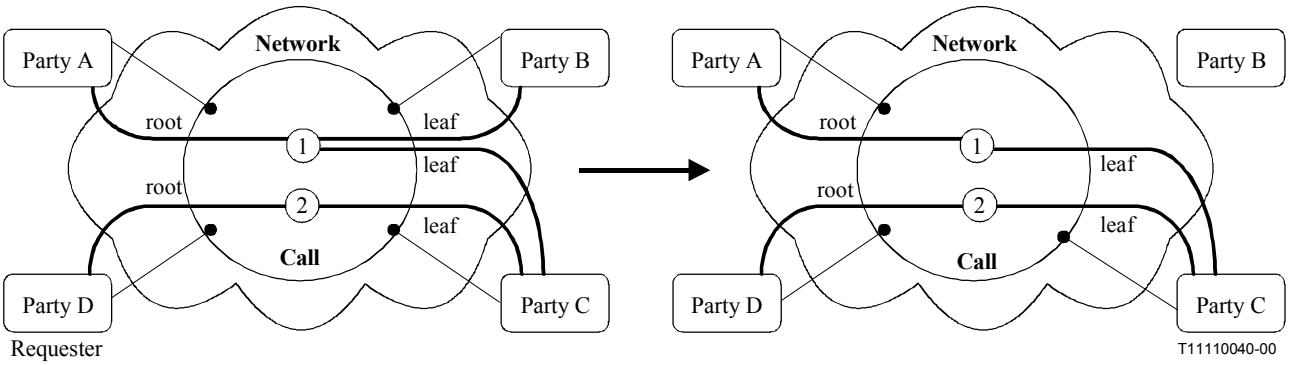


Figure 9-9 – Call and Bearer transition diagram

The signalling capability of removing a party from a call requested by the party owner is illustrated in Figure 9-10.

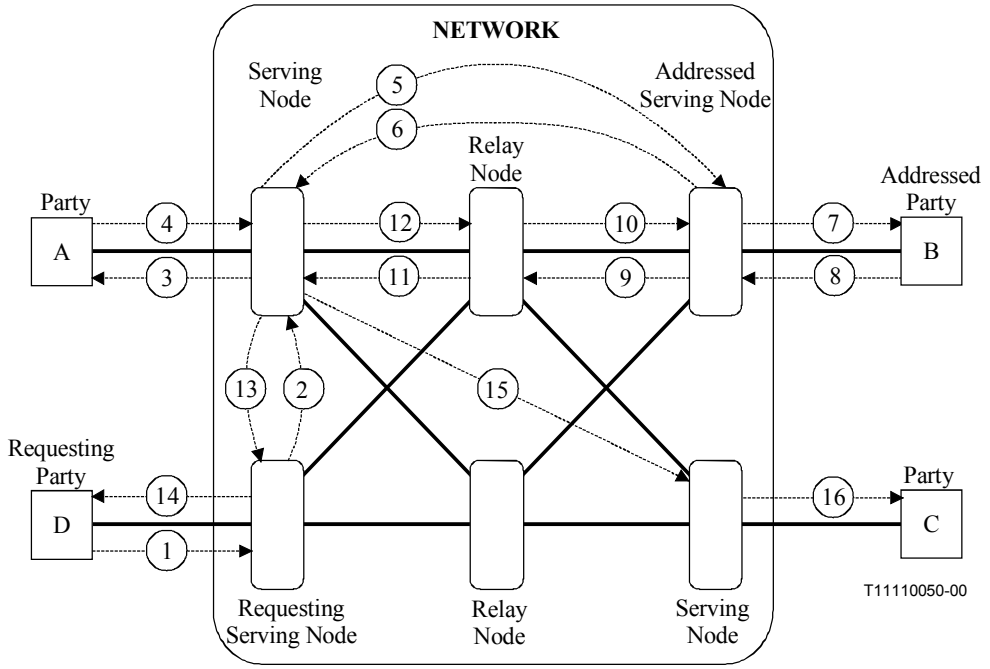


Figure 9-10 – Release party "B" from Call requested by party "D" – Party D is a member of the call and is the party owner of party B – One network connection (1) exists between parties A, B and C – Another network connection (2) exists between parties D and C – Party A is the call and connection owner and the root-party of the connection – Branching point occurs in the relay node 1

The actions illustrated in Figure 9-10 are as follows.

Requesting party's terminal equipment issues the following information flow towards its serving node.

1	Release-Party-from Call.ready	Party D to Serving Node D

Resource information	Call information	Bearer information
	Call Control Segment ID **Remote party Information** [PEP "B" ID, Network address]	

Initiation of information flow: The party owner initiates a remove party from call procedure request.

Processing upon receipt: When the serving node associated with the requesting party receives this information flow, it will authenticate the requesting party, determine that it is party owner of the party to be removed from the call but not the call owner. The requesting serving node then issues information flow 2 toward the serving node associated with the party that is the call owner requesting that party B be removed from the call.

2	Remote-Release-Party-from Call.ready	Serving Node D to Serving Node A

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(D):ref.d) ID, **Addressed party Information** [PEP "A" ID, Network address], **Remote party Information** [PEP "B" ID, Network address], **Requesting party Information** [PEP "D" ID, Network address],	

Processing upon receipt: When the serving node associated with the call owner receives this information flow, it will validate that the requesting party is the party owner of the remote party. Service logic specifies that party A shall make the determination if party B shall be removed from the call. The serving node issues information flow 3 towards party A and awaits the response to this information flow.

3	Request-Release-Party-from Call.ready	Serving Node A to Party A

Resource information	Call information	Bearer information
	Call Control Segment ID, **Remote party Information** [PEP "B" ID, Network address], **Requesting party Information** [PEP "D" ID, Network address],	

Processing upon receipt: When the call owner receives this information flow, it will decide if party B shall be removed from the call. In this example, the call owner agrees that party B can to be removed. Therefore the terminal issues information flow 4 towards its associated serving node. (Note: if the call owner does not agree to the removal of party B, it will issue a request-release-party-from -call.cancel information flow and assume the ownership of party B.)

4	Request-Release-Party-from Call.commit	Party A to Serving Node A

Resource information	Call information	Bearer information
	Call Control Segment ID **Addressed party Information** [PEP "D" ID, Network address], **Remote party Information** [PEP "B" ID, Network address],	

Processing upon receipt: When the serving node associated with the call owner receives this information flow, it will notify party D that party B is to be removed (information flow 13) and initiates the removal of party B by issuing information flow 5. (Note: if the call owner disagrees with

the removal of party B, the serving node notifies party D by issuing a cancel information flow and proceeds to inform the other parties within the call of the change of party B ownership.)

5	Release-Party-from Call.ready	Serving Node A to Serving Node B

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Remote party Information** [PEP "B" ID, Network address], **Requesting party Information** [PEP "A" ID, Network address]	

Processing upon receipt: When the addressed serving node receives this information flow, it then issues information flow 6 towards the requesting serving node committing to the remove party and issues a call clearing information flow towards the addressed party B (information flow 7).

6	Release-Party-from Call.commit	Serving Node B to Serving Node A

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Remote party Information** [PEP "A" ID, Network address]	

Enabling Condition: Reception of information flows 6 and 11

Processing upon receipt: When the requesting service node receives these information flows, it modifies its call and bearer states to indicate that the party has been removed from the call and detached from the network connection. The serving node proceeds with the notification of the call and bearer change to the other parties associated with the call by issuing information flows 13 and 15. In addition, the serving node then issues information flow 12 towards relay node 1 indicating commitment.

7	Release-Call.ready	Serving Node B to Party B

Resource information	Call information	Bearer information
	Call Control Segment ID, **Addressed party Information** [PEP "B" ID, Network address], **Requesting party Information** [PEP "A" ID, Network address]	

Processing upon receipt: When the terminal receives this information flow, it clears the call and bearer states and issues a commitment flow (8) towards the addressed serving node.

8	Release-Call.commit	Party B to Serving Node B

Resource information	Call information	Bearer information
	Call Control Segment ID,	

Processing upon receipt: When the serving node receives this flows, it issues information flow 9 requesting connection removal towards the relay node and awaits its response.

9 Release-Bearer.ready **Serving Node B to Relay Node 1**

Resource information	Call information	Bearer information
	Call Control Segment ID, Direct Call association (SN(A):ref.a - SN(B):ref.b) ID, **Remote party Information** [PEP "B" ID, Network address], **Requesting party Information** [PEP "A" ID, Network address]	**Network connection 1** [Bearer "1" ID]

Processing upon receipt: When the addressed relay node receives this information flow, it removes the network connection branch between the requesting serving node (serving node B) and the relay node. It then determines that another party is connected to the specified connection and therefore issues information flow 10 towards serving node B indicating commitment of the requested operation, and issues information flow 11 towards serving node A requesting a detach party B from connection operation.

10 Release-Bearer.commit **Relay Node 1 to Serving Node B**

Resource information	Call information	Bearer information
	Call Control Segment ID, Direct Call association (SN(A):ref.a - SN(B):ref.b) ID, **Remote party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID]

Processing upon receipt: When the serving node B receives this information flow, it is aware that the network connection branch between the relay node and the serving node has been removed. It then clears the call and bearer within its domain.

11 Detach-Party-from-Bearer.ready **Relay Node 1 to Serving Node A**

Resource information	Call information	Bearer information
	Call Control Segment ID, Direct Call association (SN(A):ref.a - SN(B):ref.b) ID, **Remote party Information** [PEP "B" ID, Network address], **Requesting party Information** [PEP "A" ID, Network address]	**Network connection 1** [Bearer "1" ID]

Enabling Condition: Reception of information flows 6 and 11

Processing upon receipt: When the requesting service node receives these information flows, it modifies its call and bearer states to indicate that the party has been removed from the call and detached from the network connection. The serving node proceeds with the notification of the call and bearer change to the other parties associated with the call by issuing information flows 13 and 15. In addition, the serving node then issues information flow 12 towards relay node 1 indicating commitment.

12 Detach-Party-from-Bearer.commit **Serving Node A to Relay Node 1**

Resource information	Call information	Bearer information
	Call Control Segment ID, Direct Call association (SN(A):ref.a - SN(B):ref.b) ID, **Remote party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID]

Processing upon receipt: When the relay node receives this information flow, it is aware that serving node A has detached the specified party. It then modifies the call and bearer configuration within its domain.

13 Remote-Release-Party-from Call.commit **Serving Node A to Serving Node D**

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(D):ref.d) ID, **Addressed party Information** [PEP "D" ID, Network address], **Remote party Information** [PEP "B" ID, Network address],	

Initiation of information flow: Processing of information flows 6 and 11

Processing upon receipt: When the serving node associated with the party requesting party B's removal from the call, it records the agreement of the removal procedure, modifies its call and bearer state information by removal of party B and its attachment to network connection 1, and issues information flow 14 towards party D. (Note: if a cancel information flow was received, the serving node would modify the party ownership of party B by setting it equal to the call ownership party.) It would then issue a cancel information flow to party D.

14 Release-Party-from Call.commit **Serving Node D to Party D**

Resource information	Call information	Bearer information
	Call Control Segment ID **Remote party Information** [PEP "B" ID, Network address],	

Processing upon receipt: When the terminal receives this information flow, it modifies the call and bearer states indicating that the remote party has been removed from the call and has been detached from the network connection. (Note: if the party D receives a cancel information flow instead of the commit information flow, party B is not removed from the call but ownership has been transferred to the call owner.)

15 Notify-Call-&-Bearer-Change.indication **Serving Node A to Serving Node C**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "C" ID),	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(D):ref.d) ID, **Addressed party Information** [PEP "D" ID, Network address] **Event:** Party B removed from call	**Network connection 2** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "C" ID (leaf)),

Initiation of information flow: Processing of information flows 6 and 11

Processing upon receipt: The addressed serving node records the removal of party B and issues information flow 16 towards party C.

16 Notify-Call-&-Bearer-Change.indication **Serving Node C to Party C**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "C" ID),	**Call Control Segment ID,** **Addressed party Information** [PEP "D" ID, Network address] **Event:** Party B removed from call	**Network connection 2** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "C" ID (leaf)),

Processing upon receipt: The addressed party records the removal of party B from the call and notifies the user of the change in the call and bearer configuration.

10 Call release with one or more parties and their associated network connections

The examples associated with call release with one or more parties and their associated network connections consists of three variations:

1) Release of a single-party call and its associated connections, requested by the call owner.

2) Release of a two-party call and its associated connections, requested by the call owner.

3) Release of a multiparty call and its associated connections, requested by the call owner.

The following subclauses contain the example flows associated with these variations.

10.1 General rules for releasing a call

Only the call owner is allowed to invoke this operation.

If a non-call owner requests that the call be cleared, this action will result in removing the requesting party from the call. The serving node associated with the call owner will be notified that the requesting party is removed.

The serving node associated with the call owner will determine the number of remaining parties associated with the call, determine the status of the notify options and call retention option before proceeding with the received information flow. (Release-Call from the call owner or Release-Party-from-Call from another Serving Node).

1) **Call is to be cleared and Notify serving node option inactive**: The serving node associated with the call owner will inform all the serving nodes associated with the parties associated with the call within its scope that the call is to be released. The serving nodes that receive this call clearing command will note that this message was sent by the call owner. The addressed serving node responds with a removal conformation containing the list of parties that it owns with their call related information. When the serving node associated with the call owner receives this acknowledgment, it will inform any additional serving nodes associated with the parties that are owned by the party associated with the responding serving node, that the call is to be cleared. The additional addressed serving nodes will, in turn, notify the serving node associated with the call owner of any additional parties associated with the call. Each addressed serving node receiving this call clearing command will proceed to clear the call by removing the parties associated with this call within its domain. The serving node associated with the call owner will either clear the call and bearer branches, or retain the call within its domain, dependent on the call retention option status. (Note: the serving node associated with the call owner may not be aware of all parties associated with the call if the serving node notify option is not activated at the beginning of the call.)

2) **Call is to be cleared and Notify serving node option active**: The serving node associated with the call owner will inform all serving nodes associated with the parties associated with the call that the call is to be cleared. Each serving node receiving this call clearing command will proceed to clear the call and network connections within its domain. The serving node associated with the call owner will either clear the call or retain the call within its domain, dependent on the call retention option status.

3) **Call is not to be cleared**: Ownership characteristics associated with the removed party will be transferred to the call owner. The serving node associated with the removed party will issue bearer release requests on all connections attached to the party that is removed. The serving node associated with the call owner will notify the other parties within the call that a party has been removed from the call and that its ownership characteristics have been transferred to the call owner.

10.2 Release of a single-party call and its associated connections, requested by the call owner

In this example, a single-party call with a single bearer branch has been established. The call owner is party A. It wishes to clear this call and bearer configuration and therefore issues a call clearing message towards its serving node. Figure 10-1 illustrates the before and after view of this example.

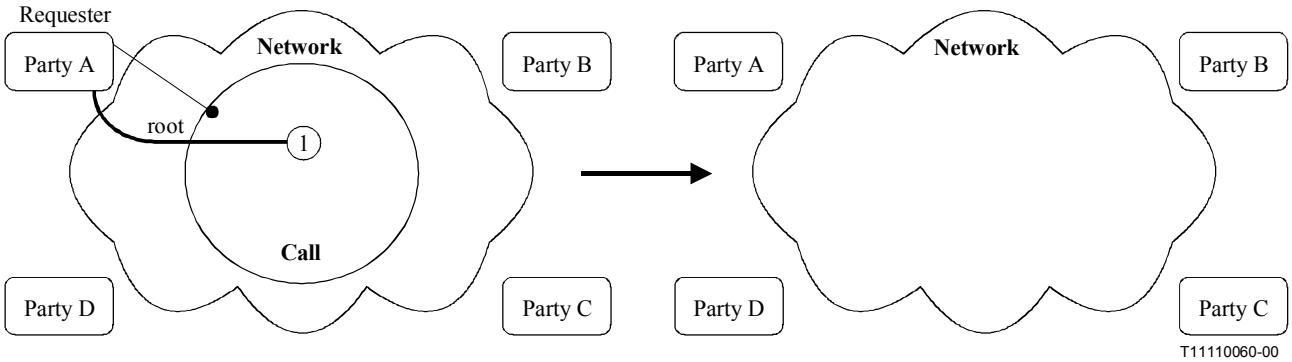


Figure 10-1 – Call and Bearer transition diagram

Figure 10-2 illustrates the information flows necessary to accomplish this procedure.

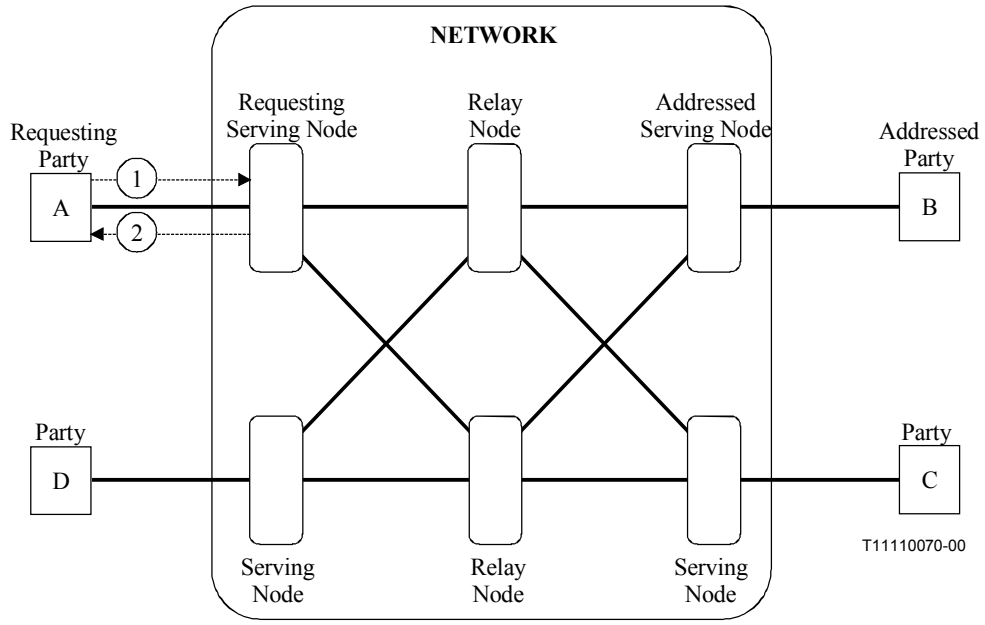


Figure 10-2 – Release Call requested by party "A" – One network connection between parties A and the network with party A as the call and connection owner

The actions illustrated in Figure 10-2 are as follows.

Requesting party's terminal equipment issues the following information flow towards its serving node.

1	Release-Call.ready	Party A to Serving Node A

Resource information	Call information Call Control Segment ID	Bearer information

Initiation of information flow: The call owner initiates a call clearing procedure request.

Processing upon receipt: When the serving node associated with the requesting party receives this information flow, it will authenticate the requesting party, determine that it is the call owner and has permission to clear the call. The requesting serving node then issues information flow 2 confirming the release of the single-party call, and clears the call and network connection branch between the requesting party and the network.

2	Release-Party-from Call.commit	Serving Node A to Party A

Resource information	Call information Call Control Segment ID	Bearer information

Processing upon receipt: When the terminal receives this information flow, it clears the call and bearer within its domain.

10.3 Release of a two-party call and its associated connections, requested by the call owner

The examples associated with the release of a two-party call and it associated connections consist of two variations:

– Release of the call by the call owner – Connection release from both parties.

– Release of the call by the call owner – Connection release from requesting party.

The following subclauses contain the example flows associated with these variations.

10.3.1 Release of the call by the call owner – Connection release from requesting party

In this example, a two-party call associated with a single connection has been established. The call owner, party owner, and the network connection owner is party A. Party A requests the release call. This request will result in the clearing of the call and the network connection. The network connection will be cleared forward towards the serving node associated with the addressed party (party B). Figure 10-3 illustrates the before and after view of this example.

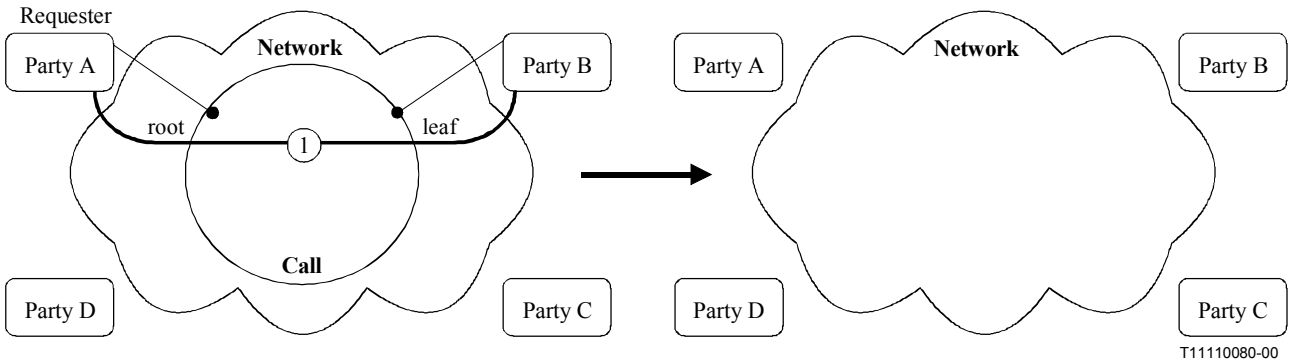


Figure 10-3 – Call and Bearer transition diagram

Figure 10-4 illustrates the information flows necessary to accomplish this procedure.

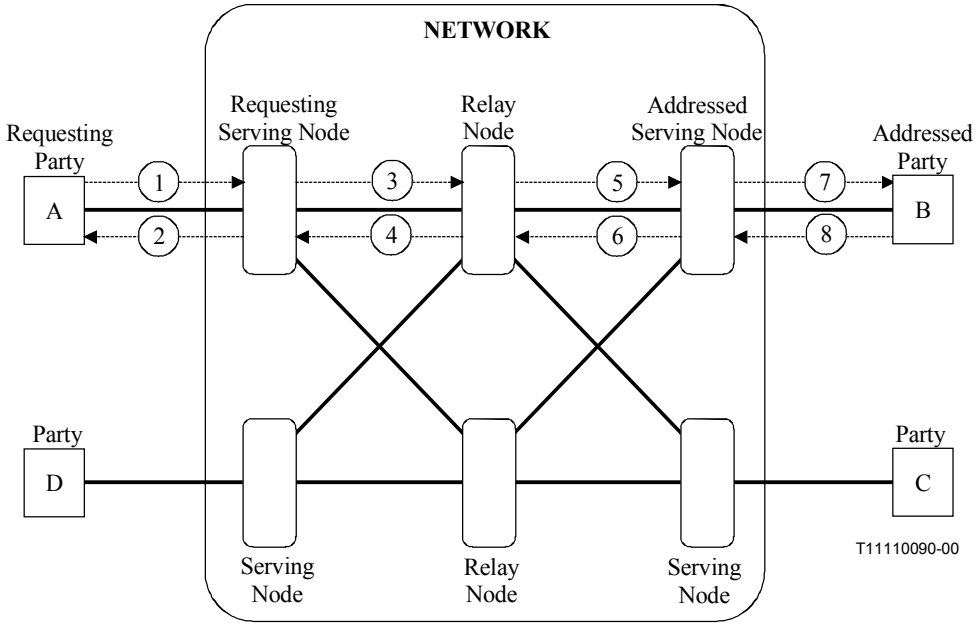


Figure 10-4 – Release Call requested by party "A" – One network connection between parties A and B with party A as the call and connection owner

The actions illustrated in Figure 10-4 are as follows.

Requesting party's terminal equipment issues the following information flow towards its serving node.

---

1 Release-Call.ready **Party A to Serving Node A**

Resource information	**Call information**	**Bearer information**
	Call Control Segment ID	

Initiation of information flow: The call owner initiates a call clearing procedure request.

Processing upon receipt: When the serving node associated with the requesting party receives this information flow, it will authenticate the requesting party, determine that it is the call owner and proceeds to release the call and associated network connection. The requesting serving node then issues information flow 2 confirming call release, issues information flow 3 towards the relay node of the party associated with the call requesting that the call and network connection be cleared.

---

2 Release-Call.commit **Serving Node A to Party A**

Resource information	**Call information**	**Bearer information**
	Call Control Segment ID **Remote party Information** [PEP "B" ID, Network address],	

Processing upon receipt: When the terminal receives this information flow, it clears the call and bearer within its domain.

3	Release-Call-&-Bearer.ready	Serving Node A to Relay Node 1

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Requesting party Information** [PEP "A" ID, Network address],	

Processing upon receipt: When the relay node receives this information flow, it then issues information flow 4 towards the requesting serving node committing to the call and bearer clearing procedure, removes the connection branch between the requesting serving node and the relay node, and issues a release call and bearer information flow towards the addressed serving node.

4	Release-Call-&-Bearer.commit	Relay Node 1 to Serving Node A

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID,	

Processing upon receipt: When the requesting service node receives this information flow, it clears its call and bearer states within its domain.

5	Release-Call-&-Bearer.ready	Relay Node 1 to Serving Node B

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Requesting party Information** [PEP "A" ID, Network address],	

Processing upon receipt: When the addressed serving node receives this information flow, it then issues information flow 6 towards the relay node committing to the call and bearer clearing procedure, removes the network connection branch between the addressed serving node and the relay node, and issues a call clearing information flow towards the addressed party B (information flow 7).

6	Release-Call-&-Bearer.commit	Serving Node A to Relay Node 1

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID,	

Processing upon receipt: When the relay node receives this information flow, it clears its bearer states within its domain.

7	Release-Call.ready	Serving Node B to Party B

Resource information	Call information	Bearer information
	Call Control Segment ID, **Requesting party Information** [PEP "A" ID, Network address]	

Processing upon receipt: When the terminal receives this information flow, it clears the call and bearer states and issues a commitment flow (8) towards the addressed serving node.

8	Release-Call.commit	Party B to Serving Node B

Resource information	Call information	Bearer information
	Call Control Segment ID,	

Processing upon receipt: When the serving node receives this flow, it clears the call and associated bearer states within its domain.

10.3.2 Release of the call by the call owner – Connection release from both parties

In this example, a two-party call associated with a single connection has been established. The call owner, party owner, and the network connection owner is party A. Party A requests the release call. This request will result in the clearing of call and the network connection. Each serving node will release the network connection towards its peer serving node (serving node A releases towards serving node B while serving node b releases towards serving node A). Figure 10-5 illustrates the before and after view of this example.

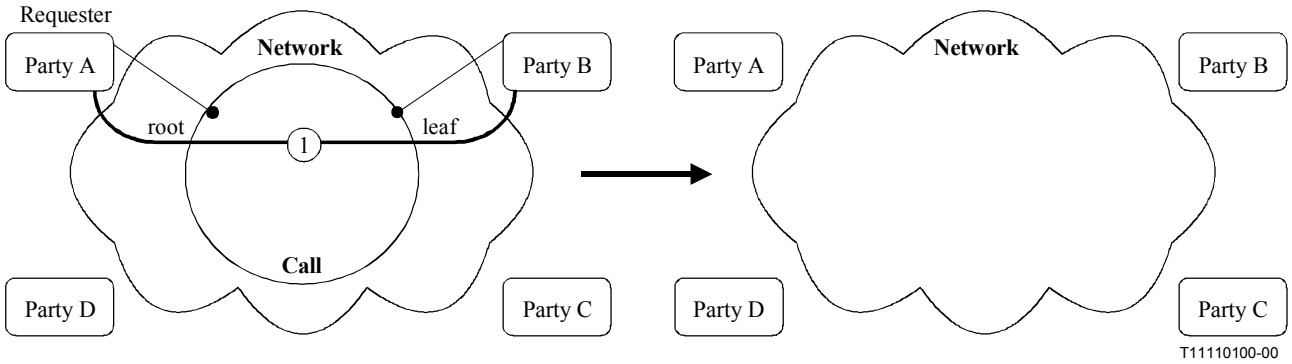


Figure 10-5 – Call and Bearer transition diagram

Figure 10-6 illustrates the information flows necessary to accomplish this procedure.

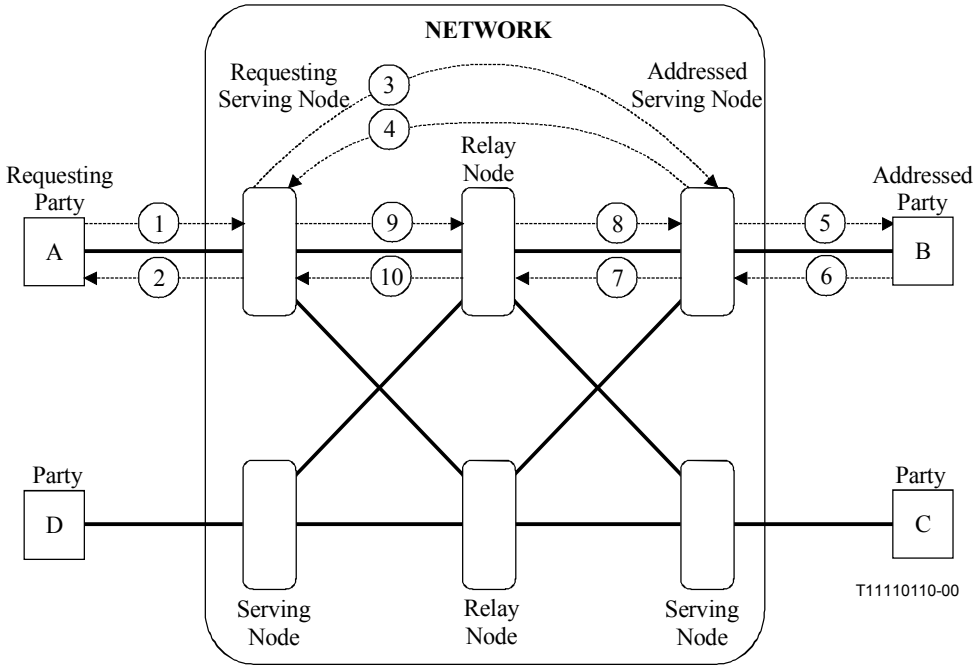


Figure 10-6 – Release Call requested by party "A" – One network connection between parties A and B with party A as the call and connection owner

The actions illustrated in Figure 10-6 are as follows.

Requesting party's terminal equipment issues the following information flow towards its serving node.

---

1 Release-Call.ready **Party A to Serving Node A**

Resource information	**Call information** **Call Control Segment ID**	**Bearer information**

Initiation of information flow: The call owner initiates a release call procedure request.

Processing upon receipt: When the serving node associated with the requesting party receives this information flow, it will authenticate the requesting party, determine that it is the call owner, proceeds to release the call and network connection. The requesting serving node then issues information flow 2 confirming the removal of the call and network connection, issues information flow 9 towards the relay node requesting that the network connection be cleared, and issues 3 towards the serving node of the party associated with the call, requesting that the call be cleared.

---

2 Release-Call.commit **Serving Node A to Party A**

Resource information	**Call information** **Call Control Segment ID**	**Bearer information**

Processing upon receipt: When the terminal receives this information flow, it clears the call and bearer within its domain.

3	Release-Call.ready	Serving Node A to Serving Node B

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Requesting party Information** [PEP "A" ID, Network address],	

Processing upon receipt: When the addressed serving node receives this information flow, it then issues information flow 4 towards the requesting serving node committing to the call clearing procedure, and issues a call clearing information flow towards the addressed party B (information flow 5).

4	Release-Call.commit	Serving Node B to Serving Node A

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID,	

Enabling Condition: Reception of information flows 4 and 10

Processing upon receipt: When the requesting service node receives these information flows, it clears its call and bearer states.

5	Release-Call.ready	Serving Node B to Party B

Resource information	Call information	Bearer information
	Call Control Segment ID, **Addressed party Information** [PEP "B" ID, Network address], **Requesting party Information** [PEP "A" ID, Network address]	

Processing upon receipt: When the terminal receives this information flow, it clears the call and bearer states and issues a commitment flow (6) towards the addressed serving node.

6	Release-Call.commit	Party B to Serving Node B

Resource information	Call information	Bearer information
	Call Control Segment ID,	

Processing upon receipt: When the serving node receives this flow, it issues information flow 7 requesting connection removal towards the relay node and awaits its response.

7	Release-Bearer.ready	Serving Node B to Relay Node 1

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Requesting party Information** [PEP "A" ID, Network address]	**Network connection 1** [Bearer "1" ID]

Processing upon receipt: When the addressed relay node receives this information flow it removes the network connection branch between the requesting serving node (serving node B) and the relay node. If the relay node has not already received another bearer clearing information flow from the call owner via another signalling association, it will then issue information flow 8 towards serving node B indicating commitment of the requested operation, and issues information flow 13 towards serving node A requesting network connection release and awaits information flow 14 indicating commitment. If it has already received another bearer clearing flow, the relay node will not issue information flow 13 but will clear the bearer state within its domain. (Note: information flow 13 and 14 are not shown in order to simplify the diagram.)

8	Release-Bearer.commit	Relay Node 1 to Serving Node B

Resource information	Call information	Bearer information
	Call Control Segment ID, Direct Call association (SN(A):ref.a - SN(B):ref.b) ID,	**Network connection 1** [Bearer "1" ID]

Processing upon receipt: When the serving node B receives this information flow, it is aware that the network connection branch between the relay node and the serving node has been removed. It then clears the call and bearer within its domain.

9	Release-Bearer.ready	Serving Node A to Relay Node 1

Resource information	Call information	Bearer information
	Call Control Segment ID, Direct Call association (SN(A):ref.a - SN(B):ref.b) ID, **Requesting party Information** [PEP "A" ID, Network address],	**Network connection 1** [Bearer "1" ID]

Initiation of information flow: Processing of information flow 2.

Processing upon receipt: When the relay node receives this information flow, it then issues information flow 10 towards the requesting serving node committing to the bearer clearing procedure, and if it has not already received another bearer clearing request via another signalling association, it issues a bearer clearing information flow towards the addressed party B (information flow 11) and waits for its acknowledgement (information flow 12). (Note: information flows 11 and 12 are not illustrated for simplicity of the example.) If it has already received another bearer clearing request, information flow 11 will not be issued and the relay node clears the connection.

10	Release-Bearer.commit	Relay Node 1 to Serving Node A

Resource information	Call information	Bearer information
	Call Control Segment ID, Direct Call association (SN(A):ref.a - SN(B):ref.b) ID,	

Enabling Condition: Reception of information flows 4 and 10

Processing upon receipt: When the requesting service node receives these information flows, it clears its call and bearer states.

10.4 Release of a multiparty call and its associated connections, requested by the call owner

In this example, a four-party call containing two network connections have been established. The call owner is party A. The notify option has been used throughout the call and bearer establishment phase of the call. The call owner is aware of all parties within the call. When the call owner requests call clearing, associated serving node will send call clearing requests to the serving nodes associated with each party associated with the call. Each serving node will notify their associated party that the call is being cleared and will being the release of any connections associated with the notified party. Figure 10-7 illustrates the before and after view of this example.

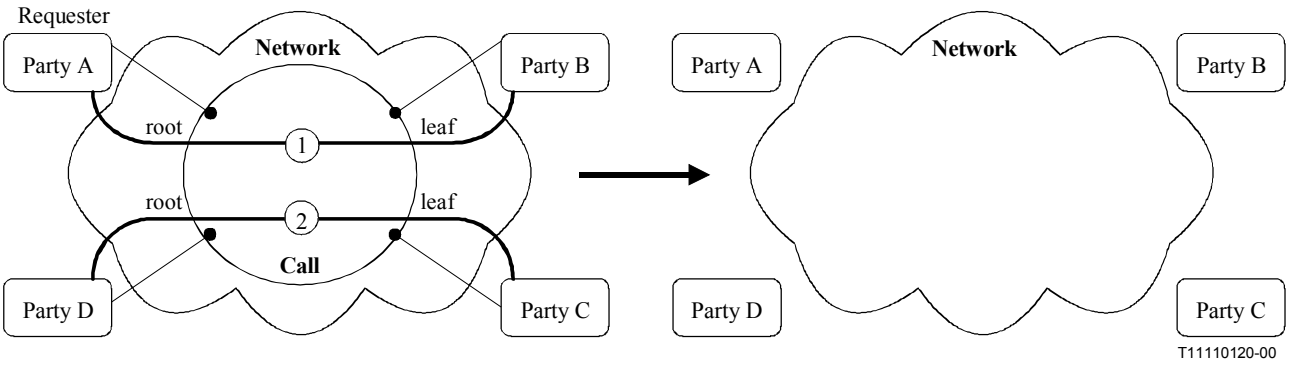


Figure 10-7 – Call and Bearer transition diagram

Figure 10-8 illustrates the information flows necessary to accomplish this procedure.

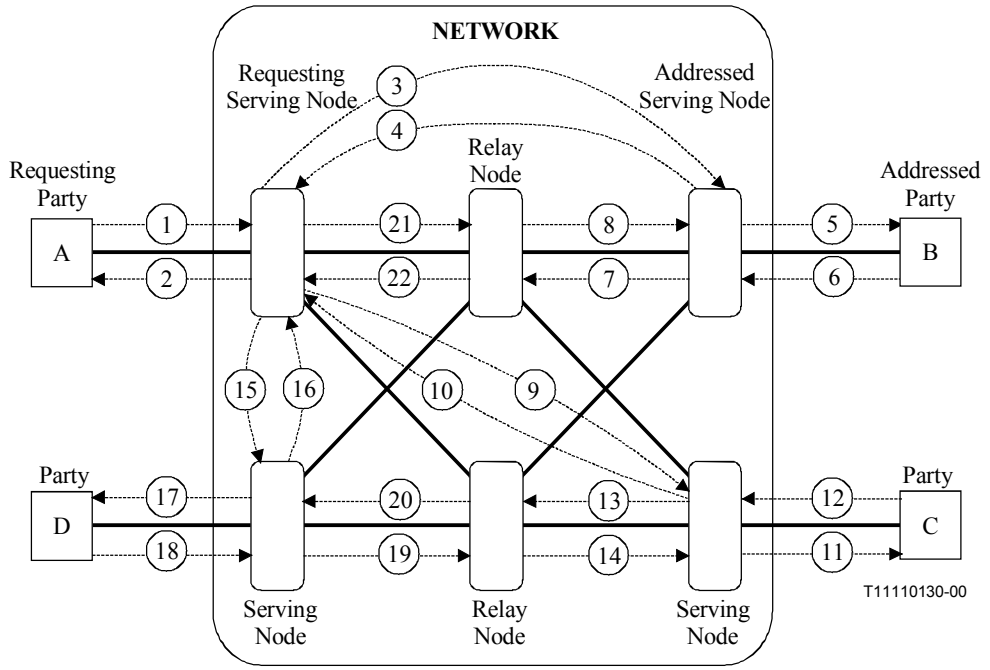


Figure 10-8 – Release Call requested by party "A" – One network connection between parties A and B and one network connection between parties C and D with party A as the call owner

The actions illustrated in Figure 10-8 are as follows.

Requesting party's terminal equipment issues the following information flow towards its serving node.

---

1 Release-Call.ready **Party A to Serving Node A**

Resource information	**Call information**	**Bearer information**
	Call Control Segment ID	

Initiation of information flow: The call owner initiates a release call procedure request.

Processing upon receipt: When the serving node associated with the requesting party receives this information flow, it will authenticate the requesting party, determine that it is the call owner, proceeds to release the call and network connection. The requesting serving node then issues

information flow 2 confirming the removal of the call and network connection, issues information flow 21 towards the relay node requesting that the network connection be cleared, and issues 3, 9 and 15 towards the serving nodes of the parties associated with the call requesting that the call be cleared.

2	Release-Call.commit	Serving Node A to Party A
Resource information	**Call information** **Call Control Segment ID**	**Bearer information**

Processing upon receipt: When the terminal receives this information flow, it clears the call and bearer within its domain.

3	Release-Call.ready	Serving Node A to Serving Node B
Resource information	**Call information** **Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Requesting party Information** [PEP "A" ID, Network address],	**Bearer information**

Initiation of information flow: Processing of information flow 1

Processing upon receipt: When the addressed serving node receives this information flow, it then issues information flow 4 towards the requesting serving node committing to the call clearing procedure, and issues a call clearing information flow towards the addressed party B (information flow 5).

4	Release-Call.commit	Serving Node B to Serving Node A
Resource information	**Call information** **Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID,	**Bearer information**

Enabling Condition: Reception of information flows 4, 10, 16 and 22

Processing upon receipt: When the requesting service node receives these information flows, it clears its call and bearer states.

5	Release-Call.ready	Serving Node B to Party B
Resource information	**Call information** **Call Control Segment ID,** **Addressed party Information** [PEP "B" ID, Network address], **Requesting party Information** [PEP "A" ID, Network address]	**Bearer information**

Processing upon receipt: When the terminal receives this information flow, it clears the call and bearer states and issues a commitment flow (6) towards the addressed serving node.

6	Release-Call.commit	Party B to Serving Node B
Resource information	**Call information** **Call Control Segment ID,**	**Bearer information**

Processing upon receipt: When the serving node receives this flow, it issues information flow 7 requesting connection removal towards the relay node and awaits its response.

7	Release-Bearer.ready	Serving Node B to Relay Node 1

Resource information	Call information	Bearer information
	Call Control Segment ID, Direct Call association (SN(A):ref.a - SN(B):ref.b) ID, **Requesting party Information** [PEP "A" ID, Network address]	**Network connection 1** [Bearer "1" ID]

Processing upon receipt: When the addressed relay node receives this information flow, it removes the network connection branch between the requesting serving node (serving node B) and the relay node. If the relay node has not already received another bearer clearing information flow from the call owner via another signalling association, it will then issue information flow 8 towards serving node B indicating commitment of the requested operation, and issues information flow 25 towards serving node A requesting network connection release and await information flow 26 indicating commitment. If it has already received another bearer clearing flow, the relay node will not issue information flow 25 but will clear the bearer state within its domain. (Note: in this example, information flow 25 and 26 are not shown in order to simplify the diagram.)

8	Release-Bearer.commit	Relay Node 1 to Serving Node B

Resource information	Call information	Bearer information
	Call Control Segment ID, Direct Call association (SN(A):ref.a - SN(B):ref.b) ID,	**Network connection 1** [Bearer "1" ID]

Processing upon receipt: When the serving node B receives this information flow, it is aware that the network connection branch between the relay node and the serving node has been removed. It then clears the call and bearer within its domain.

9	Release-Call.ready	Serving Node A to Serving Node C

Resource information	Call information	Bearer information
	Call Control Segment ID, Direct Call association (SN(A):ref.a - SN(C):ref.c) ID, **Requesting party Information** [PEP "A" ID, Network address],	

Initiation of information flow: Processing of information flow 1

Processing upon receipt: When the addressed serving node receives this information flow, it then issues information flow 10 towards the requesting serving node committing to the call clearing procedure, and issues a call clearing information flow towards the addressed party C (information flow 11).

10	Release-Call.commit	Serving Node D to Serving Node A

Resource information	Call information	Bearer information
	Call Control Segment ID, Direct Call association (SN(A):ref.a - SN(D):ref.d) ID,	

Enabling Condition: Reception of information flows 4, 10, 16 and 22

Processing upon receipt: When the requesting service node receives these information flows, it clears its call and bearer states.

11	Release-Call.ready		Serving Node C to Party C
Resource information		**Call information**	**Bearer information**
		Call Control Segment ID, **Addressed party Information** [PEP "C" ID, Network address], **Requesting party Information** [PEP "A" ID, Network address]	

Processing upon receipt: When the terminal receives this information flow, it clears the call and bearer states and issues a commitment flow (12) towards the addressed serving node.

12	Release-Call.commit		Party C to Serving Node C
Resource information		**Call information**	**Bearer information**
		Call Control Segment ID,	

Processing upon receipt: When the serving node receives this flow, it issues information flow 13 requesting connection removal towards the relay node and awaits its response.

13	Release-Bearer.ready		Serving Node C to Relay Node 2
Resource information		**Call information**	**Bearer information**
		Call Control Segment ID, **Direct Call association** (SN(C):ref.c - SN(D):ref.d) ID, **Requesting party Information** [PEP "A" ID, Network address]	**Network connection 2** [Bearer "2" ID]

Processing upon receipt: When the addressed relay node receives this information flow, it removes the network connection branch between the requesting serving node (serving node C) and the relay node. If the relay node has not already received another bearer clearing information flow from the call owner via another signalling association, it will then issue information flow 14 towards serving node C indicating commitment of the requested operation, and issues information flow 27 towards serving node D requesting network connection release and awaits information flow 28 indicating commitment. If it has already received another bearer clearing flow, the relay node will not issue information flow 27 but will clear the bearer state within its domain. (Note: information flows 27 and 28 are not shown in oder to simplify the diagram.)

14	Release-Bearer.commit		Relay Node 2 to Serving Node C
Resource information		**Call information**	**Bearer information**
		Call Control Segment ID, **Direct Call association** (SN(C):ref.c - SN(D):ref.d) ID,	**Network connection 2** [Bearer "2" ID]

Processing upon receipt: When the serving node C receives this information flow, it is aware that the network connection branch between the relay node and the serving node has been removed. It then clears the call and bearer within its domain.

15	Release-Call.ready	Serving Node A to Serving Node D

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(D):ref.d) ID, **Requesting party Information** [PEP "A" ID, Network address],	

Initiation of information flow: Processing of information flow 1

Processing upon receipt: When the addressed serving node receives this information flow, it then issues information flow 16 towards the requesting serving node committing to the call clearing procedure, and issues a call clearing information flow towards the addressed party D (information flow 17).

16	Release-Call.commit	Serving Node C to Serving Node A

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(C):ref.c) ID,	

Enabling Condition: Reception of information flows 4, 10, 16 and 22

Processing upon receipt: When the requesting service node receives these information flows, it clears its call and bearer states.

17	Release-Call.ready	Serving Node D to Party D

Resource information	Call information	Bearer information
	Call Control Segment ID, **Addressed party Information** [PEP "D" ID, Network address], **Requesting party Information** [PEP "A" ID, Network address]	

Processing upon receipt: When the terminal receives this information flow, it clears the call and bearer states and issues a commitment flow (18) towards the addressed serving node.

18	Release-Call.commit	Party D to Serving Node D

Resource information	Call information	Bearer information
	Call Control Segment ID,	

Processing upon receipt: When the serving node receives this flow, it issues information flow 19 requesting connection removal towards the relay node and awaits its response.

19 Release-Bearer.ready **Serving Node D to Relay Node 2**

Resource information	Call information	Bearer information
	Call Control Segment ID, Direct Call association (SN(C):ref.c - SN(D):ref.d) ID, **Requesting party Information** [PEP "A" ID, Network address]	**Network connection 2** [Bearer "2" ID]

Processing upon receipt: When the addressed relay node receives this information flow, it removes the network connection branch between the requesting serving node (serving node D) and the relay node. If the relay node has not already received another bearer clearing information flow from the call owner via another signalling association, it will then issue information flow 20 towards serving node D indicating commitment of the requested operation, and issues information flow 29 towards serving node C requesting network connection release and awaits information flow 30 indicating commitment. If it has already received another bearer clearing flow, the relay node will not issue information flow 29 but will clear the bearer state within its domain. (Note: information flows 29 and 30 are not shown in order to simplify the diagram.)

20 Release-Bearer.commit **Relay Node 2 to Serving Node D**

Resource information	Call information	Bearer information
	Call Control Segment ID, Direct Call association (SN(C):ref.c - SN(D):ref.d) ID,	**Network connection 2** [Bearer "2" ID]

Processing upon receipt: When the serving node D receives this information flow, it is aware that the network connection branch between the relay node and the serving node has been removed. It then clears the call and bearer within its domain.

21 Release-Bearer.ready **Serving Node A to Relay Node 1**

Resource information	Call information	Bearer information
	Call Control Segment ID, Direct Call association (SN(A):ref.a - SN(B):ref.b) ID, **Requesting party Information** [PEP "A" ID, Network address],	**Network connection 1** [Bearer "1" ID]

Initiation of information flow: Processing of information flow 1.

Processing upon receipt: When the relay node receives this information flow, it then issues information flow 22 towards the requesting serving node committing to the bearer clearing procedure, and if it has not already received another bearer clearing request via another signalling association, it issues a bearer clearing information flow towards the addressed party B (information flow 23) and waits for its acknowledgement (information flow 24). (Note: information flows 23 and 24 are not illustrated for simplicity of the example.) If it has already received another bearer clearing request, information flow 23 will not be issued and the relay node clears the connection.

22 Release-Bearer.commit **Relay Node 1 to Serving Node A**

Resource information	Call information	Bearer information
	Call Control Segment ID, Direct Call association (SN(A):ref.a - SN(B):ref.b) ID,	

Enabling Condition: Reception of information flows 4, 10, 16 and 22

Processing upon receipt: When the requesting service node receives these information flows, it clears its call and bearer states.

10.5 Release of a call requested by a non-call owner

Two examples of call clearing requested by a non-call owner are illustrated in this subclause. The first illustrates a two-party call with a single network connection and the second illustrates a multiparty call with a single network connection between parties A, B, and D. Party A is the root of this network connection. The first example illustrates both the call clearing option and the call retention option.

10.5.1 Release of a two-party call requested by a non-call owner

In this example, a two-party call containing a single point-to-point network connection has been established. The call owner, and the party owner is party A. Party B requests call clearing. Since party B is not the call owner, this request will result in the removal of party B from the call. The call and network connection will be either cleared or retained within the network dependent on the mode in which the call was established by party A (call retention option or call clearing option). Figure 10-9 illustrates the before and after view of this example.

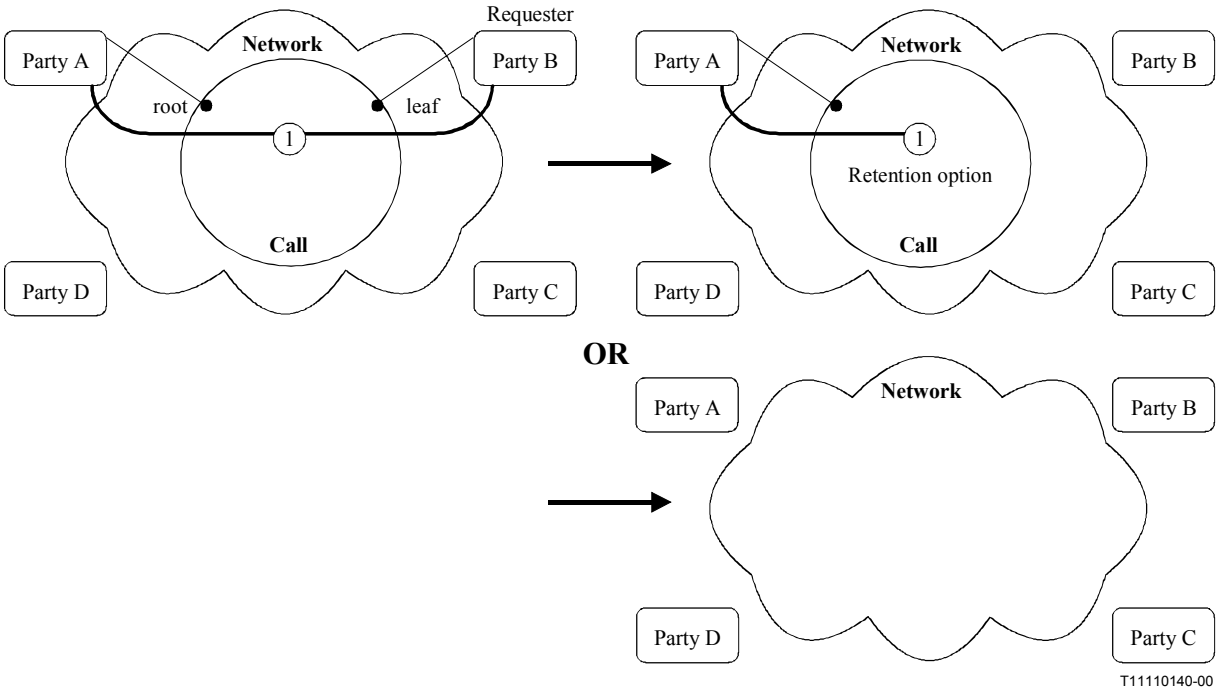


Figure 10-9 – Call transition diagram

Figure 10-10 illustrates the information flows necessary to accomplish this procedure.

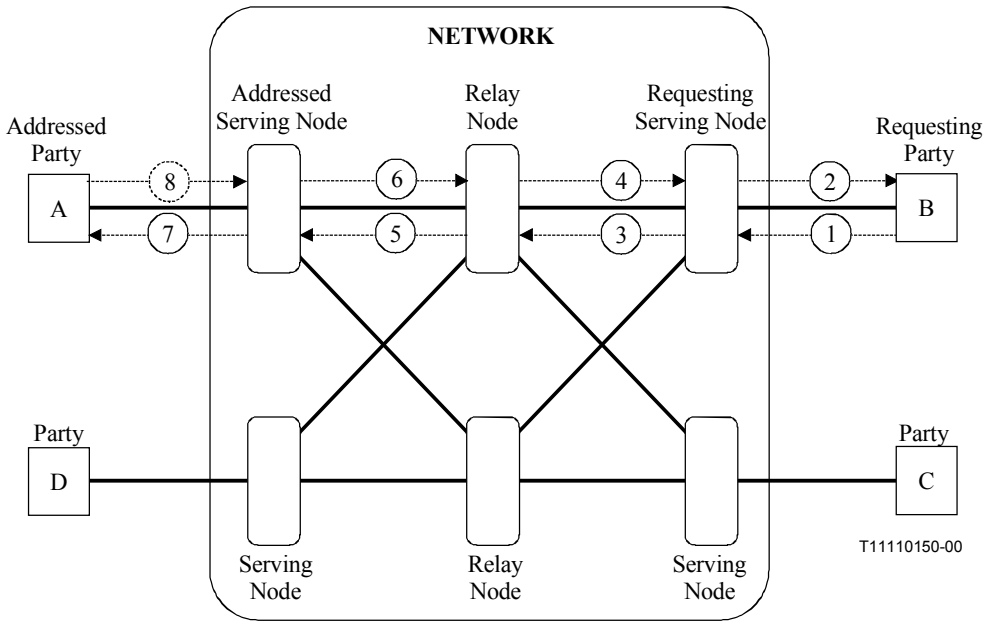


Figure 10-10 – Party "B" requests call clearing – Party "A" is the call owner

The actions illustrated in Figure 10-10 are as follows.

Requesting party's terminal equipment issues the following information flow towards its serving node.

---

1 Release-Call.ready **Party B to Serving Node B**

Resource information	**Call information**	**Bearer information**
	Call Control Segment ID	

Initiation of information flow: The non-call owner initiates a call clearing request.

Processing upon receipt: When the serving node associated with the requesting party receives this information flow, it will authenticate the requesting party, determine that it is not the call owner. The serving node will initiate a party removal procedure in order to release party B from the call. This action also releases the bearer branch between the serving node and party B. The requesting serving node then issues information flow 2 confirming the removal of party B from the call, issues information flow 3 towards the relay node associated with the call owner, requesting that party B be removed from the call.

---

2 Release-Call.commit **Serving Node B to Party B**

Resource information	**Call information**	**Bearer information**
	Call Control Segment ID	

Processing upon receipt: When the terminal receives this information flow, it clears the call and bearer branch within its domain.

3 Release-Call-&-Bearer.ready **Serving Node B to Relay Node 1**

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "A" ID, Network address], **Requesting party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID]

Processing upon receipt: When the addressed relay node receives this information flow, it notes that there is no bearer branching function contained in this node and therefore issues information flow 4 towards the requesting serving node and relays the call and bearer release request towards the serving node associated with the root of the connection (information flow 5).

4 Release-Call-&-Bearer.commit **Relay Node 1 to Serving Node B**

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID,	**Network connection 1** [Bearer "1" ID]

Processing upon receipt: When the requesting service node receives this information flow, it clears its call and bearer states within its domain.

5 Release-Call-&-Bearer.ready **Relay Node 1 to Serving Node A**

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "A" ID, Network address], **Requesting party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID]

Processing upon receipt: When the serving node receives this information flow, and has noted that the requesting party is not the call owner, it then issues information flow 4 towards the requesting serving node committing to remove the party and its associated bearer branch, and if the call clearing option is active, issues a release-call information flow towards the addressed party. If, however, the call retention option is active, the serving node will issue a call change information flow to party A indicating that party B has been removed from the call. (Note: information flow 5 could be either a Release-Call or a call change information flow – this will be illustrated by two flows with the same number accompanied by the call option.)

6 Release-Call-&-Bearer.commit **Serving Node A to Relay Node 1**

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID,	**Network connection 1** [Bearer "1" ID]

Processing upon receipt: When the addressed relay node receives this information flow, it clears its call and bearer states within its domain.

7(clear) Release-Call.ready		Serving Node A to Party A
Resource information	**Call information**	**Bearer information**
	Call Control Segment ID, **Addressed party Information** [PEP "A" ID, Network address], **Requesting party Information** [PEP "B" ID, Network address]	

Processing upon receipt: When the terminal receives this information flow, it clears the call and bearer states and issues a commitment flow (8) towards the addressed serving node.

7(retain) Notify-Call-Change.indication		Serving Node A to Party A
Resource information	**Call information**	**Bearer information**
	Call Control Segment ID, **Addressed party Information** [PEP "A" ID, Network address], **Event:** Party B removed from the call	**Network connection 2** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID),

Enabling Condition: Processing of information flow 3 and notify subscriber option active

Processing upon receipt: When the addressed terminal receives this information flow, it updates its call and bearer status information, and notifies its user agent of the change in the call.

8 Release-Call.commit		Party B to Serving Node B
Resource information	**Call information**	**Bearer information**
	Call Control Segment ID,	

Processing upon receipt: When the addressed serving node receives this flow, it notes that this is the last party associated with the call within the addressed serving node, it then clears the call and bearer states within its domain.

10.5.2 Release of a multiparty call requested by a non-call owner

This scenario assumes that party A is currently engaged in a call with parties D and B. A network connection exists between parties A, B, and D with party A as the root of the network connection. Party B, a non-call owner, requests that the call be cleared. Since party B is not the call owner, it will be removed from the call. The call owner, party A and party D will be notified of the removal of party B. This is illustrated in Figure 10-11 and its associated information flows.

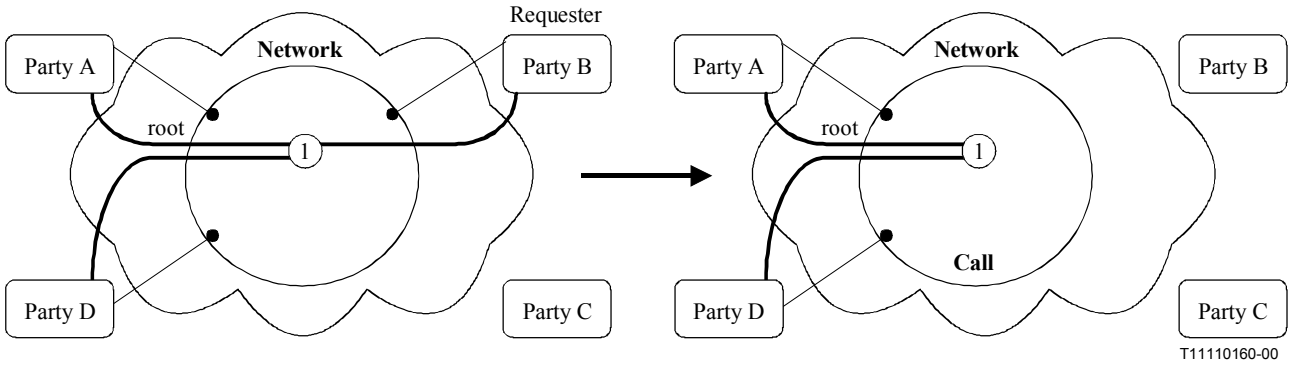


Figure 10-11 – Call transition diagram

Figure 10-12 illustrates the information flows necessary to accomplish this procedure.

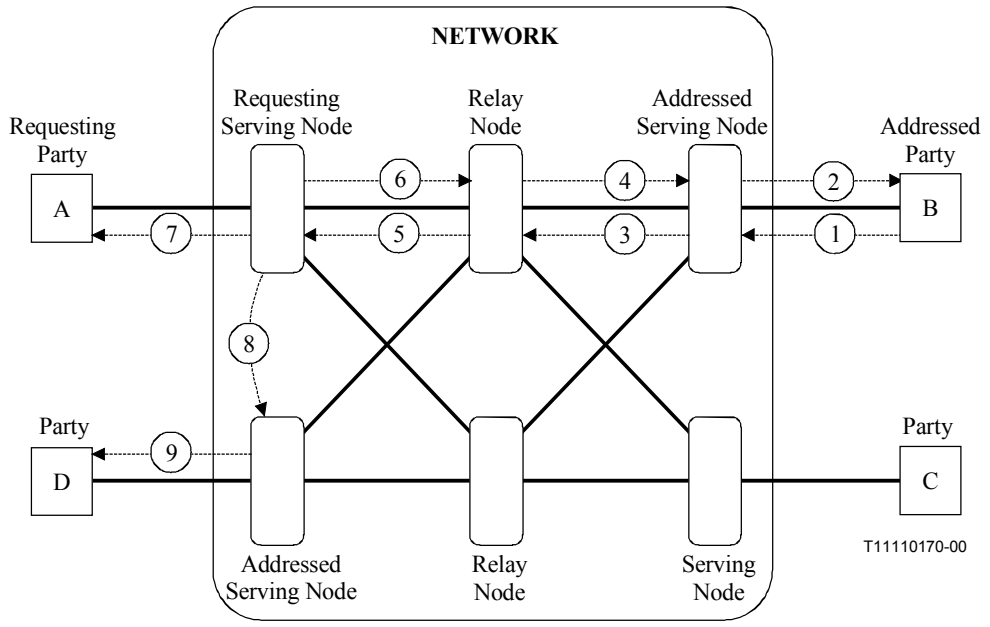


Figure 10-12 – Release party B from call requested by party A, the call owner – Party D is the owner of party B

The actions illustrated in Figure 10-12 are as follows.

Requesting party's terminal equipment issues the following information flow towards its serving node.

---

1 Release-Call.ready **Party B to Serving Node B**

Resource information	**Call information** **Call Control Segment ID**	**Bearer information**

Initiation of information flow: Party B's terminal equipment issues information flow 1 towards its serving node.

Processing upon receipt: When the serving node associated with the requesting party receives this information flow, it will authenticate the requesting party, determine that it is not the call owner. It then releases the party from the call and since this is the last party associated with the call within its domain, issues a call and bearer clearing request to the call owner (information flow 3). The requesting serving node then issues information flow 2 confirming the clearing of the call and bearer.

---

2 Release-Call.commit **Serving Node B to Party B**

Resource information	**Call information** **Call Control Segment ID**	**Bearer information**

Processing upon receipt: When the terminal receives this information flow, it clears the call and bearer within its domain.

3	Release-Call-&-Bearer.ready	Serving Node B to Relay Node 1
Resource information	**Call information**	**Bearer information**
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "A" ID, Network address], **Requesting party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID]

Processing upon receipt: When the addressed relay node receives this information flow, it notes that there is no bearer branching function contained in this node and therefore issues information flow 4 towards the requesting serving node and relays the call and bearer release request towards the serving node associated with the root of the connection (information flow 5).

4	Release-Call-&-Bearer.commit	Relay Node 1 to Serving Node B
Resource information	**Call information**	**Bearer information**
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID,	**Network connection 1** [Bearer "1" ID]

Processing upon receipt: When the requesting service node receives this information flow, it clears the call within the domain of the requesting serving node.

5	Release-Call-&-Bearer.ready	Relay Node 1 to Serving Node A
Resource information	**Call information**	**Bearer information**
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Addressed party Information** [PEP "A" ID, Network address], **Requesting party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID]

Processing upon receipt: When the serving node receives this information flow, and has noted that the requesting party is not the call owner, it then issues information flow 6 towards the requesting relay node committing to remove the party from the call and clearing the bearer branch between the serving node and the relay node, and issues notify call change information flows 7 and 8 towards the call owner, party A, and party D indicating that party B has been removed from the call.

6	Release-Call-&-Bearer.commit	Serving Node A to Relay Node 1
Resource information	**Call information**	**Bearer information**
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID,	**Network connection 1** [Bearer "1" ID]

Processing upon receipt: When the relay node receives this information flow, it clears the call and bearer within the domain of the relay serving node.

7	Notify-Call-Change.indication	Serving Node A to Party A
Resource information	**Call information**	**Bearer information**
	Call Control Segment ID, **Addressed party Information** [PEP "A" ID, Network address], **Event:** Party B removed from the call	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "D" ID (leaf))

Enabling Condition: Processing of information flow 5 and notify subscriber option active

Processing upon receipt: When the addressed terminal receives this information flow, it updates its call and bearer status information, and notifies its user agent of the change in the call.

8	Notify-Call-Change.indication	Serving Node A to Serving Node D

Resource information	Call information	Bearer information
	Call Control Segment ID, **Direct Call association** (SN(A):ref.a - SN(D):ref.d) ID, **Addressed party Information** [PEP "D" ID, Network address], Party Owner: PEP "A" ID, **Event:** Party B removed from the call	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "D" ID (leaf))

Enabling Condition: Notify serving node option and the notify subscriber D option are active

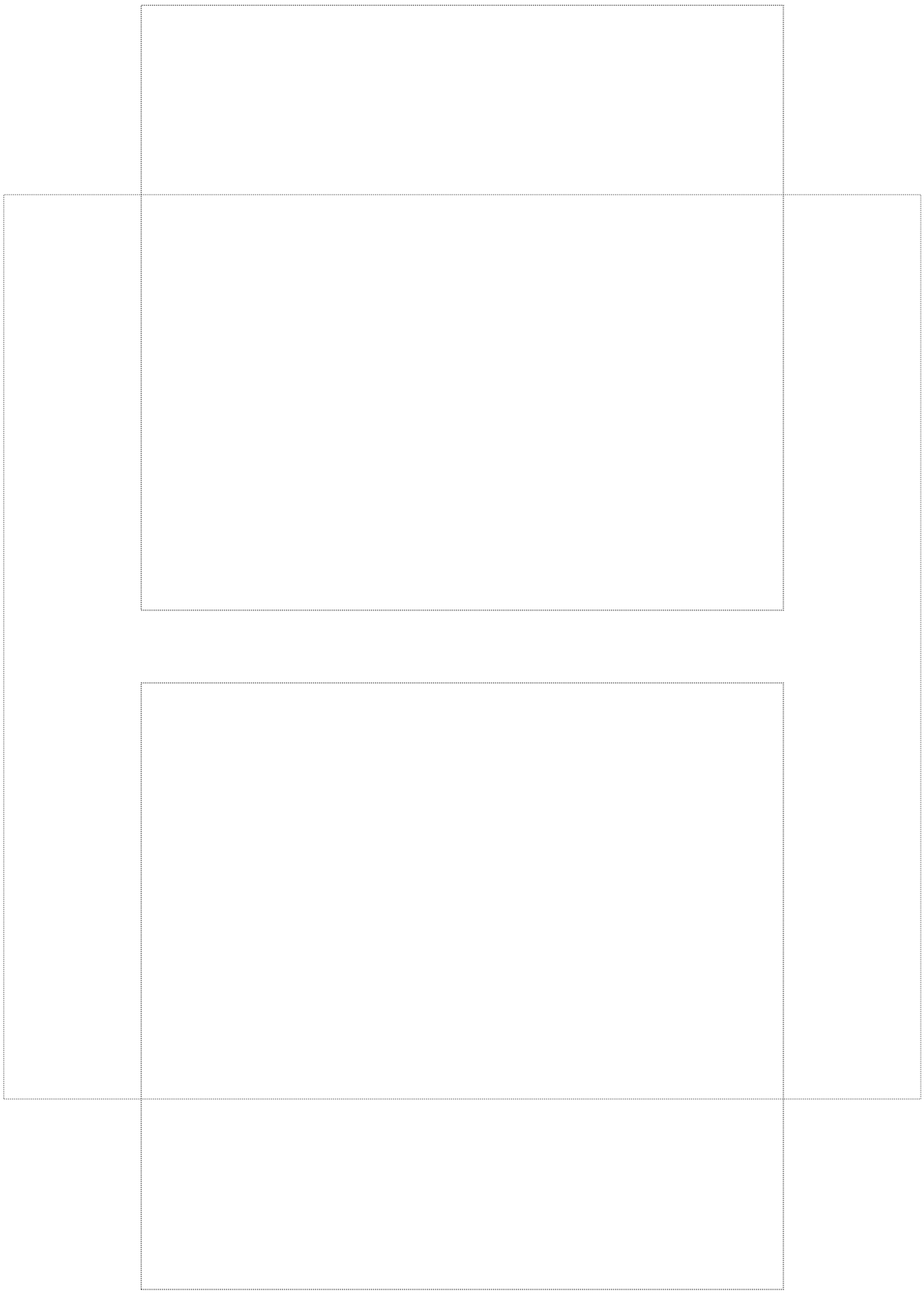
Processing upon receipt: When the addressed serving node receives this flow, it updates its call and bearer status information and issues information flow 9 towards party D since the notify subscriber D option is active. If the notify option is not active, no information flow towards party D will be issued.

9	Notify-Call-Change.indication	Serving Node D to Party D

Resource information	Call information	Bearer information
	Call Control Segment ID, **Addressed party Information** [PEP "D" ID, Network address], Party Owner: PEP "A" ID, **Event:** Party B removed from the call	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "A", **Parties connected** (PEP "A" ID (root), PEP "D" ID (leaf))

Enabling Condition: Processing of information flow 8 and notify subscriber option active

Processing upon receipt: When the addressed terminal receives this information flow, it updates its call and bearer status information, and notifies its user agent of the change in the call.



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