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Supplement 13
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SERIES Q: SWITCHING AND SIGNALLING

Technical Report TRQ.2110: Coordinated call control and bearer control signalling requirements – Leaf-party coordinated call and bearer control

ITU-T Q-series Recommendations – Supplement 13

(Formerly CCITT Recommendations)

ITU-T Q-SERIES RECOMMENDATIONS

SWITCHING AND SIGNALLING

SIGNALLING IN THE INTERNATIONAL MANUAL SERVICE	Q.1–Q.3
INTERNATIONAL AUTOMATIC AND SEMI-AUTOMATIC WORKING	Q.4–Q.59
FUNCTIONS AND INFORMATION FLOWS FOR SERVICES IN THE ISDN	Q.60–Q.99
CLAUSES APPLICABLE TO ITU-T STANDARD SYSTEMS	Q.100–Q.119
SPECIFICATIONS OF SIGNALLING SYSTEMS No. 4 AND No. 5	Q.120–Q.249
SPECIFICATIONS OF SIGNALLING SYSTEM No. 6	Q.250–Q.309
SPECIFICATIONS OF SIGNALLING SYSTEM R1	Q.310–Q.399
SPECIFICATIONS OF SIGNALLING SYSTEM R2	Q.400–Q.499
DIGITAL EXCHANGES	Q.500–Q.599
INTERWORKING OF SIGNALLING SYSTEMS	Q.600–Q.699
SPECIFICATIONS OF SIGNALLING SYSTEM No. 7	Q.700–Q.849
DIGITAL SUBSCRIBER SIGNALLING SYSTEM No. 1	Q.850–Q.999
PUBLIC LAND MOBILE NETWORK	Q.1000–Q.1099
INTERWORKING WITH SATELLITE MOBILE SYSTEMS	Q.1100–Q.1199
INTELLIGENT NETWORK	Q.1200–Q.1699
SIGNALLING REQUIREMENTS AND PROTOCOLS FOR IMT-2000	Q.1700–Q.1799
BROADBAND ISDN	Q.2000–Q.2999

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SUPPLEMENT 13 TO ITU-T Q-SERIES RECOMMENDATIONS

TECHNICAL REPORT TRQ.2110: COORDINATED CALL CONTROL AND BEARER CONTROL SIGNALLING REQUIREMENTS – LEAF-PARTY COORDINATED CALL AND BEARER CONTROL

Summary

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

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

Source

Supplement 13 to ITU-T Q-series Recommendations was prepared by ITU-T Study Group 11 (1997-2000) and was approved under the WTSC Resolution 5 procedure on 3 December 1999.

FOREWORD

ITU (International Telecommunication Union) is the United Nations Specialized Agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the ITU. The ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Conference (WTSC), which meets every four years, 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 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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As of the date of approval of this publication, the ITU had not received notice of intellectual property, protected by patents, which may be required to implement this publication. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

CONTENTS

Supplement 13 to Q-series Recommendations

TECHNICAL REPORT TRQ.2110: COORDINATED CALL CONTROL AND BEARER CONTROL SIGNALLING REQUIREMENTS – LEAF-PARTY COORDINATED CALL AND BEARER CONTROL

(Geneva, 1999)

1 Scope

This Supplement presents the procedures, information flows and information elements needed for supporting leaf-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 – Leaf-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
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 is 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 leaf-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 leaf-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	✓	✓	✓		
Remote-Call-&-Bearer-Set-up	✓	✓	✓		
Remote-Add-Party-to-Bearer	✓	✓	✓		
Remote-Add-Party-&-Bearer-to-Call	✓	✓	✓		
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.

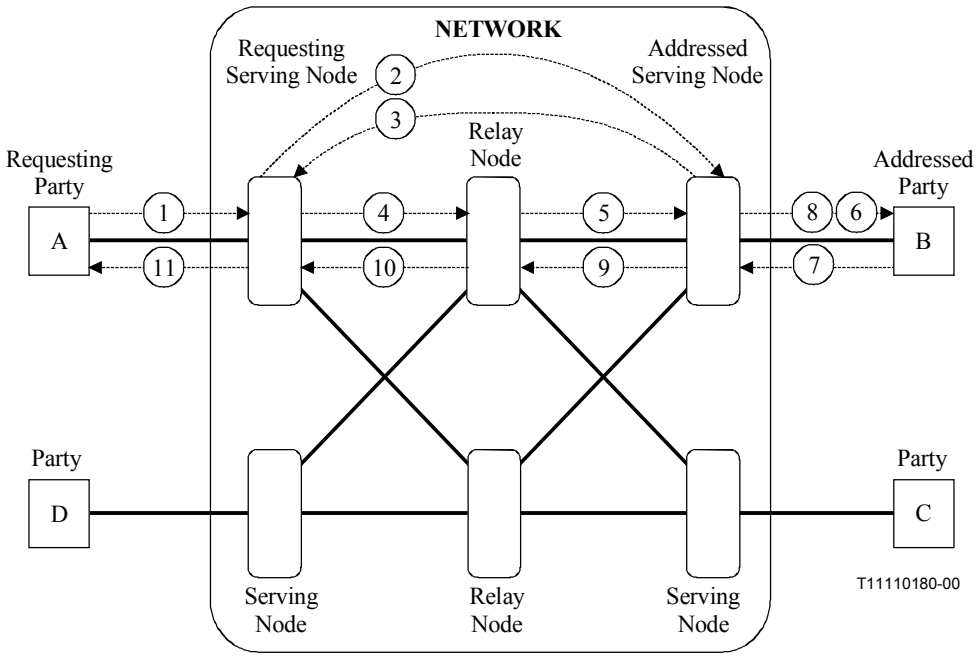


Figure 6-1 – Two-party coordinated call and network connection establishment

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.

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 clauses will describe the basic coordinated call control and bearer control signalling capabilities using this model.

7 Coordinated call and network connection establishment

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.

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

Whenever there is an establishment of a two-party call, the designation of a leaf-party has no meaning.

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

Two 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 root node. The establishment will be accomplished without network initiated look-ahead.

2) Call and network connection establishment of two network connections each with an associated resource with branching occurring at the root nodes. Two different root parties are illustrated in this example. 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 – Root node branch – Leaf-party

The user (party B) requests a three-party call between parties 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 A's and party C's equipment. If the addressed party's 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 root serving node then proceeds to establish the network connection. 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 7-1 illustrates the before and after view of this example.

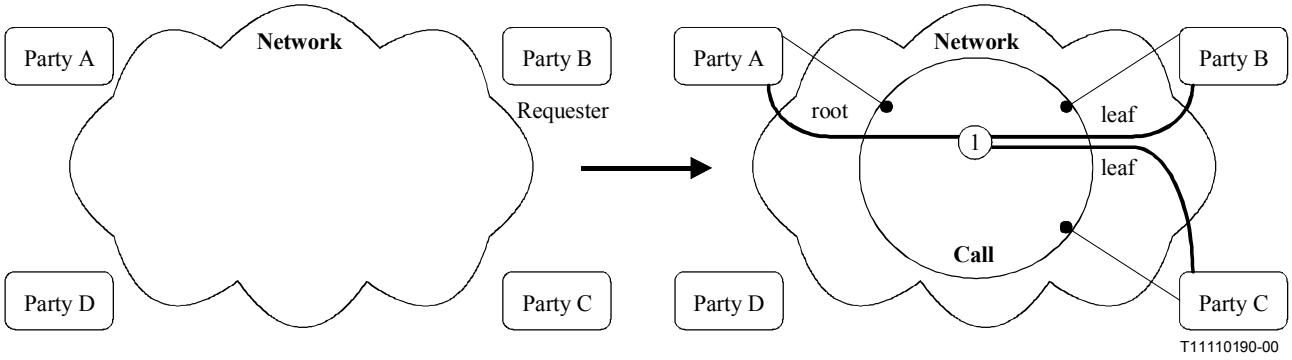


Figure 7-1 – Call and Bearer transition diagram

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

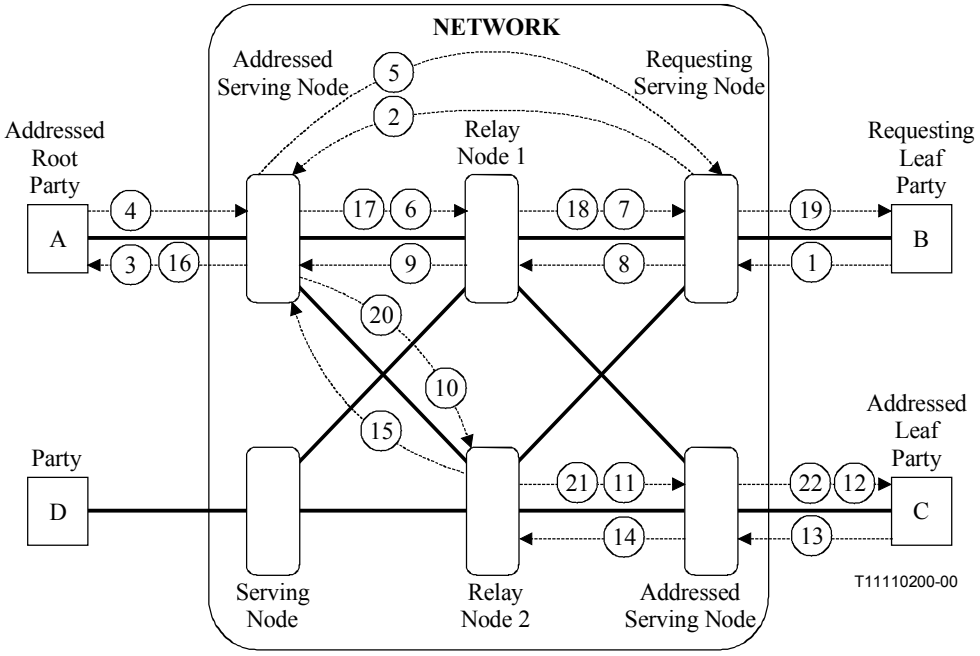


Figure 7-2 – Three-party call and network connection establishment – No look-ahead – Root node branching

The actions illustrated in Figure 7-2 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 B 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 "A" ID, Service component characteristics),
Addressed party's service component information
(PEP "C" ID, Service component characteristics),
Requesting 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],
Addressed party Information
[PEP "C" ID, Network address],
Requesting party information
[PEP "B" 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 "A" ID, Transit Network Selection, bearer branch characteristics),
Addressed party's service module information
[(PEP "A" 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)
Requesting party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics),
Requesting 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 that the requester wishes to establish a call with a single network connection. In addition, the serving node determines that the root of the desired connection will be party A. The serving node then issues a request to the serving node associated with the root-party requesting that the call be established from the root of the connection. This information flow (2) is a remote call and bearer request. The requesting serving node awaits the result of this remote request.

2 Remote-Call-&-Bearer-Set-up.ready Serving Node B 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 "A" ID, Service component characteristics),
Remote party's service component information
(PEP "C" ID, Service component characteristics)
Requesting party's service component information
(PEP "B" ID, Service component characteristics)]

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

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

Processing upon receipt: The addressed serving node associated with party A will first offer the call and bearer to the root-party (party A). If party A agrees to be the root of the network connection with the specified bearer and resource characteristics, the addressed serving node will establish the call and connection within the network. The call and bearer offering to party A is information flow 3. Since the interface is classified as a multiple signalling entity interface, the serving node cannot commit to the addressed end point and therefore issues the information flow towards the selected interface facility.

3 Call-&-Bearer-Set-up.begin Serving Node A to Party 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 "A" ID, Service component characteristics),

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

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

Processing upon receipt: When the terminal equipment associated with party A receives this information flow, it will determine if it can provide the bearer service requested in the incoming flow. In this case, it is assumed that the service can be provided. The terminal equipment issues information flow 4 indicating that it is ready to accept the call and bearer.

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

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, **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, **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),

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 5 towards the requesting serving node. This information flow notifies that the root-party is willing to accept the call and bearer. The root serving node then determines the route and outgoing trunk facilities towards the addressed and requesting serving nodes associated with parties B and C. (Note: these routing flows are not illustrated in the figure 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 6 and 10 towards the selected relay nodes. The network connection is backward through connected.

5 Remote-Call-&-Bearer-Set-up.commit **Serving Node A to Serving Node B**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **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], **Requesting party information** [PEP "A" ID, Network Address],	**Network connection 1** [Bearer "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 requesting serving node associated with party B notes that party A is willing to be the root of the connection. The serving node awaits the arrival of the network connection associated with the call.

6 Add-Bearer-to-Call.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, 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):ref.b) ID, **Call Owner: PEP "B" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "C" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "A" ID, Network Address], Party Owner: PEP "B" ID,	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "B", **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 "B" ID), **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 4

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 7 towards the addressed serving node. The network connection in the relay node is backward through connected.

7 Add-Bearer-to-Call.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):ref.b) ID, **Call Owner: PEP "B" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "C" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "A" ID, Network Address], Party Owner: PEP "B" ID,	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "B", **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 "B" ID), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Processing upon receipt: The requesting serving node records that the network connection associated with the previously established call has arrived. It then issues information flow 8 towards the relay node 1 indicating its willingness to proceed with the call and connection. The serving node awaits the final network connection commitment from the root serving node. The network connection is backward through connected.

8 Add-Bearer-to-Call.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), **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 9.

9 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)]	**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),

Enabling Condition: Functional entity action will only begin after both information flows 9 and 15 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 root terminal equipment (flow 16) and the relay nodes (flows 17 and 20), and 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.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 "B" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "A" ID, Network Address], Party Owner: PEP "B" ID,	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "B", **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 "B" 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 4

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.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 "B" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "A" ID, Network Address], Party Owner: PEP "B" ID,	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "B", **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 "B" 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 "B" ID, PEP "C" ID), **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID,** **Call Owner: PEP "B" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "A" ID, Network Address, Party Owner: PEP "B" ID,]	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "B", **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 "B" 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 its associated relay node.

14 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 15.

15 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 9 and 15 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 root terminal equipment (flow 16) and the relay nodes (flows 17 and 20), and 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 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 "B" ID
Addressed party Information
[PEP "A" ID, Network address],
Party Owner: PEP "B" ID,

Bearer information
Network connection 1
[Bearer "1" ID, Connection owner: PEP "B",
Addressed party's bearer branch information
[(PEP "A" ID, bearer branch characteristics, branch owner: PEP "B" 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 "B" 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 "B" ID),
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 9 and 15

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.)

17 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)]
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 9 and 15

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 18, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

18 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,
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 requesting serving node receives this information flow, it records the commitment, it sends a commitment information flow (19) to the requesting terminal. The requesting serving node then through connects network connection in the forward direction, and if necessary, modifies the network connection characteristics of backward through-connect.

19 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, Connection owner: PEP "B"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 connection in both directions, and notifies the user of the call and connection establishment.

20 Call-&-Bearer-Set-up.commit **Serving Node A 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 9 and 15

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 21, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

21 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 (22) 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.

22	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 "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

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

7.2.2 Call and network connection establishment – Two network connections – Leaf-party

The user (party B) requests a three-party call between parties A, B, and party C. Two network connections are 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 network connection 1 while party C is to be the root of network connection 2. 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. The requested service is of the non-human interactive type. Therefore, immediate answer can be performed by both party A's and party C's equipment. If the addressed party's 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 root serving nodes will then proceed to establish the network connections within the network. After completion of these network connections, the root serving nodes will notify the requesting serving node of the willingness of the parties to proceed. The requesting serving node then issues a commitment to both root serving nodes and the requesting party (B). The root serving nodes then notify their associated parties of the call and connection procedure's completion. 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 7-3 illustrates the before and after view of this example.

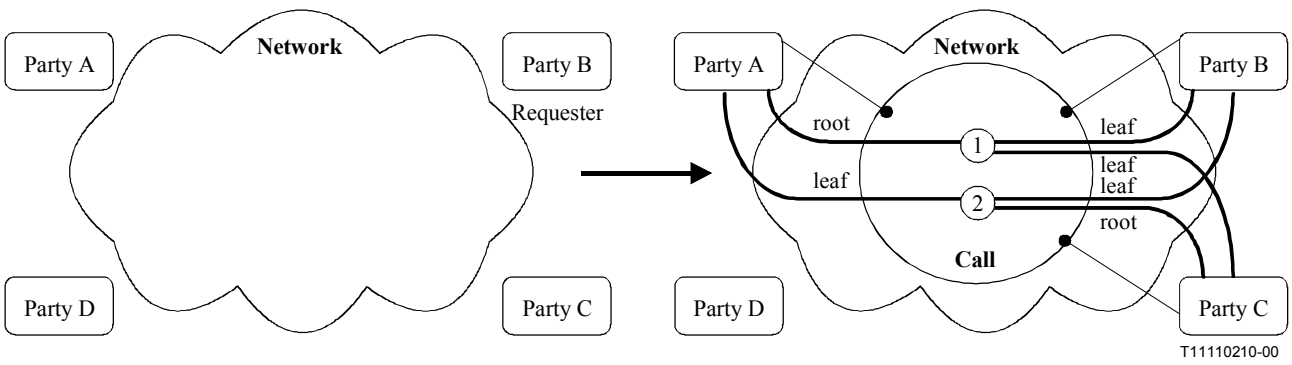


Figure 7-3 – Call and Bearer transition diagram

The signalling capability of coordinated control for establishing this call and two network connections between the three requested parties without network look-ahead is illustrated in Figure 7-4.

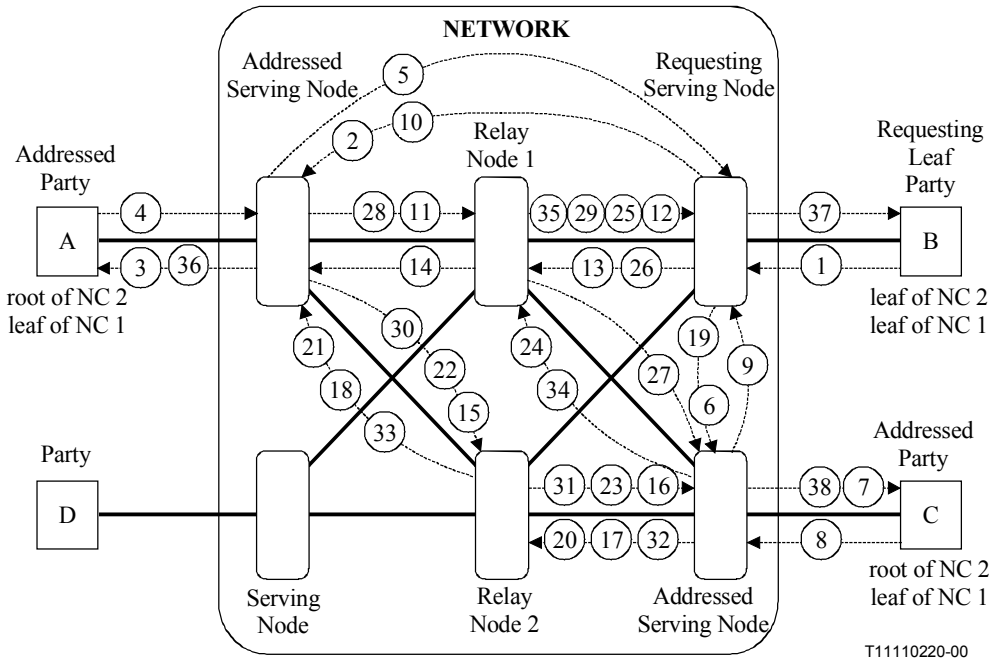


Figure 7-4 – Three-party call and 2 network connection establishment – No look-ahead – Root node branching – Party A is the root of network connection 1 while party C is the root of network connection 2

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 B 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 "A" ID, Service component characteristics),
Addressed party's service component information
(PEP "C" ID, Service component characteristics),
Requesting 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 "A" ID, Service component characteristics),
Addressed party's service component information
(PEP "C" ID, Service component characteristics),
Requesting 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],
Addressed party Information
[PEP "C" ID, Network address],
Requesting party information
[PEP "B" 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 "A" ID, Transit Network Selection, bearer branch characteristics),
Addressed party's service module information
[(PEP "A" 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),
Requesting party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics),
Requesting 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 (leaf), PEP "B" ID (leaf), PEP "C" ID (root)),
Addressed party's bearer branch information
[(PEP "A" ID, Transit Network Selection, bearer branch characteristics),
Addressed party's service module information
[(PEP "A" 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,
Requesting party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics),
Requesting 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.

Processing upon receipt: The requester's serving node validates the request and the requesting party and determines that the requester wishes to establish a call with a two network connection. In addition, the serving node determines that the root of the desired connection 1 will be party A and the root of network connection 2 will be party C. The serving node then issues a request to the serving nodes associated with the root parties requesting that the call be established from the root of each connection. These information flows (2 and 6) are remote call and bearer requests. The requesting serving node awaits the result of these remote requests.

2 Remote-Call-&-Bearer-Set-up.begin Serving Node B 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 "A" ID, Service component characteristics),
Remote party's service component information
(PEP "C" ID, Service component characteristics),
Requesting 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 "A" ID, Service component characteristics),
Remote party's service component information
(PEP "C" ID, Service component characteristics),
Requesting party's service component information
(PEP "B" ID, Service component characteristics)]

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

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

Processing upon receipt: The addressed serving node associated with party A will first offer the call and bearers to the root-party (party A) of network connection 1. If party A agrees to be the root of the network connection 1 with the specified bearer and resource characteristics, the addressed serving node will notify the requesting serving node that it is ready to establish the call and connection within the network. The call and bearer offering to party A is information flow 3. Since the interface is classified as a multiple signalling entity interface, the serving node cannot commit to the addressed end point and therefore issues the information flow towards the selected interface facility.

3 Call-&-Bearer-Set-up.begin **Serving Node A to Party 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 "A" 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 "A" ID, Service component characteristics),

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

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

Processing upon receipt: When the terminal equipment associated with party A receives this information flow, it will determine if it can provide the bearer services requested in the incoming flow. In this case, it is assumed that the services can be provided. The terminal equipment issues information flow 4 indicating that it is ready to accept the call and its associated bearers.

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

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

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

Bearer information
Network connection 1
[Bearer "1" 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 1 ID),
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),

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 5 towards the requesting serving node. This information flow notifies that the root-party is willing to accept the call and its associated bearers. The root serving node awaits the commitment from the requesting service node before proceeding with the establishment of network connection 1.

5 Remote-Call-&-Bearer-Set-up.ready Serving Node A to Serving Node B

Resource information
Resource 1
[Resource 1 ID,
Remote party's service component information
(PEP "A" ID, Service component characteristics),
Resource 2
[Resource 2 ID,
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],
Requesting party information
[PEP "A" ID, Network Address],

Bearer information
Network connection 1
[Bearer "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,
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: Functional entity action will only begin after both information flows 5 and 9 are received.

Processing upon receipt: The requesting serving node associated with party B notes that parties A and C are willing to be the root of their respective connections and agree to be the leaf of the other network connection. The requesting serving node uses the bearer characteristics and service module characteristics in order to specify a compatible set of characteristics that should be used by the root serving nodes in the establishment of the network connections. The requesting serving node issues the commitment information flows (10 and 19) indicating that the network connections are to be established within the network. These information flows also provide the linkage to the call state machines within the remote serving nodes. The serving node awaits the arrival of the network connections associated with the call.

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),
Remote party's service component information
(PEP "A" ID, Service component characteristics),
Requesting 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 "C" ID, Service component characteristics),
Remote party's service component information
(PEP "A" ID, Service component characteristics),
Requesting party's service component information
(PEP "B" ID, Service component characteristics)]]

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

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

Processing upon receipt: The addressed serving node associated with party C will first offer the call and bearers to the root-party (party C) of network connection 2. If party C agrees to be the root of the network connection 2 with the specified bearer and resource characteristics, the addressed serving node will notify the requesting serving node that it is ready to establish the call and connection within the network. The call and bearer offering to party C is information flow 7. Since the interface is classified as a multiple signalling entity interface, the serving node cannot commit to the addressed end point and therefore issues the information flow towards the selected interface facility.

7 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),
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 "B" ID
Addressed party Information
[PEP "C" ID, Network address],
Party Owner: PEP "B" ID,
Remote party Information
[PEP "A" ID, Network address]
Party Owner: PEP "B" ID,,
Requesting party information
[PEP "B" ID, Network Address]
Party Owner: PEP "B" ID,

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

Processing upon receipt: When the terminal equipment associated with party C receives this information flow, it will determine if it can provide the bearer services requested in the incoming flow. In this case, it is assumed that the services can be provided. The terminal equipment issues information flow 8 indicating that it is ready to accept the call and its associated bearers.

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

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

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

Bearer information
Network connection 1
[Bearer "1" 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 1 ID),
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),

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 9 towards the requesting serving node. This information flow notifies that the root-party is willing to accept the call and its associated bearers. The root serving node awaits the commitment from the requesting service node before proceeding with the establishment of network connection 2.

9 Remote-Call-&-Bearer-Set-up.ready Serving Node C to Serving Node B

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

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

Bearer information
Network connection 1
[Bearer "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),
Network connection 2
[Bearer "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),

Enabling Condition: Functional entity action will only begin after both information flows 5 and 9 are received.

Processing upon receipt: The requesting serving node associated with party B notes that parties A and C are willing to be the root of their respective connections and agree to be the leaf of the other network connection. The requesting serving node uses the bearer characteristics and service module characteristics in order to specify a compatible set of characteristics that should be used by the root serving nodes in the establishment of the network connections. The requesting serving node issues the commitment information flows (10 and 19) indicating that the network connections are to be established within the network. These information flows also provide the linkage to the call state machines within the remote serving nodes. The serving node awaits the arrival of the network connections associated with the call.

10 Remote-Call-&-Bearer-Set-up.commit Serving Node B to Serving Node A

Resource information
Resource 1
[Resource 1 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),
Requesting party's service component information
(PEP "B" ID, Service component characteristics)]]
Resource 2
[Resource 2 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),
Requesting 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(B):ref.b - SN(C):ref.c) ID,
Addressed party Information
[PEP "A" ID, Network address],
Requesting party information
[PEP "B" ID, Network Address],

Bearer information
Network connection 1
[Bearer "1" 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 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),
Requesting party's bearer branch information
[(PEP "B" ID, bearer branch),
Requesting 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 "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 "C" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 2 ID),
Requesting party's bearer branch information
[(PEP "B" ID, bearer branch characteristics,),
Requesting 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: The addressed serving node associated with party A, upon receiving this information flow will proceed to establish network connection 1 while awaiting the reception of the establishment of network connection 2. The received information flow contains the remote call association between serving nodes B and C. Using this set of references, serving node A can generate the direct call association between serving nodes A and C. The root serving node then determines the route and outgoing trunk facilities towards the addressed and requesting serving nodes associated with parties B and C. (Note: these routing flows are not illustrated in Figure 7-4 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 11 and 15 towards the selected relay nodes. The network connections are backward through connected.

11 Add-Bearer-to-Call.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, 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):ref.b) ID, **Call Owner: PEP "B" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "C" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "A" ID, Network Address], Party Owner: PEP "B" ID,	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "B", **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 "B" ID), **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 10

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 12 towards the addressed serving node. The network connection in the relay node is backward through connected.

12 Add-Bearer-to-Call.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):ref.b) ID, **Call Owner: PEP "B" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "C" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "A" ID, Network Address], Party Owner: PEP "B" ID,	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "B", **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 "B" ID), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Processing upon receipt: The requesting serving node records that the network connection associated with the previously established call has arrived. It then issues information flow 13 towards the relay node 1 indicating its willingness to proceed with the call and connection. The serving node awaits the final network connection commitment from the root serving node. The network connection is backward through connected.

13 Add-Bearer-to-Call.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), **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 14.

14 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)]	**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),

Enabling Condition: Functional entity action will only begin after both information flows 14 and 18 are received.

Processing upon receipt: When the addressed serving node receives these information flows, it records the willingness of both parties to accept the call and network connection 1 and that a common set of connection characteristics exist that both parties can accept, and it sends commitment information flows towards the relay nodes (flows 28 and 30), and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

15 Add-Bearer-to-Call.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):ref.c) ID, **Call Owner: PEP "B" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "A" ID, Network Address], Party Owner: PEP "B" ID,	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "B", **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 "B" 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 10

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 16 towards the addressed serving node. The network connection in the relay node is backward through connected.

16 Add-Bearer-to-Call.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):ref.c) ID, **Call Owner: PEP "B" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "A" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "A" ID, Network Address], Party Owner: PEP "B" ID,	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "B", **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 "B" 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 records that the network connection associated with the previously established call has arrived. It then issues information flow 17 towards the relay node 2 indicating its willingness to proceed with the call and connection. The serving node awaits the final network connection commitment from the root serving node. The network connection is backward through connected.

17 Add-Bearer-to-Call.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), **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 18.

18 Add-Bearer-to-Call.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), **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 14 and 18 are received.

Processing upon receipt: When the addressed serving node receives these information flows, it records the willingness of both parties to accept the call and network connection 1 and that a common set of connection characteristics exist that both parties can accept, and it sends commitment information flows towards the relay nodes (flows 28 and 30), and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

19 Remote-Call-&-Bearer-Set-up.ready Serving Node B to Serving Node C

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

Call information
Call Control Segment ID
Direct Call association
(SN(B):ref.b - 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],
Requesting party information
[PEP "B" 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 "A" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "A" ID, Service module characteristics
Service component list
[(Resource 1 ID),
Requesting party's bearer branch information
[(PEP "B" ID, bearer branch),
Requesting 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 "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),
Requesting party's bearer branch information
[(PEP "B" ID, bearer branch characteristics,),
Requesting 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: The addressed serving node associated with party C, upon receiving this information flow will proceed to establish network connection 2 while awaiting the reception of the establishment of network connection 1. The received information flow contains the remote call association between serving nodes A and B. Using this set of references, serving node C can generate the direct call association between serving nodes A and C. The root serving node then determines the route and outgoing trunk facilities towards the addressed and requesting serving nodes associated with parties B and A. (Note: these routing flows are not illustrated in Figure 7-4 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 20 and 24 towards the selected relay nodes. The network connections are backward through connected.

20 Add-Bearer-to-Call.begin **Serving Node C 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 "A" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(C):ref.c) ID, **Call Owner: PEP "B" ID** **Addressed party Information** [PEP "A" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "C" ID, Network Address], Party Owner: PEP "B" ID,	**Network connection 2** [Bearer "2" ID, Bearer type, Connection owner: PEP "B", **Parties connected** (PEP "A" ID (leaf), PEP "B" ID (leaf), PEP "C" ID (root)), **Addressed party's bearer branch information** [(PEP "A" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "B" ID), **Addressed 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 19

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 21 towards the addressed serving node. The network connection in the relay node is backward through connected.

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

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

Processing upon receipt: The addressed serving node records that the network connection associated with the previously established call has arrived. It then issues information flow 22 towards the relay node 2 indicating its willingness to proceed with the call and connection. The serving node awaits the final network connection commitment from the root serving node. The network connection is backward through connected.

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

Resource information	Call information	Bearer information
Resource 2 [Resource 2 ID, Resource type, **Addressed 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 "A" ID, Network address],	**Network connection 2** [Bearer "2" ID, **Addressed party's bearer branch information** [(PEP "A" ID, bearer branch), **Addressed party's service module information** [(PEP "A" 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 the information flow 23.

23 Add-Bearer-to-Call.ready **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 "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 "A" ID, Network address],	**Network connection 2** [Bearer "2" ID, **Addressed party's bearer branch information** [(PEP "A" ID, bearer branch), **Addressed party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 2 ID),

Enabling Condition: Functional entity action will only begin after both information flows 23 and 27 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 1 and that a common set of connection characteristics exist that both parties can accept, and it sends commitment information flows towards the relay nodes (flows 32 and 34), and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

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

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 "B" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(B):ref.b - SN(C):ref.c) ID, **Call Owner: PEP "B" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "A" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "C" ID, Network Address], Party Owner: PEP "B" ID,	**Network connection 2** [Bearer "2" ID, Bearer type, Connection owner: PEP "B", **Parties connected** (PEP "A" ID (leaf), PEP "B" ID (leaf), PEP "C" ID (root)), **Addressed party's bearer branch information** [(PEP "B" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "B" 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 19

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 25 towards the addressed serving node. The network connection in the relay node is backward through connected.

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

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 "B" ID, Service component characteristics)]	**Call Control Segment ID, Direct Call association** (SN(B):ref.b - SN(C):ref.c) ID, **Call Owner: PEP "B" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "A" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "C" ID, Network Address], Party Owner: PEP "B" ID,	**Network connection 2** [Bearer "2" ID, Bearer type, Connection owner: PEP "B", **Parties connected** (PEP "A" ID (leaf), PEP "B" ID (Leaf), PEP "C" ID (root)), **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics, branch owner: 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 requesting serving node records that the network connection associated with the previously established call has arrived. It then issues information flow 26 towards the relay node 1 indicating its willingness to proceed with the call and connection. The serving node awaits the final network connection commitment from the root serving node. The network connection is backward through connected.

26 Add-Bearer-to-Call.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(B):ref.b - SN(C):ref.c) 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), **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 the information flow 27.

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

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(B):ref.b - SN(C):ref.c) 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), **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 23 and 27 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 1 and that a common set of connection characteristics exist that both parties can accept, and it sends commitment information flows towards the relay nodes (flows 32 and 34), and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

28 Add-Bearer-to-Call.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 "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, **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 "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 14 and 18

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 29, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

29 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,
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),

Enabling Condition: Functional entity action will only begin after both information flows 29 and 35 are received.

Processing upon receipt: When the requesting serving node receives this information flow, it records the commitment, it sends a commitment information flow (37) to the requesting terminal. The requesting serving node then through connects network connection in the forward direction, and if necessary, modifies the network connection characteristics of backward through-connect.

30 Add-Bearer-to-Call.commit Serving Node A 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 14 and 18

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 31, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

31 Add-Bearer-to-Call.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),

Enabling Condition: Functional entity action will only begin after information flows 23, 27 and 31 are received.

Processing upon receipt: When the addressed serving node receives this information flow, it records the commitment, it sends a commitment information flow (38) to the requesting terminal. The requesting serving node then through connects network connection in the forward direction, and if necessary, modifies the network connection characteristics of backward through-connect.

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

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, 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 "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),
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 23 and 27

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 33, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

33 Add-Bearer-to-Call.commit **Relay Node 2 to Serving Node 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,
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 "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),
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),

Enabling Condition: Functional entity action will only begin after information flows 14, 18 and 33 are received.

Processing upon receipt: When the addressed serving node receives this information flow, it records the commitment, it sends a commitment information flow (36) to the requesting terminal. The requesting serving node then through connects network connection in the forward direction, and if necessary, modifies the network connection characteristics of backward through-connect.

34 Add-Bearer-to-Call.commit **Serving Node C 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(B):ref.b - SN(C):ref.c) 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 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 23 and 27

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 35, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

35 Add-Bearer-to-Call.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(B):ref.b - SN(C):ref.c) 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 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: Functional entity action will only begin after both information flows 29 and 35 are received.

Processing upon receipt: When the requesting serving node receives this information flow, it records the commitment, it sends a commitment information flow (37) to the requesting terminal. The requesting serving node then through connects network connection in the forward direction, and if necessary, modifies the network connection characteristics of backward through-connect.

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 "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,
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 "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],
Remote party Information
[PEP "B" ID, Network address],
Remote party information
[PEP "C" 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 "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),
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]
Network connection 2
[Bearer "2" ID, Bearer type,
Parties connected
(PEP "A" ID (leaf), PEP "B" ID (leaf), PEP "C" ID (root)),
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)]

Initiation of information flow: Processing of information flows 14, 18 and 33

Processing upon receipt: When the user equipment receives this information flow, it records the commitment, performs forward through-connect of the network connections, 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.)

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),
Remote party's service component information
(PEP "A" ID, Service component characteristics),
Remote 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 "C" ID, Service component characteristics),
Remote 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 "C" ID, Network address],
Remote party Information
[PEP "A" ID, Network address],
Remote party information
[PEP "B" 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 "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),
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]
Network connection 2
[Bearer "2" ID, Bearer type,
Parties connected
(PEP "A" ID (Leaf), PEP "B" ID (leaf), PEP "C" ID (root)),
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,
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)]

Initiation of information flow: Processing of information flows 29 and 35

Processing upon receipt: When the user equipment receives this information flow, it records the commitment, performs forward through-connect of the network connections, 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.)

38 Call-&-Bearer-Set-up.commit 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),
Remote party's service component information
(PEP "A" ID, Service component characteristics),
Remote 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),
Remote party's service component information
(PEP "A" 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 "B" ID, Network address],
Remote party Information
[PEP "A" ID, Network address],
Remote party information
[PEP "C" 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, 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),
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]
Network connection 2
[Bearer "2" ID, Bearer type,
Parties connected
(PEP "A" ID (leaf), PEP "B" ID (leaf), PEP "C" ID (root)),
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 "A" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "A" 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)]

Initiation of information flow: Processing of information flows 23, 27 and 31

Processing upon receipt: When the user equipment receives this information flow, it records the commitment, performs forward through-connect of the network connections, 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.)

7.3 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 that designates 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 connection(s).

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

The user (party B) 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 to be 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 leaves of the connection and party A is to be the root of 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' (parties A and C) 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 7-5 illustrates the before and after view of this example.

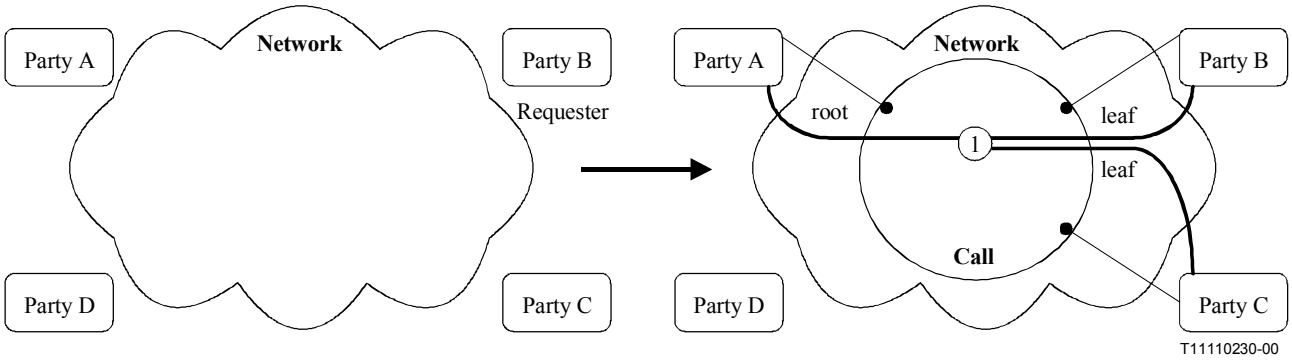


Figure 7-5 – Call and Bearer transition diagram

The signalling capability of coordinated control for establishing this mandatory multicast address call and network connection between three parties without network look-ahead is illustrated in Figure 7-6.

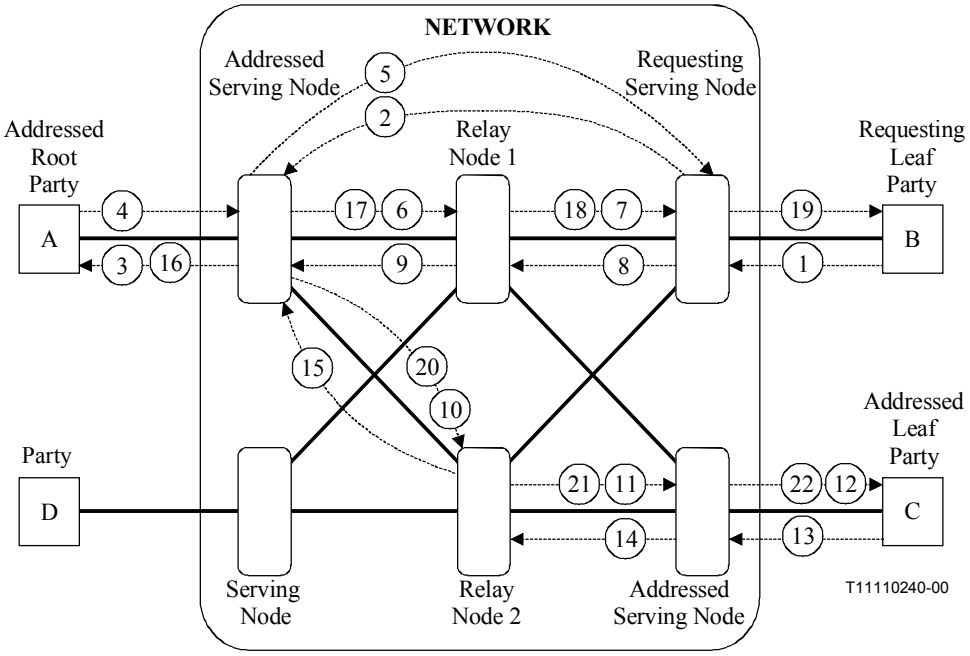


Figure 7-6 – Mandatory multicast address call and bearer establishment

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 the network connection assuming the bearer characteristics specified in the outgoing request.

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

Resource information	**Call information**	**Bearer information**
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "B" 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 "B" ID, Network Address]	**Network connection 1** [Bearer "1" ID, Bearer type, **Parties connected** (PEP "B" ID (leaf), 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 issues a request to the serving node associated with the root-party requesting that the call be established from the root of the connection. This information flow (2) is a remote call and bearer request. The requesting serving node awaits the result of this remote request.

2 Remote-Call-&-Bearer-Set-up.ready Serving Node B 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 "A" ID, Service component characteristics),
Remote party's service component information
(PEP "C" ID, Service component characteristics)
Requesting party's service component information
(PEP "B" ID, Service component characteristics)]

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

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "B"ID,
Parties connected
(PEP "A" ID (root), PEP "B" ID (leaf0, PEP "C" ID (leaf)),
Addressed party's bearer branch information
[(PEP "A" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "B" 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 "C" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "B" ID),
Remote party's service module information
[(PEP "C" ID, Service module characteristics
Service component list
[(Resource 1 ID)
Requesting party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "B" ID),
Requesting party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]]

Processing upon receipt: The addressed serving node associated with party A will first offer the call and bearer to the root-party (party A). If party A agrees to be the root of the network connection with the specified bearer and resource characteristics, the addressed serving node will establish the call and connection within the network. The call and bearer offering to party A is information flow 3. Since the interface is classified as a multiple signalling entity interface, the serving node cannot commit to the addressed end point and therefore issues the information flow towards the selected interface facility.

3 Call-&-Bearer-Set-up.begin Serving Node A to Party 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 "A" ID, Service component characteristics),

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

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

Processing upon receipt: When the terminal equipment associated with party A receives this information flow, it will determine if it can provide the bearer service requested in the incoming flow. In this case, it is assumed that the service can be provided. The terminal equipment issues information flow 4 indicating that it is ready to accept the call and bearer.

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

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, **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, **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),

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 5 towards the requesting serving node. This information flow notifies that the root-party is willing to accept the call and bearer. The root serving node then determines the route and outgoing trunk facilities towards the addressed and requesting serving nodes associated with parties B and C. (Note: these routing flows are not illustrated in Figure 7-6 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 6 and 10 towards the selected relay nodes. The network connection is backward through connected.

5 Remote-Call-&-Bearer-Set-up.commit **Serving Node A to Serving Node B**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **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], **Requesting party information** [PEP "A" ID, Network Address],	**Network connection 1** [Bearer "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 requesting serving node associated with party B notes that party A is willing to be the root of the connection. The serving node awaits the arrival of the network connection associated with the call.

6 Add-Bearer-to-Call.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, 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):ref.b) ID, **Call Owner: PEP "B" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "C" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "A" ID, Network Address], Party Owner: PEP "B" ID,	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "B", **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 "B" ID), **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 4

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 7 towards the addressed serving node. The network connection in the relay node is backward through connected.

7 Add-Bearer-to-Call.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):ref.b) ID, **Call Owner: PEP "B" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "C" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "A" ID, Network Address], Party Owner: PEP "B" ID,	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "B", **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 "B" ID), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID),

Processing upon receipt: The requesting serving node records that the network connection associated with the previously established call has arrived. It then issues information flow 8 towards the relay node 1 indicating its willingness to proceed with the call and connection. The serving node awaits the final network connection commitment from the root serving node. The network connection is backward through connected.

8 Add-Bearer-to-Call.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), **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 9.

9 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)]	**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),

Enabling Condition: Functional entity action will only begin after both information flows 9 and 15 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 root terminal equipment (flow 16) and the relay nodes (flows 17 and 20), and 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.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 "B" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "A" ID, Network Address], Party Owner: PEP "B" ID,	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "B", **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 "B" 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 4

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.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 "B" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "A" ID, Network Address], Party Owner: PEP "B" ID,	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "B", **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 "B" 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 "B" ID, PEP "C" ID), **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID,** **Call Owner: PEP "B" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "A" ID, Network Address, Party Owner: PEP "B" ID,]	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "B", **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 "B" 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 its associated relay node.

14 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 15.

15 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 9 and 15 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 root terminal equipment (flow 16) and the relay nodes (flows 17 and 20), and 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 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 "B" ID
Addressed party Information
[PEP "A" ID, Network address],
Party Owner: PEP "B" ID,

Bearer information
Network connection 1
[Bearer "1" ID, Connection owner: PEP "B",
Addressed party's bearer branch information
[(PEP "A" ID, bearer branch characteristics, branch owner: PEP "B" 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 "B" 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 "B" ID),
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 9 and 15

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.)

17 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)]
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 9 and 15

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 18, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

18 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,
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 requesting serving node receives this information flow, it records the commitment, it sends a commitment information flow (19) to the requesting terminal. The requesting serving node then through connects network connection in the forward direction, and if necessary, modifies the network connection characteristics of backward through-connect.

19 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,
Call Owner: PEP "B" ID
Addressed party Information
[PEP "B" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID, Connection owner: PEP "B"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 connection in both directions, and notifies the user of the call and connection establishment.

20 Call-&-Bearer-Set-up.commit **Serving Node A 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 9 and 15

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 21, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

21 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 (22) 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.

22	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 connection 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 B) 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 A and C could be connected to party B 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 party's 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 with party A as the root of the network connection. Figure 7-7 illustrates the before and after view of this example.

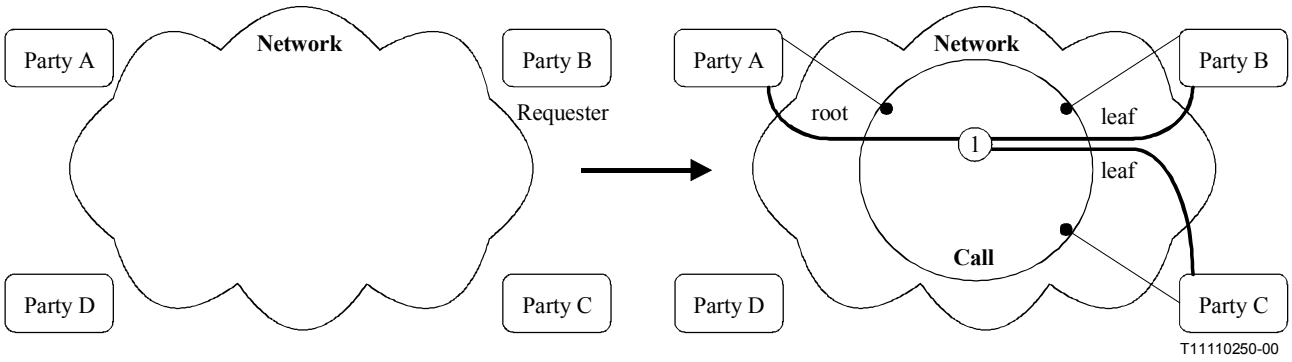


Figure 7-7 – Call and Bearer transition diagram

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

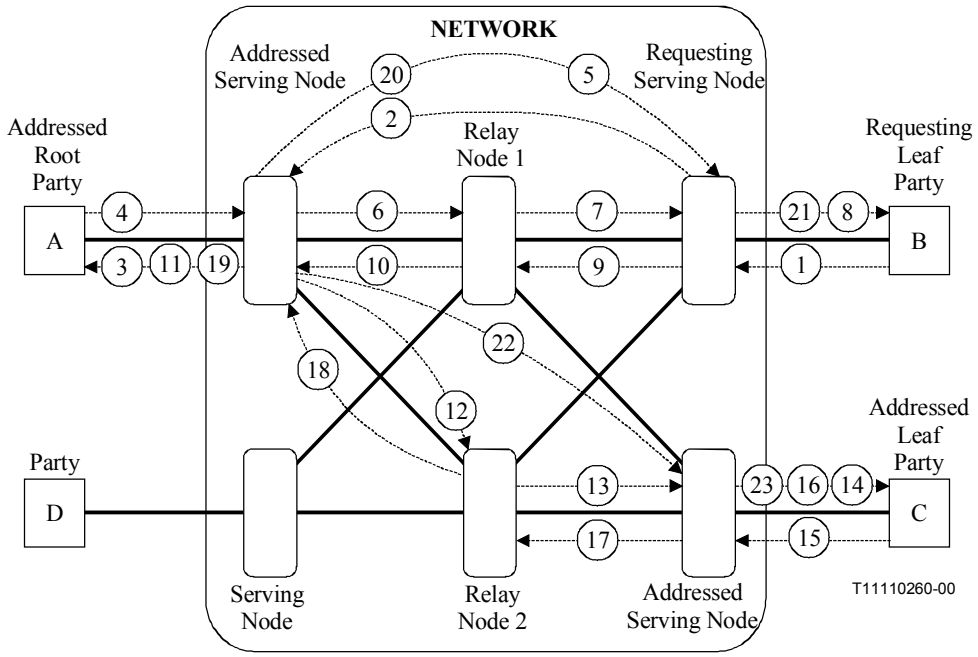


Figure 7-8 – Optional multicast address call and bearer establishment

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 B to serving Node B

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "B" 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 "B" ID, Network Address]	**Network connection 1** [Bearer "1" ID, Bearer type, **Parties connected** (PEP "B" ID (leaf), 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 an optional group of parties. Party A is to be the root of the network connection. The serving node then issues a request to the serving node associated with the root-party requesting that the call be established from the root of the connection. This information flow (2) is a remote call and bearer request. The requesting serving node awaits the result of this remote request.

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

Processing upon receipt: The addressed serving node associated with party A notes that this is an optional multicast establishment request with party A as the root and the requesting party (B) will be one of the possible leaves. It will first offer the call and bearer to the root-party (party A). If party A agrees to be the root of the network connection with the specified bearer and resource characteristics, the addressed serving node will establish the call and connection within the network. The call and bearer offering to party A is information flow 3. Since the interface is classified as a multiple signalling entity interface, the serving node cannot commit to the addressed end point and therefore issues the information flow towards the selected interface facility.

3 Call-&-Bearer-Set-up.begin **Serving Node A to Party A**

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

Processing upon receipt: When the terminal equipment associated with party A receives this information flow, it will determine if it can provide the bearer service requested in the incoming flow. In this case, it is assumed that the service can be provided. The terminal equipment issues information flow 4 indicating that it is ready to accept the call and bearer.

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

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, **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, **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),

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 5 towards the requesting serving node. This information flow notifies that the root-party is willing to accept the call and bearer. The root serving node then determines the route and outgoing trunk facilities towards the addressed and requesting serving nodes associated with parties B. (Note: these 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 the 6 and 12 information flows towards the selected relay nodes. The network connection is backward through connected.

5 Remote-Call-&-Bearer-Set-up.commit **Serving Node A to Serving Node B**

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **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], **Requesting party information** [PEP "A" ID, Network Address],	**Network connection 1** [Bearer "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 requesting serving node associated with party B notes that party A is willing to be the root of the connection. The serving node awaits the arrival of the network connection associated with the call.

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):ref: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 the information flow 7 towards the addressed serving node. The network connection in the relay node 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):-ref: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 coordinates the incoming information flow with the previously established call request and sends a commitment information flow (8) towards the requesting terminal and issues the commitment information flow (9) towards relay node 1. The network connection is backward through connected.

8 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, Call Owner: PEP "B" ID** **Addressed party Information** [PEP "B" ID, Network address],	**Network connection 1** [Bearer "1" ID, Connection owner: PEP "B"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 connection in both directions, and notifies the user of the call and connection establishment.

9 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 7

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 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 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 (11) to the party A 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 10 arrives before 18.

11 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 "B" 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]

Initiation of information flow: Processing of information flow 10 or 18

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.)

12 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 "B" 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 4

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.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 "B" 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 the 14 information flow 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 "B" 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 16 information flow towards party C and information flow 17 towards its associated relay node.

16 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.

17 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 15

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 16, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

18 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 root serving node receives this information flow, it records the commitment, it sends a notification information flow (19) to the party A terminal. The root serving node then through connects the network connection in the forward direction, and if necessary, modifies the network connection characteristics of backward through-connect and notifies parties B and C of the change in the call and bearer status via information flows 20 and 22. Note in this example it is assumed that information flow 10 arrives before 18.

19 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 "B" 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 flows 10 and 18

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.)

20 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 flows 10 or 18

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 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.

22 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 "B" ID, Network address], **Addressed party Information** [PEP "C" 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)]

Initiation of information flows: Processing of information flows 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 23.

23 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 "B" ID, Network address], **Addressed party Information** [PEP "C" 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.

8 Addition of one or more new parties to an existing call with attachment to existing or 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

8.1.1 Add one new party requested by a party which is the leaf 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 D, requests that a new party B be added to the call and be attached to network connection 1. Party D is the call and network connection owner and will become a leaf of the network connection when party B is attached. Party A will be the root of the network connection. In this example, it is assumed that the resultant network connection will be either a type 3 or 5 connection requiring the possible modification of the network connection branch between the root-party and its associated serving node. Therefore in the example, the root-party must agree to the addition of the additional party and modification of its network connection branch before party B can be added. (Note: if the resultant network connection is a type 2 connection, party A does not need to agree to the addition of party B. Party A would only be notified at the end of the party addition procedure.) 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 and party B is also notified that the call and connection also contain party D. Figure 8-1 illustrates the before and after view of this example.

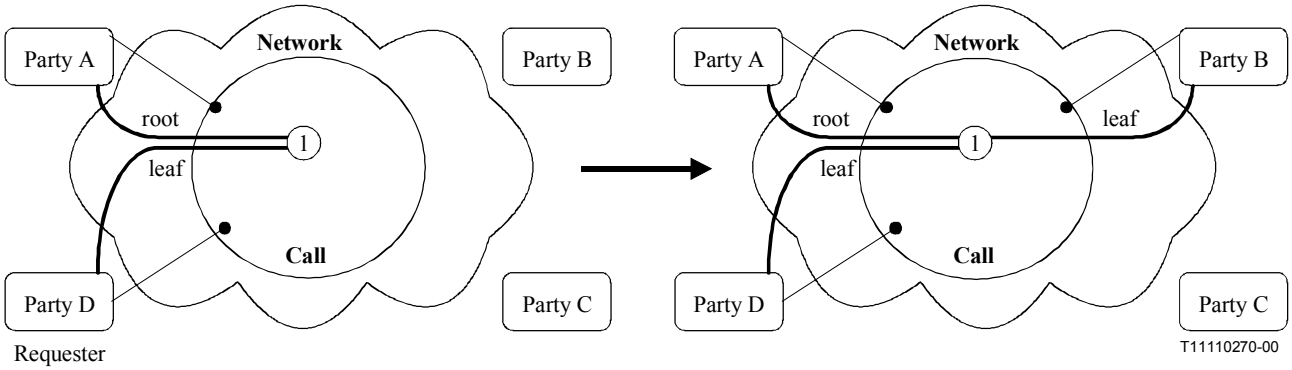


Figure 8-1 – Call and Bearer transition diagram

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.

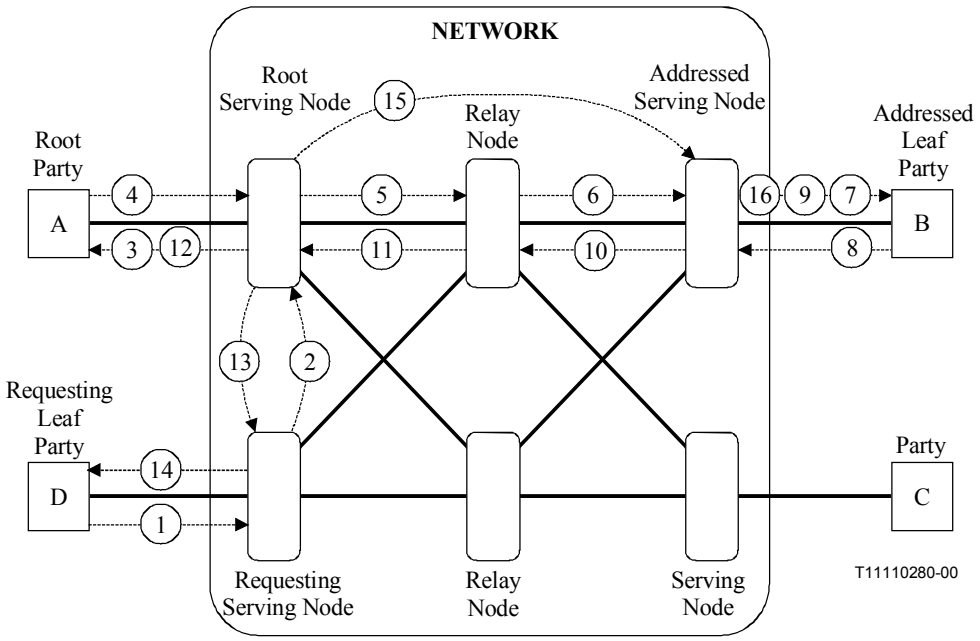


Figure 8-2 – Add one new party requested by a party which is the call owner and the leaf of the existing network connection

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 D to Serving Node D**

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 "D" 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 (Note: these validation and routing flows are not illustrated in Figure 8-2 in order to simplify the diagram) and determines that party A will be the root of the resultant network connection. The requester's serving node forwards the request to the serving node associated with the root of the network connection (Serving node A).

2 Remote-Add-Party-to-Bearer.ready Serving Node D 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 "D" 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(D):ref.d) ID, **Call Owner: PEP "D" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "D" ID, **Requesting party information** [PEP "D" ID, Network Address] Party Owner: PEP "D" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "D", **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 serving node associated with network connection's root-party determines that the addition of party B will require modification of the network branch characteristics between the root-party and its serving node. The serving node requests party A's concurrence to the party add request issued by the call owner since the request will modify the bearer branch characteristics. Information flow 3 represents this concurrence request.

3 Add-Party-to-Bearer.begin Serving Node A to Party 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 "D" ID), **Addressed party's service component information** (PEP "A" ID, Service component characteristics)]	**Call Control Segment 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]	**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 "A" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: The user equipment determines if it can support the change in the network connection as requested by party D. If it cannot support the requested characteristics, it will return the maximum network characteristics that it can support. If it can support the requested characteristics, it will include them in its response to it serving node.

4 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 "D" ID), **Addressed party's service component information** (PEP "A" ID, Service component characteristics)]	**Call Control Segment 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]	**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 "A" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: The serving node associated with network connection's root-party determines the route and outgoing trunk facility towards the addressed serving node associated with the addressed party (B). It determines that it will not be the branching point of the network connection. The branching point will be in relay node 1. (Note: this example assumes that the connection between party A and party D passes through relay node 1.) It therefore issues the following information flow (5) towards the selected relay node.

5 Add-Party-to-Bearer.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, PEP "D" 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 "D" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "D" ID, **Remote party Information** [PEP "D" ID, Network address], Party Owner: PEP "D" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "D" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "D", **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 (6) towards the addressed serving node of the new party. The new connection branch may be through connected in backward direction.

6 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, PEP "D" 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 "D" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "D" ID, **Remote party Information** [PEP "D" ID, Network address], Party Owner: PEP "D" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "D" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "D", **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 (7) towards the selected interface. The network connection is backward through connected.

7 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 "D" ID), **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID,** **Call Owner: PEP "D" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "D" ID, **Remote party Information** [PEP "D" ID, Network address], Party Owner: PEP "D" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "D" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "D", **Parties connected** (PEP "A" ID (root), PEP "B" ID (leaf), PEP "D" ID (leaf0), **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 8 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.

8 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 sent to information flow number 9. 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 9 towards the terminal and information flow 10 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.

9 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.

10 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 11 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.

11 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 root 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 root-party. The serving node then issues information flow 12 towards the root-party (A) 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 commitment of the call and connection request by issuing information flow 13. The serving node also updates party B with the characteristics associated with party D via information flow 15.

12 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), **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 Control Segment ID, Addressed party Information** [PEP "A" ID, Network address]	**Network connection 1** [Bearer "1" 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 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 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 party addition procedure.

13 Remote-Add-Party-to-Bearer.commit Serving Node A to Serving Node D

Resource information
Session ID
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)]

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

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "D",
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)]

Initiation of information flow: Processing of information flow 11

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 commitment information flow is forwarded to party D via information flow 14.

14 Add-Party-to-Bearer.commit Serving Node D to Party D

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 "D" ID
Addressed party Information
[PEP "D" ID, Network address],
Party Owner: PEP "D" ID,
Remote party Information
[PEP "B" ID, Network address],
Party Owner: PEP "D" ID,
Remote party information
[PEP "A" ID, Network Address]
Party Owner: PEP "D" ID

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP "D",
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: 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.)

15 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 "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(D):ref.d) ID, **Remote party Information** [PEP "D" ID, Network address], Party Owner: PEP "D" ID, **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "D" ID, **Event:** Party D 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 "D" ID (leaf)), **Remote party's bearer branch information** [(PEP "D" ID, bearer branch characteristics, branch owner: PEP "D" 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 "D" 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 11 and with 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 16.

16 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 "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], Party Owner: PEP "A" ID, **Event:** Party D 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 "D" ID (leaf)), **Remote party's bearer branch information** [(PEP "D" ID, bearer branch characteristics, branch owner: PEP "D" 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 "D" 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.

8.1.2 Add two new parties requested by a party which is the leaf 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 D, the call owner, requests that two new parties (B and C) are to be added to the call and be attached to this connection. Party A will be the root of the network connection. In this example, it is assumed that the resultant network connection will be either a type 3 or 5 connection requiring the possible modification of the network connection branch between the root-party and its associated serving node. Therefore in the example, the root-party must agree to the addition of the additional parties and modification of its network connection branch before the parties can be added.

(Note: if the resultant network connection is a type 2 connection, party A does not need to agree to the addition of the parties. Party A would only be notified at the end of the party addition procedure.) 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.

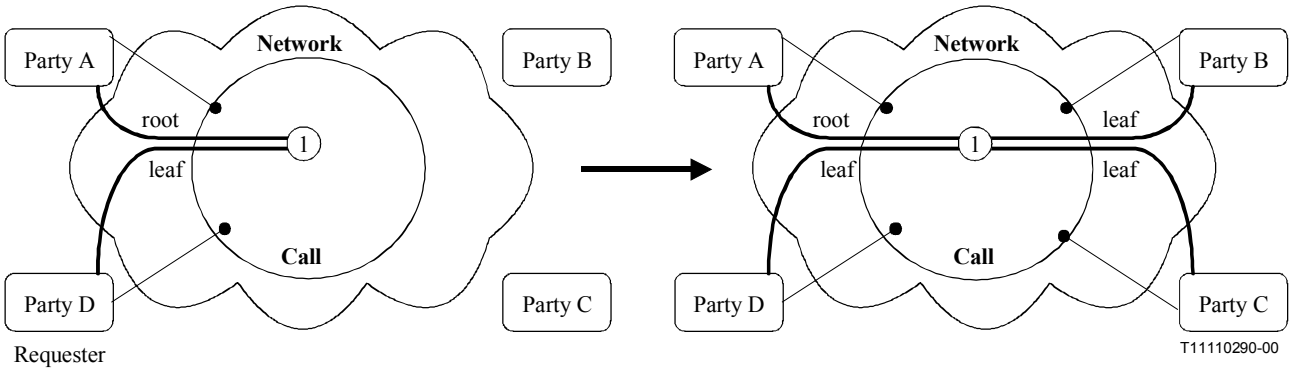


Figure 8-3 – Call and Bearer transition diagram

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.

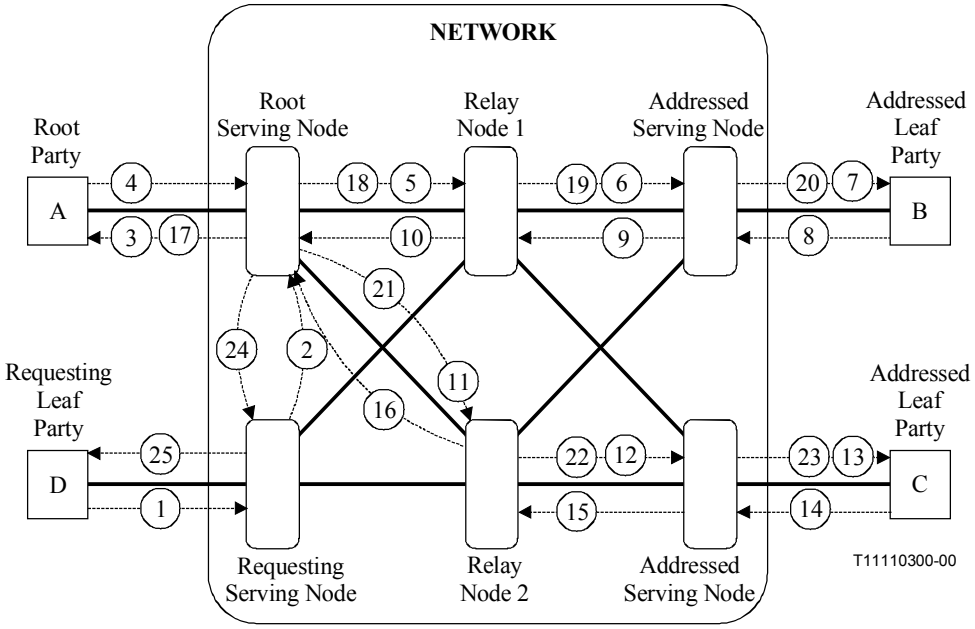


Figure 8-4 – Add two new parties requested by a party which is the call owner and the leaf of the existing network connection

The actions illustrated in Figure 8-4 are as follows.

Requesting party's terminal equipment issues the following information flow towards its serving node.

1 Add-Party-to-Bearer.ready **Party D to Serving Node D**

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], **Requesting party information** [PEP "D" 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 (Note: these validation and routing flows are not illustrated in Figure 8-4 in order to simplify the diagram) and determines that party A will be the root of the resultant network connection. The requester's serving node forwards the request to the serving node associated with the root of the network connection (Serving node A).

2 Remote-Add-Party-to-Bearer.ready **Serving Node D 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,** **Direct Call association** (SN(A):ref.a - SN(D):ref.d) ID, **Call Owner: PEP "D" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "D" ID, **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "D" ID, **Requesting party information** [PEP "D" ID, Network Address] Party Owner: PEP "D" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "D", **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), **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 serving node associated with network connection's root-party determines that the addition of party B and C will require modification of the network branch characteristics between the root-party and its serving node. The serving node requests party A's concurrence to the party add request issued by the call owner since the request will modify the bearer branch characteristics. Information flow 3 represents this concurrence request.

3 Add-Party-to-Bearer.begin **Serving Node A to Party 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 "A" ID, Service component characteristics)]	**Call Control Segment ID** **Addressed party Information** [PEP "A" ID, Network address], **Remote party Information** [PEP "B" ID, Network address], **Remote party Information** [PEP "C" ID, Network address], **Requesting party information** [PEP "D" 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 "A" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "A" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: The user equipment determines if it can support the change in the network connection as requested by party D. If it cannot support the requested characteristics, it will return the maximum network characteristics that it can support. If it can support the requested characteristics, it will include them in its response to its serving node.

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

Processing upon receipt: The serving node associated with network connection's root-party determines the route and outgoing trunk facility towards the addressed serving node associated with the addressed parties (B and C). It determines that it will be two branching points of the network connection. One will be at the root serving node and the other at relay node 1. (Note: this example assumes that the connection between party A and party D passes through relay node 1.) It therefore relays the following information flow (5 and 11) towards the selected relay nodes.

5 Add-Party-to-Bearer.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, PEP "C" ID, PEP "D" 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 "D" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "D" ID, **Remote party Information** [PEP "C" ID, Network address], Party Owner: PEP "D" ID, **Remote party Information** [PEP "D" ID, Network address], Party Owner: PEP "D" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "D" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "D", **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)]

Initiation of information flow: Processing of information flow 4

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 cannot commit to the request and issues the following information flow (6) towards the addressed serving node of the new party. The new connection branch may be through connected in backward direction.

6 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, PEP "D" 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 "D" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "D" ID, **Remote party Information** [PEP "C" ID, Network address], Party Owner: PEP "D" ID, **Remote party Information** [PEP "D" ID, Network address], Party Owner: PEP "D" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "D" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "D", **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. 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 (7) towards the selected interface. The network connection is backward through connected.

7 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, PEP "D" ID), **Addressed party's service component information** (PEP "B" ID, Service component characteristics)]	**Call Control Segment ID,** **Call Owner: PEP "D" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "D" ID, **Remote party Information** [PEP "C" ID, Network address], Party Owner: PEP "D" ID, **Remote party Information** [PEP "D" ID, Network address], Party Owner: PEP "D" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "D" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "D", **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 8 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.

8 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 serving node then clears the non-selected terminals. (Note: this action is not illustrated for simplicity.) The serving node then issues information flow 9 towards its associated relay node indicating that it is ready for commitment.

9 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 relay node receives this information flow, it records the party is ready for commitment. The relay node then issues information flow 10 towards its associated serving node indicating that it is awaiting commitment.

10 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: The functional entity action will be processed upon reception of information flows 10 and 16.

Processing upon receipt: When the root serving node receives both information flows 10 and 16 it is aware that both the B party and the C party agree to accept the call and bearer. The root serving node notifies the root-party (information flow 17) that the parties have been added, and includes the network connection characteristics of the new branches and its own branch characteristics between the terminal and the root serving node. The root serving node then issues commitment information flows towards the added parties (information flows 18 and 21), and notifies the party D of the completion of the add party to bearer procedure (information flow 24).

11 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 "D" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "D" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "D" ID, **Remote party Information** [PEP "D" ID, Network address], Party Owner: PEP "D" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "D" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "D", **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: Processing of information flow 4

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 cannot commit to the request and issues the following information flow (12) towards the addressed serving node of the new party. The new connection branch may be through connected in backward direction.

12 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, 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 "D" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "D" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "D" ID, **Remote party Information** [PEP "D" ID, Network address], Party Owner: PEP "D" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "D" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "D", **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. 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 (13) towards the selected interface. The network connection is backward through connected.

13 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, PEP "D" ID), **Addressed party's service component information** (PEP "C" ID, Service component characteristics)]	**Call Control Segment ID,** **Call Owner: PEP "D" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "D" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "D" ID, **Remote party Information** [PEP "D" ID, Network address], Party Owner: PEP "D" ID, **Requesting party information** [PEP "A" ID, Network Address] Party Owner: PEP "D" ID	**Network connection 1** [Bearer "1" ID, Bearer type, Connection owner: PEP "D", **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 terminal equipment determines that it can accept the request and issues information flow 14 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.

14 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 serving node then clears the non-selected terminals. (Note: this action is not illustrated for simplicity.) The serving node then issues information flow 15 towards its associated relay node indicating that it is ready for commitment.

15 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 relay node receives this information flow, it records the party is ready for commitment. The relay node then issues information flow 16 towards its associated serving node indicating that it is awaiting commitment.

16 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: The functional entity action will be processed upon reception of information flows 10 and 16.

Processing upon receipt: When the root serving node receives both information flows 10 and 16, it is aware that both the B party and the C party agree to accept the call and bearer. The root serving node notifies the root-party (information flow 17) that the parties have been added and includes the network connection characteristics of the new branches and its own branch characteristics between the terminal and the root serving node. The root serving node then issues commitment information flows towards the added parties (information flows 18 and 21), and notifies the party D of the completion of the add party to bearer procedure (information flow 24).

17 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)],
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 "A" ID, Network address]

Bearer information
Network connection 1
[Bearer "1" 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 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),
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 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 party addition procedure.

18 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 "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(C):ref.c) ID,
Remote Call association
(SN(A):ref.a - SN(D):ref.d) 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 "D" ID, bearer branch characteristics),
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),
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 10 and 16

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 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),
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,
Remote Call association
(SN(A):ref.a - SN(D):ref.d) 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 "D" ID, bearer branch characteristics),
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),
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 requesting 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 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)
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, Connection owner: PEP "B"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),
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 connection in both directions, and notifies the user of the call and connection establishment.

21 Call-&-Bearer-Set-up.commit **Serving Node A 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),
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,
Remote Call association
(SN(A):ref.a - SN(D):ref.d) 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 "D" ID, bearer branch characteristics),
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),
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 10 and 16

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 22, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

22 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),
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,
Remote Call association
(SN(A):ref.a - SN(D):ref.d) 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 "D" ID, bearer branch characteristics),
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),
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 (23) 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.

23 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)
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 "D" ID, bearer branch characteristics),
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),
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 connection in both directions, and notifies the user of the call and connection establishment.

24 Remote-Add-Party-to-Bearer.commit **Serving Node A to Serving Node D**

Resource information
Resource 1
[Resource 1 ID, Resource type,
Addressed party's service component information
(PEP "D" 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),
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,
Addressed party Information
[PEP "D" ID, Network address],

Bearer information
Network connection 1
[Bearer "1" ID,
Addressed party's bearer branch information
[(PEP "D" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "D" 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),]
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 10 and 16

Processing upon receipt: When the requesting serving node receives the above information flow, it records the completion of the add party to bearer procedure, records the associated party information, and relays the commitment to the requesting party via information flow 25.

25	Add-Party-to-Bearer.commit	Serving Node D to Party D

Resource information	Call information	Bearer information
Resource 1 [Resource 1 ID, Resource type, **Addressed party's service component information** (PEP "D" 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), **Remote party's service component information** (PEP "A" ID, Service component characteristics)]	**Call Control Segment ID, Addressed party Information** [PEP "D" ID, Network address],	**Network connection 1** [Bearer "1" ID, **Addressed party's bearer branch information** [(PEP "D" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "D" 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),] **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 requesting terminal receives the above information flow, it records the completion of the add party to bearer procedure, records the information associated with each party, and notifies the user agent that the requested task has been completed.

8.2 Addition of one or more new parties with attachment to one or more new network connections

8.2.1 Add one new party requested by a party which will be a leaf of the new network connection

In this example, a call association and a network connection exist between party A and party B. The party B requests that a new party C and a new connection be added to the call connecting parties A, B and C. Party B is the call owner and the owner of both network connections, and will be a leaf of the new network connection. Party A will be the root of the new network connection designated as network connection 2. In this example, it is assumed that the new network connection will be either a type 3 or 5 connection. The root-party must agree to the addition of the additional party and new network connection before the new network connection is added to the call. This example also assumes that party C 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 root serving node. Notification of the addition of the new party and its attachment will be sent to party B at the completion of the procedure, and party C is also notified that the call contains two network connections and network connection 2 also contains party B. Figure 8-5 illustrates the before and after view of this example.

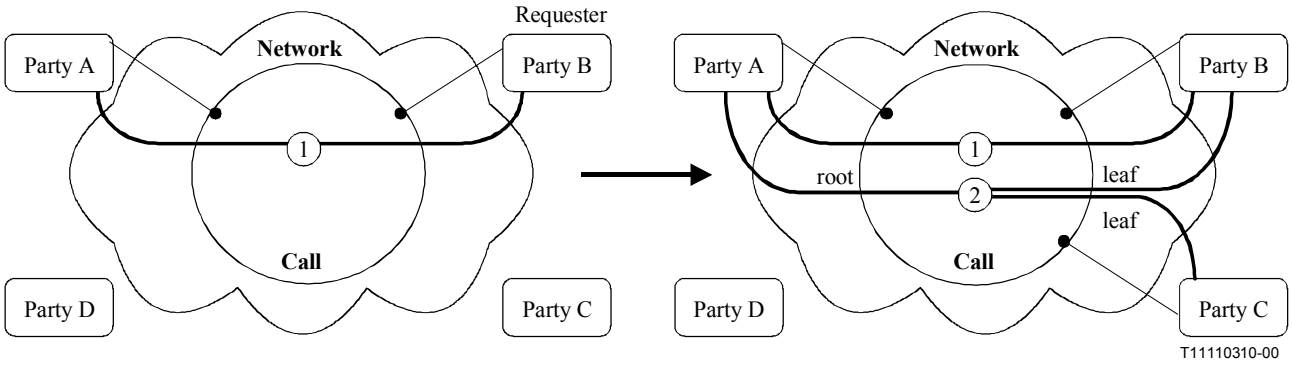


Figure 8-5 – Call and Bearer transition diagram

The signalling capability of coordinated control for adding a new party and attaching this party to an existing connection is illustrated in Figure 8-6.

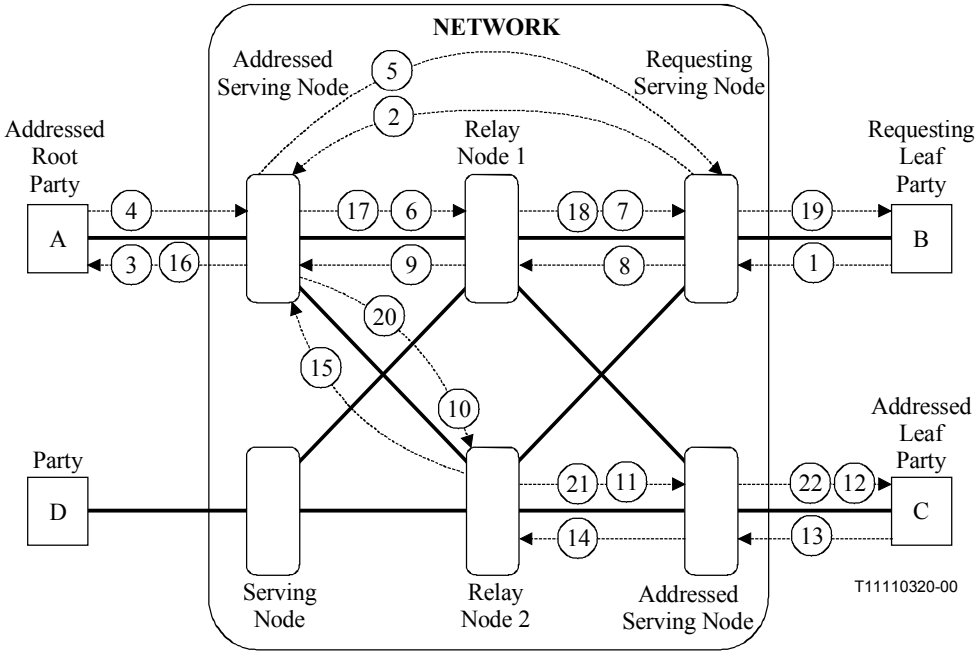


Figure 8-6 – Add one new party and one new connection requested by a party which is the call owner and the leaf of the new network connection

The actions illustrated in Figure 8-6 are as follows.

Requesting party's terminal equipment issues the following information flow towards its serving node.

1 Add Party-&-Bearer-to-Call.ready Party B 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 "A" ID, Service component characteristics),
Addressed party's service component information
(PEP "C" ID, Service component characteristics),
Requesting 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],
Addressed party Information
[PEP "C" ID, Network address],
Requesting party information
[PEP "B" ID, Network Address]

Bearer information
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 "A" ID, Transit Network Selection, bearer branch characteristics),
Addressed party's service module information
[(PEP "A" 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)
Requesting party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics),
Requesting 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 add party and bearer to call request.

Processing upon receipt: The requester's serving node validates the request and the requesting party and determines that the requester wishes to add an additional network connection and an additional party to the call. In addition, the serving node determines that the root of the desired new connection will be party A. The serving node then issues a request to the serving node associated with the root-party requesting that the connection be established from the root serving node. This information flow (2) is a remote add party and bearer to call request. The requesting serving node awaits the result of this remote request.

2 Remote-Add-Party-&-Bearer-to-Call.ready Serving Node B 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 "A" ID, Service component characteristics),
Remote party's service component information
(PEP "C" ID, Service component characteristics)
Requesting 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,
Call Owner: PEP "B" ID
Addressed party Information
[PEP "A" ID, Network address],
Party Owner: PEP "B" ID,
Remote party Information
[PEP "C" ID, Network address]
Party Owner: PEP "B" ID,,
Requesting party information
[PEP "B" ID, Network Address]
Party Owner: PEP "B" ID,

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

Processing upon receipt: The addressed serving node associated with party A will first offer the add party and bearer request to the root-party (party A). If party A agrees to be the root of the new network connection with the specified bearer and resource characteristics, the addressed serving node will establish the connection within the network. The call and bearer offering to party A is information flow 3.

3 Add Party-&-Bearer-to-Call.begin Serving Node A to Party 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 "A" ID, Service component characteristics),

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

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

Processing upon receipt: When the terminal equipment associated with party A receives this information flow, it will determine if it can provide the bearer service requested in the incoming flow. In this case, it is assumed that the service can be provided. The terminal equipment issues information flow 4 indicating that it is ready to accept the call and bearer.

4 Add-Party-&-Bearer-to-Call.ready Party A to Serving Node A

Resource information	Call information	Bearer information
Resource 2 [Resource 2 ID, **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 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),

Processing upon receipt: The serving node issues information flow 5 towards the requesting serving node. This information flow notifies that the root-party is willing to accept the new network connection. The root serving node then determines the route and outgoing trunk facilities towards the addressed and requesting serving nodes associated with parties B and C. (Note: these routing flows are not illustrated in Figure 8-6 in order to simplify the diagram.) For this example, the new 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 6 and 10 towards the selected relay nodes. The network connection is backward through connected.

5 Remote-Add-Party-&-Bearer-to-Call.commit Serving Node A to Serving Node B

Resource information	Call information	Bearer information
Resource 2 [Resource 2 ID, Resource type, **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], **Requesting party information** [PEP "A" ID, Network Address],	**Network connection 2** [Bearer "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 requesting serving node associated with party B notes that party A is willing to be the root of the connection. The serving node awaits the arrival of the network connection associated with the call.

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

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 "B" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(B):ref.b) ID, **Call Owner: PEP "B" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "C" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "A" ID, Network Address], Party Owner: PEP "B" ID,	**Network connection 2** [Bearer "2" ID, Bearer type, Connection owner: PEP "B", **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 "B" 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 4

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 7 towards the addressed serving node. The network connection in the relay node is backward through connected.

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

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

Processing upon receipt: The requesting serving node records that the network connection associated with the previously established call has arrived. It then issues information flow 8 towards the relay node 1 indicating its willingness to proceed with the network connection. The serving node awaits the final network connection commitment from the root serving node. The network connection is backward through connected.

8 Add-Bearer-to-Call.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), **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 the information flow 9.

9 Add-Bearer-to-Call.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), **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 9 and 15 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 root-terminal equipment (flow 16) and the relay nodes (flows 17 and 20), and 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.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 "B" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "A" ID, Network Address], Party Owner: PEP "B" ID,	**Network connection 2** [Bearer "2" ID, Bearer type, Connection owner: PEP "B", **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 "B" 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 4

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.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 "B" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "A" ID, Network Address], Party Owner: PEP "B" ID,	**Network connection 2** [Bearer "2" ID, Bearer type, Connection owner: PEP "B", **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 "B" 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 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 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 "B" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "A" ID, Network Address, Party Owner: PEP "B" ID,]	**Network connection 2** [Bearer "2" ID, Bearer type, Connection owner: PEP "B", **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 "B" 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 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 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 14 towards its associated relay node.

14 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 nodes receive the above responses, it records them and relays the responses to the requesting serving node in the form illustrated by information flow 15.

15 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 9 and 15 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 root terminal equipment (flow 16) and the relay nodes (flows 17 and 20), and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

16 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),
Remote party's service component information
(PEP "C" ID, Service component characteristics)]

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

Bearer information
Network connection 2
[Bearer "2" ID, Connection owner: PEP "B",
Addressed party's bearer branch information
[(PEP "A" ID, bearer branch characteristics, branch owner: PEP "B" 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 "B" 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 "B" ID),
Remote 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 9 and 15

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.)

17 Add-Bearer-to-Call.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,
Remote Call association
(SN(A):ref.a - SN(C):ref.c) 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 9 and 15

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 18, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

18 Add-Bearer-to-Call.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,
Remote Call association
(SN(A):ref.a - SN(C):ref.c) 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 requesting serving node receives this information flow, it records the commitment, it sends a commitment information flow (19) to the requesting terminal. The requesting serving node then through connects network connection in the forward direction, and if necessary, modifies the network connection characteristics of backward through-connect.

19 Add-Party-&-Bearer-to-Call.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, Connection owner: PEP "B"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 connection in both directions, and notifies the user of the call and connection establishment.

Resource information
Resource 1
[Resource 1 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
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,
Remote Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Addressed party Information
[PEP "C" ID, Network address],
Event: Network Connection 1 added to call

Bearer information
Network connection 1
[Bearer "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 9 and 15

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 21, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

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

Resource information
Resource 1
[Resource 1 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)]
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,
Remote Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Addressed party Information
[PEP "C" ID, Network address],
Event: Network Connection 1 added to call

Bearer information
Network connection 1
[Bearer "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),]

Processing upon receipt: When the addressed serving node receives this information flow, it records the commitment, it sends a commitment information flow (22) 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.

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

Resource information
Resource 1
[Resource 1 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)]]
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],
Event: Network Connection 1 added to call

Bearer information
Network connection 1
[Bearer "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

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

8.2.2 Add two new parties requested by a party which will be a leaf of the new connection

In this example, a call association and a network connection exist between party A and party B. The party B requests that two new parties, C and D and a new connection be added to the call connecting parties A, B, C and D. Party B is the call owner and the owner of both network connections, and will be a leaf of the new network connection. Party A will be the root of the new network connection designated as network connection 2. In this example, it is assumed that the new network connection will be either a type 3 or 5 connection. The root-party must agree to the addition of the additional party and new network connection before the new network connection is added to the call. This example also assumes that parties C and D 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 root serving node and a relay node associated with the serving nodes associated with parties C and D. Notification of the addition of the new party and its attachment will be sent to party B at the completion of the procedure and parties C and D are also notified that the call contains two network connections and network connection 2 also contains parties B, C and D. Figure 8-7 illustrates the before and after view of this example.

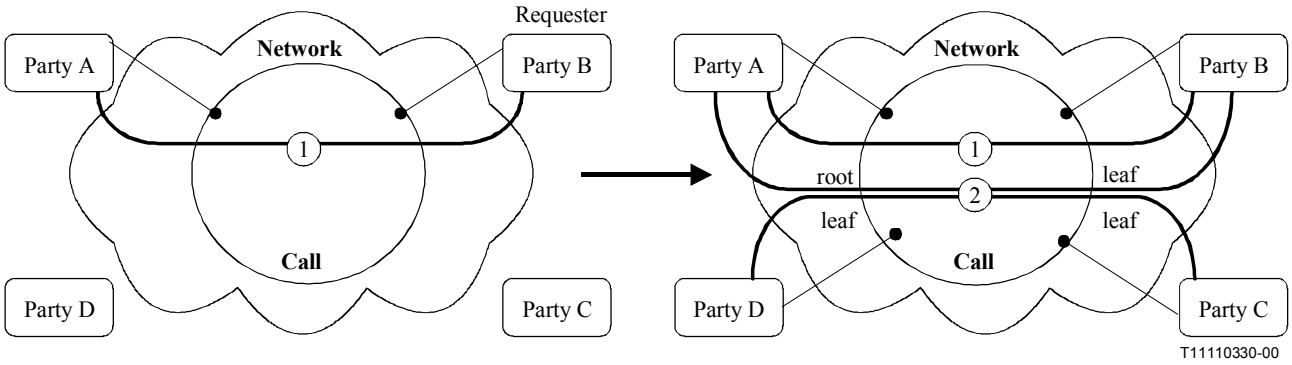


Figure 8-7 – Call and Bearer transition diagram

The signalling capability of coordinated control for adding a new party and attaching this party to an existing connection is illustrated in Figure 8-8.

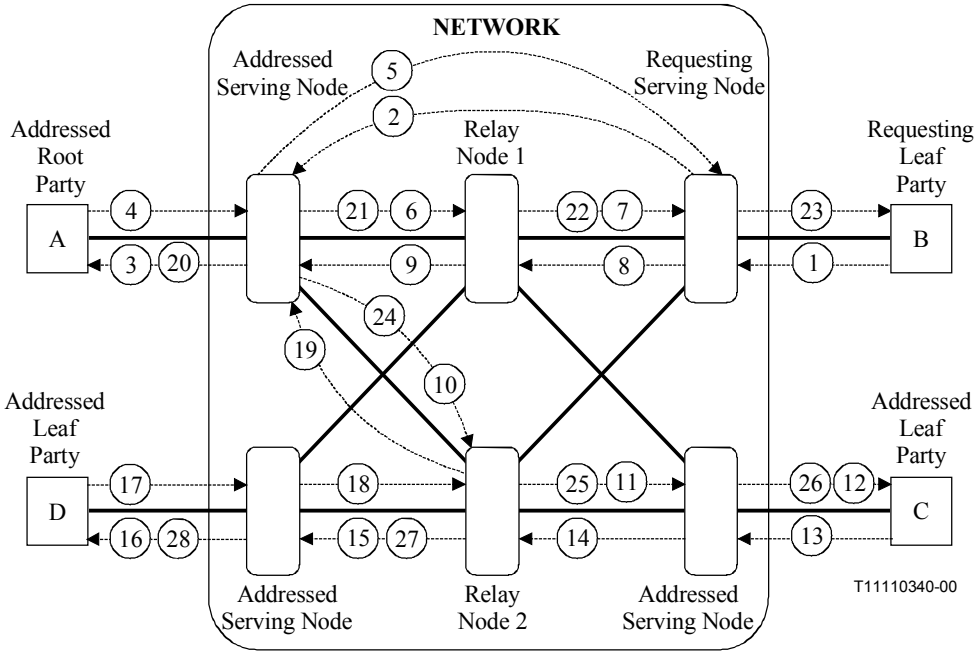


Figure 8-8 – Add one new party and one new connection requested by a party which is the call owner and the leaf of the new network connection

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

Requesting party's terminal equipment issues the following information flow towards its serving node.

1	Add Party-&-Bearer-to-Call.ready	Party B 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, PEP "D" ID),
Addressed party's service component information
(PEP "A" ID, Service component characteristics),
Addressed party's service component information
(PEP "C" ID, Service component characteristics),
Addressed party's service component information
(PEP "D" ID, Service component characteristics),
Requesting 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],
Addressed party Information
[PEP "C" ID, Network address],
Addressed party Information
[PEP "D" ID, Network address],
Requesting party information
[PEP "B" ID, Network Address]

Bearer information
Network connection 2
[Bearer "2" 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 "A" ID, Transit Network Selection, bearer branch characteristics),
Addressed party's service module information
[(PEP "A" 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),
Addressed party's bearer branch information
[(PEP "D" ID, Transit Network Selection, bearer branch characteristics),
Addressed party's service module information
[(PEP "D" ID, Service module characteristics
Service component list
[(Resource 2 ID)
Requesting party's bearer branch information
[(PEP "B" ID, Transit Network Selection, bearer branch characteristics),
Requesting 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 add party and bearer to call request.

Processing upon receipt: The requester's serving node validates the request and the requesting party and determines that the requester wishes to add an additional network connection and an additional party to the call. In addition, the serving node determines that the root of the desired new connection will be party A. The serving node then issues a request to the serving node associated with the root-party requesting that the connection be established from the root serving node. This information flow (2) is a remote add party and bearer to call request. The requesting serving node awaits the result of this remote request.

2 Remote-Add-Party-&-Bearer-to-Call.ready Serving Node B 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, PEP "D" 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),
Remote party's service component information
(PEP "D" ID, Service component characteristics)
Requesting 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,
Call Owner: PEP "B" ID
Addressed party Information
[PEP "A" ID, Network address],
Party Owner: PEP "B" ID,
Remote party Information
[PEP "C" ID, Network address]
Party Owner: PEP "B" ID,
Remote party Information
[PEP "D" ID, Network address]
Party Owner: PEP "B" ID,,
Requesting party information
[PEP "B" ID, Network Address]
Party Owner: PEP "B" ID,

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

Processing upon receipt: The addressed serving node associated with party A will first offer the add party and bearer request to the root-party (party A). If party A agrees to be the root of the new network connection with the specified bearer and resource characteristics, the addressed serving node will establish the connection within the network. The call and bearer offering to party A is information flow 3.

3 Add Party-&-Bearer-to-Call.begin Serving Node A to Party A

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

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

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

Processing upon receipt: When the terminal equipment associated with party A receives this information flow, it will determine if it can provide the bearer service requested in the incoming flow. In this case, it is assumed that the service can be provided. The terminal equipment issues information flow 4 indicating that it is ready to accept the call and bearer.

4 Add-Party-&-Bearer-to-Call.ready Party A to Serving Node A

Resource information
Resource 2
[Resource 2 ID,
Addressed party's service component information
(PEP "A" 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),

Processing upon receipt: The serving node issues information flow 5 towards the requesting serving node. This information flow notifies that the root-party is willing to accept the new network connection. The root serving node then determines the route and outgoing trunk facilities towards the addressed and requesting serving nodes associated with parties B and C. (Note: these routing flows are not illustrated in the figure in order to simplify the diagram.) For this example, the new 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 6 and 10 towards the selected relay nodes. The network connection is backward through connected.

5 Remote-Add-Party-&-Bearer-to-Call.commit Serving Node A to Serving Node B

Resource information
Resource 2
[Resource 2 ID, Resource type,
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],
Requesting party information
[PEP "A" ID, Network Address],

Bearer information
Network connection 2
[Bearer "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 requesting serving node associated with party B notes that party A is willing to be the root of the connection. The serving node awaits the arrival of the network connection associated with the call.

6 Add-Bearer-to-Call.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, 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):ref.b) ID,
Call Owner: PEP "B" ID
Addressed party Information
[PEP "B" ID, Network address],
Party Owner: PEP "B" ID,
Remote party Information
[PEP "C" ID, Network address],
Party Owner: PEP "B" ID,
Remote party Information
[PEP "D" ID, Network address],
Party Owner: PEP "D" ID,
Requesting party information
[PEP "A" ID, Network Address],
Party Owner: PEP "B" ID,

Bearer information
Network connection 2
[Bearer "2" ID, Bearer type, Connection owner: PEP "B",
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 "B" 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 4

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 7 towards the addressed serving node. The network connection in the relay node is backward through connected.

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

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, PEP "D" 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, **Call Owner: PEP "B" ID** **Addressed party Information** [PEP "B" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "C" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "D" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "A" ID, Network Address], Party Owner: PEP "B" ID,	**Network connection 2** [Bearer "2" ID, Bearer type, Connection owner: PEP "B", **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 "B" ID), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 2 ID),

Processing upon receipt: The requesting serving node records that the network connection associated with the previously established call has arrived. It then issues information flow 8 towards the relay node 1 indicating its willingness to proceed with the network connection. The serving node awaits the final network connection commitment from the root serving node. The network connection is backward through connected.

8 Add-Bearer-to-Call.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), **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 the information flow 9.

9 Add-Bearer-to-Call.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), **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 9 and 19 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 root terminal equipment (flow 20) and the relay nodes (flows 21 and 24), and 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.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, PEP "D" ID), **Addressed party's service component information** (PEP "C" ID, Service component characteristics), **Addressed party's service component information** (PEP "D" ID, Service component characteristics)]]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(C):----) ID, **Direct Call association** (SN(A):ref.a - SN(D):----) ID, **Call Owner: PEP "B" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "B" ID, **Addressed party Information** [PEP "D" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "A" ID, Network Address], Party Owner: PEP "B" ID,	**Network connection 2** [Bearer "2" ID, Bearer type, Connection owner: PEP "B", **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 "B" ID), **Addressed party's service module information** [(PEP "C" ID, Service module characteristics **Service component list** [(Resource 2 ID), **Addressed party's bearer branch information** [(PEP "D" ID, Transit Network Selection, bearer branch characteristics, branch owner: PEP "B" ID), **Addressed party's service module information** [(PEP "D" ID, Service module characteristics **Service component list** [(Resource 2 ID)]

Initiation of information flow: Processing of information flow 4

Processing upon receipt: The selected relay node validates the request and determines the route and outgoing trunk facilities to parties C and D. The selected relay node issues information flow 11 towards the addressed serving node associated with party C and information flow 15 towards the addressed serving node associated with party D. The network connection in the relay node is backward through connected.

11 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, 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 "B" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "D" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "A" ID, Network Address], Party Owner: PEP "B" ID	**Network connection 2** [Bearer "2" ID, Bearer type, Connection owner: PEP "B", **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 "B" 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 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 2** [Resource 2 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, Call Owner: PEP "B" ID** **Addressed party Information** [PEP "C" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "D" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "A" ID, Network Address, Party Owner: PEP "B" ID,]	**Network connection 2** [Bearer "2" ID, Bearer type, Connection owner: PEP "B", **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 "B" 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 the 13 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.

13 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 14 towards its associated relay node.

14 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)]

Enabling Condition: Functional entity action will only begin after both information flows 14 and 18 are received.

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 19.

15 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, PEP "D" ID), **Addressed party's service component information** (PEP "D" ID, Service component characteristics)]	**Call Control Segment ID,** **Direct Call association** (SN(A):ref.a - SN(D):----) ID, **Call Owner: PEP "B" ID** **Addressed party Information** [PEP "D" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "C" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "A" ID, Network Address], Party Owner: PEP "B" ID	**Network connection 2** [Bearer "2" ID, Bearer type, Connection owner: PEP "B", **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 "D" ID, bearer branch characteristics, branch owner: PEP "B" ID), **Addressed party's service module information** [(PEP "D" 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 16 towards the selected interface facility. The network connection is backward through connected.

16 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, PEP "D" ID), **Addressed party's service component information** (PEP "D" ID, Service component characteristics)]	**Call Control Segment ID,** **Call Owner: PEP "B" ID** **Addressed party Information** [PEP "D" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "B" ID, Network address], Party Owner: PEP "B" ID, **Remote party Information** [PEP "C" ID, Network address], Party Owner: PEP "B" ID, **Requesting party information** [PEP "A" ID, Network Address, Party Owner: PEP "B" ID,]	**Network connection 2** [Bearer "2" ID, Bearer type, Connection owner: PEP "B", **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 "D" ID, bearer branch characteristics, branch owner: PEP "B" ID), **Addressed party's service module information** [(PEP "D" 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 17 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.

17 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 "D" ID, Service component characteristics)]	**Call Control Segment ID** **Addressed party Information** [PEP "D" ID, Network address],	**Network connection 2** [Bearer "2" ID, **Addressed party's bearer branch information** [(PEP "D" ID, bearer branch characteristics), **Addressed party's service module information** [(PEP "D" 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 18 towards its associated relay node.

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

Enabling Condition: Functional entity action will only begin after both information flows 14 and 18 are received.

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 19.

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

Enabling Condition: Functional entity action will only begin after both information flows 9 and 19 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 root terminal equipment (flow 20) and the relay nodes (flows 21 and 24), and performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

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 "D" 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 "B" ID
Addressed party Information
[PEP "A" ID, Network address],
Party Owner: PEP "B" ID,

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

Initiation of information flow: Processing of information flows 9 and 19

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.)

21 Add-Bearer-to-Call.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 "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(C):ref.c) ID,
Remote Call association
(SN(A):ref.a - SN(D):ref.d) 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 "D" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "D" 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 9 and 19

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 22, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

22 Add-Bearer-to-Call.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 "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(C):ref.c) ID,
Remote Call association
(SN(A):ref.a - SN(D):ref.d) 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 "D" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "D" 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 requesting serving node receives this information flow, it records the commitment, it sends a commitment information flow (23) to the requesting terminal. The requesting serving node then through connects network connection in the forward direction, and if necessary, modifies the network connection characteristics of backward through-connect.

23 Add-Party-&-Bearer-to-Call.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 "D" 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, Connection owner: PEP "B"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 "D" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "D" 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 connection in both directions, and notifies the user of the call and connection establishment.

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

Resource information
Resource 1
[Resource 1 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
Resource 2
[Resource 2 ID, Resource type,
Addressed party's service component information
(PEP "C" ID, Service component characteristics),
Addressed party's service component information
(PEP "D" 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,
Direct Call association
(SN(A):ref.a - SN(D):ref.d) ID,
Remote Call association
(SN(A):ref.a - SN(B):ref.b) ID,
Addressed party Information
[PEP "C" ID, Network address],
Event: Network Connection 1 added to call

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP"B" ID
Parties connected
(PEP "A" ID (root), PEP "B" 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),]
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),
Addressed party's bearer branch information
[(PEP "D" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "D" 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 9 and 19

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 25, performs forward through-connect of the network connection, and if necessary, modifies the network connection characteristics of backward through-connect.

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

Resource information
Resource 1
[Resource 1 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)]
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 "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(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],
Event: Network Connection 1 added to call

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP"B" ID
Parties connected
(PEP "A" ID (root), PEP "B" 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),]
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 "D" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "D" 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 (25) 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.

Resource information
Resource 1
[Resource 1 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)]]
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 "D" 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],
Event: Network Connection 1 added to call

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP"B" ID
Parties connected
(PEP "A" ID (root), PEP "B" 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
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 "D" ID, bearer branch characteristics),
Remote party's service module information
[(PEP "D" 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 connection in both directions, and notifies the user of the call and connection establishment.

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

Resource information
Resource 1
[Resource 1 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)]
Resource 2
[Resource 2 ID, Resource type,
Addressed party's service component information
(PEP "D" 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)]
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,
Addressed party Information
[PEP "D" ID, Network address],
Event: Network Connection 1 added to call

Bearer information
Network connection 1
[Bearer "1" ID, Bearer type, Connection owner: PEP"B" ID
Parties connected
(PEP "A" ID (root), PEP "B" 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),]
Network connection 2
[Bearer "2" ID,
Addressed party's bearer branch information
[(PEP "D" ID, bearer branch characteristics),
Addressed party's service module information
[(PEP "D" 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),
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 (28) 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.

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

Resource information
Resource 1
[Resource 1 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)]]
Resource 2
[Resource 2 ID, Resource type,
Addressed party's service component information
(PEP "D" ID, Service component characteristics)]
Remote 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 "D" ID, Network address],
Event: Network Connection 1 added to call

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

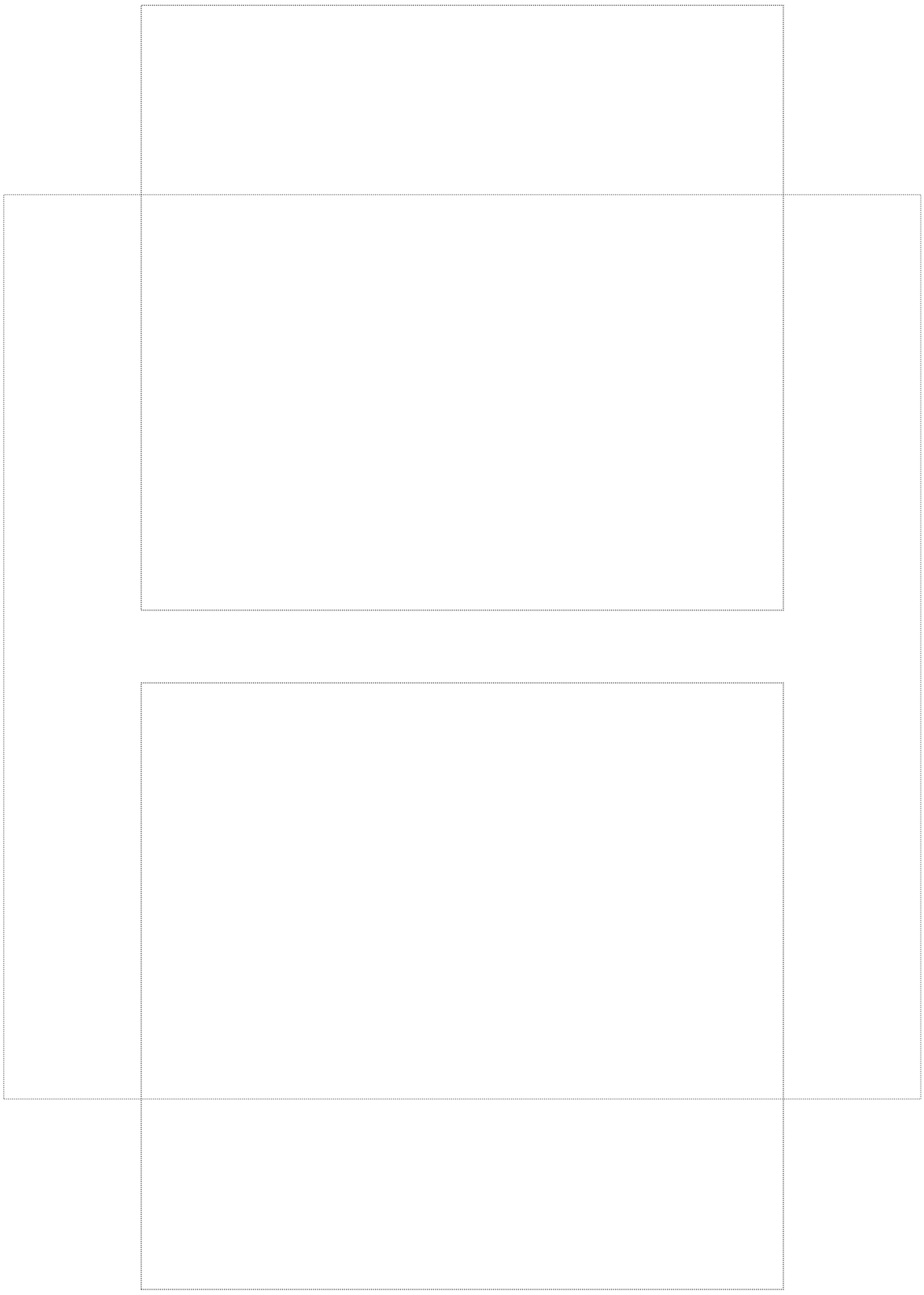
Processing upon receipt: The terminal records the final network connection characteristics and through connects the network connection in both directions, and notifies the user of the call and connection establishment.

9 Release one or more parties and their associated network connection branches from the call

Once the call and its associated network connections have been established, the parties that can remove a party and its association from the call follow the rules as defined in clause 9 of Supplement 12. See the examples contained in that Supplement.

10 Call Release with one or more parties and their associated network connections

Once the call and its associated network connections have been established, call clearing follows the rules defined in clause 10 of Supplement 12. See the examples contained in that supplement.



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