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Series Q

Supplement 20
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SERIES Q: SWITCHING AND SIGNALLING

Technical Report TRQ.2310: Bearer control signalling requirements – Leaf-party bearer control

ITU-T Q-series Recommendations – Supplement 20

(Formerly CCITT Recommendations)

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SUPPLEMENT 20 TO ITU-T Q-SERIES RECOMMENDATIONS

TECHNICAL REPORT TRQ.2310: BEARER CONTROL SIGNALLING REQUIREMENTS – LEAF-PARTY BEARER CONTROL

Summary

This Supplement specifies the signalling requirements for bearer control capability of the leaf-party of a call. The 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 bearer control functional entity actions.

Source

Supplement 20 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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Supplement 20 to Q-series Recommendations

TECHNICAL REPORT TRQ.2310: BEARER CONTROL SIGNALLING REQUIREMENTS – LEAF-PARTY BEARER CONTROL

(Geneva, 1999)

1 Scope

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

Table 1-1 – Leaf-party Bearer Control Capabilities

	Network connection type
Addition of one or more new network connections to an existing call requested by the party that will be the leaf of the new network connection(s)	
Addition of one new network connections to an existing call	Type 1, 2, 3 and 5
Addition of one or more new network connections to an existing call	Type 1, 2, 3 and 5
Attachment of one or more existing parties to one or more existing network connections requested by the party associated with a leaf of the existing network connection	
Attach one or more existing parties to one or more existing connections	Type 1, 2, 3 and 5
Attach one or more existing parties to one or more new connections	Type 1, 2, 3 and 5
Detachment of one or more parties from one or more connections by either the call owner, network connection owner or the party owner	
Detach a party from its associated network connection branches in a two-party call	Type 1, 2, 3 and 5
Detach one or more parties from their associated network connection branches in a three- or more-party call	Type 1, 2, 3 and 5
Removal of one or more connections from a call requested by the network requested by either the connection owner or call owner	
Removal of one or more network connections from a two-party call	Type 1, 2, 3 and 5
Removal of one or more network connections from a three- or more-party call	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 requirement*.

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

3 Definitions

This Supplement defines the following terms:

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

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

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

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

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

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

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

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

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

3.10 requesting party: The party requesting a signalling capability.

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

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

4 Abbreviations

This Supplement uses the following abbreviations:

NA Not Applicable

PEP Party End Point

5 Information flows used in this Supplement

Table 5-1 contains the root- and 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 leaf-party requested network connections.

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

Information Flow	begin	ready	commit	cancel	indication
Add-Bearer-to-Call	✓	✓	✓		
Attach-Party-to-Bearer	✓	✓	✓		
Remote-Attach-Party-to-Bearer	✓	✓	✓		
Remote-Add-Bearer-to-Call	✓	✓	✓		
Detach-Party-from-Bearer		✓	✓		
Notify-Call-&-Bearer-Change					✓
Release-Bearer		✓	✓		
Remote-Detach-Party-from Bearer		✓	✓		

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].

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 network connection.

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

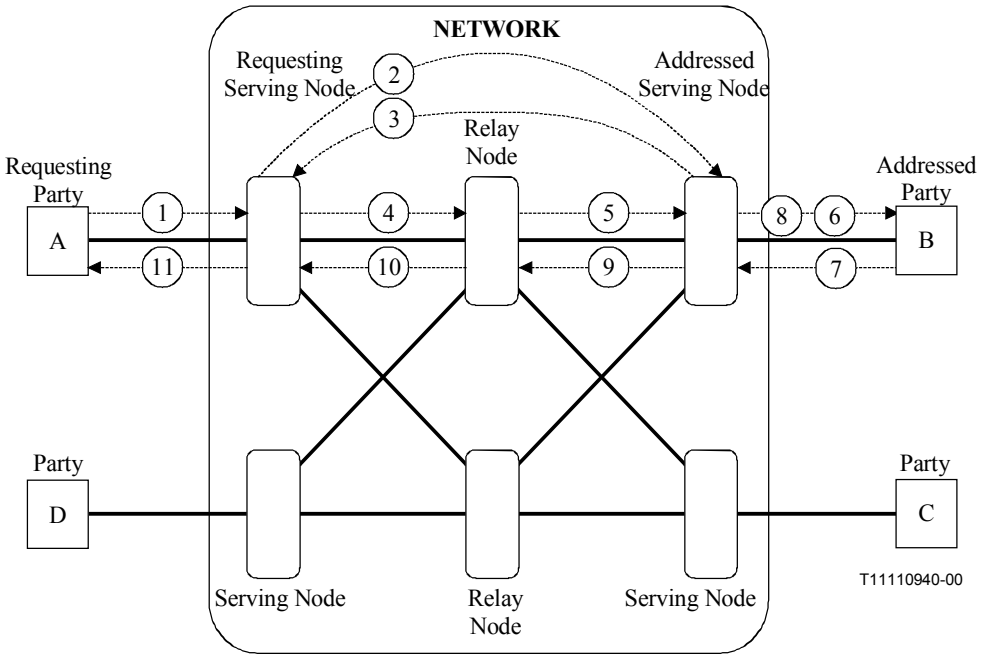


Figure 6-1 – Two-party coordinated call and network connection establishment

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

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

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

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

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

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

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

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

8) Signalling Service Confirmation issued by addressed party's serving node: Receiving entity records response, modifies internal state information, and notifies the 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 the 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 bearer control signalling capabilities using this model.

7 Addition of one or more new network connections to an existing call

7.1 Addition of one new network connections to an existing call

The user (party B) requests a three party connection between parties A, B, and party C. 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 parties equipment can accept the requested service, the designated attachment method, and specified bearer service, the equipment will indicate acceptance of the 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.

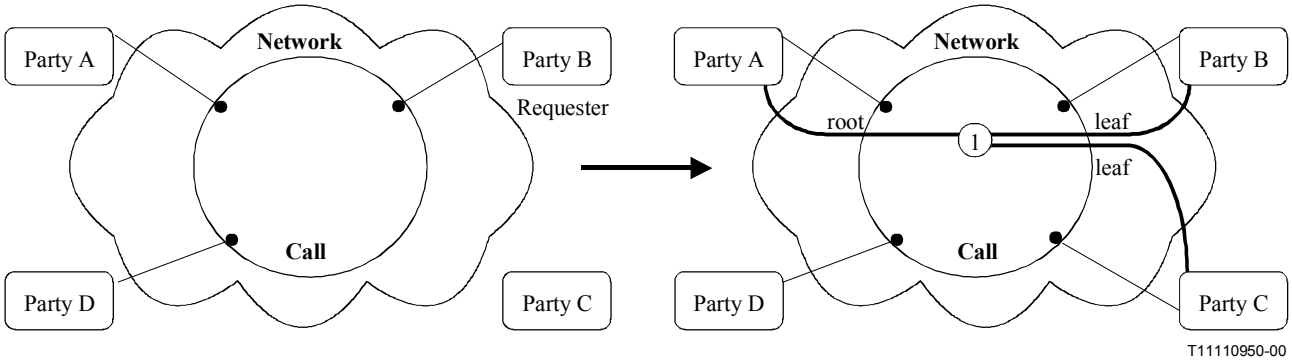


Figure 7-1 – Call and Bearer transition diagram

The signalling capability for establishing this network connection between the three requested parties without network look-ahead is illustrated Figure 7-2.

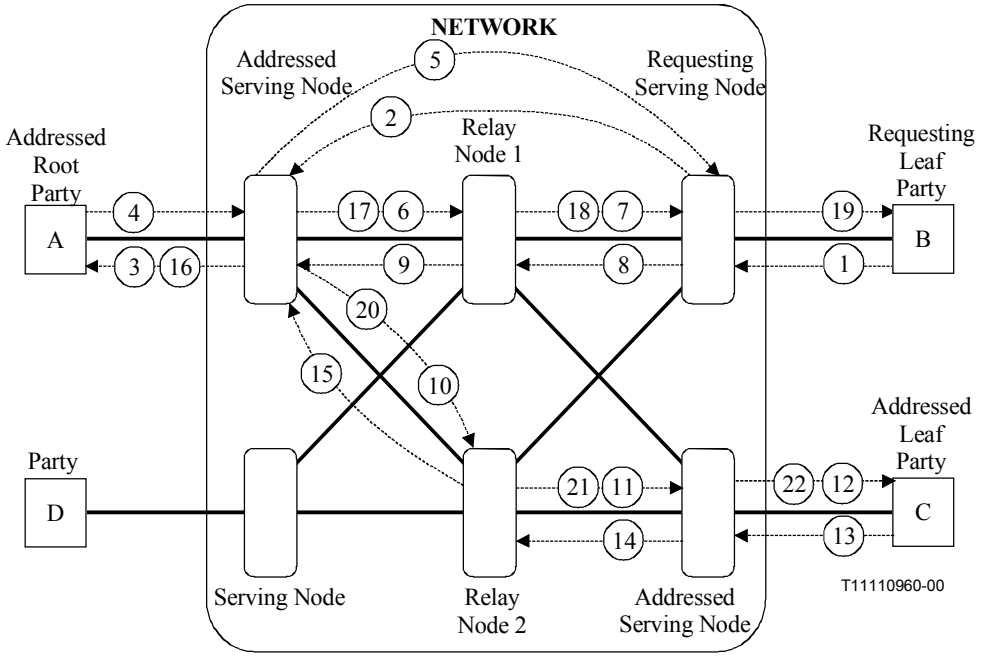


Figure 7-2 – Three-party network connection establishment – No look-ahead – Root node branching

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	Add-Bearer-to-Call.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 an add 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 establish 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 connection be established from the root of the connection. This information flow (2) is a remote bearer request. The requesting serving node awaits the result of this remote request.

2 Remote-Add-Bearer-to-Call.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) 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 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 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 connection within the network. The 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 Add-Bearer-to-Call.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 bearer.

4 Add-Bearer-to-Call.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 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-Add-Bearer-to-Call.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, PEP "B" ID, PEP "C" ID), **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 the 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, PEP "B" ID, PEP "C" ID), **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 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 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 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 9 and 15 information flows are received.

Processing upon receipt: When the requesting serving node receives these information flows, it records the willingness of both parties to accept the 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 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, PEP "B" ID, PEP "C" ID), **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 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 "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, PEP "B" ID, PEP "C" ID), **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 Add-Bearer-to-Call.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, PEP "B" ID, PEP "C" ID), **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 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 Add-Bearer-to-Call.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 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 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 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 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 9 and 15 information flows are received.

Processing upon receipt: When the requesting serving node receives these information flows, it records the willingness of both parties to accept the 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-Bearer-to-Call.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 bearer establishment procedure. (Note: if the terminal or the user is not satisfied with the resultant network connection characteristics, the 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 Add-Bearer-to-Call.commit Serving Node B to Party B

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

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 connection establishment.

20 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 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 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),]

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

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

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

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

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

7.2 Addition of one or more new network connections to an existing call

The user (party B) requests a two network connections be added to 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 parties equipment can accept the requested service, the designated attachment method, and specified bearer service, the equipment will indicate acceptance of the 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 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.

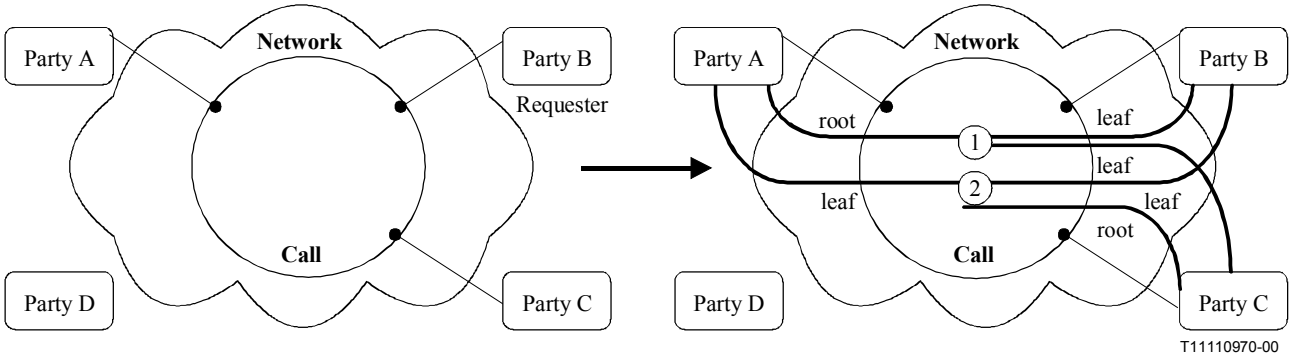


Figure 7-3 – Call and Bearer transition diagram

The signalling capability for establishing these two network connections between the three requested parties without network look-ahead is illustrated in Figure 7-4.

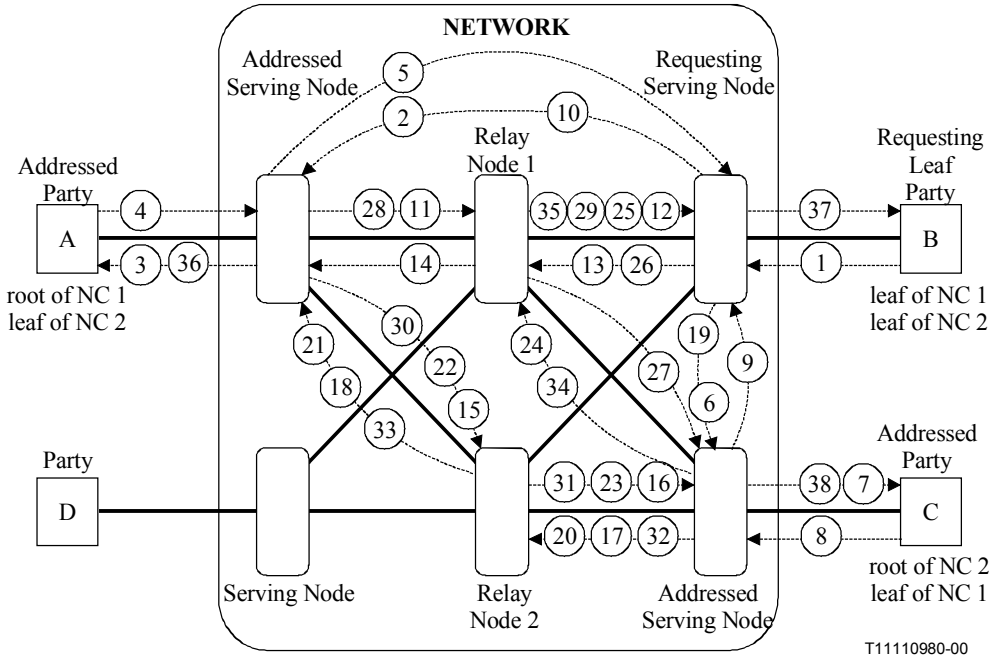


Figure 7-4 – Addition of 2 network connection establishment – No look-ahead – Root node branching – Party A is the root of network connection 1 while party C is the root of network connection 2

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 Add-Bearer-to-Call.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 an add 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 two network connections. 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 connections be established from the root of each connection. These information flows (2 and 6) are remote add bearer requests. The requesting serving node awaits the result of these remote requests.

2 Remote-Add-Bearer-to-Call.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): 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 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 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 connection within the network. The bearer offering to party A is information flow 3.

3 Add-Bearer-to-Call.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 9leaf), 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 requested bearers.

4 Add-Bearer-to-Call.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 records the response to the action request. 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 requested bearers. The root serving node awaits the commitment from the requesting service node before proceeding with the establishment of network connection 1.

5 Remote-Add-Bearer-to-Call.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 5 and 9 information flows 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. The serving node awaits the arrival of the network connections associated with the call.

6 Remote-Add-Bearer-to-Call.begin Serving Node B to Serving Node C

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID),
Addressed party's service component information
(PEP "C" ID, Service component characteristics),
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):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 "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 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 connection within the network. The bearer offering to party C is information flow 7.

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

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

Call information
Call Control Segment ID
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 designated bearers.

8 Add-Bearer-to-Call.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 records the response to the action request. 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 designated bearers. The root serving node awaits the commitment from the requesting service node before proceeding with the establishment of network connection 2.

9 Remote-Add-Bearer-to-Call.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 5 and 9 information flows 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. The serving node awaits the arrival of the network connections associated with the call.

10 Remote-Add-Bearer-to-Call.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 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 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, PEP "B" ID, PEP "C" ID), **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, PEP "B" ID, PEP "C" ID), **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 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 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 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 14 and 18 information flows are received.

Processing upon receipt: When the addressed serving node receives these information flows, it records the willingness of both parties to accept the 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, PEP "B" ID, PEP "C" ID), **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, PEP "B" ID, PEP "C" ID), **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 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 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 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 14 and 18 information flows are received.

Processing upon receipt: When the addressed serving node receives these information flows, it records the willingness of both parties to accept the 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-Add-Bearer-to-Call.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 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 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 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, PEP "B" ID, PEP "C" ID), **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, PEP "B" ID, PEP "C" ID), **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 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 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 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 23 and 27 information flows are received.

Processing upon receipt: When the requesting serving node receives these information flows, it records the willingness of both parties to accept the 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, PEP "B" ID, PEP "C" ID), **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, PEP "B" ID, PEP "C" ID), **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 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 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 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 23 and 27 information flows are received.

Processing upon receipt: When the requesting serving node receives these information flows, it records the willingness of both parties to accept the 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 receive 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 29 and 35 information flows 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 both 23, 27 and 31 information flows 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 both 14, 18 and 33 information flows 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 29 and 35 information flows 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, PEP "B" ID, PEP "C" 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]
Network connection 2
[Bearer "2" ID, Bearer type,
Parties connected
(PEP "A" ID, PEP "B" ID, PEP "C" 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)]

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 bearer establishment procedure. (Note: if the terminal or the user is not satisfied with the resultant network connection characteristics, the network connections can be released.)

37 Add-Bearer-to-Call.commit 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),
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, PEP "B" ID, PEP "C" 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),
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, PEP "B" ID, PEP "C" 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,
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 bearer establishment procedure. (Note: if the terminal or the user is not satisfied with the resultant network connection characteristics, the 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 "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, PEP "B" ID, PEP "C" 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),
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, PEP "B" ID, PEP "C" 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 "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 bearer establishment procedure. (Note: if the terminal or the user is not satisfied with the resultant network connection characteristics, the network connections can be released.)

8 Attachment of one or more existing parties to one or more existing network connections

8.1 Attach one or more existing parties to one existing connection

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 exists between parties A, B and D; and a network connection exists between party A and party D. The party D, requests that party B be attached to the 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 attached. (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.) 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. Notification that the attachment of party D be sent to party D at the completion of the procedure and party B is also notified that the connection also contains party D. Figure 8-1 illustrates the before and after view of this example.

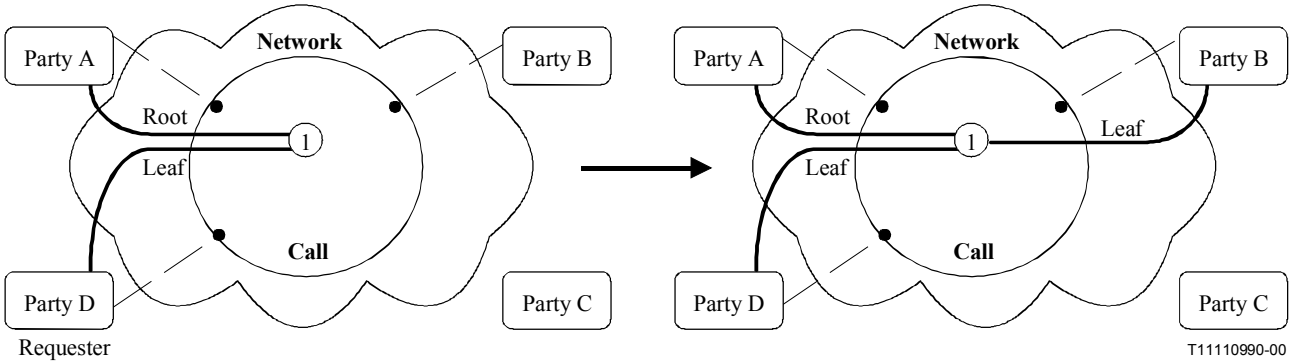


Figure 8-1 – Call and Bearer transition diagram

The signalling capability for attaching an existing party to an existing connection is illustrated in Figure 8-2.

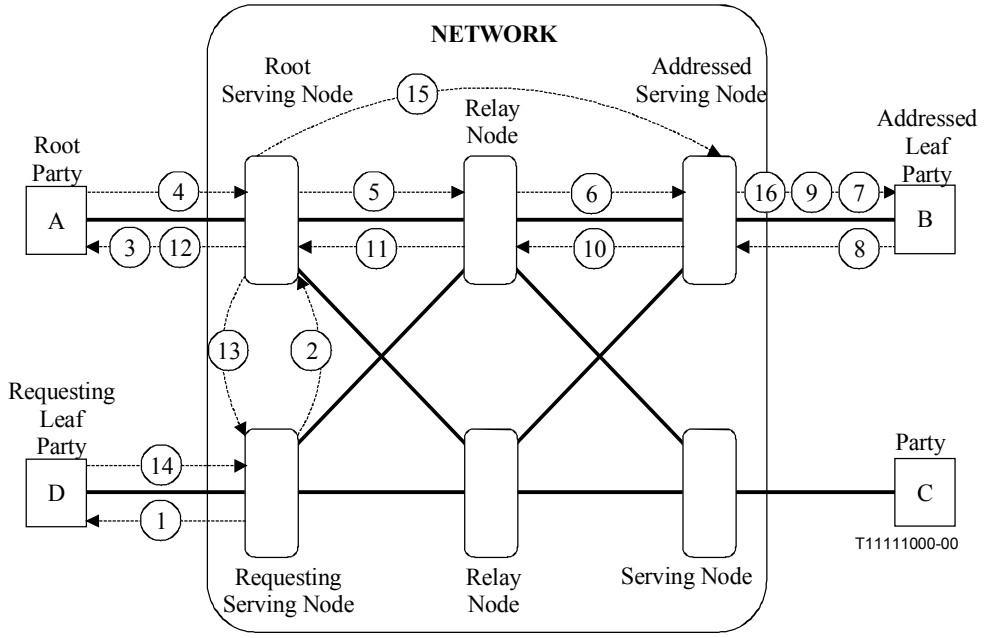


Figure 8-2 – Attaching an existing party requested by a party which is the call owner and the leaf of the existing network connection

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 Attach-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 attach 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 the figure 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-Attach-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 attachment 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 attachment request issued by the call owner since the request will modify the bearer branch characteristics. Information flow 3 represents this concurrence request.

3 Attach-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 (information flow 4).

4 Attach-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, PEP "B" ID, PEP "D" 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 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 Attach-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):ref 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 existing party. The new connection branch may be through connected in backward direction.

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

Resource information	Call information	Bearer information
Session ID **Resource 1** [Resource 1 ID, Resource type, **Parties communicating** (PEP "A" ID, PEP "B" ID, 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 "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, and issues the following information flow (7) towards the selected terminal. The network connection is backward through connected.

7 Add-Bearer-to-Call.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 (leaf)), **Addressed party's bearer branch information** [(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID), **Addressed party's service module information** [(PEP "B" ID, Service module characteristics **Service component list** [(Resource 1 ID)]

Processing upon receipt: The addressed terminal equipment determines that it can accept the requested network connection 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 Add-Bearer-to-Call.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 party, records the response to the action request. 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 Add-Bearer-to-Call.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 connection establishment.

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

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

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 Attach-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 connection request by issuing information flow 13. The serving node also updates party B with the characteristics associated with parties A and D via information flow 15.

12 Attach-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 attachment procedure.

13 Remote-Attach-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, PEP "B" ID, PEP "D" 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 11

Processing upon receipt: When the serving node receives this information flow, it records that party B has been attached to the network connection. This commitment information flow is forwarded to party D via information flow 14.

14 Attach-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, PEP "B" ID, PEP "D" ID),
Addressed party's bearer branch information
[(PEP "B" ID, bearer branch characteristics, branch owner: PEP "A" ID),
Addressed party's service module information
[(PEP "B" ID, Service module characteristics
Service component list
[(Resource 1 ID)]

Processing upon receipt: When 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 attach party to bearer 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-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 attached to Network Connection 1	**Network connection 1** [Bearer "1" ID, **Parties connected** (PEP "A" ID, PEP "B" ID, PEP "D" ID), **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 network connection which has been attached to party B. A notify information flow is forwarded to party B via information flow 16.

16 Notify-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 attached to Network Connection 1	**Network connection 1** [Bearer "1" ID, **Parties connected** (PEP "A" ID, PEP "B" ID, PEP "D" ID), **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 attached to the network connection and will inform the user of this bearer state change.

8.1.2 Attach two existing parties requested by a party which is the leaf of the network connection (without network look-ahead)

In this example, a call association exists between parties A, B, C and D; and a network connection exists between party A and party D. The party D, the call owner, requests that two existing parties (B and C) are to be attached to the existing 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 attached. (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.) 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.

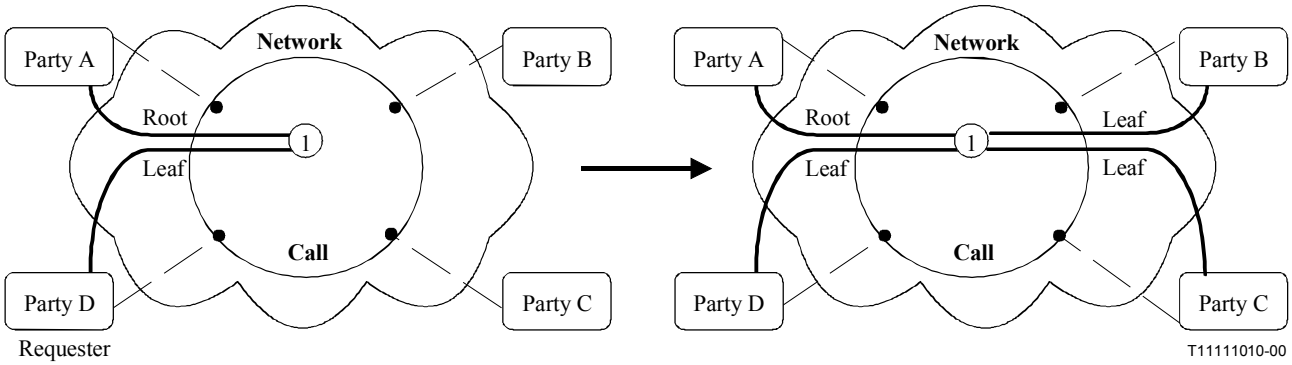


Figure 8-3 – Call and Bearer transition diagram

The signalling capability of attaching party B to an existing connection is illustrated in Figure 8-4.

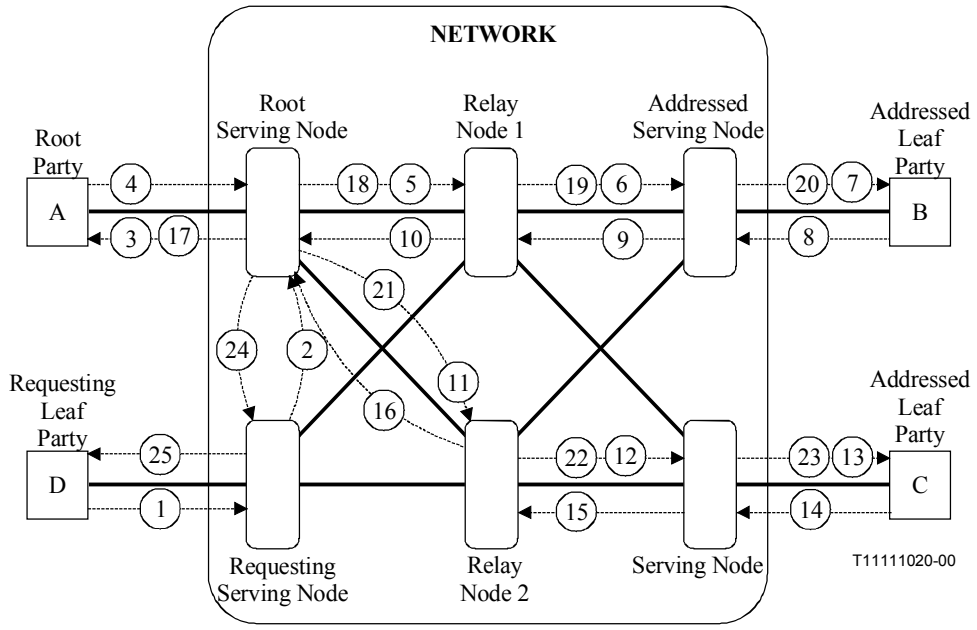


Figure 8-4 – Attachment of two existing parties requested by a party which is the call owner and the leaf of the existing network connection

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 Attach-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 "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 information
Call Control Segment ID
Addressed party Information
[PEP "B" ID, Network address],
Addressed party Information
[PEP "C" ID, Network address],
Requesting party information
[PEP "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 "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 attach 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 the figure 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-Attach-Party-to-Bearer.ready **Serving Node D 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, 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 information
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

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 "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 attachment 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 attachment request issued by the call owner since the request will modify the bearer branch characteristics. Information flow 3 represents this concurrence request.

3 Attach-Party-to-Bearer.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, PEP "D" 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],
Remote party Information
[PEP "B" ID, Network address],
Remote party Information
[PEP "C" 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 "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. The response information flow is flow 4.

4 Attach-Party-to-Bearer.ready **Party A to Serving Node A**

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP"C" ID, PEP "D" 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],
Remote party Information
[PEP "B" ID, Network address],
Remote party Information
[PEP "C" 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, PEP "B" ID, PEP"C" ID, PEP "D" 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 serving node associated with the 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 have two branching points for 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 issues information flows 5 and 11 towards the selected relay nodes.

5 Attach-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):ref 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 party to be attached. The new connection branch may be through connected in backward direction.

6 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, 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 "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 and issues the following information flow (7) towards the selected party. The network connection is backward through connected.

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

Resource information
Session ID
Resource 1
[Resource 1 ID, Resource type,
Parties communicating
(PEP "A" ID, PEP "B" ID, PEP "C" ID, 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 "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

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

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

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

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

Processing upon receipt: The addressed serving node validates the responding party, records the response to the action request. The serving node then issues information flow 9 towards its associated relay node indicating that it is ready for commitment.

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

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

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

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

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 Attach-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 the 10 and 16 information flows, it is aware that both the B party and the C party agree to accept the bearer. The root serving node notifies the root-party (information flow 17) that the parties have been attached 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 attach party to bearer procedure (information flow 24).

11 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, 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):ref 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 Add-Bearer-to-Call.begin **Relay Node 2 to Serving Node C**

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

Call information
Call Control Segment ID,
Direct Call association
(SN(A):ref.a - SN(C):ref 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

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"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 and issues the following information flow (13) towards the selected party. The network connection is backward through connected.

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

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

Call information
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

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 "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 requested bearer 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 Add-Bearer-to-Call.ready **Party C to Serving Node C**

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

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

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

Processing upon receipt: The addressed serving node validates the responding party, records the response, then issues information flow 15 towards its associated relay node indicating that it is ready for commitment.

15 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 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 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 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 the 10 and 16 information flows, it is aware that both the B party and the C party agree to accept the bearer. The root serving node notifies the root-party (information flow 17) that the parties have been attached 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 attached parties (information flows 18 and 21), and notifies party D of the completion of the attach party to bearer procedure (information flow 24).

17 Attach-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 attachment procedure.

18 Attach-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 "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 Attach-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 "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 Add-Bearer-to-Call.commit **Serving Node B to Party B**

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

21 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 "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 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 "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 Add-Bearer-to-Call.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 connection establishment.

24 Remote-Attach-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 attach party to bearer procedure, records the associated party information, and relays the commitment to the requesting party via information flow 25.

25	Attach-Party-to-Bearer.commit	Serving Node D to Party 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,
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),]

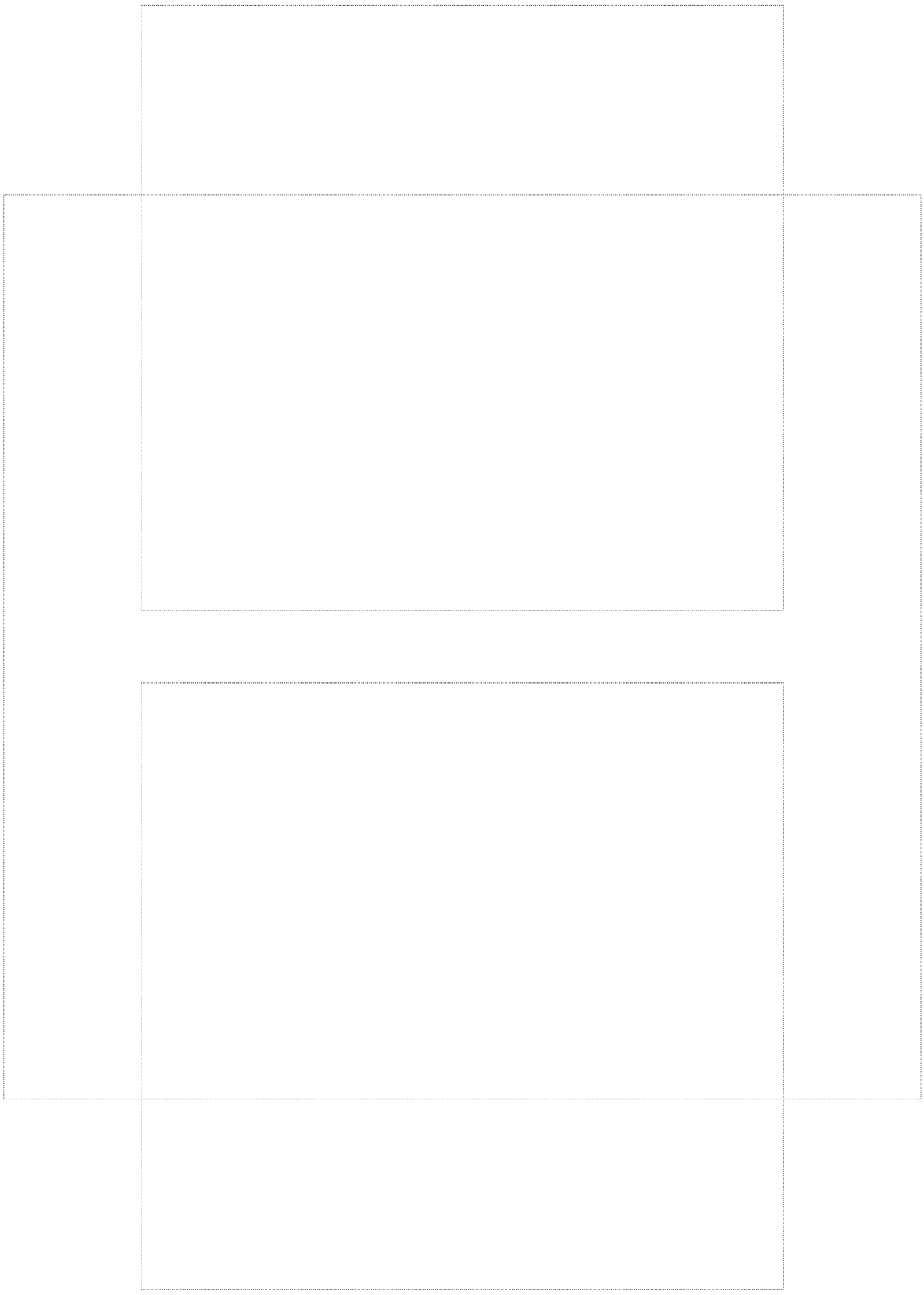
Processing upon receipt: When the requesting terminal receives the above information flow, it records the completion of the attach party to bearer procedure, records the information associated with each party, and notifies the user agent that the requested task has been completed.

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/Supplement 19. 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/Supplement 19. See the examples contained in that Supplement.



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