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Data Dictionary (Information elements)

Includes description of BISUP, DSS2 and UNI31 information elements
and implementation suggestion.

Name: AAL parameters

Type: Information element (Common BDU sub-set)

Reference:
BISUP Q.2762 5.1.1 / Q.2763 7.2
DSS2 Q.2931 4.5.5 / Q.2931 Annex F
UNI31 UNI3.1 5.4.5.5

Function: Users negotiate the used ATM adaptation layer attribute values that are used. Transparent information for exchanges.

"Information sent in the forward or backward direction to indicate the requested/proposed ATM adaptation layer attribute values (end-to-end significance) for the ATM adaptation layer elements of procedures to be used for the call. The information is of significance to both users and local exchanges. It is transferred transparently between local exchanges." /Q.2762 5.1.1/

"The purpose of the ATM adaptation layer (AAL) parameters information element is to indicate the requested AAL parameter values (end-to-end significance) for the ATM adaptation layer elements of procedures to be used for the call. It contains the parameters selectable by the user for all AAL sub-layers. The content of this information element is transparent for the network, except for the case of inter-working." /Q.2931 4.5.5/

Originator: Originating user or terminating user

Direction: forward or backward

Significance: originating user, terminating user

Implementation: Information element is transferred transparently from originating side call control protocol to terminating side call control protocol trough call control.

Used in: BISUP (ANM, IAM), DSS2 (CONNECT, SETUP), UNI31 (CONNECT, SETUP, ADD PARTY)

Coding: unique (Q.2931), no coding functions needed (except to resolve open question number 3)

Open questions:
1) BISUP states that this information element is also of significance to local exchanges.
2) UNI 3.1 5.4.5.1. states the maximum length as 20 octets and Q.2931 4.5.5 as 21 octets.
3) UNI 3.1 5.4.5.5 does not have AAL type Voice AAL as Q.2931 has.

Parameters: not used

Name: Access delivery information

Type: Information element

References:
BISUP Q.2762 5.1.2 / 5.2.1; Q.2763 7.3

Function: Transfer indication about alerting to originating exchange. Originating exchange generates alerting indication to originating user based on this.

"Information sent in the backward direction indicating that a set-up indication was generated at the destination access." /Q.2762 5.1.2/

Originator: terminating exchange

Direction: backward

Significance: originating exchange

Implementation: When SETUP is generated at the terminating exchange, pass this indication to the terminating side of the call control and to the terminating side of the call control protocol. Store the information in the terminating side of the call control.

Used in: BISUP (ACM, ANM, CPG, REL)

Coding: unique (Q.2763) (1 bit)

Open questions:
1) Details of implementation.
2) How the destination access is identified.
3) Has Q.2764 more about the use of this information element.

Parameters

Access delivery indicator (Set-up message was generated, No Set-up message was generated)

Name: Additional calling party number

Type: Information element

References:
BISUP Q.2672 5.1.3; Q.2673 7.4

Function: supplementary service

"Information sent in the forward direction in the form of an address pertaining to a supplementary service where an additional user provided identification of the calling party is necessary." /Q.2762 5.1.3/

Originator: N/A

Direction: Forward

Significance: N/A

Implementation: not implemented

Used in: BISUP (IAM, SGM)

Coding: same as Additional connected number

Open questions: none

Parameters

Odd even indicator
Nature of address indicator
Numbering plan indicator
Presentation indicator
Screening indicator
Address signal

Name: Additional connected number

Type: Information element

References:
BISUP Q.2672 5.1.4; Q.2673 7.5

Function: supplementary service

"Information sent in the backward direction in the form of an address pertaining to a supplementary service where an additional user provided identification of the connected party is necessary." /Q.2762 5.1.4/

Originator: N/A

Direction: backward

Significance: N/A

Implementation: not implemented

Used in: BISUP (ANM, SGM)

Coding: same as Additional calling party number

Open questions: none

Parameters

Odd even indicator
Nature of address indicator
Numbering plan indicator
Presentation indicator
Screening indicator
Address signal

Name: ATM cell rate (ATM traffic descriptor in DSS2 and UNI31)

Type: Information element (Common BDU sub-set)

References:
BISUP Q.2762 5.1.5; Q.2763 7.6
DSS2 Q.2931 4.5.6 (ATM traffic descriptor)
UNI31 UNI 3.1 5.4.5.6 (ATM traffic descriptor)

Function: Used in call admission control to determine if call is admitted, in bandwidth allocation and in setting up parameter control for the virtual channel. Includes forward and backward cell rate for both of the two cell loss priorities.

"Information classified by the cell rate identifier indicating the number of cells per second that are required for the call. The cell rate value is unchanged as it traverses the B-ISDN network." /Q.2762 5.1.5/

"The purpose of the ATM traffic descriptor information element is to specify the set of traffic parameters which, together, specify a traffic control capability. In Release 1, the ATM peak cell rate (see Recommendation I.371) values are indicated by the ATM traffic descriptor. The ATM peak cell rate values (indicated in the ATM traffic descriptor information element) specify the sum of both the user plane information rate and all end-to-end user originated OAM F5 flow. If the user intends to use end-to-end OAM F5 flow messages, the peak cell rate for the reverse direction of a unidirectional connection should not be indicated with the value "0"." /Q.2931 4.5.6/

Originator: Originating user

Direction: Forward

Significance: all exchanges and terminating user

Implementation: Information element is given as a parameter to call admission control, bandwidth allocation and parameter control functions. Information is stored until call is released in order to unallocated the reserved bandwidth.

Used in: BISUP (IAM), DSS2 (SETUP), UNI31 (SETUP)

Coding: unique (Q.2763, Q.2931 and UNI 3.1), the BISUP coding uses extension bits and cell rate identifiers and DSS2/UNI31 coding uses only cell rate identifiers, the UNI31 includes additional parameters

Open questions: none

Parameters

(for backward and forward direction when CLP=0 or CLP=0+1)
Peak cell rate (24 bits, 0-16777215 cells/s)
Sustainable cell rate (24 bits) (only in UNI31)
Maximum burst size (24 bits) (only in UNI31)

Best effort indicator (only in UNI31)
Forward tagging requested (only in UNI31)
Backward tagging requested (only in UNI31)

Name: Automatic congestion level

Type: Information element

References:
BISUP Q.2762 5.1.6 / Q.2763 7.7

Function: Used in call admission control based on congestion control.
When congestion level 1 or 2 has been exceeded, release or reject the
call and inform about the congestion.

"Information sent to the exchange at the other end of a virtual path
connection to indicate that a particular level of congestion exists
at the sending exchange." /Q.2762 5.1.6/

Originator: transit exchange or terminating exchange

Direction: Forward or backward

Significance: originating exchange, transit exchange, terminating
exchange

Implementation: Call admission control calls congestion control. This
can result the rejection of call and generation of this information
element. This information element is then passed to the terminating
side the call control protocol. The information element is also
transferred through the call control in exchanges.

Used in: BISUP (REL, IAR)

Coding: unique (Q.2763) (one octet)

Open questions
1) What is the definition for congestion levels 1 and 2.
2) Is this equivalent with DSS2 5.1.5 Cause 58 "Bearer capability not
   presently available". How this interfaces with DSS2.

Parameters

Automatic congestion level (8 bits,
Congestion level 1 exceeded,
Congestion level 2 exceeded)

Name: Backward narrow-band interworking indicator

Type: Information element

References:
BISUP Q.2762 5.1.7 / Q.2763 7.8

Function: N/A

"Information sent in the backward direction describing the signalling capabilities within the network connection when inter-working with the N-ISDN is encountered." /Q.2762 5.1.7/

Originator: Inter-working exchange

Direction: Backward

Significance: originating exchange, transit exchange

Implementation: not implemented, transparent transfer of this information element could be implemented

Used in: BISUP (ACM, ANM, CPG)

Coding: unique (Q.2763)

Open questions:
1) How is this information used. Is the user or local exchange interested if the narrow band inter-working is used and what are the capabilities of the network.
2) What is a definition of terminating access. This is needed for the definition of ISDN user part used all the way.
3) Is this information element included to all ACM, ANM and CPG messages. Or only when inter-working is encountered.

Parameters

ISDN access indicator (Terminating access non-ISDN, Terminating access ISDN)
ISDN user part indicator (ISDN user part not used all the way, ISDN user part used all the way)
Interworking indicator (No interworking encountered, Interworking encountered)

Name: Broadband bearer capability

Type: Information element (Common BDU sub-set)

Reference:
BISUP Q.2762 5.1.8 / Q.2763 7.9
DSS2 Q.2931 4.5.7 / Annex B
UNI31 UNI 3.1 5.4.5.7

Function: Used in call admission control to check that the requested bearer capability can be provided to the user.

"Information sent in the forward direction to indicate a requested broadband connection oriented bearer service (Recommendation F.811) to be provided by the network." /Q.2762 5.1.8/

"The purpose of the broadband bearer capability information element is to indicate a requested broadband connection-oriented bearer service (see Recommendation F.811) to be provided by the network. It contains only information that may be used by the network. The use of the broadband bearer capability information element in relation to compatibility checking is described in Annex B. No default broadband bearer capability may be assumed by the absence of this information element. The broadband bearer capability information element will be examined by both the network and the customer equipment." /Q.2931 4.5.7/

Originator: Originating user

Direction: Forward

Significance: all exchanges and terminating user

Implementation: Information element is given as a parameter to call admission control, bandwidth allocation and parameter control functions.

Used in: BISUP (IAM), DSS2 (SETUP), UNI31 (SETUP)

Coding: unique (Q.2931)

Open questions: none

Parameters

Bearer class (BCOB-A, BCOB-C, BCOB-X)
Traffic type (No indication, Constant bit rate, Variable bit rate)
Timing requirements (End-to-end timing required, End-to-end timing not required)
Susceptibility to clipping (Not susceptible to clipping, Susceptible to clipping)
User-plane connection configuration (Point-to-point, Point-to-multipoint)

Name: Broadband high layer information

Type: Information element (Common BDU sub-set)

Reference:
BISUP Q.2762 5.1.9 / Q.2763 7.10
DSS2 Q.2931 4.5.8
UNI31 UNI 3.1 5.4.5.8

Function: Terminating user uses this to compatibility checking.
Transparent information for exchanges.

"Information sent in the forward direction which should be used by
the remote user for compatibility checking." /Q.2962 5.1.9/

"The purpose of the broadband high layer information information
element is to provide a means which should be used for compatibility
checking by an addressed entity (e.g. a remote user, an interworking
unit or a high layer function network node addressed by the calling
user). The broadband high layer information information element is
transferred transparently by a B-ISDN between the call originating
entity (e.g. the calling user) and the addressed entity." /Q.2931
4.5.8/

Originator: Originating user

Direction: Forward

Significance: Terminating user

Implementation: Information element is transferred transparently from
originating side call control protocol to terminating side call
control protocol trough call control.

Used in: BISUP (IAM, SGM), DSS2 (SETUP), UNI31 (SETUP, ADD PARTY)

Coding: unique (Q.2931); no coding functions needed (except to
resolve open question number 1)

Open questions:
1) UNI 3.1 5.4.5.8 does not have High Layer Information Type ITU-T SG
   1 B-ISDN teleservice as Q.2931 has.

Parameters

High layer information type (ISO/IEC, User-specific, Verdor-specific,
ITU-T SG 1 B-ISDN teleservice)
High layer information

Name: Broadband locking shift

Type: Information element

Reference
DSS2 Q.2931 4.5.3
UNI31 UNI 3.1 5.4.5.2

Function: To change the active decoding rules until the end of the message.

"The broadband locking shift procedure employs an information element to indicate the new active codeset. The specified codeset remains active until another broadband locking shift information element is encountered which specifies the use of another codeset. For example, codeset 0 is active at the start of message contents analysis. If a broadband locking shift to codeset 5 is encountered, the next information elements will be interpreted according to the information element identifiers assigned in codeset 5, until another shift information element is encountered.
This procedure is used only to shift to a higher order codeset than the one being left.
The broadband locking shift is valid only within that message which contains the broadband locking shift information element. At the start of every message contents analysis, the active codeset is codeset 0." /Q.2931 4.5.3/

Originator: N/A

Direction: forward or backward

Significance: N/A

Implementation: Supported as UNI31 5.4.5.2 states.

Used in: DSS2 (all messages)

Coding: same as Broadband non-locking shift (DSS2)

Open questions: none

Parameters:

New codeset identification

Name: Broadband low layer information

Type: Information element (Common BDU sub-set)

Reference:
BISUP Q.2762 5.1.10 / Q.2763 7.11
DSS2 Q.2931 4.5.9 / Annex C
UNI31 UNI 3.1 5.4.5.9

Function: Terminating user uses this to compatibility checking.
Transparent information for exchanges.

"Information sent in the forward or backward direction to provide a
means which should be used for compatibility checking by an addressed
entity (e.g. a remote user or an inter-working unit or a high layer
function network node addressed by the calling user)." /Q.2962
5.1.10/

"The purpose of the broadband low layer information information
element is to provide a means which should be used for compatibility
checking by an addressed entity (e.g. a remote user or an nterworking
unit or a high layer function network node addressed by the calling
user). The broadband low layer information information element is
transferred transparently by a B-ISDN between the call originating
entity (e.g. the calling user) and the addressed entity. For
broadband low layer information negotiation (see Annex C), the
broadband low layer information information element is also passed
transparently from the addressed entity to the originating entity."
/Q.2931 4.5.9/

Originator: Originating user or terminating user

Direction: Forward or backward

Significance: originating user and terminating user

Implementation: Information element is transferred transparently from
originating side call control protocol to terminating side call
control protocol trough call control.

Used in: BISUP (ANM, IAM, SGM), DSS2 (CONNECT, SETUP), UNI31
(CONNECT, SETUP, ADD PARTY)

Coding: unique (Q.2931) no coding functions needed (check details)

Open questions: none

Parameters: not used

Name: Broadband non-locking shift

Type: Information element

Reference
DSS2 Q.2931 4.5.4
UNI31 UNI 3.1 5.4.5.2

Function: To change the active decoding rules until the end of the
next information element.

"The broadband non-locking shift procedure provides a temporary shift
to the specified lower or higher codeset. The broadband non-locking
shift procedure uses a broadband non-locking shift information
element to indicate the codeset to be used to interpret the next
single information element. After the interpretation of the next
single information element, the active codeset is again used for
interpreting any following information elements. For example, codeset
0 is active at the beginning of message contents analysis. If a
broadband non-locking shift to codeset 6 is encountered, only the
next information element is interpreted according to the information
element identifiers assigned in codeset 6. After this information
element is interpreted, codeset 0 will again be used to interpret the
following information elements. A broadband non-locking shift
information element indicating the current codeset shall not be
regarded as an error.
A broadband locking shift information element shall not follow
directly on a broadband-non-locking shift information element. If
this combination is received, it shall be interpreted as though a
broadband locking shift information element only had been received."
/Q.2931 4.5.4/

Originator: N/A

Direction: forward or backward

Significance: N/A

Implementation: Supported as UNI31 5.4.5.2 states.

Used in: DSS2 (all messages)

Coding: same as Broadband locking shift (DSS2)

Open questions: none

Parameters:

Temporary codeset identification

Name: Broadband repeat indicator

Type: Information element

Reference
BISUP Not used (The same information is embedded to Narrow-band bearer capability and Narrow-band low layer compatibility information elements)
DSS2 Q.2931 4.5.19
UNI31 UNI 3.1

Function: To tell how many times the following information element is reapeated.

"The purpose of the broadband repeat indicator information element is to indicate how repeated information elements shall be interpreted, when included in a message. The broadband repeat indicator information element is included before the first occurrence of the information element which will be repeated in a message. The broadband repeat indicator information element is coded as shown in Figure 4-25 and Table 4-19. The length of this information element is 5 octets.
NOTE – Use of the broadband repeat indicator information element in conjunction with an information element that occurs only once in a message shall not in itself constitute an error." /Q.2931 4.5.19/

Originator: user or exchange

Direction: forward or backward

Significance: next user or next exchange

Implementation: Different choices are considered. This information could be included with every information element.

Used in: DSS2 (SETUP), UNI31 (SETUP)

Coding: unique (DSS2, UNI31)

Open questions: none

Parameters

Broadband repeat indication (Reserved for BISUP, Prioritized list for selecting one possibility (descending order of priority))

Name: Broadband sending complete

Type: Information element

Reference:
BISUP Not used
DSS2 Q.2931 4.5.21
UNI31 UNI 3.1 5.4.5.21

Function: To indicate that the called party number is now complete.

"The purpose of the broadband sending complete information element is to optionally indicate completion of called party number, see clauses 5 and 6.
This information element is mandatory if operating in en bloc mode; however, if missing, regular error handling procedures for "mandatory information element missing" need not be applied." /Q.2931 4.5.21/

Originator: Originating user

Direction: forward or backward

Significance: originating exchange

Implementation: Coded to the messages necessary. Indicated to the call control. To be decided. In BISUP the receiving exchange determines when the called party number is complete (and reports that to backward direction using ACM).

Used in: DSS2 (SETUP, INFORMATION), UNI (SETUP, ADD PARTY)

Coding: unique (DSS2, UNI31)

Open questions: none

Parameters

Broadband sending complete indication

Name: Call diversion information

Type: Information element

References:
BISUP Q.2762 5.1.11 / Q.2763 7.12

Function: supplementary service

"Information sent in the backward direction indicating the
redirecting reason and the notification subscription option of the
redirecting user." /Q.2962 5.1.11/

Originator: exchange where redirection happens

Direction: Backward

Significance: all exchanges

Implementation: not implemented

Used in: BISUP (ACM, CPG)

Coding: unique (Q.2763)

Open questions: none

Parameters

Redirection reason (Unknown, User busy, No reply, Unconditional,
Deflection during alerting, Deflection immediate response, Mobile
subscriber not reachable)
Notification subscription options (Unknown, Presentation not allowed,
Presentation allowed with redirection number, Presentation allowed
without redirection number)

Name: Call diversion may occur

Type: Information element

Reference:
BISUP Q.2762 5.1.12 / Q.2763 7.13

Function: supplementary service

"Information sent in the backward direction indicating that call diversion may occur, depending on the response received (or lack thereof) from the called party." /Q.2972/

Originator: exchange where redirection happens

Direction: Backward

Significance: all exchanges

Implementation: not implemented

Used in: BISUP (ACM, CPG)

Coding: unique (Q.2763)

Open questions: none

Parameters

Call diversion may occur indication (No indication, Call diversion may occur)

Name: Call history information

Type: Information element

References:
BISUP Q.2762 5.1.13 / Q.2763 7.14
DSS2 Q.2931 4.5.17 / Annex K (End-to-end transit delay/Cumulative transit delay value)

Functions: gives information about expected total transit delay for user data transfer to the originating user.

"Information sent in backward direction to indicate the accumulated propagation delay of a connection." /Q.2762/

"The purpose of the cumulative transit delay field of the end-to-end transit delay information element is to indicate the cumulative transit delay to be expected for a virtual channel connection. Transit delay is the end-to-end one-way transit delay of user data transferred during the data transfer phase on the user plane, between the calling user and the called user. It includes:
– the total processing time in the end user systems (e.g. processing time, AAL handling delay, ATM cell assembly delay, and possibly any additional processing delay); and
– the network transfer delay (e.g. propagation delay, ATM layer transfer delay, possibly any additional processing delay in the network).
The cumulative transit delay value which is transferred over both UNIs in the CONNECT message is the expected total end-to-end transit delay value for user data transfer over the related virtual channel connection as provided for a given call.
The procedures which are applicable are described in Annex K."
/Q.2931 4.5.17/

Originator: terminating user or terminating exchange

Direction: Backward

Significance: originating user

Implementation: In the terminating exchange transfer take this information element from CONNECT or calculate locally. Not implemented in the first phase.

Used in: BISUP (ANM), DSS2 (CONNECT)

Coding: unique (Q.2763 or Q.2931) (different codings) In BISUP this value has an information element of its own. In DSS2 this is coded with another value to the same information element.

Open questions: none

Parameters

Delay value (16 bits, propagation delay 0-65535 ms)

Name: Call state

Type: Information element

Reference:
DSS2 Q.2931 4.5.10
UNI31 UNI 3.1 5.4.5.10

Function: Information is used to report the call state after status enquiry message or after certain error conditions.

"The purpose of the call state information element is to describe the current status of a call/connection (see 2.1), or of a call/connection with regard to interworking (see 2.2) or of a call/connection with regard to the global call reference (see 2.3)."
/Q.2931 4.5.10/

Originator: user or exchange

Direction: forward or backward

Significance: N/A

Implementation: Signalling protocol includes this to the messages necessary.

Used in: DSS2 (STATUS), UNI31 (STATUS)

Coding: unique (DSS2, UNI31)

Open questions: none

Parameters

Call state value/global interface state value
(Call state values differ in DSS2 and UNI31 because they support different states.)

Name: Called party number

Type: Information element (Common BDU sub-set)

Reference:
BISUP Q.2762 5.1.14 / Q.2763 7.15
DSS2 Q.2931 4.5.11
UNI31 UNI 3.1 5.4.5.11

Function: Used in routing to identify the terminating user.

"Information to identify the called party." /Q.2762 5.1.14/

"The purpose of the called party number information element is to identify the called party of a call." /Q.2931 4.5.11/

Originator: originating user

Direction: Forward

Significance: all exchanges

Implementation: This information element is given as a parameter to the routing module and included in the IAM or SETUP to be sent.

Used in: BISUP (IAM), DSS2 (SETUP), UNI31 (SETUP, ADD PARTY)

Coding: used by other information elements

Open questions:
1) What does routing to internal network number allowed mean.

Parameters

(Based to Q.2763)
Odd even indicator
(Type of number in DSS2 and UNI31) Nature of address indicator
(Subscriber number, Unknown, National significant number, International number) (In DSS2 also Network specific number and Abbreviated number) (In UNI31 only Unknown and International number)
(In DSS2 and UNI31 missing) Internal network number indicator (Routing to internal network number allowed/not allowed)
Numbering plan indicator (ISDN numbering plan) (In DSS2 also NSAP addressing and Private numbering plan) (In UNI31 only ISDN numbering plan and ATM Endsystem Address)
Address signal (BCD address signals) (In DSS2 IA5 characters or NSAP address octets) (In UNI31 IA% characters or ATM Endsystem Adress)

Name: Called party sub-address

Type: Information element (Common BDU sub-set)

Reference:
BISUP Q.2762 5.1.15 / Q.2763 7.16
DSS2 Q.2931 4.5.12
UNI31 5.4.5.12

Function: Terminating user uses this to identify a particular devide.
Transparent information for exchanges.

"Information provided by the calling user to identify the sub-address
(see Recommendation I.330) of the called party of a call. It is
transferred transparently between local exchanges." /Q.2762 5.1.15/

"The purpose of the called party sub-address information element is
to identify the sub-address of the called party of a call. For the
definition of sub-address, see Recommendation I.330." /Q.2931 4.5.12/

"The purpose of the Called party sub-address information element is
to identify the sub-address of the called party. It is used in this
Implementation Agreement only to convey an ATM address in the ATM
Endsystem Address format across a public network which supports only
E.164 addresses. The ATM Endsystem Address is based on ISO NSAP but
is not an ISO NSAP. Support of this information element by the
network is mandatory." /UNI 3.1 5.4.5.12/

Originator: originating user

Direction: Forward

Significance: terminating user

Implementation: Information element is transferred transparently from
originating side call control protocol to terminating side call
control protocol trough call control.

Used in: BISUP (IAM, SGM), DSS2 (SETUP), UNI31 (SETUP, ADD PARTY)

Coding: unique (Q.2931)

Open questions:
1) There was a note that this is included only if sub-address
supplementary service is subscribed.
2) UNI31 suggest that this could be used to convey Called party
   number in ATM Endsystem Address format in this information element
   for example in case BISUP where NSAPs are not supported. That
   should be mapped back to Called party number when NSAPs are
   supported again or in the terminating exchange at last.

Parameters: not used

Type of sub-address (NSAP, ATM Endsystem Address, User specified)
(UNI31 does not have User specified type)
Sub-address information

Name: Called party's indicators

Type: Information element

Reference:
BISUP Q.2762 5.1.16 / Q.2763 7.17

Function:
Category = to indicate where are we calling to. User is not informed.
Status = to indicate when alerting is started.

"Information sent in the backward direction consisting of the called party's status indicator and the called party's category indicator."
/Q.2762 5.1.16/

Originator:
Category: exchange where the category of the called subscriber is known
Status: terminating exchange

Direction: Backward

Significance: originating user, originating exchange

Implementation: Two variables in the terminating side of the call control. These variables are used when sending ACM and CPG primitives to terminating side call control protocol. The category variable is initialised to No indication or specific status if the called subscriber status is already known. The status variable is initialised to No indication. These variables are updated from originating side call control protocol trough call control.

Used in: BISUP (ACM, CPG)

Coding: unique (Q.2763)

Open questions:
1) What is the category used for. This can be for restrictions, auditing or charging purposes. Maybe in the originating exchange.

Parameters

Called party's category indicator (No indication, Ordinary subscriber, Payphone)
Called party's status indicator (No indication, Alerting)

Name: Calling party number

Type: Information element (Common BDU sub-set)

Reference:
BISUP Q.2762 5.1.17 / Q.2763 7.18
DSS2 Q.2931 4.5.13
UNI31 UNI 3.1

Function: Identify the calling party that it can be presented to the called user.

"Information sent in the forward direction to identify the calling party." /Q.2762 5.1.17/

"The purpose of the calling party number information element is to identify the origin of a call." /Q.2931 4.5.13/

Originator: Originating user or originating exchange

Direction: Forward

Significance: all exchanges and terminating user

Implementation: This information element is given as a parameter to cal admission control, routing and charging modules. If this parameter is coming from user, it is verified. If it is not included by user, it is included by the first exchange. The extra nature of address formats in DSS2 should be converted in exchange, if needed.

Used in: BISUP (IAM), DSS2 (SETUP), UNI31 (SETUP, ADD PARTY)

Coding: (Q.2763 or Q.2931) used by other information elements

Open questions: none

Parameters

Odd even indicator
(In DSS2 Type of number) Nature of address indicator (Subscriber number, Unknown, National significant number, International number) (In DSS2 also Network specific number and Abbreviated number) (In UNI31 only Unknown and International number)
Calling party number incomplete indicator (Complete, Incomplete) (Not in DSS2 or UNI31)
(In DSS2 Addressing plan identification) Numbering plan indicator (ISDN numbering plan) (In DSS2 also NSAP and Private numbering plan) (In UNI31 only ISDN and ATM Endsystem Address)
Address presentation indicator (Presentation allowed, Presentation restricted, Address not available)
Screening indicator (User provided verified and passed, Network provided) (In DSS2 and UNI31 also User provided verified and failed and User provided not screened)
Address signal (In BISUP BCD numbers) (In DSS2 IA5 characters or NSAP) (In UNI31 IA5 characters or ATM Endsystem Address)

Name: Calling party sub-address

Type: Information element (Common BDU sub-set)

Reference:
BISUP Q.2762 5.1.18 / Q.2763 7.19
DSS2 Q.2831 4.5.14
UNI31 UNI 3.1 5.4.5.14

Function: Identifies the calling party sub-address. Transparent information for private exchanges.

"Information provided by the calling user to identify a sub-address (see Recommendation I.330) associated with the origin of a call. It is transferred transparently between originating and terminating local exchanges." /Q.2762 5.1.18/

"The purpose of the calling party sub-address is to identify a sub-address associated with the origin of a call. For the definition of sub-address, see Recommendation I.330." /Q.2931 4.5.14/

Originator: originating user or first public exchange

Direction: Forward

Significance: terminating user or last public exchange

Implementation: Information element is transferred transparently from originating side call control protocol to terminating side call control protocol trough call control in private exchanges. In exchanges supporting both public and private signalling protocols, this is used to carry calling party address if it is in NSAP coded.

Used in: BISUP (IAM, SGM), DSS2 (SETUP), UNI31 (SETUP)

Coding: unique (DSS2 or UNI31)

Open questions: none

Parameters

Type of sub-address (NSAP, User-specified ATM endsystem address, User-specified) (UNI31 does not have User-specified coding)
Sub-address information (NSAP or user specified coding)

Name: Calling party's category

Type: Information element

Reference
BISUP Q.2762 5.1.19 / Q.2763 7.20

Function: Two different functions included to this information
elements:
1) Indicating the language of an operator in the case of semi-
   automatic calls (needed more when N-ISDN interworking)
2) Otherwise indicating the category of the calling party
   o ordinary
   o subscriber with priority
   o data call
   o test call
   o payphone

"Information sent in the forward direction indicating the category of
the calling party and, in the case of semi-automatic calls, the
service language to be spoken by the incoming, delay and assistance
operators." /Q.2762 5.1.19/

Originator: exchange with operator (1) or originating exchange (2)

Direction: Forward

Significance: all exchanges

Implementation: In the first switch look up the category information
from the subscriber information database and include the information
element. In the transit exchange, use the received category for the
value of information element. If there is a exchange with operator
and operator is connected, use the language of the operator. In this
case use the language to connect right operator in the transit
exchanges.

Used in: BISUP (IAM)

Coding: unique (BISUP) (1 octect)

Open questions: none

Parameters

Calling Party's Category (Unknown, French, English, German, Russian,
Spanish, Ordinary, Calling Subscriber with priority, Data call, Test
call, Payphone)

Name: Cause indicator

Type: Information element (Common BDU sub-set)

Reference
BISUP Q.2762 5.1.20 / Q.2763 7.21 / Q.2610 / Q.850
DSS2 Q.2931 4.5.15 / Q.2610 / Q.850
UNI31 UNI 3.1 5.4.5.15

Function: Used to indicate the location and the reason of clearing of call.

“Information sent in either direction indicating where and why the call failed or was cleared.” /Q.2762 5.1.20/

“The contents and use of the cause information element is defined in Recommendation Q.2610.” /Q.2931 4.5.15/

“The Cause information element describes the reason for generating certain messages, provides diagnostic information in the event of procedural errors, and indicates the location of the cause originator. The Cause information element and the diagnostic may be releated in a message.” /UNI 3.1 5.4.5.15/

Originator: exchange clearing the call

Direction: Forward or backward

Implementation: Implemented as an object. When error is detected this object can be gives as a parameter to the exception, or this object can be created when the exception is cached using the parameters in exception. The cause value can be viewed as being comprised of several fields. This can be used in the implementation of cause object.

Used in: BISUP (ACM, CPG, CFN, REL, RLC, IAR), DSS2 (RELEASE, RELEASE COMPLETE, STATUS), UNI31 (RELEASE, RELEASE COMPLETE, STATUS, ADD PARTY REJECT, DROP PARTY, DROP PARTY ACKNOWLEDGE)

Coding: unique (Q.2610 and UNI31)

Open questions: none

Parameters

Location
Cause value
Diagnostics

Name: Charge indicator

Type: Information element

Reference
BISUP Q.2762 5.1.21 / Q.2763 7.22

Function: To indicate if the call can be charged.

"Information sent in the backward direction indicating whether or not the call is chargeable." /Q.2762 5.1.21/

Originator: exchange

Direction: Backward

Significance: charging exchange (Q.2763 7.22)

Implementation: In charging exchange extract this information and use it as a precondition to the charging routine. Use answer to start the charging and disconnect to stop the charging.

Used in: BISUP (ACM, ANM, CPG)

Coding: unique (BISUP) (1 bit)

Open questions:
1) How this relates to other (such as free phone) than normal charging practices.
2) Could this be also the indication of start of the charging or just the precondition to it.

Parameters

Charge indicator (No charge, Charge)

Name: Closed user group information

Type: Information element

Reference
BISUP Q.2762 5.1.22 / Q.2763 7.23

Function: supplementary service, indicates the closed user group to which the calling user belongs

"Information sent in the forward direction indicating that the call is to be treated as a closed user group call with or without outgoing access and giving the closed user group interlock code to be used."
/Q.2762 5.1.22/

Originator: not known

Direction: Forward

Significance: not known

Implementation: not implemented

Used in: BISUP (IAM)

Coding: unique (BISUP)

Open questions:
1) Why there is an indication of outgoing access not allowed, why that call is not already terminated.

Parameters

Closed user group call indicator (Closed user group call outgoing access allowed, Closed user group call outgoing access not allowed)
Network identity
Binary code

Name: Connected line identity request

Type: Information element

Reference: Q.2762 5.1.23 / Q.2763 7.24

Function: Request the connected party number to be returned.

"Information sent in the forward direction indicating a request for the connected party number to be returned." /Q.2762 5.1.23/

Originator: originating exchange

Direction: Forward

Significance: terminating exchange

Implementation: In originating exchange always request this (this could be controlled with exchange and user configuration information). In transit exchange store this parameter to the call control and include it to the outgoing request. When response is received return the connected number if that was requested and if that can be returned.

Used in: BISUP (IAM)

Coding: unique (BISUP) (1 bit)

Open questions: none

Parameters

Connected line identity request (Not requested, Requested)

Name: Connected number

Type: Information element

Reference:
BISUP Q.2762 5.1.24 / Q.2763 7.25

Function: Indicate the connected number.

"Information sent in the backward direction to identify the connected party." /Q.2762 5.1.24/

Originator: terminating exchange

Direction: backward

Significance: originating exchange

Implementation: In transit exchanges include this to the answer message if this was requested using the Connected line identity request. In originating exchange present this to the calling user if it is allowed (by Address presentation restricted indicator). This is implemented only in BISUP.

Used in: BISUP (ANM)

Coding: similar to Calling and Called Party Numbers

Open questions: none

Parameters

Nature of address indicator
Numbering plan indicator
Address presentation restricted indicator
Screening indicator
Address signal

Name: Connected sub-address

Type: Information element

Reference
BISUP Q.2762 5.1.25 / Q.2763 7.26 / Q.2951

Function: Indicate the connected sub-address.

"Information sent in the backward direction to identify the sub-address (see Recommendation I.330) of one connected party of a call. The connected sub-address may be different from the called party sub-address because of changes (e.g. redirection, transfer) during the lifetime of a call. This information is transferred transparently between terminating and originating local exchanges." /Q.2762 5.1.25/

Originator: terminating exchange

Direction: Backward

Significance: originating exchange

Implementation: same as Connected number, see also Q.2951

Used in: BISUP (ANM, SGM)

Coding: similar to Calling and Called Party Subaddresses

Open questions: none

Parameters

Defined in Q.2951

Type of sub-address
Sub-address information

Name: Connection element identifier

Type: Information element (Common BDU sub-set)

Reference:
BISUP Q.2762 5.1.26 / Q.2763 7.27
DSS2 Q.2931 4.5.16 (Connection identifier)
UNI31 UNI 3.1 5.4.5.16 (Connection identifier)

Function:

"Information sent to identify the ATM virtual connection. It includes the virtual path connection identifier and the virtual channel identifier." /Q.2762 5.1.26/

"The connection identifier information element identifies the local ATM connection resources on the interface. This information element is optionally present in the SETUP message, and optionally in the first response to the SETUP message. " /Q.2931 4.5.16/

Originator: user or exchange

Direction: Forward or backward

Significance: the next exchange or the next user

Implementation: Make the network propose the virtual channel if it is not proposed by the user. The network decides the used virtual channel. In UNI this means that the network selects the virtual channel. In BISUP and DSS2 this means that the network may change the proposed virtual channel.

Q.2931 3.2.7 Note 6: Included to SETUP when the virtual channel is wanted to be indicated.

Q.2931 3.1.2 Note 1: Mandatory if this a response to a SETUP message, except in network to user direction if the user accepts the proposed connection identifier.

In UNI31 the network indicates the used virtual channel.

Used in: BISUP (IAM, IAA), DSS2 (ALERTING, CALL PROCEEDING, CONNECT, SETUP, SETUP ACKNOWLEDGE, RESTART, RESTART ACKNOWLEDGE), UNI31 (CALL PROCEEDING, CONNECT, SETUP, RESTART, RESTART ACKNOWLEDGE)

Coding: DSS2 and UNI31 use the same coding, BISUP uses a different coding which is a subset of DSS2/UNI31 coding

Open questions: none

Parameters

In DSS2 and UNI31
VP-associated signalling (VP-associated signalling, explicit indication of VPCI) (In UNI31 only explicit indication is used)
Preferred/Exclusive (Exclusive VPCI/exclusive VCI, Exclusive VPCI/any VCI) (In UNI31 only exclusive VPCI/exclusive VCI is used)
In BISUP, DSS2 and UNI31
Virtual Path Connection Identifier (16 bits) Not this is VPCI, not VPI. In UNI31 it is agreed to be the same.
Virtual Channel Identifier (16 bits)

Name: Consistency check result information

Type: Information element

Reference:
BISUP Q.2762 5.1.27 / Q.2763 7.28

Function: Reports the results of the consistency check.

"Information sent indicating the result of the consistency check."
/Q.2762 5.1.27/

Originator: exchange

Direction: Forward or backward

Significance: other exchanges

Implementation: The exchange performing the consistency check reports
the result. Other exchanges transfer this information element
transparently. Check the information about consistency check.

Used in: BISUP (CCEA)

Coding: unique (BISUP) (2 bits)

Open questions: none

Parameters

VPCI check result indicator (Not successful, Successful, Not
performed)

Name: Destination signalling identifier

Type: Information element (Common BDU sub-set)

Reference
BISUP Q.2762 5.1.28 / Q.2763 7.29
DSS2 Call Reference 4.3

Function: Identifies the call control instance.

"The destination signalling identifier identifies the call control or maintenance association at the receiving end. The first origination signalling identifier value received is reflected as the destination signalling identifier value." /Q.2762 5.1.28/

Originator: exchange

Direction: Forward or backward

Significance: other exchanges

Implementation: When the call control is created, a new signalling identifier is allocated to it. When it receives a first message, it records the signalling identifier of the peer entity and uses it thereafter.

The exchange directs the incoming call control message to the correct call control protocol object using this identifier.

Used in: BISUP (ACM, ANM, CPG, CFN, REL, RLC, SAM, USR, FOT, SUS, RES, BLA, RAM, UBA, UPA, NRM, SGM, IAA, IAR, CSRA, CCE, CCEA)

Coding: (BISUP), used by other information elements

Open questions: none

Parameters

Control ID (32 bits)

Name: Echo control information

Type: Information element

Reference: Q.2762 5.1.29 / Q.2763 7.30

Function: Controls the echo control devices.

"Information sent in the backward and forward direction indicating whether a half echo control device is requested for the connection or whether or not a half echo control device is included in the connection." /Q.2762 5.1.29/

Originator: first BISUP exchange

Direction: Forward or backward

Significance: all BISUP exchanges

Implementation: Request deactivation of echo control devices. Do not accept request to activate echo control devices, if needed release the call. Find out the correct Cause value.

Used in: BISUP (ACM, ANM, IAM, NRM)

Coding: unique (BISUP) (4 x 2 bits)

Open questions: none

Parameters

Incoming half echo control device request indicator (No information, Activation request, Deactivation request)
Outgoing half echo control device request indicator (No information, Activation request, Deactivation request)
Incoming half echo control device indicator (No information, Not included, Included)
Outgoing half echo control device indicator (No information, Not included, Included)

Name: Endpoint reference

Type: Information element (ATM Forum Specific)

Reference
UNI31 UNI 3.1 5.4.8.1

Function: Identifies the individual endpoints of a point-to-multipoint call.

Originator: N/A

Direction: forward and backward

Significance: N/A

Implementation: Used to select the correct state machine for the point-to-multipoint call.

Used in: UNI31 (CALL PROCEEDING, CONNECT, SETUP, STATUS, STATUS ENQUIRY, ADD PARTY, ADD PARTY ACKNOWLEDGE, ADD PARTY REJECT, DROP PARTY, DROP PARTY ACKNOWLEDGE)

Coding: unique (UNI31)

Open questions: none

Parameters

Endpoint reference type (Locally defined integer)
Endpoint reference identifier value (Value 0 identifies the first party of a point-to-multipoint call)

Name: Endpoint state

Type: Information element (ATM Forum specific)

Reference
UNI31 UNI 3.1 5.4.8.2

Function: Indicates the state of an enpoint of a point-to-multipoint call.

Originator: N/A

Direction: forward or backward

Significance: N/A

Implementation: Signalling protocol includes this to the messages necessary.

Used in: UNI31 (STATUS)

Coding: unique (UNI31)

Open questions: none

Parameters

Endpoint reference party-state (Null, Add party initiated, Add party received, Drop party initiated, Drop party received, Active)

Name: Forward narrow-band interworking indicator

Type: Information element

Reference
BISUP Q.2762 5.1.30 / Q.2763 7.31

Function: Inter-working with N-ISDN.

"Information sent in the forward direction describing the signalling capabilities within the network connection when inter-working with N-ISDN has occurred."

Originator: exchange

Direction: forward

Significance: N/A

Implementation: Not supported

Used in: BISUP (IAM)

Coding: unique (BISUP)

Open questions: none

Parameters

ISDN user part preference indicator (Preferred all the way, Not required all the way, Required all the way)
ISDN access indicator (Originating access non-ISDN, Originating access ISDN)
ISDN user part indicator (Not used all the way, Used all the way)
Interworking indicator (No interworking encoutnered, Interworking encountered)

Name: In-band information indicator

Type: Information element

Reference
BISUP Q.2762 5.1.31 / Q.2763 7.32

Function: Voice connection is now available and it contains information to user.

"Information sent in the backward direction indicating that in-band information or an appropriate pattern is now available." /Q.2762 5.1.31/

Originator: exchange

Direction: backward

Significance: N/A

Implementation: Transfer transparently or include with No indication information.

Used in: BISUP (ACM, ANM, CPG)

Coding: unique (BISUP) (1 bit)

Open questions: none

Parameters

In-band information indicator (No indication, In-band information or an appropriate pattern is now available)

```
Name: Location number

Type: Information element

Reference
BISUP Q.2762 5.1.32 / Q.2763 7.33

Function: not known

"Information sent to indicate the location of a user in the term of
an E.164 number." /Q.2762 5.1.32/

Originator: exchange

Direction: forward or backward

Significance: exchange

Implementation: Not supported.

Used in: BISUP (IAM)

Coding: unique (BISUP)

Open questions:
1) What is the use of this information element.

Parameters

Nature of address
Internal network number indicator
Numbering plan indicator
Address presentation restricted indicator
Screening indicator
Address signals
```

Name: Maximum end-to-end transit delay

Type: Information element

References Q.2762 5.1.33 / Q.2763 7.34

Function: User gives the upper limit for the propagation delay in the virtual path. If that limit is exceeded, the call is rejected.

"Information sent in the forward direction indicating the maximum delay requested by the calling user for the requested virtual path connection." /Q.2762 5.1.33/

Originator: user

Direction: forward

Significance: exchanges and terminating user

Used in: BISUP (IAM)

Implementation: Not implemented in the first phase.

Coding
Same as Call history information

Open questions: none

Parameters
Delay value

Name: MLPP Precedence

Type: Information element

Reference
BISUP Q.2762 5.1.34 / Q.2763 7.35

Function: supplementary service

"Information sent in the forward direction in association with the invocation of the Multilevel Precedence and Preemption (MLPP) supplementary service." /Q.2762 5.1.34/

Originator: N/A

Direction: forward

Significance: N/A

Implementation: Functionality is not implemented. If this information element is included then pass it transparently.

Used in: BISUP (IAM)

Coding: unique (BISUP)

Open questions: none

Parameters

Look-ahead for busy indicator (LFB allowed, Path reserved, LFB not allowed)
Precedence level (Flash override, Flash, Immediate, Priority, Routine)
Network identity (Telephone Country Code + ROA or network identification)
MLPP service domain (3 octets)

Name: MLPP user information

Type: Information element

Reference
BISUP Q.2762 5.1.35 / Q.2763 7.36

Function: supplementary service

"Information sent in the backward direction to indicate that the called user is an MLPP user." /Q.2762 5.1.35/

Originator: N/A

Direction: backward

Significance: N/A

Implementation: Functionality is not implemented. If this information element is included then pass it transparently.

Used in: BISUP (ACM)

Coding: unique (BISUP) (1 bit)

Open questions: what is mlpp?

Parameters

MLPP user indication (No indication, MLPP user)

Name: Narrow-band bearer capability

Type: Information element

Reference
BISUP Q.2762 5.1.36 / Q.2763 7.37
DSS2 Q.2931 4.6.2
DSS1 Q.931 Figure 4-11 / Table 4-6
UNI31 UNI 3.1 5.4.6 Not supported

Function: Inter-working with N-ISDN

"Information sent in the forward or backward direction to indicate
the requested/proposed narrow-band ISDN bearer capability (see
Recommendation I.231). In case the calling user asks for a certain
service but allows fallback to another service, this parameter field
contains the fallback service.
The narrow-band bearer capability is transferred transparently
through the B-ISDN.
No default narrow-band bearer capability may be assumed by the
absence of this information element." /Q.2762 5.1.36/

"The purpose of the narrow-band bearer capability information element
is to indicate a requested circuit-mode N-ISDN bearer service to be
provided by the network. It contains only information that may be
used by the network (see Annex I/Q.931). The use of the narrow-band
bearer capability information element in relation to compatibility
checking is described in Annex B/Q.931." /Q.2931 4.6.2/

Originator: N/A

Direction: forward or backward

Significance: N/A

Implementation: Not supported

Used in: BISUP (ACM, ANM, CPG, IAM)

Coding: unique (BISUP, DSS2 and DSS1 combined)

Open questions: none

Parameters

Repeat indicator
Priority (No prioritised order, ascending order, descending order)

Name: Narrow-band high layer compatibility

Type: Information element

Reference
BISUP Q.2762 5.1.37 / Q.2763 7.38
DSS2 Q.2931 4.6.3
DSS1 Q.931 Figure 4-23 / Table 4-15
UNI31 UNI 3.1 5.4.6 Not supported

Function: Inter-working with N-ISDN

"Information sent in the forward or backward direction to provide a
means which could be used by the remote user for compatibility
checking. In case the calling user asks for a certain service but
allows fallback to another service, this parameter field contains the
fallback service." /Q.2762 5.1.37/

"The purpose of the narrow-band high layer compatibility information
element is to provide a means which should be used by the remote user
for compatibility checking. See Annex B/Q.931.
The narrow-band high layer compatibility information element is coded
as shown in Figure 4-32.
The maximum length of this information element is 7 octets.
NOTE – The narrow-band high layer compatibility information element
is transported transparently by a B-ISDN between a call originating
entity, e.g. a calling user and the addressed entity; a remote user
or a high layer function network node addressed by the call
originating entity. However, if explicitly requested by the user (at
subscription time), a network which provides some capabilities to
realize teleservices may interpret this information to provide a
particular service." /Q.2931 4.6.3/

Originator: N/A

Direction: forward or backward

Significance: N/A

Implementation: Not supported

Used in: BISUP (ACM, ANM, CPG, IAM, SGM)

Coding: unique (BISUP, DSS2 and DSS1 combined)

Open questions: none

Parameters

Repeat indicator
Priority (No prioritised order, ascending order, descending order)

Name: Narrow-band low layer compatibility

Type: Information element

Reference
BISUP Q.2762 5.1.38 / Q.2763 7.39
DSS2 Q.2931 4.6.4
DSS1 Q.931 Figure 4-25 / Table 4-16
UNI31 5.4.6 Not supported

Function: Inter-working with N-ISDN

"Information sent in the forward or backward direction to provide a means which could be used for compatibility checking by an addressed entity (e.g. a remote user, an inter-working unit or a high layer function network node addressed by the user)." /Q.2762 5.1.38/

"The purpose of the narrow-band high layer compatibility information element is to provide a means which should be used by the remote user for compatibility checking. See Annex B/Q.931.
The narrow-band high layer compatibility information element is coded as shown in Figure 4-32.
The maximum length of this information element is 7 octets.
      NOTE – The narrow-band high layer compatibility information element is transported transparently by a B-ISDN between a call originating entity, e.g. a calling user and the addressed entity; a remote user or a high layer function network node addressed by the call originating entity. However, if explicitly requested by the user (at subscription time), a network which provides some capabilities to realize teleservices may interpret this information to provide a particular service." /Q.2931 4.6.4/

Originator: access switch or inter-working unit

Direction: forward or backward

Significance: N/A

Implementation: Not supported

Used in: BISUP (ANM, IAM, SGM)

Coding: unique (BISUP, DSS2 and DSS1 combined)

Open questions: none

Parameters

Repeat indicator
Priority (No prioritised order, ascending order, descending order)

Name: National/international call indicator

Type: Information element

Reference
BISUP Q.2762 5.1.39 / Q.2763 7.40

Function: Tells if a call is an international call.

"Information sent in the forward direction indicating in the
destination national network whether the call has to be treated as an
international call or as a national call." /Q.2762 5.1.39/

Originator: national to international exchange

Direction: forward or backward

Significance: N/A

Implementation: Transfer transparently or set information as National
call.

Used in: BISUP (IAM)

Coding: unique (BISUP) (1 bit)

Open questions: none

Parameters

National international call indicator (National call, international
call)

Name: Notification

Type: Information element

Reference
BISUP Q.2762 5.1.40 / Q.2763 7.41
DSS2 Q.2931 4.5.23
UNI31 UNI 3.1 Not supported

Function: supplementary service

"Information sent in either direction intended to provide
supplementary service (e.g. diversion services) notification to the
user."

"The purpose of the notification indicator information element is to
indicate information pertaining to a call." /Q.2931 4.5.23/

Originator: switch

Direction: Forward or backward

Significance: N/A

Implementation: Not supported.

Used in: BISUP (ACM, ANM, CPG, IAM, REL, SGM), DSS2 (ALERTING, CALL
PROCEEDING, CONNECT, CONNECT ACKNOWLEDGE, RELEASE, SETUP, NOTIFY,
PROGRESS)

Coding: unique (BISUP, DSS2)

Open questions: none

Parameters

Notification indicator (8 bits)

Name: OAM traffic descriptor

Type: Information element

Reference
BISUP Q.2762 5.1.41 / Q.2763 7.42
DSS2 Q.2931 4.5.24 / Annex I

Function: oam

"Information classified by the cell rate identifier indicating the number of cells per second required for OAM traffic on the virtual connection." /Q.2762 5.1.41/

"The purpose of the OAM traffic descriptor information element is to provide information relating to the end-to-end OAM F5 information flow for performance management and user-originated fault management associated with the user connection involved in the call.
The handling of the OAM traffic descriptor information element is specified in Annex I." /Q.2931 4.5.24/

Originator: exchange

Direction: Forward or backward

Significance: exchanges

Implementation: Configuration information. Passed transparently. Created with default values.

Used in: BISUP (ANM, IAM), DSS2 (CONNECT, SETUP)

Coding: unique (Q.2931)

Open questions: none

Parameters

Shaping indicator (Network shaping allowed, Network shaping not allowed)
Compliance indicator (Optional OAM F5 flow, Mandatory OAM F5 flow)
User-network fault management indicator (No user originated fault management indications, User originated fault management indications)
Forward end-to-end OAM F5 flow indicator (0%, 0.1%, 1%)
Backward end-to-end OAM F5 flow indicator (0%, 0.1%, 1%)

Name: Original called number

Type: Information element

Reference
BISUP Q.2762 5.1.42 / Q.2763 7.43

Function: supplementary service

The information element tells the B-subscriber number of the original called party. This is the number does not change during the call establishment.

"Information sent in the forward direction when a call is redirected and identifies the original called party." /Q.2762 5.1.42/

Originator: redirecting exchange

Direction: Forward

Significance: terminating user

Implementation: Functionality is not implemented. If this information element is included then pass it transparently.

Used in: BISUP (IAM)

Coding: same as Called Party Number except that this includes Access presentation indicator

Open questions: none

Parameters

Odd even indicator
Nature of address indicator (Subscriber number, Unknown, National significant number, International number)
Internal network number indicator (Routing to internal network number allowed/not allowed)
Numbering plan indicator (ISDN numbering plan)
Access presentation restricted indicator (Presentation allowed, Presentation restricted)
Address signal

Name: Origination ISC point code

Type: Information element

Reference
BISUP Q.2762 5.1.43 / Q.2763 7.44

Function: used for statistical purposes

"Information sent in the initial address message of an international call, indicating the point code of the originating ISC." /Q.2762 5.1.43/

Originator: outgoing international exchange

Direction: forward

Significance: incoming international exchange

Implementation: Not supported

Used in: BISUP (IAM)

Coding: unique (BISUP)

Open questions: none

Parameters

Signalling point code

Name: Origination signalling identifier

Type: Information element (Common BDU sub-set)

Reference: Q.2762 5.1.44 / Q.2763 7.45
DSS2 Call Reference 4.3

Function: Identifies the call control instance.

"The Origination Signalling Identifier (OSID)[CS41] is assigned by a node sending a call control or maintenance message, and is used to identify the signalling association at that end." /Q.2762 5.1.44/

Originator: exchange

Direction: forward or backward

Significance: exchange

Implementation: Signalling identifier is given to the call control when it is created. That identifier is set to sent primitives when necessary as an origination signalling identifier.

Used in: BISUP (IAM, BLO, RSM, UBL, UPT, IAA, CSR, CSRA)

Coding: same as Destination signalling identifier

Open questions: none

Parameters

Control ID

Name: Progress indicator

Type: Information element

Reference
BISUP Q.2762 5.1.45 / Q.2763 7.46
DSS2 Q.2931 4.6.5
DSS1 Q.931 Figure 4-29 / Table 4-20
UNI31 5.4.6 Not supported

Function: Inter-working with N-ISDN

"Information sent in the forward or backward direction to describe an
event which has occurred during the lifetime of the call." /Q.2762
5.1.45/

"The purpose of the progress indicator information element is to
describe an event which has occurred during the life of a call. The
information element may occur twice in a message.
The progress indicator information element is coded as shown in
Figure 4-34. The maximum length of this information element is 6
octets." /Q.2931 4.6.5/

Originator: N/A

Direction: forward or backward

Significance: N/A

Implementation: Not supported

Used in: BISUP (ACM, ANM, CPG, IAM, REL, SGM)

Coding: unique (BISUP, DSS2 and DSS1 combined)

Open questions: none

Parameters

Repeat indicator
Priority (No prioritised order, ascending order, descending order)

Name: Propagation delay counter

Type: Information element

References
BISUP Q.2762 5.1.46 / Q.2763 7.47
DSS2 Q.2931 4.5.17 / Annex K (End-to-end transit delay/Cumulative
transit delay value)
UNI31 Not supported

Function: To calculate the propagation delay from originating user to
the terminating user.

"Information sent in forward direction to indicate the propagation
delay of a connection. This information is accumulated whilst the
parameter is transferred through the network. The propagation delay
information is represented by a counter counting in integer multiples
of 1 ms."

"The purpose of the end-to-end transit delay information element is
to indicate the cumulative transit delay to be expected for a virtual
channel connection.
Transit delay is the end-to-end one-way transit delay of user data
transferred during the data transfer phase on the user plane, between
the calling user and the called user. It includes:

- the total processing time in the end user systems (e.g.
  processing time, AAL handling delay, ATM cell assembly
  delay, and possibly any additional processing delay); and

- the network transfer delay (e.g. propagation delay, ATM
  layer transfer delay, possibly any additional processing
  delay in the network).
The cumulative transit delay value indicated by the calling user in
the SETUP message (if present) includes the cumulative transit delay
from the calling user to the network boundary.
The cumulative transit delay value indicated by the network in the
SETUP message sent to the called user is the sum of the value which
was indicated at the originating UNI and the expected transfer delay
accumulated within the network. It does not include further transfer
delay on the way from the network boundary to the called user.
The procedures which are applicable are described in Annex K."
/Q.2762 4.5.17/

Originator: user
Direction: forward
Significance: exchanges and terminating user
Implementation: Update in every exchange after the route selection
based on the propagation delay the new link adds to the total
propagation delay. Not implemented in the first phase.
Used in: BISUP (IAM), DSS2 (SETUP)
Coding: different coding in Q.2763 and Q.2931. In BISUP this value
has an information element of its own (coding is same as Call history
information). In DSS2 this is coded with another value to the same
information element.
Open questions: none
Parameters
Delay value (16 bits, propagation delay 0-65535 ms)

Name: Quality of service parameter

Type: Information element

Reference:
BISUP Not supported
DSS2 Q.2931 4.5.18
UNI31 UNI 3.1 5.4.5.18

Function: User can request certain QOS class.

"In addition to end-to-end transit delay information element, the Quality of Service parameter information element is specified. The purpose of the Quality of Service parameter information element is to indicate a certain Quality of Service (QOS) class.
The Quality of Service parameter information element will not be supported by B-ISUP Release 1, i.e. some networks will not transfer the Quality of Service parameter information element. These networks will generate the default value (unspecified QOS class) for the Quality of Service parameter information element for the transfer to the called user at the terminating interface." /Q.2931 4.5.18/

Originator: originating user

Direction: forward

Significance: terminating user

Implementation: The requested QOS class is checked in call admission control.

Used in: DSS2 (SETUP), UNI31 (SETUP)

Coding: unique (DSS2, UNI31) 2 x 1 octet

Open questions: none

Parameters:

QOS class forward (In DSS2 unspecified QOS class, future)
QOS class backward (In DSS2 unspecified QOS class, future)
(UNI31 supports more values for these parameters: QoS class 1, QoS class 2, QoS class 3, QoS class 4)

Name: Redirecting number

Type: Information element

Reference
BISUP Q.2762 5.1.47 / Q.2763

Function: supplementary service

The information element tells the B-subscriber number that made forwarding of the call. This is the number that was called previously. This is the number does change during the call establishment.

"Information sent in the forward direction when a call is diverted, indicating the number from which the call was diverted." /Q.2762 5.1.47/

Originator: redirecting exchange

Direction: forward

Significance: N/A

Implementation: Functionality is not implemented. If this information element is included then pass it transparently.

Used in: BISUP (IAM)

Coding: same as Called Party Number

Open questions: none

Parameters

Odd even indicator
Nature of address indicator (Subscriber number/Unknown/National significant number/International number)
Internal network number indicator (Routing to internal network number allowed/not allowed)
Numbering plan indicator (ISDN numbering plan)
Address signal

Name: Redirection information

Type: Information element

Reference
BISUP Q.2762 5.1.48 / Q.2763 7.49

Function: supplementary service

"Information sent in either direction giving information about call redirection or call re-routing." /Q.2762 5.1.48/

Originator: redirecting exchange

Direction: forward and backward

Significance: N/A

Implementation: Functionality is not implemented. If this information element is included then pass it transparently.

Used in: BISUP (IAM, REL)

Coding: unique (BISUP)

Open questions: none

Parameters

Original redirection reason (Unknown/not available, User busy, No reply, Unconditional)
Redirecting indicator (No redirection, Call re-routed, Call re-routed, Call diversion (and information about presentation restrictions))
Redirecting reason (Unknown/not available, User busy, No reply, Unconditional, Deflection during alerting, Deflection immediate response, Mobile subscriber not reachable)
Redirecting counter (Number of redirections, 1-5)

Name: Redirection number

Type: Information element

Reference
BISUP Q.2762 5.1.49 / Q.2763 7.50

Function: supplementary service

Information sent in the backward direction indicating the number
towards which the call must be re-routed or has been forwarded.

Originator: redirecting exchange

Direction: Backward

Significance: N/A

Implementation: Functionality is not implemented. If this information
element is included then pass it transparently.

Used in: BISUP (ACM, CPG, REL)

Coding: same as Called Party Number

Open questions

Parameters

Odd even indicator
Nature of address indicator (Subscriber number/Unknown/National
significant number/International number)
Internal network number indicator (Routing to internal network number
allowed/not allowed)
Numbering plan indicator (ISDN numbering plan)
Address signal

Name: Redirection number restriction

Type: Information element

Reference
BISUP Q.2762 5.1.50 / Q.2763 7.51

Function: supplementary service

Information sent in the backward direction indicating whether the diverted-to user allows the presentation of his number.

Originator: terminating exchange (from B-subscriber profile)

Direction: Backward

Significance: N/A

Implementation: Implementation: Functionality is not implemented. If this information element is included then pass it transparently.

Used in: BISUP (ACM, ANM, CPG, REL)

Coding: unique (BISUP) (2 bits)

Open questions

Parameters

Presentation restricted indicator (Presentation restricted/Presentation allowed)

Name: Resource identifier

Type: Information element

Reference
BISUP Q.2762 5.1.51 / Q.2763 7.52

"Information sent identifying the resources to be reset or
(un)blocked." /Q.2762 5.1.51/

Originator: exchange

Direction: forward and backward

Significance: next exchange

Implementation: Not supported

Used in: BISUP (BLO, RSM, UBL)

Coding: unique (BISUP)

Open questions: none

Parameters

Resource indicator (selects the format for the following)
Resource value (Local signalling identifier, remote signalling
identifier, Connection element identifier (VPCI/VCI), Connection
element identifier (VPCI))

Name: Restart indicator

Type: Information element

Reference:
DSS2 Q.2931 4.5.20
UNI31 UNI 3.1 5.4.5.20

Function:

"The purpose of the restart indicator information element is to identify the class of the facility to be restarted." /Q.2931 5.4.5.20/

Originator: N/A

Direction: forward or backward

Significance: N/A

Implementation:

Used in: DSS2 (RESTART, RESTART ACKNOWLEDGE), UNI31 (RESTART, RESTART ACKNOWLEDGE)

Coding: unique (DSS2, UNI31)

Open questions: none

Parameters

Class (Indicated virtual channel, All virtual channels in the indicated VPC which are controlled via the signalling virtual channel on which the restart message is sent (Not in UNI31), All virtual channels controlled by the layer 3 entity which sends the restart message)

Name: Segmentation indicator (national use)

Type: Information element

Reference
BISUP Q.2762 5.1.52 / Q.2763 7.53

Function: If a selected PDU is too big to be coded as a single message. An additional segmentation message is generated which conveys part of the message. This is indicated with this information element.

"Information sent in the forward and backward direction to indicate that the current message is/is not segmented, and that the segmented information (if any) will follow." /Q.2762 5.1.52/

Originator: exchange

Direction: forward and backward

Significance: all exchanges

Implementation: Not supported.

Used in: BISUP (ACM, ANM, CPG, IAM, REL)

Coding: unique (BISUP) (1 bit)

Open questions:
1) What is the limit for one message or when segmentation is used. This must come from SS7 message length limitations.

Parameters

Simple segmentation indicator (No additional information/Additional information will be sent in a segmentation message)

Name: Subsequent number

Type: Information element

Reference
BISUP Q.2762 5.1.53 / Q.2763 7.54

Function: call establishment (overlap address signalling)

Conveys one or more address signals of the called party number.

"Information sent in the forward direction in case of call set-up
with overlap address signalling, conveying one or more address
signals of the called party number." /Q.2762 5.1.53/

Originator: user

Direction: forward

Significance: first exchange

Implementation: Not supported.

In DSS2 Called party number is used instead of Subsequent number.

Used in: BISUP (SAM)

Coding: similar as Called Party Number

Open questions: none

Parameters

Address signal (BCD digits)

Name: Suspend/Resume indicators

Type: Information element

Reference
BISUP Q.2762 5.1.54 / Q.2763 7.55

Function: Informs the other party that suspend or resume is either ISDN subscriber or network initiated.

"Information sent in the suspend and resume messages to indicate whether suspend/resume was initiated by an ISDN subscriber or by the network." /Q.2762 5.1.54/

Originator: exchange

Direction: Forward and backward

Significance: N/A

Implementation: Not supported.

In DSS1 this information is transferred using Notification information element.

Used in: BISUP (SUS, RES)

Coding: unique (BISUP) (1 bit)

Open questions:
1) Which information element or part of it in DSS2/UNI31 corresponds to this information.

Parameters

Suspend resume indicator (ISDN subscriber initiated/network initiated)

Name: Transit network selection (national use)

Type: Information element (Common BDU sub-set)

Reference
BISUP Q.2762 5.1.55 / Q.2763 7.56
DSS2 Q.2931 4.5.22 / Annex D
UNI31 UNI 3.1 5.4.5.22

Function: allows the user or the network to select the used networks
in the routing. The user can select the used network operator.

Acts as a kind of source routing information.

A switch can select the transit network used by the following
switches. The transit network is identified using ITU-T Public Data
Network Identification Code (DNIC) X.121 or Public land Mobile
Network Identification Code (MNIC) E.212

"Information sent in the initial address message indicating the
transit network(s) requested to be used in the call." /Q.2762 5.1.55/

"The purpose of the transit network selection information element is
to identify one requested transit network. The transit network
selection information element may be repeated in a message to select
a sequence of transit networks through which a call must pass. See
Annex D.
The transit network selection information element is coded as shown
in Figure 4-28 and Table 4-21. The maximum length of this information
element is network dependent." /Q.2931 5.4.5.22/

Originat or: originating user or originating exchange

Direction: Forward

Significance: all exchanges except the last one

Implementation: If the user selects the network operator that is
included to the route selection. The network then selects the route
to the destination according to the user wishes. If no wishes is
give, the network can use its own preferences.

The functionality is not implemented in the first phase. If this
information element is included then pass it transparently.

This information element can be repeated 1-4 times in the messages.

Used in: BISUP (IAM), DSS2 (SETUP), UNI31 (SETUP, ADD PARTY)

Coding: similar as coding of Called Party Number, BISUP coding is
different than DSS2/UNI31, UNI31 coding is a subset of DSS2 coding.

Open questions: none

Parameters

(In BISUP)
Odd even indicator
Type of network identification (ITU-T / National)
Network identification plan (X.121 / E.212 / National plan)
Network identification (BCD digits)

Name: User-to-user indicators

Type: Information element

Reference
BISUP Q.2762 5.1.56 / Q.2763 7.57

Function: supplementary service

Used as a request or a response. In request informs that user has
included information for 0-3 services in User-to-user information
element. Also classifies that information to essential or non-
essential information. In response informs that the information was
provided or discarded by network.

"Information sent in association with a request (or response to a
request) for user-to-user signalling supplementary service(s)."
/Q.2762 5.1.56/

Originator: user

Direction: Forward and backward

Significance: user

Implementation: Functionality is not implemented.

Used in: BISUP (ACM, ANM, CPG, IAM, REL, USR) (Note: No SGM)

Coding: unique (BISUP)

Open questions: none

Parameters

Type
Service1
Service2
Service3
Network discard indicator

```
Name: User-to-user information

Type: Information element

Reference
BISUP Q.2762 5.1.57 / Q.2763 7.58
Q.2957

Function: supplementary service

"Information generated by a user and transferred transparently
through the inter-exchange network between the originating and
terminating local exchanges." /Q.2762 5.1.57/

Originator: user

Direction: Forward and backward

Significance: user

Implementation: Functionality is not implemented.

Used in: BISUP (ACM, ANM, CPG, IAM, REL, USR, SGM)

Coding: unique (BISUP)

Open questions: none

Parameters

Mode data identifier (No more data following, More data following)
Coding standard (See Q.2957)
User-to-user information (See Q.2957)
```

5.2 Parameter information

5.2.1 Access delivery indicator
An indicator sent in the backward direction indicating that a set-up indication was generated at the destination access.
5.2.2 Address presentation restricted indicator
Information sent in either direction to indicate that the address information is not to be presented to a public network user, but can be passed to another public network. It may also be used to indicate that the address cannot be ascertained.
5.2.3 Address signal
An element of information in a network number. The address signal may indicate digit values 0 to 9, code 11 or code 12. One address signal value (ST) is reserved to indicate the end of the called party number.
5.2.4 Broadband/Narrow-band interworking indicator
Information indicating reaction to be taken if unrecognized information is received at a broadband/narrow-band interworking point.
5.2.5 Called party's category
Information sent in the backward direction indicating the category of the called party, e.g. ordinary subscriber or payphone.
5.2.6 Called party's status indicator
Information sent in the backward direction indicating the status of the called party, e.g. subscriber free.
5.2.7 Calling party number incomplete (national use)
Information sent in the forward direction indicating that the complete calling party number is not included.
5.2.8 Cause value
Information sent identifying the specific reason why the call failed or was cleared. Cause values are defined in Recommendations Q.850 and Q.2610.

5.2.9 Cell rate identifier
Information sent to identify the applicability of the cell rate. The use of the peak cell rate (and for future releases the use of the average cell rate) in traffic control is specified in Recommendation I.371.
5.2.10   Closed user group call indicator
Information sent as part of the closed user group information indicating whether or not outgoing access from that closed user group (e.g. to users without closed user group) is allowed for that call.
5.2.11   Coding standard
Information sent in association with a parameter (e.g. cause indicators) identifying the standard in which the parameter format is described.
5.2.12   Diagnostic
Information sent in association with a cause and which provides supplementary information about the reason for sending the message. Diagnostic values are defined in Recommendations Q.850 and Q.2610.
5.2.13   Discard message indicator
Information sent to inform another node to discard the related message, due to compatibility reasons.
5.2.14   Discard parameter indicator
Information sent to inform another node to discard the related parameter, due to compatibility reasons.
5.2.15   Extension indicator
Information sent in every octet in a multi-octet parameter field with variable length, indicating whether the octet is the last one or is followed by another one.
5.2.16   Filler

A number of bits used to complete a partially used octet to full octet length. Mainly the filler is used in number parameters that are carrying odd number of digits, where remaining four bits in the last octet have no digit information.

5.2.17   Incoming half echo control device request indicator
Information sent to request the activation or deactivation of an incoming half echo control device.

5.2.18   Incoming half echo control device indicator
Information sent to inform whether an incoming half echo control device has been included or not.

5.2.19   Instruction indicator
Information indicating the reactions to be taken if an unrecognized message, unrecognized parameter or unrecognized parameter value is received.

5.2.20   Internal network number indicator
Information sent to the destination exchange for specific numbers, e.g. roaming numbers, indicating whether or not the number contained in the parameter is generated by the network.

5.2.21   Interworking indicator
Information sent in either direction indicating whether or not Signalling System No. 7 is used in all parts of the narrow-band network connection.

5.2.22   ISDN access indicator
Information sent in either direction indicating whether or not the narrow-band access signalling protocol is ISDN.

5.2.23   ISDN User Part indicator
Information sent in either direction to indicate that the ISDN User Part is used in all parts of the narrow-band network connection. When sent in the backward direction, the preceding parts are those towards the called party.

5.2.24   ISDN User Part preference indicator
Information sent in the forward direction indicating whether or not ISDN User Part is required for all parts of the narrow-band network connection.

5.2.25   Location
Information sent in either direction indicating where an event (e.g. release) was generated.

5.2.26   More data indicator
Information provided by the user and sent as part of a user-to-user information parameter indicating to the destination user(s) that another user-to-user information parameter containing information belonging to the same block (protocol data unit) will follow.

5.2.27   Nature of address indicator
Information sent in association with an address indicating the nature of that address, e.g. ISDN international number, ISDN national significant number, or ISDN subscriber number.

5.2.28   Network discard indicator
This indicator indicates that user-to-user information included in the call control message has been discarded by the network.

5.2.29   Network identification plan (national use)
Information sent to indicate the identification plan for identifying the network, e.g. Recommendation X.121 or E.212.

5.2.30   Network identification (national use)
Information sent to identify a network.

5.2.31   Notification indicator
Information sent in either direction intended to provide supplementary service notification to a user.

5.2.32   Notification subscription option

Information sent in the backward direction indicating that the diversion with or without redirection number can be presented to the calling user.

5.2.33   Numbering plan indicator

Information sent in association with a number indicating the numbering plan used for that number (e.g. ISDN number, Telex number).

5.2.34   Odd/even indicator

Information sent in association with an address, indicating whether the number of address signals contained in the address is even or odd.

5.2.35   Original redirection reason

Information sent in either direction indicating the reason why the call was originally redirected.

5.2.36   Outgoing half echo control device request indicator

Information sent to request the activation or deactivation of an outgoing half echo control device.

5.2.37   Outgoing half echo control device indicator

Information sent to inform whether an outgoing half echo control device has been included or not.

5.2.38   Pass on not possible indicator

Information sent to inform another node on what action to take if "pass on" was requested due to compatibility reason but "pass on" was not possible due to interworking with pre-ISUP 1992 signalling.

5.2.39   Redirecting indicator

Information sent in either direction indicating whether the call has been diverted or re-routed and whether or not presentation of redirection information to the calling party is restricted.

5.2.40   Redirecting reason

Information sent in either direction indicating, in the case of calls undergoing multiple redirections, the reason why the call has been redirected.

5.2.41   Redirection counter

Information sent in either direction indicating the number of redirections which have occurred on a call.

5.2.42   Redirection reason

Information sent in the call diversion information parameter and the redirection information parameter to indicate the reason for the redirection.

5.2.43   Release call indicator

Information sent to inform another node to release the call or not, by compatibility reasons, if the related message or parameter is unrecognized.

5.2.44   Resource indicator

Information sent as part of the Resource identifier parameter identifying the type of resource to be reset or (un)blocked.

5.2.45   Resource value

Information sent as part of the Resource identifier parameter identifying a particular resource.

5.2.46   Screening indicator

Information sent in either direction to indicate whether the address was provided by the user or network.

5.2.47   Send notification indicator

Information sent to inform another node to sent notification, due to compatibility reasons, if the related message or parameter is unrecognized.

5.2.48   Transit at intermediate exchange indicator

Information sent to inform a transit node (type B), whether it shall react on the rest of the instruction indicators or not, if the related message or parameter is unrecognized.

5.2.49   Type of network identification (national use)

Information sent to inform whether the identification of a network is by ITU-T standardization identification or by national network identification.

5.2.50   Virtual channel identifier
Information sent in the forward and backward direction identifying the virtual channel (multiplexed on a virtual path) between two B-ISDN ATM exchanges.

5.2.51   Virtual path connection identifier
Information sent in the forward and backward direction identifying the virtual path connection between two B-ISDN ATM exchanges.

5.2.52   VPCI check result indicator
Information sent in the backward direction indicating the success/failure of the consistency check.

5.2.53   Call diversion may occur indicator
Information sent in the backward direction indicating that call diversion may occur.

5.2.54   Binary code
A code allocated to a closed user group administered by a particular ISDN or data network.

5.2.55   Control ID
Information sent in the forward and backward direction expressing in pure binary representation the identification number allocated to the signalling association.

5.2.56   Look-ahead for busy indicator
Information sent in the forward direction indicating whether the LFB option is allowed or if the path for the call is reserved.

5.2.57   MLPP service domain
Information sent in the forward direction identifying the specific MLPP service domain subscribed to by the calling user.

5.2.58   Precedence level
Information sent in the forward direction indicating the priority of the call.

5.2.59   Priority
Information sent in the forward and backward direction, indicating whether or not the repeated information elements are in ascending, descending or no prioritized order.

5.2.60   Repeat indicator
Information sent in the forward and backward direction, indicating whether or not the information element is repeated.

Functions:

Propagation delay guarantee

User can give a "Maximum end-to-end propagation delay" that can be accepted. During call setup, a "Propagation delay counter" is incremented in each switch. When a call is answered "Call history counter" is returned to user.

Name: Broadband locking shift

Type: Information element

Reference:
DSS2 Q.2931 4.5.3

Function:

Originator:

Direction:

Significance:

Implementation:

Used in:

Coding:

Open questions:

Parameters: