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SERIES Q: SWITCHING AND SIGNALLING

Interworking of Signalling Systems

INTEGRATED SERVICES DIGITAL NETWORK USER PART (ISUP) – GENERAL FUNCTION OF MESSAGES AND SIGNALS

Reedition of CCITT Recommendation Q.762 published in the Blue Book, Fascicle VI.8 (1988)

NOTES

1   CCITT Recommendation Q.762 was published in Fascicle VI.8 of the *Blue Book*. This file is an extract from the *Blue Book*. While the presentation and layout of the text might be slightly different from the *Blue Book* version, the contents of the file are identical to the *Blue Book* version and copyright conditions remain unchanged (see below).

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

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Recommendation Q.762

GENERAL FUNCTION OF MESSAGES AND SIGNALS

This Recommendation describes the elements of signalling information used by the ISDN User Part protocol and their function. The encoding of these elements, the format of the messages in which they are conveyed and their application in the ISDN User Part signalling procedures are described in Recommendations Q.763 and Q.764. Table 1/Q.762 gives the mandatory or optional parameters in the ISDN user part messages and Table 2/Q.762 the list of abbreviations of these messages.

1   Signalling messages

1.1   Address complete message (ACM)

A message sent in the backward direction indicating that all the address signals required for routing the call to the called party have been received.

1.2   Answer message (ANM)

A message sent in the backward direction indicating that the call has been answered. In semi-automatic working this message has a supervisory function. In automatic working this message is used in conjunction with charging information in order to:

–   start metering the charge to the calling subscriber (see Recommendation Q.28), and

–   start measurement of call duration for international accounting purposes (Recommendation E.260).

1.3   Blocking message (BLO)

A message sent only for maintenance purposes to the exchange at the other end of a circuit, to cause an engaged condition of that circuit for subsequent calls outgoing from that exchange. When a circuit is used in the bothway mode of operation an exchange receiving the blocking message must be capable of accepting incoming calls on the concerned circuit unless it has also sent a blocking message. Under certain conditions, a blocking message is also a proper response to a reset circuit message.

1.4   Blocking acknowledgement message (BLA)

A message sent in response to a blocking message indicating that the circuit has been blocked.

1.5   Call modification completed message (CMC)

A message sent in response to a call modification request message indicating that the requested call modification (e.g. from voice to data) has been completed.

1.6   Call modification reject message (CMRJ)

A message sent in response to a call modification request message indicating that the request has been rejected.

1.7   Call modification request message (CMR)

A message sent in either direction indicating a calling or called party request to modify the characteristics of an established call (e.g. from data to voice).

1.8   Call progress message (CPG)

A message sent in the backward direction indicating that an event has occurred during call set-up which should be relayed to the calling party.

1.9   Charge information message (CRG) *(national use)*

Information sent in either direction for accounting and/or call charging purposes.

1.10   **Circuit group blocking message (CGB)**

A message sent to the exchange at the other end of an identified group of circuits to cause an engaged condition of this group of circuits for subsequent calls outgoing from that exchange. An exchange receiving a circuit group blocking message must be able to accept incoming calls on the group of blocked circuits unless it has also sent a blocking message. Under certain conditions, a circuit group blocking message is also a proper response to a reset circuit message.

1.11   **Circuit group blocking acknowledgement message (CGBA)**

A message sent in response to a circuit group blocking message to indicate that the requested group of circuits has been blocked.

1.12   **Circuit group reset message (GRS)**

A message sent to release an identified group of circuits when, due to memory mutilation or other causes, it is unknown whether for example, a release or release complete message is appropriate for each of the circuits in the group. If at the receiving end a circuit is remotely blocked, reception of this message should cause that condition to be removed.

1.13   **Circuit group reset acknowledgement message (GRA)**

A message sent in response to a circuit group reset message and indicating that the requested group of circuits has been reset. The message also indicates the maintenance blocking state of each circuit.

1.14   **Circuit group unblocking message (CGU)**

A message sent to the exchange at the other end of an identified group of circuits to cause cancellation in that group of circuits of an engaged condition invoked earlier by a blocking or circuit group blocking message.

1.15   **Circuit group unblocking acknowledgement message (CGUA)**

A message sent in response to a circuit group unblocking message to indicate that the requested group of circuits has been unblocked.

1.16   **Circuit group query message (CQM)**

A message sent on a routine or demand basis to request the far-end exchange to give the state of all circuits in a particular range.

1.17   **Circuit group query response message (CQR)**

A message sent in response to a circuit group query message to indicate the state of all circuits in a particular range.

1.18   **Confusion message (CFN)**

A message sent in response to any message (other than a confusion message) if the exchange does not recognize the message or detects a part of the message as being unrecognized.

1.19   **Connect message (CON)**

A message sent in the backward direction indicating that all the address signals required for routing the call to the called party have been received and that the call has been answered.

1.20   **Continuity message (COT)**

A message sent in the forward direction indicating whether or not there is continuity on the preceding circuit(s) as well as of the selected circuit to the following exchange, including verification of the communication path across the exchange with the specified degree of reliability.

1.21   **Continuity check request message (CCR)**

A message sent by an exchange for a circuit on which a continuity check is to be performed, to the exchange at the other end of the circuit, requesting continuity checking equipment to be attached.

1.22 Delayed release message (DRS) *(national use)*

A message sent in either direction indicating that the called or calling party has disconnected but that the network is holding the connection.

1.23 Facility accepted message (FAA)

A message sent in response to a facility request message indicating that the requested facility has been invoked.

1.24 Facility reject message (FRJ)

A message sent in response to a facility request message to indicate that the facility request has been rejected.

1.25 Facility request message (FAR)

A message sent from an exchange to another exchange to request activation of a facility.

1.26 Forward transfer message (FOT)

A message sent in the forward direction on semi-automatic calls when the outgoing international exchange operator wants the help of an operator at the incoming international exchange. The message will normally serve to bring an assistance operator (see Recommendation Q.101) into the circuit if the call is automatically set up at the exchange. When the call is completed via an operator (incoming or delay operator) at the incoming international exchange, the message should preferably cause this operator to be recalled.

1.27 Information message (INF)

A message sent to convey information in association with a call, which may have been requested in an information request message.

1.28 Information request message (INR)

A message sent by an exchange to request information in association with a call.

1.29 Initial address message (IAM)

A message sent in the forward direction to initiate seizure of an outgoing circuit and to transmit number and other information relating to the routing and handling of a call.

1.30 Loop back acknowledgement message (LPA) *(national use)*

A message sent in the backward direction in response to a continuity check request message indicating that a loop (or transceiver in the case of a 2-wire circuit) has been connected.

1.31 Overload message (OLM) *(national use)*

A message sent in the backward direction, on non-priority calls in response to an IAM, to invoke temporary trunk blocking of the circuit concerned when the exchange generating the message is subject to load control.

1.32 Pass-along message (PAM)

A message that may be sent in either direction to transfer information between two signalling points along the same signalling path as that used to establish a physical connection between those two points.

1.33 Release message (REL)

A message sent in either direction to indicate that the circuit is being released due to the reason (cause) supplied and is ready to be put into the idle state on receipt of the release complete message. In case the call was forwarded or is to be rerouted, the appropriate indicator is carried in the message together with the redirection address and the redirecting address.

1.34 Release complete message (RLC)

A message sent in either direction in response to the receipt of a released message, or if appropriate to a reset circuit message, when the circuit concerned has been brought into the idle condition.

1.35 Reset circuit message (RSC)

A message sent to release a circuit when, due to memory mutilation or other causes, it is unknown whether for example, a release or a release complete message is appropriate. If, at the receiving end, the circuit is remotely blocked, reception of this message should cause that condition to be removed.

1.36 Resume message (RES)

A message sent in either direction indicating that the calling or called party, after having been suspended, is reconnected.

1.37 Subsequent address message (SAM)

A message that may be sent in the forward direction following an initial address message, to convey additional called party number information.

1.38 Suspend message (SUS)

A message sent in either direction indicating that the calling or called party has been temporarily disconnected.

1.39 Unblocking message (UBL)

A message sent to the exchange at the other end of a circuit to cancel, in that exchange, the engaged condition of the circuit caused by a previously sent blocking or circuit group blocking message.

1.40 Unblocking acknowledgement message (UBA)

A message sent in response to an unblocking message indicating that the circuit has been unblocked.

1.41 Unequipped circuit identification code message (UCIC) *(national use)*

A message sent from one exchange to another when it receives an unequipped circuit identification code.

1.42 User-to-user information message (USR)

A message to be used for the transport of user-to-user signalling independent of call control messages.

2 Signalling information

2.1 Access transport

Information generated on the access side of a call and transferred transparently in either direction between originating and teminating local exchanges. The information is significant to both users and local exchanges.

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.

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.

2.4   **Automatic congestion level**

Information sent to the exchange at the other end of a circuit to indicate that a particular level of congestion exists at the sending exchange.

2.5   **Call forwarding may occur indicator**

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

2.6   **Call identity**

Information sent in the call reference parameter indicating the identity of a call in a signalling point.

2.7   **Call reference**

Circuit independent information identifying a particular call.

2.8   **Called party number**

Information to identify the called party.

2.9   **Called party's category indicator**

Information sent in the backward direction indicating the category of the called party, e.g. ordinary subscriber or payphone.

2.10   **Called party's status indicator**

Information sent in the backward direction indicating the status of the called party, e.g. subscriber free.

2.11   **Calling party number**

Information sent in the forward direction to identify the calling party.

2.12   **Calling party address request indicator**

Information sent in the backward direction indicating a request for the calling party address to be returned.

2.13   **Calling party address response indicator**

Information sent in response to a request for the calling party address, indicating whether the requested address is included, not included, not available or incomplete.

2.14   **Calling party number incomplete indicator**

Information sent in the forward direction indicating that the complete calling party number is not included.

2.15   **Calling party's category**

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

2.16   **Calling party's category request indicator**

Information sent in the backward direction indicating a request for the calling party's category to be returned.

2.17   **Calling party's category response indicator**

Information sent in response to a request for the calling party's category, indicating whether or not the requested information is included in the response.

2.18   **Cause value**

Information sent in either direction indicating the reason for sending the message (e.g. release message). Definitions for each cause value are listed below.

a)   *Normal class*

Cause 1 – Unallocated (unassigned) number

This cause indicates that the called party cannot be reached because, although the called party number is in a valid format, it is not currently allocated (assigned).

Cause 2 – No route to specified transit network

This cause indicates that the equipment sending this cause has received a request to route the call through a particular transit network which it does not recognize. The equipment sending this cause does not recognize the transit network either because the transit network does not exist or because that particular transit network, while it does exist, does not serve the equipment which is sending this cause. This cause is supported on a network-dependent basis.

Cause 3 – No route to destination

This cause indicates that the called party cannot be reached because the network through which the call has been routed does not serve the destination desired. This cause is supported on a network-dependent basis.

Cause 4 – Send special information tone

This cause indicates that the called party cannot be reached for reasons that are of long-term nature and that the special information tone should be returned to the calling party.

Cause 5 – Misdialled trunk prefix

This cause indicates the erroneous inclusion of a trunk prefix in the called party number (for national use only).

Cause 16 – Normal call clearing

This cause indicates that the call is being cleared because one of the users involved in the call has requested that the call be cleared. Under normal situation, the source of this cause is not the network.

Cause 17 – User busy

This cause is used when the called party has indicated the inability to accept another call. It is noted that the user equipment is compatible with the call.

Cause 18 – No user responding

This cause is used when a called party does not respond to a call establishment message with either an alerting or conect indication within the prescribed period of time.

Cause 19 – No answer from user (user alerted)

This cause is used when the called party has been alerted but does not respond with a connect indication within the prescribed period of time.

Cause 21 – Call rejected

This cause indicates that the equipment sending this cause does not wish to accept this call, although it could have accepted the call because the equipment sending this cause is neither busy or incompatible.

Cause 22 – Number changed

This cause is returned to a calling party when the called number indicated by the calling party is no longer assigned. The new called number may optionally be included in the diagnostic field. If a network does not support this capability, cause number 1 shall be used.

Cause 27 – Destination out of order

This cause indicates that the destination requested by the user cannot be reached because the interface to the destination is not functioning correctly. The term "not functioning correctly" indicates that a signalling message was unable to be delivered to the remote party; e.g. a physical layer or data link layer failure at the remote party, user equipment off-line, etc.

Cause 28 – Address incomplete

This cause indicates that the called party cannot be reached because the called party number is not in a valid format or is not complete. This condition may be determined in the incoming international exchange (or in the national destination network):

– immediately after reception of an ST signal, or

– on time-out after the last received digit.

Cause 29 – Facility rejected

This cause is returned when a supplementary service requested by the user cannot be provided by the network.

Cause 31 – Normal, unspecified

This cause is used to report a normal event only when no other cause in the normal class applies.

b) *Resource Unavailable class*

Cause 34 – No circuit available

This cause indicates that there is no appropriate circuit presently available to handle the call.

Cause 38 – Network out of order

This cause indicates that the network is not functioning correctly and that the condition is likely to last a relatively long period of time, e.g. immediately re-attempting the call is not likely to be successful.

Cause 41 – Temporary failure

This cause indicates that the network is not functioning correctly and that the condition is not likely to last a long period of time, e.g. the use may wish to try another call attempt almost immediately.

Cause 42 – Switching equipment congestion

This cause indicates that the switching equipment generating this cause is experiencing a period of high traffic.

Cause 47 – Resource unavailable, unspecified

This cause is used to report a resource unavailable event only when no other cause in the resource unavailable class applies.

c) *Service or Option Not Available class*

Cause 50 – Requested facility not subscribed

This cause indicates that the user has requested a supplementary service which is implemented by the equipment which generated this cause, but the user is not authorized to use.

Cause 55 – Incoming calls barred within CUG

This cause indicates that although the called party is a member of the CUG for the incoming CUG call, incoming calls are not allowed within this CUG.

Cause 57 – Bearer capability not authorized

This cause indicates that the user has requested a bearer capability which is implemented by the equipment which generated this cause but the user is not authorized to use.

Cause 58 – Bearer capability not presently available

This cause indicates that the user has requested a bearer capability which is implemented by the equipment which generated this cause but which is not available at this time.

Cause 63 – Service or option not available, unspecified

This cause is used to report a service or option not available event only when no other cause in the service or option not available class applies.

d) *Service or Option Not Implemented class*

Cause 65 – Bearer capability not implemented

This cause indicates that the equipment sending this cause does not support the bearer capability requested.

Cause 69 – Requested facility not implemented

This cause indicates that the equipment sending this cause does not support the requested supplementary service.

Cause 70 – Only restricted digital information bearer capability is available

This cause indicates that the calling party has requested an unrestricted bearer service but that the equipment sending this cause only supports the restricted version of the requested bearer capability.

Cause 79 – Service or option not implemented, unspecified

This cause is used to report a service or option not implemented event only when no other cause in the service or option not implemented class applies.

e) *Invalid Message (e.g. Parameter out of Range) class*

Cause 87 – Called user not member of CUG

This cause indicates that the called user for the incoming CUG call is not a member of the specified CUG.

Cause 88 – Incompatible destination

This cause indicates that the equipment sending this cause has received a request to establish a call which has low layer compatibility or high layer compatibility or other compatibility attributes (e.g. data rate) which cannot be accommodated.

Cause 91 – Invalid transit network selection

This cause indicates that a transit network identification was received which is of an incorrect format as defined in Annex C of Recommendation Q.931.

Cause 95 – Invalid message, unspecified

This cause is used to report an invalid message event only when no other cause in the invalid message class applies.

f) *Protocol error (e.g. Unknown Message) class*

Cause 97 – Message type non-existent or not implemented

This cause indicates that the equipment sending this cause has received a message which it does not recognize either because this is a message type not defined or defined but not implemented by the equipment sending this cause.

Cause 99 – Parameter non-existent or not implemented – discarded

This cause indicates that the equipment sending this cause has received a message which includes parameters not recognized because the parameters are not defined or are defined but not implemented by the equipment sending the cause. The cause indicates that the parameter(s) were discarded.

Cause 103 – Parameter non-existent or not implemented – passed on

This cause indicates that the equipment sending this cause has received a message which includes parameters not recognized because the parameters are not defined or are defined but not implemented by the equipment sending the cause. The cause indicates that the parameter(s) were ignored. In addition, if the equipment sending this cause is an intermediate point, then this cause indicates that the parameter(s) were passed on unchanged.

Cause 111 – Protocol error, unspecified

This cause is used to report a protocol error event only when no other cause in the protocol error class applies.

g) *Interworking class*

Cause 127 – Interworking, unspecified

This cause indicates that there has been interworking with a network which does not provide causes for actions it takes; thus, the precise cause for a message which is being sent cannot be ascertained.

2.19 Charge indicator

Information sent in the backward direction indicating whether or not the call is chargeable.

2.20 Charge information request indicator *(national use)*

Information sent in either direction requesting charge information to be returned.

2.21   **Charge information response indicator** *(national use)*

Information sent in response to a request for charge information indicating whether or not the requested information is included.

2.22   **Circuit group supervision message type indicator**

Information sent in a circuit group blocking or unblocking message, indicating whether blocking (unblocking) is maintenance oriented or hardware oriented.

2.23   **Circuit identification code**

Information identifying the physical path between a pair of exchanges.

2.24   **Circuit state indicator**

Information indicating the state of a circuit according to the sending exchange.

2.25   **Closed user group call indicator**

Information indicating whether or not the concerned call can be set up as a closed user group call and, if a closed user group call, whether or not outgoing access is allowed.

2.26   **Closed user group interlock code**

Information uniquely identifying a closed user group within a network.

2.27   **Coding standard**

Information sent in association with a parameter (e.g. cause indicators) identifying the standard in which the parameter format is described.

2.28   **Connected number**

Information sent in the backward direction to identify the connected party.

2.29   **Connection request**

Information sent in the forward direction on behalf of the signalling connection control part requesting the establishment of an end-to-end connection.

2.30   **Continuity check indicator**

Information sent in the forward direction indicating whether or not a continuity check will be performed on the circuit(s) concerned or is being (has been) performed on a previous circuit in the connection.

2.31   **Continuity indicator**

Information sent in the forward direction indicating whether or not the continuity check on the outgoing circuit was successful. A continuity check successful indication also implies continuity of the preceding circuits and successful verification of the path across the exchange with the specified degree of reliability.

2.32   **Credit**

Information sent in a connection request, indicating the window size requested by the signalling connection control part for an end-to-end connection.

3.33   **Diagnostic**

Information sent in association which a cause value and which provides supplementary information about the reason for sending the message.

2.34 Echo control device indicator

Information indicating whether or not a half echo control device is included in the connection.

2.35 End-to-end information indicator

Information sent in either direction indicating whether or not the sending exchange has further call information available for end-to-end transmission. In the forward direction, an indication that end-to-end information is available will imply that the destination exchange may obtain the information before alerting the called party.

2.36 End-to-end method indicator

Information sent in either direction indicating the available methods, if any, for end-to-end transfer of information.

2.37 Event indicator

Information sent in the backward direction indicating the type of event which caused a call progress message to be sent to the originating local exchange.

2.38 Event presentation restricted indicator

Information sent in the backward direction indicating that the event should not be presented to the calling party.

2.39 Extension indicator

Information indicating whether or not the associated octet has been extended.

2.40 Facility indicator

Information sent in facility related messages identifying the facility or facilities with which the message is concerned.

2.41 Holding indicator *(national use)*

Information sent in either direction indicating that holding of the connection is requested.

2.42 Hold provided indicator *(national use)*

Information sent in either direction indicating that the connection will be held after the calling or called party has attempted to release.

2.43 In-band information indicator

Information sent in the backward direction indicating that in-band information or an appropriate pattern is now available.

2.44 Internal network number indicator

Information sent to the destination exchange indicating whether or not the call is allowed should the called party number prove to be an internal network number (e.g. mobile access point).

2.45 Interworking indicator

Information sent in either direction indicating whether or not Signalling System No. 7 is used in all parts of the network connection.

2.46 ISDN access indicator

Information sent in either direction indicating whether or not the access signalling protocol is ISDN.

2.47 ISDN user part indicator

Information sent in either direction to indicate that the ISDN user part is used in all preceding parts of the network connection. When sent in the backward direction, the preceding parts are those towards the called party.

2.48 ISDN user preference indicator

Information sent in the forward direction indicating whether or not the ISDN user part is required or preferred in all parts of the network connection.

2.49 Local reference

Information sent in the connection request, indicating the local reference allocated by the signalling connection control part to an end-to-end connection.

2.50 Location

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

2.51 Malicious call identification request indicator *(national use)*

Information sent in the backward direction to request the identity of the calling party for the purpose of malicious call idenification.

2.52 Modification indicator

Information sent in the call modification indicators parameter indicating whether the call modification is to service 1 or service 2.

2.53 National/international call indicator

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.

2.54 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.

2.55 Numbering plan indicator

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

2.56 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.

2.57 Original called number

Information sent in the forward direction when a call is redirected and identifies the original called party.

2.58 Original redirection reason

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

2.59 Point code

Information sent in the call reference parameter indicating the code of the signalling point in which the call identity allocated to the call reference is relevant.

2.60 Protocol class

Information sent in the connection request parameter indicating the protocol class requested by the signalling connection control part for the end-to-end connection.

2.61 Protocol control indicator

Information consisting of the end-to-end method indicator, the interworking indicator, the end-to-end information indicator, the SCCP method indicator and the ISDN user part indicator. The protocol control indicator is contained in both the forward and backward call indicators parameter field and describes the signalling capabilities within the network connection.

2.62 Range

Information sent in a circuit group supervision message (e.g. circuit group blocking) to indicate the range of circuits affected by the action in the message.

2.63 Recommendation indicator

Information sent in association with a cause value identifying the Recommendation to which the cause value applies.

2.64 Redirecting indicator

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

2.65 Redirecting number

Information sent in the forward direction when a call is redirected more than once, indicating the number from which the call was last redirected.

2.66 Redirecting reason

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

2.67 Redirection counter

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

2.68 Redirection number

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

2.69 Routing label

Information provided to the message transfer part for the purpose of message routing (see Recommendation Q.704, § 2.2).

2.70 Satellite indicator

Information sent in the forward direction indicating the number of satellite circuits in the connection.

2.71 SCCP method indicator

Information sent in either direction indicating the available SCCP methods, if any, for end-to-end transfer of information.

2.72 Screening indicator

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

2.73   **Signalling point code** *(national use)*

Information sent in a release message to identify the signalling point in which the call failed.

2.74   **Solicited information indicator**

Information sent in an information message to indicate whether or not the message is a response to an information request message.

2.75   **Status**

Information sent in a circuit group supervision message (e.g. circuit group blocking) to indicate the specific circuits, within the range of circuits stated in the message, that are affected by the action specified in the message.

2.76   **Suspend/Resume indicator**

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

2.77   **Temporary trunk blocking after release** *(national use)*

Information sent to the exchange at the other end of a circuit (trunk) to indicate low level of congestion at the sending exchange and that the circuit (trunk) should not be re-occupied by the receiving exchange for a short period of time after release.

2.78   **Transit network selection** *(national use)*

Information sent in the initial address message indicating the transit network(s) requested to be used in the call.

2.79   **Transmission medium requirement**

Information sent in the forward direction indicating the type of transmission medium required for the connection (e.g. 64 kbit/s unrestricted, speech).

2.80   **User service information**

Information sent in the forward direction indicating the bearer capability requested by the calling party.

2.81   **User-to-user indicators**

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

2.82   **User-to-user information**

Information generated by a user and transferred transparently through the interexchange network between the originating and terminating local exchanges.

Mandatory or optional parameters in the ISDN user part messages

Message groups (Type columns):
- Forward set-up: IAM, SAM
- General set-up: INR, INF, COT
- Backward set-up: ACM, CON, CPG
- Call supervision: ANM, FOT, REL, DRS, RLC
- Circuit supervision: CCR/RSC/LPA, BLO/UBL/UCIC, BLA/UBA/OLM, SUS/RES, CFN
- Circuit group supervision: CGB/CGU, CGBA/CGU-A, GRS/GRA/COM, COR
- In-call modification: CMR/CMC/CMPJ, FAA/FAR, FRJ
- End-to-end: PAM, USR

Parameter field	Sub-field	Q.763 ref. (§)	IAM	SAM	INR	INF	COT	ACM	CON	CPG	ANM	FOT	REL	DRS	RLC	CCR RSC LPA	BLO UBL UCIC	BLA UBA OLM	SUS RES	CFN	CGB CGU	CGBA CGU-A	GRS GRA COM	COR	CMR CMC CMPJ	FAA FAR	FRJ	PAM	USR
Message type		2.1	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
Access transport		3.2	O			O		O		O	O		O																O
Automatic congestion level		3.3											O																
Backward call indicators	Charge indicador; Called party's status ind.; Called party's category ind.; End-to-end method ind.; Interworking ind.; End-to-end information ind.; ISDN user part indicator; Holding indicator; ISDN access indicator; Echo control device indicator; SCCP Method indicator	3.4						M	M	O	O																		
Call modification ind.	Modification indicator	3.5																							M				
Call reference	Call identity; Point code	3.6	O		O	O		O	O	O	O	O		O					O						O	O			
Called party number	Odd/even indicator; Nature of address; Internal network number ind.	3.7	M																										
Redirection number	Numbering plan indicator; Address signals	3.30							O	O			O																
Calling party number	Odd/even indicator; Nature of address; Number incomplete indicator; Numbering plan indicator; Address pres. restricted ind.; Screening indicator; Address signals	3.8	O			O																							
Calling party's category		3.9	M			O																							
Cause indicators	Coding standard; Location; Recommendation; Cause value; Diagnostic	3.10						O		O			M		O					M									
Circuit group supervision message type ind.	Type indicator	3.11																			M	M							
Circuit state indicator		3.12																						M					
CUG interlock code	Network identity; Binary code	3.13	O																										

Parameter field	Sub-field	Group Type Q.763 ref. (§)	Forward set-up IAM	SAM	General set-up INR	INF	COT	Backward set-up ACM	CON	CPG	Call supervision ANM	FOT	REL	DRS	RLC	Circuit supervision CCR RSC LPA	BLO UBL UCIC	BLA UBA OLM	SUS RES	CFN	Circuit group supervision CGB CGU	CGBA CGU-A	GRS GRA COM	COR	In-call modification CMR CMC CMPJ	FAA FAR	FRJ	End-to-end PAM	USR
Connected number	Odd/even indicator / Nature of address / Numbering plan indicator / Address pres. restricted ind. / Screening indicator / Address signals	3.14						O	O		O																		
Connection request	Local reference / Point code / Protocol class / Credit	3.15	O			O																							
Continuity indicators	Continuity indicators	3.16					M																						
Event information	Event indicator / Event pres. restricted ind.	3.18								M																			
Facility indicator		3.19																								M	M		
Forward call indicator	National/international call ind. / End-to-end method indicator / Interworking indicator / End-to-end information ind. / ISDN user part indicator / ISDN user part preference ind. / ISDN access indicator / SCCP method indicator	3.20	M																										
Information indicators	Calling party address resp. ind. / Hold provided indicator / Calling party's cat. resp. ind. / Charge info. response ind. / Solicited information ind.	3.21				M																							
Information request indicators	Calling party address request ind. / Holding indicator / Calling party's category req. ind. / Charge information request ind. / Malicious call ID request ind.	3.22			M																								
Nature of connection indicators	Satellite indicator / Continuity check indicator / Echo control device indicator	3.23	M																										
Optional backward call indicators	In-band information indicator / Call forwarding may occur ind.	3.24						O	O	O	O																		

Mandatory or optional parameters in the ISDN user part messages

Parameter field	Sub-field	Group Type Q.763 ref. (§)	Forward set-up IAM	SAM	General set-up INR	INF	COT	Backward set-up ACM	CON	CPG	Call supervision ANM	FOT	REL	DRS	RLC	Circuit supervision CCR RSC LPA	BLO UBL UCIC	BLA UBA OLM	SUS RES	CFN	Circuit group supervision CGB CGU	CGBA CGU-A	GRS GRA COM	COR	In-call modification CMR CMC CMPJ	FAA FAR	FRJ	End-to-end PAM	USR
Optional forward call indicators	CUG call indicator	3.25	O																										
Original called number	Odd/even indicator Nature of address ind. Numbering plan	3.26	O																										
Redirecting number	Address pres. restricted ind. Address signals	3.28	O																										
Range & status	Range Status	3.27																			M	M	M	M					
Redirection information	Redirecting indicator Redirecting reason Redirection counter Original redirection reason	3.29	O										O																
Signalling point code		3.31											O																
Subsequent number	Odd/even indicator Address signals	3.32		M																									
Suspend/resume indicators		3.33																	M										
Transit network selection	Odd/even indicator Type of network identification Network identification plan Network identification	3.34	O																										
Transmission medium requirement		3.35	M																										
User service information	Coding standard Information transfer capability Transfer mode Information transfer rate Structure Configuration Establishment Symmetry User information protocols	3.36	O					O	O	O	O																		
User-to-user indicators	Type Service 1 Service 2 Service 3	3.37	O					O	O	O	O														O	O	O		
User-to-user information		3.38	O					O	O	O	O		O												O				M

ISDN user part message acronyms

English	French	Spanish	
ACM	ACO	MDC	Address complete
ANM	REP	RST	Answer
BLA	BLA	ARB	Blocking acknowledgement
BLO	BLO	BLO	Blocking
CCR	CCD	PPC	Continuity check request
CFN	ICO	CFN	Confusion
CGB	BLG	BGC	Circuit group blocking
CGBA	BGA	ARBG	Circuit group blocking acknowledgement
CGU	DBG	DGC	Circuit group unblocking
CGUA	DGA	ARDG	Circuit group unblocking acknowledgement
CMC	MAE	MLC	Call modification completed
CMR	MAD	PML	Call modification request
CMRJ	MAR	RFA	Call modification reject
CON	CON	CNX	Connect
COT	CCP	CON	Continuity
CPG	PRG	PRL	Call progress
CRG	TAX	TAS	Charge information
CQM	IGD	IGC	Circuit group query
CQR	IGR	RIG	Circuit group query response
DRS	LID	LID	Delayed release
FAA	SUAC	FAA	Facility accepted
FAR	SUDM	PFA	Facility request
FOT	IOP	INT	Forward transfer
FRJ	SURF	RFA	Facility reject
GRA	RZA	ARRG	Circuit group reset acknowledgement
GRS	RZG	RGC	Circuit group reset
IAM	MIA	MID	Initial address
INF	INF	INF	Information
INR	IND	PIN	Information request
LPA	BOA	AEB	Loop back acknowledgment
OLM	SUR	SBC	Overload
PAM	FAP	MDP	Pass along
REL	LIB	LIB	Release
RES	RPR	REA	Resume
RLC	LIT	LIC	Release complete
RSC	RZC	RCI	Reset circuit
SAM	MSA	MSD	Subsequent address
SUS	SUS	SUS	Suspend
UBL	DBO	DBL	Unblocking
UBA	DBA	ARD	Unblocking acknowledgement
UCIC	CINE	CICN	Unequipped circuit identification code
USR	UAU	IUU	User-to-user information

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