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SPECIFICATIONS OF SIGNALLING SYSTEM No. 7

GENERAL FUNCTION OF MESSAGES AND SIGNALS OF THE ISDN USER PART OF SIGNALLING SYSTEM No. 7

ITU-T Recommendation Q.762

(Previously “CCITT Recommendation”)

FOREWORD

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

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

ITU-T Recommendation Q.762 was revised by the ITU-T Study Group XI (1988-1993) and was approved by the WTSC (Helsinki, March 1-12, 1993).

NOTES

1 As a consequence of a reform process within the International Telecommunication Union (ITU), the CCITT ceased to exist as of 28 February 1993. In its place, the ITU Telecommunication Standardization Sector (ITU-T) was created as of 1 March 1993. Similarly, in this reform process, the CCIR and the IFRB have been replaced by the Radiocommunication Sector.

In order not to delay publication of this Recommendation, no change has been made in the text to references containing the acronyms "CCITT, CCIR or IFRB" or their associated entities such as Plenary Assembly, Secretariat, etc. Future editions of this Recommendation will contain the proper terminology related to the new ITU structure.

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

CONTENTS

GENERAL FUNCTION OF MESSAGES AND SIGNALS OF THE ISDN USER PART OF SIGNALLING SYSTEM No. 7

(Málaga-Torremolinos, 1984; modified at Helsinki, 1993)

General

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 gives the mandatory or optional parameters in the ISDN user part messages and Table 2 lists the 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 (see 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) (not used in the 1993-version Recommendations)

1.6 call modification reject message (CMRJ) (not used in the 1993-version Recommendations)

1.7 call modification request message (CMR) (not used in the 1993-version Recommendations)

1.8 call progress message (CPG): A message, sent in either direction during the set-up or active phase of the call, indicating that an event which is of significance, should be relayed to the originating or terminating access, has occurred.

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) (national use): 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) (national use): 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) (not used in the 1993-version Recommendations)

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 message (FAC) (national use): A message sent in either direction at any phase of the call to request an action at another exchange. The message is also used to carry the results, error or rejection of a previously requested action.

1.25 facility reject message (FRJ): A message sent in response to a facility request message to indicate that the facility request has been rejected.

1.26 facility request message (FAR): A message sent from an exchange to another exchange to request activation of a facility.

1.27 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.

1.28 identification request message (IDR): A message sent in the direction to request an action regarding the malicious call identification supplementary service.

1.29 identification response message (IRS): A message sent in response to the identification request message.

1.30 information message (INF) (national use): A message sent to convey information in association with a call, which may have been requested in an information request message.

1.31 information request message (INR) (national use): A message sent by an exchange to request information in association with a call.

1.32 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.

1.33 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.

1.34 network resource management message (NRM): A message sent in order to modify network resources associated with a certain call. The message is sent along an established path in any direction in any phase of the call.

1.35 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.

1.36 pass-along message (PAM) (national use): 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.

1.37 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.

1.38 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.

1.39 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.

1.40 resume message (RES): A message sent in either direction indicating that the calling or called party, after having been suspended, is reconnected.

1.41 segmentation message (SGM): A message sent in either direction to convey an additional segment of an overlength message.

1.42 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.

1.43 suspend message (SUS): A message sent in either direction indicating that the calling or called party has been temporarily disconnected.

1.44 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.

1.45 unblocking acknowledgement message (UBA): A message sent in response to an unblocking message indicating that the circuit has been unblocked.

1.46 unequipped circuit identification code message (UCIC) (national use): A message sent from one exchange to another when it receives an unequipped circuit identification code.

1.47 user part available message (UPA): A message sent in either direction as a response to a user part test message, to indicate that the user part is available.

1.48 user part test message (UPT): A message sent in either direction to test the status of a user part marked as unavailable for a signalling point.

1.49 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 terminating local exchanges. The information is significant to both users and local exchanges.

2.2 access delivery indicator: Information sent in the backward direction indicating that a SETUP message was generated at the destination access.

2.3 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.

2.4 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.

2.5 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.

2.6 binary code: A code allocated to a closed user group administered by a particular ISDN or data network.

2.7 call diversion information: Information sent in the backward direction indicating the redirecting reason and the notification subscription option of the redirecting user.

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

2.9 call history information: Information sent in the backward direction to indicate the accumulated propagation delay of a connection.

2.10 call identity (national use): Information sent in the call reference parameter indicating the identity of a call in a signalling point.

2.11 call reference (national use): Circuit independent information identifying a particular call.

2.12 called party number: Information to identify the called party.

2.13 called party's category indicator: Information sent in the backward direction indicating the category of the called party, e.g. ordinary subscriber or payphone.

2.14 called party's status indicator: Information sent in the backward direction indicating the status of the called party, e.g. subscriber free.

2.15 calling party number: Information sent in the forward direction to identify the calling party.

2.16 calling party address request indicator (national use): Information sent in the backward direction indicating a request for the calling party address to be returned.

2.17 calling party address response indicator (national use): 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.

2.18 calling party number incomplete indicator (national use): Information sent in the forward direction indicating that the complete calling party number is not included.

2.19 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.

2.20 calling party's category request indicator (national use): Information sent in the backward direction indicating a request for the calling party's category to be returned.

2.21 calling party's category response indicator (national use): 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.

2.22 cause value: Information sent in either direction indicating the reason for sending the message (e.g. release message). Definitions for each cause value are defined in Recommendation Q.6xx.

2.23 charge indicator: Information sent in the backward direction indicating whether or not the call is chargeable.

2.24 charge information request indicator (national use): Information sent in either direction requesting charge information to be returned.

2.25 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.

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

2.27 circuit identification code: Information identifying the physical path between a pair of exchanges.

2.28 circuit state indicator (national use): Information indicating the state of a circuit according to the sending exchange.

2.29 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.

2.30 closed user group interlock code: Information uniquely identifying a closed user group within a network.

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

2.32 component type (national use): There are four types of components that may be present in the Remote Operations parameter. The four protocol data units (PDU) defined in Recommendation X.229 are used, viz.:

Component	X.229 PDU
Invoke	ROIV
Return Result	RORS
Return Error	ROER
Reject	RORJ

These component types are defined as follows:

a) *Invoke*

The Invoke component requests that an operation be performed. It may be linked to another operation invocation previously sent by the other end. In this case it is known as a "Linked Invoke".

b) *Return Result*

The Return Result component reports successful completion of an operation.

c) *Return Error*

The Return Error component reports that an operation has not been successfully completed.

d) *Reject*

The Reject component reports the receipt and rejection of an incorrect component other than a Reject component. The possible causes for rejecting a component are defined by the Problem Code element.

2.33 connected line identity request indicator: Information sent in the forward direction indicating a request for the connected party number to be returned.

2.34 connected number: Information sent in the backward direction to identify the connected party.

2.35 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.

2.36 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.

2.37 continuity indicator: Information sent in the forward direction indicating whether or not the continuity check on the outgoing circuit was successful. A 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.

2.38 credit (national use): Information sent in a connection request, indicating the window size requested by the signalling connection control part for an end-to-end connection.

2.39 diagnostic: Information sent in association with a cause and which provides supplementary information about the reason for sending the message.

2.40 discard message indicator: Information sent to inform another node to discard the related message, due to compatibility reasons.

2.41 discard parameter indicator: Information sent to inform another node to discard the related parameter, due to compatibility reasons.

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

2.43 encoding scheme: Information sent to indicate the coding type for the digit information, e.g. BCD-coded.

2.44 end of optional parameters: The end of optional parameters field indicates that there are no more optional parameters in the message.

2.45 end-to-end information indicator (national use): 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.

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

2.47 error code (national use): The Error code element contains the reason why an operation cannot be completed successfully. It is present only in a Return Error component. As with operations, errors may be local or global. These errors and associated parameters are defined in relevant supplementary service specifications.

2.48 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.

2.49 event presentation restricted indicator (national use): Information sent in the backward direction indicating that the event should not be presented to the calling party.

2.50 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.

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

2.52 generic digits (national use): Digit information, which is not suitable to be sent within numbering address parameter, sent in either direction to convey information between exchanges due to supplementary service.

2.53 generic notification: Information sent in either direction intended to provide supplementary service notification to a user.

2.54 generic number: A number information sent in either direction to enhance network operation or for supplementary services.

2.55 generic reference (reserved): for further study.

2.56 feature code (national use): Information sent in either direction to invoke, accept, or reject a specific action for a supplementary service.

2.57 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.

2.58 holding indicator (national use): Information sent in the backward direction indicating that holding of the connection is requested.

NOTE – This is a change of the definition compared with the definition of Recommendation Q.762 in the *Blue Book*.

2.59 hold provided indicator (national use): Information sent in the forward direction indicating that the connection will be held after the calling or called party has attempted to release.

NOTE – This is a change of the definition compared with the definition of Recommendation Q.762 in the *Blue Book*.

2.60 hop counter: for further study.

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

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

2.63 incoming half echo control device response indicator: Information sent to inform whether an incoming half echo control device has been included or not.

2.64 instruction indicator: Information indicating the reactions to be taken if an unrecognized message or unrecognized parameter is received.

2.65 internal network number: 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.

NOTE This is a change of the definition compared with Recommendation Q.762 in the *Blue Book*.

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

2.67 invoke ID (national use): An Invoke ID is used as a reference number to identify uniquely an operation invocation. It is present in the Invoke component and in any reply to the Invoke (Return Result, Return Error or Reject), enabling the reply to be correlated with the invoke.

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

2.69 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.

2.70 ISDN user part 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.

2.71 length of network identification (national use): Information sent in the network specific facility parameter, to indicate the length in octets of the network identification.

2.72 length of reference indicator (reserved): Information sent in the generic reference parameter, to indicate the length in octets of the reference.

2.73 linked ID (national use): A Linked ID is included in an Invoke component by a node when it responds to an operation invocation with a linked operation invocation. The node receiving the Linked ID uses it for correlation purposes in the same way that it uses the Invoke ID in Return Result, Return Error and Reject components.

2.74 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. Definition of each location value is given in Recommendation Q.6xx.

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

2.76 location number: Information sent to indicate the location of a user in the term of an E.164 number.

2.77 look for busy (LFB): Information sent in the forward direction to indicate whether the LFB option is allowed or if the path for the call is reserved.

2.78 malicious call identification response indicator (national use): Information sent in the forward direction indicating whether the malicious call identification has been provided or not.

2.79 message compatibility information parameter: Information sent in either direction indicating how an exchange should react in case this message is unrecognized.

2.80 MCID request indicator: Information sent in the backward direction to request the identity of the calling party for the purpose of malicious call identification.

2.81 MCID response indicator: Information sent in the forward direction to respond to a MCID request and indicating whether or not the MCID information is available.

2.82 MLPP service domain: Information sent in the forward direction to identify the specific MLPP service domain subscribed to by the calling user.

2.83 MLPP user indicator: Information sent in the backward direction to indicate that the called user is an MLPP user.

2.84 modification indicator (not used in the 1993-version Recommendations)

2.85 more instruction indicators: Octets reserved for future use for enhancement of the instruction indicators.

2.86 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.

2.87 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.

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

2.89 network identification plan (national use): Information sent to indicate the identification plan for identifying the network, e.g. X.121 or E.212, (DNIC or MNIC).

2.90 network identification (national use): Information sent to identify a network.

2.91 network identity (national use): Information sent to identify the network who administrates the supplementary service.

2.92 network specific facilities (national use): Service related information transparently transferred in either direction between the local exchange and the identified network which contracts the service. The information is significant to both user and the identified network.

2.93 notification indicator: See 2.53.

2.94 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.

2.95 number incomplete indicator: Information sent in the generic number parameter to indicate whether the delivered number is complete or incomplete.

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

2.97 number qualifier indicator: Information sent in association with a generic number, qualifying the number that is transferred, e.g. a network specific number or a number related to a specific supplementary service.

2.98 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.

2.99 operation code (national use): The Operation code element indicates the precise operation to be invoked, and is present in an Invoke component type. It is also present in the Return Result component if the result contains parameters.

The operation may be a local operation or a global operation. A local operation can be used in one ASE only. The same global operation can be used in several different ASEs.

The actual operation codes, the definition of the operations and their associated parameters, are defined in relevant supplementay service specifications.

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

2.101 original redirection reason: Information sent in either direction indicating the reason why the call was originally redirected.

2.102 origination ISC point code: Information sent in the initial address message of an international call, indicating the point code of the originating ISC.

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

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

2.105 parameter compatibility information parameter: Information sent in either direction indicating how an exchange should react in case the parameter is unrecognized.

2.106 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.

2.107 point code: Information sent in the connection request parameter identifying the signalling point at which connection request originated.

2.108 precedence level: Information sent in the forward direction to indicate the priority of the call.

2.109 problem code (national use): The Problem code element contains the reason for the rejection of a component and one such element is present in a Reject component. Four problem code elements are defined, viz.:

a) *General Problem*

This element contains one of the problem codes which apply to the Remote Operation capability of ISUP in general and which do not relate to any specific component type. All of these are generated by the Remote Operation capability of ISUP. They are:

– Unrecognized Component

The component type is not recognized as being one of those defined in 2.32 describing component types.

– Mistyped Component

The elemental structure of a component does not conform to the structure of that component as defined in Recommendation Q.763.

– Badly Structured Component

The contents of the component do not conform to the encoding rules defined in Recommendation Q.763.

TABLE 1/Q.762

Example mapping of General Problem Reject scenarios to General Problem Reject types

General Problem	Example Reason
Unrecognized Component (The component type is not recognized as being one of those defined in 2.32)	Component Type Tag not recognized as Invoke, Return Result, Return Error or Reject
Mistyped Component (The elemental structure of a component does not conform to the structure of that component as defined in Recommendation Q.763)	Missing Invoke ID Element Operation Code Element expected but not present Return Error Component received with no Error Code Element The order of the received information elements within the component does not conform to Recommendation Q.763 for that Component type
Badly structured Component (The contents of the component do not conform to the encoding rules defined in Recommendation Q.763)	Length indicator value less than 128 octets, but not coded short form

b) *Invoke problem*

This element contains one of the problem codes that relate only to the Invoke component type. They are:

– Duplicate Invoke ID

The Invoke ID is already in use by a previously invoked operation.

– Unrecognized operation

The operation code value is not one of those used by the ASE.

– Mistyped Parameter

Signifies that the type of invoke parameter is not that agreed between the users.

– Resource Limitation

  Sufficient resources are not available to perform the requested operation.

– Initiating Release

  The requested operation cannot be invoked because the association is about to be released.

– Unrecognized Linked ID

  The Linked ID does not correspond to a previously invoked operation.

– Linked Response Unexpected

  The operation referred to by the Linked ID is not an operation for which linked invokes are allowed.

– Unexpected Linked Operation

  The operation referred to by the Linked ID does not allow this linked operation.

c) *Return Result Problem*

This element contains one of the problem codes that relate only to the Return Result component type. They are:

– Unrecognized Invoke ID

  No operation with the specified Invoke ID is in progress.

– Return Result Unexpected

  The invoked operation does not report success.

– Mistyped Parameter

  Signifies that the type of Return Result parameter is not that agreed between the users.

d) *Return Error Problem*

This element contains one of the problem codes that relate only to the Return Error component type. They are:

– Unrecognized Invoke ID

  No operation with the specified Invoke ID is in progress.

– Return Error Unexpected

  The invoked operation does not report failure.

– Unrecognized Error

  The reported error is not one of those defined for the invoked operation.

– Unexpected Error

  The received error is not one of those that the invoked operation may report.

– Mistyped Parameter

  Signifies that the type of Error parameter is not that agreed between the users.

2.110 propagation delay counter: 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.

2.111 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.

2.112 protocol profile (national use): Information sent in either direction to indicate the protocol used in the Remote Operations parameter.

2.113 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.

2.114 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.

2.115 Recommendation indicator (not used in the 1993-version Recommendations)

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

2.117 redirecting number: Information sent in the forward direction when a call is diverted, indicating the number from which the call was diverted.

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

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

2.120 redirection indicator: Information sent to indicate whether the call has undergone diversion or rerouting. It also contains information about presentation restrictions.

2.121 redirection information: Information sent in either direction giving information about call redirection or call rerouting.

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

2.123 redirection number restriction indicator: Information sent in the backward direction indicating whether the diverted-to user allows the presentation of his number.

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

2.125 reference *n*th octet (reserved): Information sent in the generic reference parameter, expressing the reference number of the context given by the entity which handles and provides the service.

2.126 reference qualifier indicator (reserved): Information sent in the generic reference parameter, identifying the context which handles and provides the service.

2.127 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.

2.128 remote operations (national use): The Remote Operations parameter is used to indicate the invocation of a supplementary service identified by an operation value and also carry the result or error indications depending on the outcome of the operation.

2.129 routing label: Information provided to the message transfer part for the purpose of message routing (see 2.2/Q.704).

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

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

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

2.133 send notification indicator: Information sent to inform another node to send notification, due to compatibility reason, if the related message or parameter is unrecognized.

2.134 sequence (national use): The sequence is an ordered set.

2.135 service activation parameter (national use): Information sent in either direction to indicate the invocation, acceptance or rejection of supplementary services, when no service associated parameter is to be sent.

2.136 set (national use): The Set element is used to contain a set of information elements accompanying a component. It is required in the case of more than one information elements being included in a component. The information elements themselves are defined in relevant supplementary service specifications.

2.137 signalling point code (national use): Information sent in a release message to identify the signalling point in which the call failed.

2.138 simple segmentation indicator: Information sent in either direction to indicate that additional information will be forwarded in an information message (unsolicited).

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

2.140 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.

2.141 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.

2.142 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.

2.143 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.

2.144 transit network selection (national use): Information sent in the initial address message indicating the transit network(s) requested to be used in the call.

2.145 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).

2.146 transmission medium requirement prime: Information sent in the forward direction indicating the fallback connection type in case of fallback.

2.147 transmission medium used: Information sent in the backward direction indicating a resulting fallback connection type used for a call after fallback has occurred.

2.148 type indicator: Information sent to indicate the initiator for a circuit group supervision message, e.g. maintenance oriented or hardware failure oriented.

2.149 type of digits (national use): Information sent in association with a generic digit to indicate the type of digit, e.g. authorization code.

2.150 type of network identification (national use): Information sent to inform whether the identification of a network is by CCITT standardization identification or by national network identification.

2.151 user service information: Information sent in the forward direction indicating the bearer capability requested by the calling party.

2.152 user service information prime: Information sent in the forward direction indicating the additional bearer capability requested by the calling party.

2.153 user teleservice information: Information sent in the initial address message indicating the Higher Layer Compatibility information requested by the calling party.

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

2.155 user-to-user information: Information generated by a user and transferred transparently through the interexchange network between the originating and terminating local exchanges.

TABLE 2/Q.762

ISDN user part message acronyms

Acronym	Message
ACM	Address complete
ANM	Answer
BLA	Blocking acknowledgement
BLO	Blocking
CCR	Continuity check request
CFN	Confusion
CGB	Circuit group blocking
CGBA	Circuit group blocking acknowledgement
CGU	Circuit group unblocking
CGUA	Circuit group unblocking acknowledgement
CON	Connect
COT	Continuity
CPG	Call progress
CRG	Charge information
CQM	Circuit group query
CQR	Circuit group query response
DRS	Delayed release
FAA	Facility accepted
FAC	Facility
FAR	Facility request
FOT	Forward transfer
FRJ	Facility reject
GRA	Circuit group reset acknowledgement
GRS	Circuit group reset
IAM	Initial address
IDR	Identification request
IRS	Identification response
INF	Information
INR	Information request
LPA	Loop back acknowledgment
NRM	Network resource management
OLM	Overload
PAM	Pass along
REL	Release
RES	Resume
RLC	Release complete
RSC	Reset circuit
SAM	Subsequent address
SGM	Segmentation
SUS	Suspend
UBL	Unblocking
UBA	Unblocking acknowledgement
UCIC	Unequipped circuit identification code
UPA	User part available
UPT	User part test
USR	User-to-user information

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