INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

Q.762

(12/1999)

SERIES Q: SWITCHING AND SIGNALLING

Specifications of Signalling System No. 7 – ISDN user part

Signalling System No. 7 – ISDN User Part general functions of messages and signals

ITU-T Recommendation Q.762

(Formerly CCITT Recommendation)

ITU-T Q-SERIES RECOMMENDATIONS

SWITCHING AND SIGNALLING

SIGNALLING IN THE INTERNATIONAL MANUAL SERVICE	Q.1–Q.3
INTERNATIONAL AUTOMATIC AND SEMI-AUTOMATIC WORKING	Q.4–Q.59
FUNCTIONS AND INFORMATION FLOWS FOR SERVICES IN THE ISDN	Q.60–Q.99
CLAUSES APPLICABLE TO ITU-T STANDARD SYSTEMS	Q.100–Q.119
SPECIFICATIONS OF SIGNALLING SYSTEMS No. 4 AND No. 5	Q.120–Q.249
SPECIFICATIONS OF SIGNALLING SYSTEM No. 6	Q.250–Q.309
SPECIFICATIONS OF SIGNALLING SYSTEM R1	Q.310–Q.399
SPECIFICATIONS OF SIGNALLING SYSTEM R2	Q.400–Q.499
DIGITAL EXCHANGES	Q.500–Q.599
INTERWORKING OF SIGNALLING SYSTEMS	Q.600–Q.699
SPECIFICATIONS OF SIGNALLING SYSTEM No. 7	Q.700–Q.849
General	Q.700
Message transfer part (MTP)	Q.701–Q.709
Signalling connection control part (SCCP)	Q.711–Q.719
Telephone user part (TUP)	Q.720–Q.729
ISDN supplementary services	Q.730–Q.739
Data user part	Q.740–Q.749
Signalling System No. 7 management	Q.750–Q.759
ISDN user part	**Q.760–Q.769**
Transaction capabilities application part	Q.770–Q.779
Test specification	Q.780–Q.799
Q3 interface	Q.800–Q.849
DIGITAL SUBSCRIBER SIGNALLING SYSTEM No. 1	Q.850–Q.999
PUBLIC LAND MOBILE NETWORK	Q.1000–Q.1099
INTERWORKING WITH SATELLITE MOBILE SYSTEMS	Q.1100–Q.1199
INTELLIGENT NETWORK	Q.1200–Q.1699
SIGNALLING REQUIREMENTS AND PROTOCOLS FOR IMT-2000	Q.1700–Q.1799
BROADBAND ISDN	Q.2000–Q.2999

For further details, please refer to the list of ITU-T Recommendations.

ITU-T Recommendation Q.762

Signalling System No. 7 – ISDN User Part general functions of messages and signals

Summary

This ITU-T Recommendation describes the messages, parameters and the signalling information contained within parameters used by the ISDN user part protocol, and their function.

Source

ITU-T Recommendation Q.762 was prepared by ITU-T Study Group 11 (1997-2000) and approved under the WTSC Resolution 1 procedure on 3 December 1999.

FOREWORD

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

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

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSC Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

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

INTELLECTUAL PROPERTY RIGHTS

ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

CONTENTS

ITU-T Recommendation Q.762

Signalling System No. 7 – ISDN User Part general functions of messages and signals

1 General

1.1 Scope

This ITU-T 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 an indication of whether or not they are for national use, are described in ITU-T Recommendation Q.763 [1].

1.2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; all users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published.

[1] ITU-T Recommendation Q.763 (1999), *Signalling System No. 7 – ISDN user part formats and codes*.

[2] CCITT Recommendation Q.28 (1988), *Determination of the moment of the called subscriber's answer in the automatic service*.

[3] CCITT Recommendation E.260 (1988), *Basic technical problems concerning the measurement and recording of call durations*.

[4] CCITT Recommendation Q.101 (1988), *Facilities provided in international semi-automatic working*.

[5] ITU-T Recommendation Q.1218 (1995), *Interface Recommendation for intelligent network CS-1*.

[6] ITU-T Recommendation Q.1228 (1997), *Interface Recommendation for intelligent network CS-2*.

[7] ITU-T Recommendation E.412 (1998), *Network management controls*.

[8] ITU-T Recommendation Q.850 (1998), *Use of cause and location in the digital subscriber Signalling System No. 1 and Signalling System No. 7 ISDN user part*.

[9] CCITT Recommendation X.229 (1988), *Remote Operations: Protocol specification*.

[10] ITU-T Recommendation X.121 (1996), *International numbering plan for public data networks*.

[11] CCITT Recommendation E.212 (1988), *Identification plan for land mobile stations*.

[12] ITU-T Recommendation Q.704 (1996), *Signalling network functions and messages*.

1.3 Terms and definitions

See clauses 2 to 4.

1.4 Abbreviations

This ITU-T Recommendation uses the following abbreviations:

APP Application Transport Parameter
ASE Application Service Element
ATII Application Transport Instruction Indicators
CCBS Completion of Calls to Busy Subscriber
CCNR Completion of Calls on No Reply
CCSS Call Completion Service Setup
DNIC Data Network Identification Code
ECT Explicit Call Transfer
GVNS Global Virtual Network Service
ID Identifier
IN Intelligent Network
ISC International Switching Centre
LFB Look For Busy
MCID Malicious Call Identification
MLPP Multilevel Precedence and Pre-emption
MNIC Mobile Network Identification Code
PDU Protocol Data Unit
QoR Query on Release
ROER Remote Operation Error
ROIV Remote Operation Invoke
RORJ Remote Operation Reject
RORS Remote Operation Result
SCCP Signalling Connection Control Part
SCF Service Control Function
SLR Segmentation Local Reference
UID User Interactive Dialogue
WGS-84 World Geodetic System 1984

Table 1 defines the acronyms used for ISDN user part messages.

Table 1/Q.762 – ISDN user part message acronyms

Acronym	Message
ACM	Address complete
ANM	Answer
APM	Application transport
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 (reserved – used in 1988 version)
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 acknowledgement
LOP	Loop prevention
NRM	Network resource management
OLM	Overload
PAM	Pass-along
PRI	Pre-release information
REL	Release
RES	Resume
RLC	Release complete
RSC	Reset circuit
SAM	Subsequent address
SDM	Subsequent directory number
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

2 Signalling messages

2.1 Address Complete Message (ACM): A message sent in the backward direction indicating that all the address signals required for routeing the call to the called party have been received.

2.2 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 [2]); and

– start measurement of call duration for international accounting purposes (see Recommendation E.260 [3]).

2.3 Application Transport message (APM): A message sent in either direction to convey application information using the Application Transport mechanism.

2.4 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.

2.5 Blocking Acknowledgement message (BLA): A message sent in response to a blocking message indicating that the circuit has been blocked.

2.6 Call Progress message (CPG): A message, sent in either direction during the setup or active phase of the call, indicating that an event, which is of significance, and should be relayed to the originating or terminating access, has occurred.

2.7 Charge information message (CRG): Information sent in either direction for accounting and/or call charging purposes.

2.8 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.

2.9 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.

2.10 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.

2.11 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.

2.12 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.

2.13 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.

2.14 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.

2.15 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.

2.16 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.

2.17 Connect message (CON): A message sent in the backward direction indicating that all the address signals required for routeing the call to the called party have been received and that the call has been answered.

2.18 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.

2.19 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.

2.20 Facility Accepted message (FAA): A message sent in response to a facility request message indicating that the requested facility has been invoked.

2.21 Facility message (FAC): 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.

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

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

2.24 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 [4]) 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.

2.25 Identification Request message (IDR): A message sent in the backward direction to request action regarding the malicious call identification supplementary service.

2.26 Identification Response message (IRS): A message sent in response to the identification request message.

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

2.28 Information Request message (INR): A message sent by an exchange to request information in association with a call.

2.29 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 routeing and handling of a call.

2.30 Loop back Acknowledgement message (LPA): 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.

2.31 Loop Prevention message (LOP): A message sent to convey information required by the ECT supplementary service.

2.32 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.

2.33 Overload Message (OLM): 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.

2.34 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.

2.35 Pre-release Information message (PRI): A message to be used with the Release message for the transport of information where sending of that information in the Release message itself would cause compatibility problems with ISUP 1992 and subsequent versions of the ISUP protocol.

2.36 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. Where the call is to be redirected the message will also carry the redirection number.

2.37 Release Complete message (RLC): A message sent in either direction in response to the receipt of a release message, or if appropriate to a reset circuit message, when the circuit concerned has been brought into the idle condition.

2.38 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.

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

2.40 Segmentation Message (SGM): A message sent in either direction to convey an additional segment of an overlength message.

2.41 Subsequent Directory Number message (SDM): A message that may be sent in the forward direction following an Initial Address Message, to convey additional called party number information, when the called party number in the Initial Address Message was contained in the Called Directory Number parameter.

2.42 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.

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

2.44 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.

2.45 Unblocking Acknowledgement Message (UBA): A message sent in response to an unblocking message indicating that the circuit has been unblocked.

2.46 Unequipped Circuit Identification Code message (UCIC): A message sent from one exchange to another when it receives an unequipped circuit identification code.

2.47 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.

2.48 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.

2.49 User-to-user information message (USR): A message to be used for the transport of user-to-user signalling independent of call control messages.

3 Signalling parameters

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

3.2 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.

3.3 application transport parameter (APP): Information sent in either direction to allow the peer-to-peer communication of Application Transport mechanism user applications.

3.4 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.

3.5 backward call indicators: Information relating to the characteristics of the connection, signalling path and called party sent in the backward direction.

3.6 backward GVNS: Information sent in the backward direction used for a GVNS call to convey GVNS related information.

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

3.8 call diversion treatment indicators: Information sent in the forward direction concerning treatment of call diversion.

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

3.10 call offering treatment indicators: Information sent in the forward direction concerning treatment of call offering.

3.11 call reference: Circuit independent information identifying a particular call.

3.12 call transfer number: Information sent in both directions to identify each of the users involved in a call transfer.

3.13 call transfer reference: Information used to convey a reference number associated with the ECT supplementary service.

3.14 called directory number: Information to indicate the directory number. The directory number is a number in the national numbering scheme that is allocated to a customer for a telephony service.

3.15 called IN number: Information indicating the number which was received in the SSP as called party number in IAM and SAM messages.

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

3.17 calling geodetic location: Information that indicates the geodetic location of the calling party. The reference system for the coding is the World Geodetic System 1984, (WGS-84). The origin of the WGS-84 coordinate system is the geometric centre of the WGS-84 ellipsoid. The ellipsoid is constructed by the rotation of an ellipse around the minor axis that is oriented in the north-south direction. The rotation axis is the polar axis of the ellipsoid, and the plane orthogonal to it and including the centre of symmetry is the equatorial plane.

The relevant dimensions are as follows:

Major Axis (a) = 6 378 137 m

Minor Axis (b) = 6 356 752.314 m

Coordinates are then expressed in terms of longitude and latitude relevant to this ellipsoid. The range of longitude is −180° to +180°, and the range of latitude is −90° to +90°. 0° longitude corresponds to the Greenwich Meridian, and positive angles are to the East, while negative angles are to the West. 0° latitude corresponds to the equator, and positive angles are to the North, while negative angles are to the South. Altitudes are defined as the distance between the ellipsoid and the point, along a line orthogonal to the ellipsoid.

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

3.19 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.

3.20 cause indicators: Information sent in either direction indicating the reason for sending the message (e.g. release message).

3.21 CCNR possible indicator: Information sent in ACM (subscriber free)/CPG (alerting) to indicate the possibility to invoke a possible succeeding CCNR service request.

3.22 CCSS: Information sent in an initial address message indicating that a call is a CCBS or a CCNR call as defined in the CCBS or CCNR supplementary service.

3.23 charged party identification: Information identifying the charged party, e.g. the account number.

3.24 circuit assignment map: Information sent in the forward direction to identify the circuits used for an N × 64 kbit/s connection.

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

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

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

3.28 collect call request: Information sent in the forward direction indicating whether or not a call is a collect call.

3.29 conference treatment indicators: Information sent in both directions concerning treatment of a multi-party call.

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

3.31 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.

3.32 continuity indicators: 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.

3.33 correlation id: Information used by the SCF for correlation with a previous connection (see ITU-T Recommendations Q.1218 [5] and Q.1228 [6] – Definition of common data types).

3.34 display information: Information sent in either direction indicating a text string to be sent to the user.

3.35 echo control information: Indicators used to request activation and deactivation of echo control devices, and to respond to such requests.

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

3.37 event information: Information indicating the type of event which caused a call progress message to be sent.

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

3.39 forward call indicators: Information relating to the characteristics of the connection, signalling path and calling party sent in the forward direction.

3.40 forward GVNS: Information sent in the forward direction used for a GVNS call to convey GVNS related information.

3.41 generic digits: 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.

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

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

3.44 generic reference: (not used in the 1997 and subsequent versions of the ISUP Recommendations).

3.45 hop counter: Information sent in the forward direction to minimize the impact of looping. The initial count determines the maximum number of contiguous ISUP interexchange circuits that are allowed to complete the call, assuming all subsequent intermediate exchanges decrement the hop counter.

3.46 HTR information: Information identifying a Hard to Reach destination (see E.412 [7]).

3.47 information indicators: Information identifying the optional parameters included in a message.

3.48 information request indicators: Information identifying the optional parameters requested in a message.

3.49 location number: Information sent to identify the geographical area (e.g. region, country, city, etc.) of the origin of a call. It is primarily intended to provide services for mobile originated calls.

3.50 loop prevention indicators: Information sent in association with a request (or response to a request) when the loop prevention procedure is performed in the ECT supplementary service.

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

3.52 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.

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

3.54 MLPP precedence: Information relating specifically to the multilevel precedence and pre-emption service.

3.55 nature of connection indicators: Information relating to the transmission path used on a connection.

3.56 network management controls: Information sent in the forward direction concerning network management related action for a call.

3.57 network routeing number: Information to indicate the network routeing number. The network routeing number is a number used by the network to route a call.

3.58 network specific facility: 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.

3.59 number portability forward information: Information sent in the forward direction concerning treatment of number portability.

3.60 optional backward call indicators: Information relating to the characteristics of the connection, signalling path and called party sent in the backward direction.

3.61 optional forward call indicators: Information relating to the characteristics of the connection, signalling path and called party sent in the forward direction.

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

3.63 original called IN number: Information sent in the forward direction indicating the original called IN number, if multiple IN interactions have taken place.

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

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

3.66 pivot capability: General information about allowed operation of pivot routeing.

3.67 pivot counter: Information indicating the number of pivot attempts (successful and unsuccessful) that a call has undergone.

3.68 pivot routeing backward information: Information sent in the backward direction in support of pivot routeing.

3.69 pivot routeing forward information: Information sent in the forward direction in support of pivot routeing.

3.70 pivot routeing indicators: Information used in the FAC message to indicate the pivot routeing action to be performed at the next (failure action) or previous (request action or cancel action) exchange.

3.71 pivot status: Information used to inform exchanges regarding the possibility that an offer to pivot route will be accepted later.

3.72 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.

3.73 QoR capability: Information sent in the forward direction to indicate that at least one exchange in the connection is able to perform the query to the database as described in the QoR procedures.

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

3.75 redirect backward information: Information sent in the backward direction in support of redirection.

3.76 redirect capability: Information sent in the forward direction to indicate that at least one exchange in the connection is able to redirect the call and the call states in which the procedure is possible.

3.77 redirect counter: Information indicating the number of invocations of redirection that a call has undergone.

3.78 redirect forward information: Information sent in the forward direction in support of redirection.

3.79 redirect status: Information used to inform exchanges regarding the possibility that an offer to redirect will be accepted later.

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

3.81 redirection information: Information sent in either direction giving information about call redirection or call rerouteing.

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

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

3.84 remote operations: 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.

3.85 SCF id: Information indicating the SCF identifier (see ITU-T Recommendations Q.1218 [5] and Q.1228 [6] – Definition of common data types).

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

3.87 signalling point code: Information sent to identify the signalling point in which an event occurred.

3.88 subsequent number: Additional called party address digits sent subsequent to the sending of the called party number parameter.

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

3.90 transit network selection: Information sent in the initial address message indicating the transit network requested to be used in the call.

3.91 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).

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

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

3.94 UID action indicators: Information sent in the backward direction to instruct preceding exchanges to enable a user interactive dialogue to occur.

3.95 UID capability indicators: Information sent in the forward direction to inform succeeding exchanges that on request a user interactive dialogue is possible.

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

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

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

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

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

4 Parameter information

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

4.2 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.

4.3 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.

4.4 altitude: Information that indicates the geodetic location of the calling party in terms of distance above or below the WGS-84 ellipsoid surface.

4.5 altitude sign: Information that indicates the geodetic location of the calling party in terms of above or below the WGS-84 ellipsoid surface.

4.6 altitude uncertainty code: Information indicating the level of uncertainty inherent to the associated altitude information.

4.7 APM Segmentation indicator: Information sent in either direction to indicate the number of remaining segments carrying information using the APM mechanism that will be forwarded.

4.8 application context identifier: A value that uniquely identifies the application using the application transport mechanism.

4.9 application transport instruction indicators (ATII): Information sent in either direction indicating how an exchange should react in case the indicated application using the application transport mechanism is not supported.

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

4.11 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.

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

4.13 call to be diverted indicator: Information sent in the forward direction indicating whether diverting of the call shall be accepted.

4.14 call to be offered indicator: Information sent in the forward direction indicating whether the call shall be offered if the access is marked with call offering restrictions.

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

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

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

4.18 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.

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

4.20 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.

4.21 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 ITU-T Recommendation Q.850 [8].

4.22 CCSS call indicator: Information sent in the forward direction, used in a CCBS or CCNR call setup, to distinguish this call from an ordinary call, at the destination local exchange.

4.23 CCNR possible indicator: Indicator used in the CCNR Possible Indicator parameter in the ACM (subscriber free)/CPG (alerting) to indicate the possibility to invoke a possible succeeding CCNR service request.

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

4.25 charge information request indicator: Information sent in either direction requesting charge information to be returned.

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

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

4.28 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.

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

4.30 component ID tag: Information identifying the type of component ID used in remote operations.

4.31 component type: There are four types of components that may be present in the Remote Operations parameter. The four Protocol Data Units (PDU) defined in ITU-T Recommendation X.229 [9] 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.

4.32 component type tag: Information identifying the type of component used in remote operations.

4.33 confidence: Information identifying the confidence by which it is known that the calling party lies within the associated shape description.

4.34 conference acceptance indicator: Information sent in both directions indicating whether a request for a multi-party call, i.e. conference or three-party call, shall be accepted.

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

4.36 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.

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

4.38 degrees of latitude: Information that indicates the geodetic location of the calling party in terms of degrees of latitude north or south of the equator.

4.39 degrees of longitude: Information that indicates the geodetic location of the calling party in terms of degrees of longitude east or west of the Greenwich Meridian.

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

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

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

4.43 echo control device indicator: Information indicating whether or not an echo control device is included in the connection.

4.44 ellipse on the ellipsoid shape description: Information that describes the set of points on the ellipsoid that lie within the defining ellipse. The ellipse is characterized by the coordinates of an ellipsoid point (the origin), the major and minor radii of the ellipse r_{major} and r_{minor}, and the orientation of the ellipse θ which describes the angle between the major radius of the ellipse and North, as shown in Figure 1.

Similar to the ellipsoid point, this shape description can be used to indicate points on the Earth's surface, or near the surface.

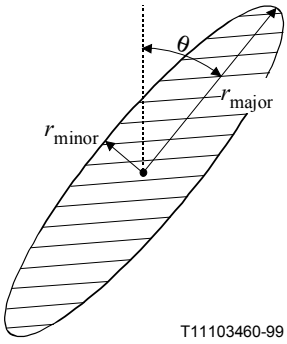

Figure 1/Q.762 – Description of an ellipse on the ellipsoid

4.45 ellipsoid circle sector shape description: Information that describes the set of points on the ellipsoid that lie within the defining circle sector. The circle sector is characterized by the coordinates of an ellipsoid point (the origin), the radius of the circle sector r, being the geodesic distance over the surface of the ellipsoid, the offset angle (θ) between the first defining radius of the sector and North, and the included angle (β) being the angle between the first and second defining radius, as shown in Figure 2.

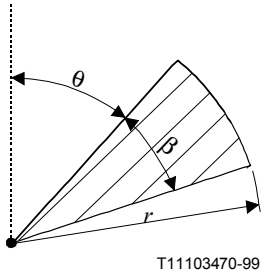

Figure 2/Q.762 – Description of a circle sector

4.46 ellipsoid point shape description: Information that describes a point on the surface of the WGS-84 ellipsoid that consists of latitude and longitude. In practice, such a description can be used to refer to a point on Earth's surface, or close to Earth's surface, with the same longitude and latitude. Figure 3 illustrates a point on the surface of the ellipsoid and its coordinates.

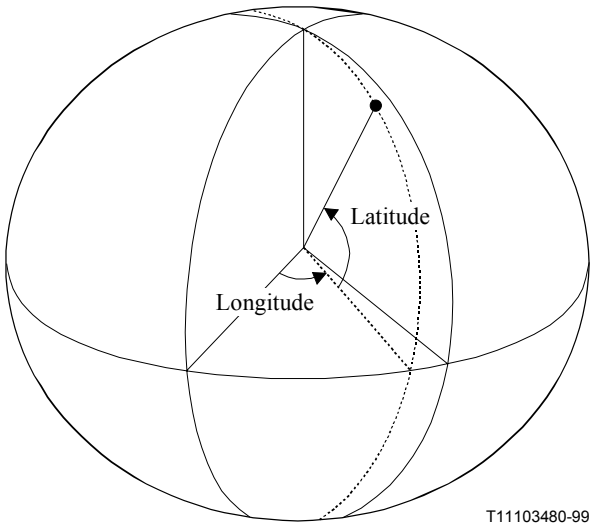

Figure 3/Q.762 – Description of an ellipsoid point as two coordinates

The latitude is the angle between the equatorial plane and the perpendicular to the plane tangent to the ellipsoid surface at the point. Positive latitudes correspond to the North hemisphere. The longitude is the angle between the half-plane determined by the Greenwich meridian and the half-plane defined by the point and the polar axis, measured Eastward.

4.47 ellipsoid point with uncertainty shape description: Information that describes a point that is characterized by the coordinates of an ellipsoid point (the origin) and a distance *r*. It describes the set of points on the ellipsoid which are at a distance from the origin less than or equal to *r*, the distance being the geodesic distance over the ellipsoid, i.e. the minimum length of a path staying on the ellipsoid and joining the two points, as shown in Figure 4. Similar to the ellipsoid point, this can be used to indicate points on the Earth's surface, or near the Earth's surface, of same latitude and longitude. The typical use of this shape is to indicate a point when its position is known only with a limited accuracy.

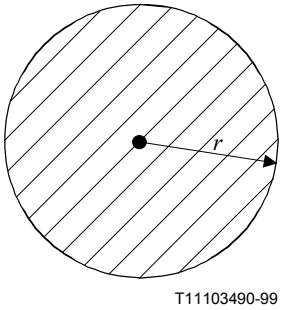

Figure 4/Q.762 – Description of uncertainty

4.48 encapsulated application information: Application information required to be transported by the application transport mechanism.

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

4.50 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.

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

4.52 error code: 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.

4.53 event indicator: Information indicating the type of event which caused a call progress message to be sent.

4.54 event presentation restricted indicator: Information sent in the backward direction indicating that the event should not be presented to the calling party.

4.55 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.

4.56 GVNS user group identification: Information sent in the forward direction that uniquely identifies the GVNS customer.

4.57 feature code: Information sent in either direction to invoke, accept, or reject a specific action for a supplementary service.

4.58 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 the remaining four bits in the last octet have no digit information.

4.59 holding indicator: Information sent in the backward direction indicating that holding of the connection is requested.

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

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

4.62 included angle: Information identifying the included angle of a circle sector.

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

4.64 incoming echo control device information indicator: Information sent to inform whether an incoming echo control device has been included or not and, if not, whether the device is available or not.

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

4.66 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.

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

4.68 interworking to redirection indicator: Information used to indicate whether interworking from pivot routeing to redirection is allowed.

4.69 invoke ID: 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.

4.70 invoking pivot reason: Information sent in the pivot routeing backward information parameter or the pivot routeing forward information parameter that conveys the reason for invoking the pivot function.

4.71 invoking redirect reason: Information sent in the redirect backward information parameter or the redirect forward information parameter that conveys the reason for invoking the redirection function.

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

4.73 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.

4.74 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.

4.75 length (of each component or of an information element): Binary coded information indicating the number of octets in a component or information element. The value does not include the parameter name, length or end of optional parameters octets.

4.76 linked ID: 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.

4.77 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.

4.78 latitude sign: Information that indicates the geodetic location of the calling party in terms of northern or southern Hemisphere.

4.79 location: Information sent in either direction indicating where an event (e.g. release) was generated. Definition of each location value is given in ITU-T Recommendation Q.850 [8].

4.80 location presentation restricted indicator: Information that indicates that the geodetic location 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 geodetic location cannot be ascertained.

4.81 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.

4.82 major radius: Information identifying the size of the major axis of an ellipse on the ellipsoid shape description.

4.83 minor radius: Information identifying the size of the minor axis of an ellipse on the ellipsoid shape description.

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

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

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

4.87 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.

4.88 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.

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

4.90 network identification plan: Information sent to indicate the identification plan for identifying the network, e.g. ITU-T Recommendation X.121 [10] or E.212 [11] (DNIC or MNIC).

4.91 network identification: Information sent to identify a network.

4.92 network identity: Information sent to identify the network which administers the supplementary service.

4.93 network specific facility indicator: Information identifying specific facilities requested or provided.

4.94 notification indicator: Information sent in either direction intended to provide supplementary service notification to a user.

4.95 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.

4.96 Nth upgraded parameter name: Information identifying the Nth parameter which has been upgraded for compatibility purposes.

4.97 number incomplete indicator: Information sent to indicate whether the delivered number is complete or incomplete.

4.98 number portability status indicator: Information sent in the forward direction identifying whether number portability checks have taken place at an exchange in the call path and also whether the called number is ported or non-ported.

4.99 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.

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

4.101 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.

4.102 offset: Information identifying the offset of a circle sector from North.

4.103 operation code: 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 supplementary service specifications.

4.104 orientation: Information identifying the orientation of an ellipse on the ellipsoid.

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

4.106 originating participating service provider identification: Information sent in the forward direction that uniquely identifies the participating service provider that provides customer access to GVNS to the calling user/interface.

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

4.108 outgoing echo control device information indicator: Information sent to inform whether an outgoing echo control device has been included or not and, if not, whether the device is available or not.

4.109 parameter tag: Information identifying the type of parameter used in remote operations.

4.110 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.

4.111 performing pivot indicator: Information sent in the pivot routeing forward information parameter that indicates a willingness to perform the pivot function for a particular reason.

4.112 performing redirect indicator: Information sent in the redirect forward information parameter that indicates a willingness to perform redirection for a particular reason.

4.113 pivot possible indicator: Information used to indicate the call state until which the pivot routeing is possible.

4.114 point with altitude and uncertainty shape description: Information that describes a point that is characterized by the coordinates of an ellipsoid point, an uncertainty distance *r*, an altitude *a* and an altitude uncertainty *h*. It describes the set of points which are at a vertical distance *h* or less from the origin. The origin is a point at altitude *a* above an ellipsoid point with uncertainty (see 4.47) as shown in Figure 5.

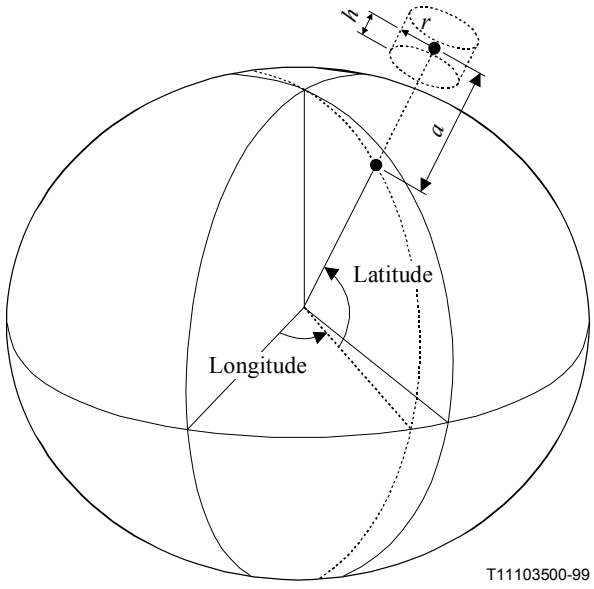

Figure 5/Q.762 – Description of a point with altitude and uncertainty

4.115 polygon shape description: Information that describes an arbitrary shape that is described by an ordered series of points (in the example pictured in Figure 6, A to E). The minimum number of points allowed is three, and the maximum number of points allowed is 15. The points shall be connected in the order that they are given. A connecting line is defined as the line over the ellipsoid joining the two points and of minimum distance (geodesic). The last point is connected to the first. The list of points must respect a number of conditions:

– a connecting line shall not cross another connecting line;

– two successive points must not be diametrically opposed on the ellipsoid.

The described area is situated to the right of the lines with the downward direction being toward the Earth's centre and the forward direction being from a point to the next.

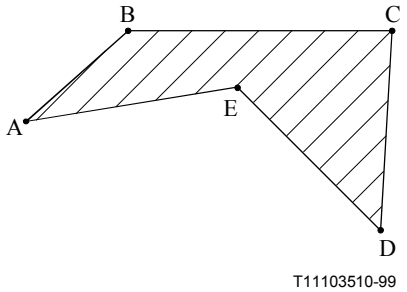

Figure 6/Q.762 – Description of a polygon

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

4.117 problem code: The Problem code element used in remote operations 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 4.118 describing component types.

– Mistyped Component:

The elemental structure of a component does not conform to the structure of that component as defined in ITU-T Recommendation Q.763 [1].

– Badly Structured Component:

The contents of the component do not conform to the encoding rules defined in ITU-T Recommendation Q.763 [1].

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.

4.118 protocol class: Information indicating the protocol class requested by the signalling connection control part for the end-to-end connection.

4.119 protocol profile: Information sent in either direction to indicate the protocol used in the Remote Operations parameter.

4.120 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 sent in either direction to describe the signalling capabilities within the network connection.

4.121 radius: Information identifying the size of the radius of the associates circle sector shape description.

4.122 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.

4.123 redirect possible indicator: Information sent in the forward direction to indicate that at least one exchange in the connection is able to redirect the call and the call states in which the procedure is possible.

4.124 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.

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

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

4.127 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.

4.128 return to invoking exchange call identifier: Information used by the return to invoking exchange function to identify a call.

4.129 return to invoking exchange duration: Information sent in the backward direction to indicate how long information will be retained at the invoking exchange to facilitate the return to invoking exchange function.

4.130 return to invoking exchange possible: Information sent in the forward direction to indicate the capability to make use of the return to invoking exchange call identifier and return to invoking exchange duration.

4.131 routeing label: Information provided to the message transfer part for the purpose of message routeing (see 2.2/Q.704 [12]).

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

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

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

4.135 segmentation local reference (SLR): A unique value to a call used to associate segments in an APM segmentation procedure.

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

4.137 sequence: The sequence is an ordered set used in remote operations.

4.138 sequence indicator: Used to indicate the beginning (first segment) of an APM segmentation procedure sequence.

4.139 set: The Set element is used in remote operations 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.

4.140 shape description: Information that describes the geodetic location of the calling party.

4.141 signalling point code: Information identifying the signalling point.

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

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

4.144 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.

4.145 T9 timer indicator: Information sent in the forward direction to inform succeeding exchanges that on request stopping of the timer T9 is possible.

4.146 T9 timer instruction indicator: Information sent in the backward direction to instruct preceding exchanges to stop or not to start, respectively, the timer T9.

4.147 temporary alternative routeing indicator: Information sent in the forward direction indicating that a call is a temporary alternative routeing controlled call.

4.148 terminating access indicator: Information sent in the backward direction that identifies the type of terminating access from a GVNS terminating participating service provider actually used to complete the call.

4.149 terminating network routeing number: A number sent in the forward direction which a terminating functional entity may use to complete a GVNS call to on-net locations.

4.150 through connection indicator: Information sent in the forward direction to inform succeeding exchanges that on request through-connection of the transmission path in both directions is possible.

4.151 through connection instruction indicator: Information sent in the backward direction to instruct preceding exchanges to through-connect the transmission path in both directions.

4.152 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.

4.153 type: Information sent in either direction to indicate whether the message is a request or a response.

4.154 type of digits: Information sent in association with a generic digit to indicate the type of digit, e.g. authorization code.

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

4.156 type of shape: Information that indicates the format of the geodetic location information held in the associated shape description.

4.157 uncertainty code: Information that indicates the level of uncertainty inherent to the associated longitude/latitude information.

SERIES OF ITU-T RECOMMENDATIONS

Series A	Organization of the work of ITU-T
Series B	Means of expression: definitions, symbols, classification
Series C	General telecommunication statistics
Series D	General tariff principles
Series E	Overall network operation, telephone service, service operation and human factors
Series F	Non-telephone telecommunication services
Series G	Transmission systems and media, digital systems and networks
Series H	Audiovisual and multimedia systems
Series I	Integrated services digital network
Series J	Transmission of television, sound programme and other multimedia signals
Series K	Protection against interference
Series L	Construction, installation and protection of cables and other elements of outside plant
Series M	TMN and network maintenance: international transmission systems, telephone circuits, telegraphy, facsimile and leased circuits
Series N	Maintenance: international sound programme and television transmission circuits
Series O	Specifications of measuring equipment
Series P	Telephone transmission quality, telephone installations, local line networks
Series Q	**Switching and signalling**
Series R	Telegraph transmission
Series S	Telegraph services terminal equipment
Series T	Terminals for telematic services
Series U	Telegraph switching
Series V	Data communication over the telephone network
Series X	Data networks and open system communications
Series Y	Global information infrastructure and Internet protocol aspects
Series Z	Languages and general software aspects for telecommunication systems

Geneva, 2001