



INTERNATIONAL TELECOMMUNICATION UNION

**ITU-T**

TELECOMMUNICATION  
STANDARDIZATION SECTOR  
OF ITU

**Q.950**

(06/97)

SERIES Q: SWITCHING AND SIGNALLING

Digital subscriber Signalling System No. 1 – Stage 3  
description for supplementary services using DSS 1

---

**Supplementary services protocols, structure  
and general principles**

ITU-T Recommendation Q.950

(Previously 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
General	Q.850–Q.919
Data link layer	Q.920–Q.929
Network layer	Q.930–Q.939
User-network management	Q.940–Q.949
<b>Stage 3 description for supplementary services using DSS 1</b>	<b>Q.950–Q.999</b>
PUBLIC LAND MOBILE NETWORK	Q.1000–Q.1099
INTERWORKING WITH SATELLITE MOBILE SYSTEMS	Q.1100–Q.1199
INTELLIGENT NETWORK	Q.1200–Q.1999
BROADBAND ISDN	Q.2000–Q.2999

*For further details, please refer to ITU-T List of Recommendations.*

## **ITU-T RECOMMENDATION Q.950**

### **SUPPLEMENTARY SERVICES PROTOCOLS, STRUCTURE AND GENERAL PRINCIPLES**

#### **Summary**

This Recommendation provides an overview of the Q.95x-Series of Recommendations on the Stage 3 descriptions of ISDN Supplementary Services and the general principles on which these Stage 3 descriptions are based. The Q.95x-Series of Recommendations is structured and numbered in a similar manner to the I.25x-Series of Recommendations on Stage 1 ISDN supplementary services descriptions and the Q.8x-Series of Recommendations on Stage 2 descriptions.

The Q.95x-Series of Recommendations cover the protocol descriptions for DSS 1. The SS No. 7 protocol descriptions are provided in Recommendations Q.731 to Q.737.

The Stage 3 protocol descriptions in the Q.95x-Series using the Facility Information Element of the Functional Protocol are based on the generic procedures established in Recommendation Q.932. Any of the generic procedures in Recommendation Q.932 (Keypad, Feature Key Management and Functional Protocols) can be used for the control of supplementary services. The detailed functional protocol procedures are provided in the Q.95x-Series Recommendations.

This Recommendation lists the allocated INTEGER values for operations and errors defined in Recommendation Q.932 and for supplementary services defined within the Q.95x-Series Recommendations. The individual ERROR values are complemented by a brief definition of the error characteristics.

#### **Source**

ITU-T Recommendation Q.950 was revised by ITU-T Study Group 11 (1997-2000) and was approved under the WTSC Resolution No. 1 procedure on the 5th of June 1997.

## FOREWORD

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

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

The approval of Recommendations by the Members of the ITU-T is covered by the procedure laid down in WTSC Resolution No. 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

The ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. The 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, the ITU had/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.

© ITU 1997

All rights reserved. No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the ITU.

## CONTENTS

	<b>Page</b>
1 Definition .....	1
2 Description .....	1
2.1 Structure of Q.95x-Series Recommendations .....	1
3 General principles .....	2
3.1 Generic protocol procedures .....	2
3.2 ASN.1 data type .....	2
3.3 Generic syntax of operations .....	3
3.3.1 Specification of operations .....	3
4 Library of operation values .....	5
4.1 Assignment of INTEGER values for operations and errors .....	5
4.1.1 Operation value assignment .....	5
4.1.2 Error value assignment .....	10
4.1.3 Definition of the general error list .....	11
4.1.4 List of service-specific Errors .....	13
Appendix I – Clause headings of each Recommendation .....	15



## **Recommendation Q.950**

### **SUPPLEMENTARY SERVICES PROTOCOLS, STRUCTURE AND GENERAL PRINCIPLES**

*(revised in 1997)*

#### **1 Definition**

This Recommendation provides an overview of the Q.95x-Series of Recommendations on the Stage 3 descriptions of ISDN Supplementary Services and the general principles on which these Stage 3 descriptions are based.

#### **2 Description**

##### **2.1 Structure of Q.95x-Series Recommendations**

The Q.95x-Series of Recommendations is structured and numbered in a similar manner to the I.25x-Series of Recommendations on Stage 1 ISDN supplementary services descriptions and the Q.8x-series of Recommendations on Stage 2 descriptions.

The Q.95x-Series of Recommendations cover the protocol descriptions for DSS 1. The SS No. 7 protocol descriptions are provided in Recommendations Q.731 to Q.737.

The Stage 3 supplementary services definitions are structured as follows:

Recommendation Q.951	Number Identification supplementary services
Clause 1	Direct-Dialling-In (DDI)
Clause 2	Multiple Subscriber Number (MSN)
Clause 3	Calling Line Identification Presentation (CLIP)
Clause 4	Calling Line Identification Restriction (CLIR)
Clause 5	Connected Line Identification Presentation (COLP)
Clause 6	Connected Line Identification Restriction (COLR)
Clause 7	Malicious Call Identification (MCID)
Clause 8	Sub-addressing (SUB)
Recommendation Q.952	Call Offering supplementary services
Clause 1	
Clause 2	Call Forwarding Busy (CFB)
Clause 3	Call Forwarding No Reply (CFNR)
Clause 4	Call Forwarding Unconditional (CFU)
Clause 5	Call Deflection (CD)
Clause 6	Line Hunting (LH) (Note)
Clause 7	Explicit Call Transfer (ECT)

NOTE – No access signalling requirements defined.

Recommendation Q.953	Call Completion supplementary services
Clause 1	Call Waiting (CW)
Clause 2	Call Hold (HOLD)
Clause 3	Completion of Calls to Busy Subscriber (CCBS)
Clause 4	Terminal Portability (TP)
Recommendation Q.954	Multiparty supplementary services
Clause 1	Conference Calling (CONF)
Clause 2	Three-Party Service (3PTY)
Recommendation Q.955	Community of Interest supplementary services
Clause 1	Closed User Group (CUG)
Clause 2	Support of Private Numbering Plan (SPNP)
Clause 3	Multi-level Precedence and Preemption (MLPP)
Recommendation Q.956	Charging supplementary services
Clause 1	Credit Card Calling (CRED)
Clause 2	Advice of Charge (AOC)
Clause 3	Reverse Charging (REV)
Recommendation Q.957	Additional Information Transfer supplementary services
Clause 1	User-to-User Signalling (UUS)

### **3 General principles**

#### **3.1 Generic protocol procedures**

The Stage 3 protocol descriptions in the Q.95x-Series using the Facility information element of the Functional protocol are based on the generic procedures established in Recommendation Q.932. Any of the generic procedures in Recommendation Q.932 (Keypad, Feature Key Management, and functional protocols) can be used for the control of supplementary services. The detailed functional protocol procedures are provided in the Q.95x-Series Recommendations.

#### **3.2 ASN.1 data type**

The operation required by the Q.95x supplementary services using the Q.932 Functional procedures are defined as ASN.1 data types in the Q.95x-Series of Recommendations. This Recommendation contains the definition of DSS 1 operation values and errors as a Library of these values. These operation and error values can be imported and used as required by the individual supplementary



services. Their associated detailed definitions of operations and errors using ASN.1 (Abstract Syntax Notation One) are provided in the Q.95x-Series of Recommendations for the individual services.

### 3.3 Generic syntax of operations

This subclause provides the definition of data related functions associated with a particular service. The operation is derived from the remote operations concept defined in Recommendations X.219/X.229 and allows the data structures transmitted for a particular object to be defined in terms of an invoke, return result or a return error. The concrete syntax and thus the particular protocol to be implemented are provided in the definition of the protocol to be used and as defined in the individual Recommendations of the Q.95x-Series. These definitions may be provided in informal text or using the formal ASN.1 notation employing the OPERATION and ERROR macros defined in Recommendation X.219.

#### 3.3.1 Specification of operations

##### Module identifier

The module identifier is a unique identifier in order to identify ASN.1 modules.

The module identifier shall follow a uniform structure with the individual Recommendation clause number as value for the identification of the supplementary service concerned as given in the following example on Call Diversion:

```
{ccitt recommendation q 952 call-diversion (2) operations-and-errors (1)}
```

To specify an operation, the following must be defined:

- the operation name;
- the operation value;
- the operation class;
- the supporting parameters, if any;
- the error codes and associated parameters, if any;
- the required linked operations; if any.

##### Operation name

A unique name, in order to identify the operation from another operation within the same set of standards.

##### Operation value

A unique identifier to the Application Entity (AE) being defined. The identifier may be:

- local, i.e. specific to the application context in which it is being used; or
- global, i.e. specified using an object identifier and unique worldwide.

The choice of the above will be affected by whether the value is to be imported or exported to other Application Service Elements (ASEs).

NOTE 1 – The use of any library method for operations and data elements may also affect this choice.

##### Operation class

The definition of the operation must define the class of operation required, as specified in Recommendation X.219 (or Q.775 with different class numbers) and identified below:

- Operation class 1:  
Synchronous, reporting success or failure (result or error).

NOTE 2 – This class is not used by TCAP, and may not be appropriate to DSS 1.

- Operation class 2 (TCAP class 1):  
Asynchronous, reporting success or failure (result or error).
- Operation class 3 (TCAP class 2):  
Asynchronous, reporting failure (error) only, if any.
- Operation class 4 (TCAP class 3):  
Asynchronous, reporting success (result) only.
- Operation class 5 (TCAP class 4):  
Asynchronous, outcome not supported.

The most useful of these classes of operation will be operation classes 2 and 5.

NOTE 3 – Some protocols may not support all classes of operation. If there is not a common subset, then this could cause problems in the specification of those protocols where a class is not supported.

### **The supporting parameters**

The operation class will define which components are required. The required components shall consist of an invoke component, and optionally a return result, or a return error component.

The invoke component may optionally (as specified by a particular operation) contain further essential information to supplement that provided by the instance of the operation, defined by the operation value. The allowed information shall be specified as the ARGUMENT.

The return result component may optionally (as specified by a particular operation) contain further essential information to supplement that provided by the instance of the result component in the operation. The allowed information shall be specified as the RESULT.

The return error component may optionally (as specified by a particular operation) contain parameter(s) indicating the reason for the failure response. The list of valid errors shall be specified as ERRORS.

### **Error codes and supporting parameters**

Each specified error in the ERRORS, shall be specified using the following information:

- the error name;
- the error value;
- the supporting parameters, if any.

The error name shall be a unique name, in order to identify the error from any other error within the same set of standards.

The error identifier shall be a unique identifier to the ASE being defined. The identifier may be:

- local, i.e. specific to the application context in which it is being used; or
- global, i.e. specified using an object identifier and unique worldwide.

The choice of the above will be affected by whether the value is to be imported or exported to other ASEs.

The error may optionally (as specified by a particular error) contain additional information. This shall be specified as PARAMETER.

## **Linked operations**

In some instances it may be necessary to group operations into a set of linked operations, formed by one-parent operation and one or more child operations.

## **4 Library of operation values**

### **4.1 Assignment of INTEGER values for operations and errors**

This clause lists the allocated INTEGER values for operations and errors defined in Recommendation Q.932 and for supplementary services defined within the Q.95x-Series of ITU-T Recommendations.

This assignment includes INTEGER values specified in ITU-T Recommendations that have been published previously, in addition to INTEGERS assigned to new supplementary services which at the moment may not be ready for approval. The individual ERROR values are complemented by a brief definition of the error characteristics.

As a general guideline for the specification work, all operations and errors should be defined and exported by type rather than value. This allows for the re-use of defined errors and operations in other contexts by allowing a different value assignment than what is documented in this Recommendation. The only exception to this rule should be the errors defined by value in the General Error List in 4.1.3. These errors can be imported by value and used by the relevant supplementary service modules, where required.

#### **4.1.1 Operation value assignment**

Table 1 shows the values assigned to the defined operations.

**Table 1/Q.950 – Operations and their assigned values**

Name	Value	Module of definition
userUserService	1	{ccitt recommendation q 957 user-to-user-signalling (1) operations-and-errors (1)}
cUGCallOperation	2	{ccitt recommendation q 955 cug (1)}
mcidRequest	3	{ccitt recommendation q 951 mcid (7) operations-and-errors (1)}
begin3PTY	4	{ccitt recommendation q 954 three-party (2) operations-and-errors (1)}
end3PTY	5	{ccitt recommendation q 954 three-party (2) operations-and-errors (1)}
eCTRequest	6	{ccitt recommendation q 952 explicit-call-transfer (7) operations-and-errors (1)}
activationDiversion	7	{ccitt recommendation q 952 diversion (2) operations-and-errors (1)}
deactivationDiversion	8	{ccitt recommendation q 952 diversion (2) operations-and-errors (1)}
activationStatusNotificationDiv	9	{ccitt recommendation q 952 diversion (2) operations-and-errors (1)}
deactivationStatusNotificationDiv	10	{ccitt recommendation q 952 diversion (2) operations-and-errors (1)}
interrogationDiversion	11	{ccitt recommendation q 952 diversion (2) operations-and-errors (1)}
diversionInformation	12	{ccitt recommendation q 952 diversion (2) operations-and-errors (1)}
callDeflection	13	{ccitt recommendation q 952 diversion (2) operations-and-errors (1)}
callRerouting	14	{ccitt recommendation q 952 diversion (2) operations-and-errors (1)}
divertingLegInformation2	15	{ccitt recommendation q 952 diversion (2) operations-and-errors (1)}
invokeStatus	16	{ccitt recommendation q 952 diversion (2) operations-and-errors (1)}
interrogationDiversion1	17	{ccitt recommendation q 952 diversion (2) operations-and-errors (1)}
divertingLegInformation1	18	{ccitt recommendation q 952 diversion (2) operations-and-errors (1)}
divertingLegInformation3	19	{ccitt recommendation q 952 diversion (2) operations-and-errors (1)}
explicitReservationCreationControl	20	{ccitt recommendation q 932 explicit-network-controlled-channel-reservation (4)}
explicitReservationManagement	21	{ccitt recommendation q 932 explicit-network-controlled-channel-reservation (4)}
explicitReservationCancel	22	{ccitt recommendation q 932 explicit-network-controlled-channel-reservation (4)}

**Table 1/Q.950 – Operations and their assigned values** *(continued)*

Name	Value	Module of definition
mLPPLFBquery	24	{ccitt recommendation q 955 mlpp (3) operations-and-errors (1)}
mLPPCallrequest	25	{ccitt recommendation q 955 mlpp (3) operations-and-errors (1)}
mLPPCallpreemption	26	{ccitt recommendation q 955 mlpp (3) operations-and-errors (1)}
chargingRequest	30	{ccitt recommendation q 956 advice-of-charge (2) operations-and-errors (1)}
aOCSCurrency	31	{ccitt recommendation q 956 advice-of-charge (2) operations-and-errors (1)}
aOCSSpecialArr	32	{ccitt recommendation q 956 advice-of-charge (2) operations-and-errors (1)}
aOCDCurrency	33	{ccitt recommendation q 956 advice-of-charge (2) operations-and-errors (1)}
aOCDChargingUnit	34	{ccitt recommendation q 956 advice-of-charge (2) operations-and-errors (1)}
aOCECurrency	35	{ccitt recommendation q 956 advice-of-charge (2) operations-and-errors (1)}
aOCEChargingUnit	36	{ccitt recommendation q 956 advice-of-charge (2) operations-and-errors (1)}
identificationOfCharge	37	{ccitt recommendation q 956 advice-of-charge (2) operations-and-errors (1)}
beginCONF	40	{ccitt recommendation q 954 conference-add-on-operations-and-errors (1)}
addCONF	41	{ccitt recommendation q 954 conference-add-on-operations-and-errors (1)}
splitCONF	42	{ccitt recommendation q 954 conference-add-on-operations-and-errors (1)}
dropCONF	43	{ccitt recommendation q 954 conference-add-on-operations-and-errors (1)}
isolateCONF	44	{ccitt recommendation q 954 conference-add-on-operations-and-errors (1)}
reattachCONF	45	{ccitt recommendation q 954 conference-add-on-operations-and-errors (1)}
partyDISC	46	{ccitt recommendation q 954 conference-add-on-operations-and-errors (1)}
floatCONF	47	{ccitt recommendation q 954 conference-add-on-operations-and-errors (1)}
endCONF	48	{ccitt recommendation q 954 conference-add-on-operations-and-errors (1)}
identifyConferee	49	{ccitt recommendation q 954 conference-add-on-operations-and-errors (1)}

**Table 1/Q.950 – Operations and their assigned values** *(continued)*

<b>Name</b>	<b>Value</b>	<b>Module of definition</b>
requestREV	60	{ccitt recommendation q 956 reverse-charging (3) operations-and-errors (1)}
rEVIndication	61	{ccitt recommendation q 956 reverse-charging (3) operations-and-errors (1)}
rEV-T-Status	62	{ccitt recommendation q 956 reverse-charging (3) private-networks-operation (2)}
uUSRequest	66	{ccitt recommendation q 957 user-to-user signalling (1) operations-and-errors (1)}
callInfoRetain	70	{ccitt recommendation q 953 ccbs (3) operations-and-errors (1)}
cCBSRequest	71	{ccitt recommendation q 953 ccbs (3) operations-and-errors (1)}
cCBSDeactivate	72	{ccitt recommendation q 953 ccbs (3) operations-and-errors (1)}
cCBSInterrogate	73	{ccitt recommendation q 953 ccbs (3) operations-and-errors (1)}
cCBSErase	74	{ccitt recommendation q 953 ccbs (3) operations-and-errors (1)}
cCBSRemoteUserFree	75	{ccitt recommendation q 953 ccbs (3) operations-and-errors (1)}
cCBSCall	76	{ccitt recommendation q 953 ccbs (3) operations-and-errors (1)}
cCBSStatusRequest	77	{ccitt recommendation q 953 ccbs (3) operations-and-errors (1)}
cCBSBFree	78	{ccitt recommendation q 953 ccbs (3) operations-and-errors (1)}
eraseCallLinkageID	79	{ccitt recommendation q 953 ccbs (3) operations-and-errors (1)}
cCBSStopAlerting	80	{ccitt recommendation q 953 ccbs (3) operations-and-errors (1)}
cCBS-T-Request	83	{ccitt recommendation q 953 ccbs (3) private-networks-operations-and-errors (2)}
cCBS-T-Call	84	{ccitt recommendation q 953 ccbs (3) private-networks-operations-and-errors (2)}
cCBS-T-Suspend	85	{ccitt recommendation q 953 ccbs (3) private-networks-operations-and-errors (2)}
cCBS-T-Resume	86	{ccitt recommendation q 953 ccbs (3) private-networks-operations-and-errors (2)}
cCBS-T-RemoteUserFree	87	{ccitt recommendation q 953 ccbs (3) private-networks-operations-and-errors (2)}
cCBS-T-Available	88	{ccitt recommendation q 953 ccbs (3) private-networks-operations-and-errors (2)}

**Table 1/Q.950 – Operations and their assigned values** (*concluded*)

Name	Value	Module of definition
explicitEctExecute	90	{ccitt recommendation q 952 explicit-call-transfer (7) operations-and-errors (1)}
requestSubaddress	91	{ccitt recommendation q 952 explicit-call-transfer (7) operations-and-errors (1)}
subaddressTransfer	92	{ccitt recommendation q 952 explicit-call-transfer (7) operations-and-errors (1)}
ectLinkIdRequest	93	{ccitt recommendation q 952 explicit-call-transfer (7) operations-and-errors (1)}
ectInform	94	{ccitt recommendation q 952 explicit-call-transfer (7) operations-and-errors (1)}
ectLoopTest	95	{ccitt recommendation q 952 explicit-call-transfer (7) operations-and-errors (1)}

#### 4.1.2 Error value assignment

Table 2 shows the values assigned to the defined errors.

**Table 2/Q.950 – Errors and their assigned values**

<b>Errors</b>	<b>Value</b>	<b>Implemented in</b>
userNotSubscribed	0	CD, CFU, CFB, CFNR, CUG, 3PTY, AOC, CONF, MCID, MLPP, Rec. Q.932, REV
rejectedByNetwork	1	UUS, MLPP, REV
rejectedByUser	2	UUS, REV
notAvailable	3	CD, CFU, CFB, CFNR, Rec. Q.932, 3PTY, AOC, CONF, MCID, REV
insufficientInformation	5	Used by some national implementations
invalidServedUserNr	6	CD, CFU, CFB, CFNR
invalidCallState	7	3PTY, AOC, CONF, MCID, REV
basicServiceNotProvided	8	CUG, CD, CFU, CFB, CFNR, CONF, REV
notIncomingCall	9	MCID
supplementaryServiceInteractionNotAllowed	10	3PTY, CONF, MCID, REV, AOC
resourceUnavailable	11	CD, CFU, CFB, CFNR, 3PTY, CONF, REV
invalidDivertedNr	12	CD, CFU, CFB, CFNR
operatorAccess	13	CD, CFU, CFB, CFNR
specialServiceNr	14	CD, CFU, CFB, CFNR
diversionToServedUserNr	15	CD, CFU, CFB, CFNR
invalidOrUnregisteredCUGIndex	16	CUG
requestedBasicServiceViolatesCUGConstraints	17	CUG
outgoingCallsBarredWithinCUG	18	CUG
incomingCallsBarredWithinCUG	19	CUG
userNotMemberOfCUG	20	CUG
inconsistencyInDesignatedFacilityAndSubscriber Class	21	CUG
incomingCallAcceptedByOtherTerminal	23	CD, CFU, CFB, CFNR
numberOfDiversionCounterExceeded	24	CD, CFU, CFB, CFNR
callFailure	25	CD, CFU, CFB, CFNR
noChargingInfoAvailable	26	AOC
illConferenceId	28	CONF
illPartyID	29	CONF



**Table 2/Q.950 – Errors and their assigned values (concluded)**

<b>Errors</b>	<b>Value</b>	<b>Implemented in</b>
numberOfPartiesExceeded	30	CONF
notActive	31	CONF
notAllowed	32	CONF
maximumNumberOfReservationsReached	33	Rec. Q.932
noExplicitReservationExistsOrInvalidReservation Indicator	34	Rec. Q.932
unwantedReservationCreated	35	Rec. Q.932
implicitReservationUsed	36	Rec. Q.932
proceduralError	43	REV
unauthorizedPrecedenceLevel	44	MLPP
userIgnored	45	REV
notActivated	46	CD, CFU, CFB, CFNR
uusReqAsEssential	47	CD, CFU, CFB, CFNR
rEVIsAlreadyRunning	49	REV
invalidCallLinkageID	50	CCBS
invalidCCBSReference	51	CCBS
longTermDenial	52	CCBS
shortTermDenial	53	CCBS
cCBSIsAlreadyActivated	54	CCBS
alreadyAccepted	55	CCBS
outgoingCCBSQueueFull	56	CCBS
callFailureReasonNotBusy	57	CCBS
notReadyForCall	58	CCBS
shortTermDenial (Note – For private ISDNs)	59	CCBS
longTermDenial (Note – For private ISDNs)	60	CCBS
linkIdNotAssignedByNetwork	61	ECT

### 4.1.3 Definition of the general error list

General-Error-List {ccitt recommendation q 950 general-error-list (1)}

**DEFINITIONS** ::=

**BEGIN**

**EXPORTS**            userNotSubscribed,  
                          rejectedByNetwork,  
                          rejectedByUser,  
                          notAvailable,  
                          insufficientInformation,  
                          invalidServedUserNr,  
                          invalidCallState,

**basicServiceNotProvided,  
notIncomingCall,  
supplementaryServiceInteractionNotAllowed,  
resourceUnavailable,  
callFailure,  
proceduralError;**

**userNotSubscribed** **ERROR ::=0**

-- *is an indication that the user has not subscribed to this service.*

**rejectedByNetwork** **ERROR ::=1**

-- *is an indication that the requested service is rejected by the network.*

**rejectedByUser** **ERROR ::=2**

-- *is an indication that the requested service is provided by the network but that the remote user has rejected this service request.*

**notAvailable** **ERROR ::=3**

-- *is an indication that the user has subscribed to this service but the requested service is not available combined with the basic service or the other services (e.g. operation).*

**insufficientInformation** **ERROR ::=5**

-- *is an indication that the content of operation argument is incomplete, or absent entirely.*

**invalidServedUserNr** **ERROR ::=6**

-- *is an indication that the requested service cannot be performed because of the usage of an invalid served user number.*

**invalidCallState** **ERROR ::=7**

-- *is an indication that no match exists between the service request and the valid Basic, Call Control State; this applies also to invalid auxiliary states or an invalid combination of Basic call states and auxiliary states.*

**basicServiceNotProvided** **ERROR ::=8**

-- *is an indication that the service request is directed to a Basic Service which is not provided (e.g. this return error value is used when a supplementary service is invoked with a SETUP message).*

**notIncomingCall** **ERROR ::=9**

-- *is an indication that the service request has been invoked for an outgoing call, which is not permitted for that service.*

**supplementaryServiceInteractionNotAllowed** **ERROR ::=10**

-- *is an indication that the service request is not permitted in combination with either a further requested or active supplementary service.*

**resourceUnavailable** **ERROR ::=11**

-- *is an indication that the service provider has temporarily no resource available for the provision of the requested service.*

**callFailure** **ERROR ::=25**

-- *is an indication that the requested supplementary service was not executable by virtue of a Basic Call Failure.*

**proceduralError** **ERROR ::=43**

-- *is an indication that a transport message (e.g. SETUP, REGISTER etc.) is received which has one or more operation PDUs which have a valid content but which are not specified as valid information content of the transport message used.*

**END**

-- *end of General ERROR List*



**numberOfPartiesExceeded**                      **ERROR ::=30**  
--     *is an indication that the conference bridge cannot accept this additional party since the maximum number of parties has already been reached.*

**notActive**                                      **ERROR ::=31**  
--     *is an indication that the conference bridge cannot accept the service request because the conference has not successfully been established.*

**notAllowed**                                    **ERROR ::=32**  
--     *is an indication that the conference bridge cannot accept the service request because the call to be added has not been routed via the conference bridge, or cannot be routed via the conference bridge.*

**maximumNumberOfReservationsReached**    **ERROR ::=33**  
--     *is an indication that the network is unable to provide the requested reservation since the allowed maximum number of reservations has already been reached for the Connection Endpoint Identifier (CEI).*

**noExplicitReservationExistsOrInvalidReservationIndicator**  
**ERROR ::=34**  
--     *is an indication that the network is unable to provide the requested reservation function (e.g. reservation creation or cancellation of a reservation) since no explicit reservation is in use or the reservation indicator used is not valid.*

**unwantedReservationCreated**              **ERROR ::=35**  
--     *is an indication that the network has created a reservation either explicit or implicit in case that no explicit reservation management request was included in a call control message.*

**implicitReservationUsed**                    **ERROR ::=36**  
--     *is an indication that the network uses an existing implicit reservation in case that no explicit reservation request was included in a call control message.*

**unauthorizedPrecedenceLevel**              **ERROR ::=44**  
--     *is an indication that the calling user has exceeded the authorized maximum precedence level.*

**userIgnored**                                 **ERROR ::=45**  
--     *is an indication that the remote user has ignored the service request (neither explicit acceptance nor rejection by the remote user).*

**notActivated**                                **ERROR ::=46**  
--     *is an indication of a call diversion failure due to the fact that the supplementary service has not been activated.*

**uusReqAsEssential**                         **ERROR ::=47**  
--     *is an indication of a call diversion failure due to the fact that the UUS supplementary service has been requested as essential.*

**rEVIsAlreadyRunning**                      **ERROR ::=49**  
--     *is an indication that a request for the REV supplementary service is rejected by the network due to the fact that it is already invoked.*

**invalidCallLinkageID**                      **ERROR ::=50**  
--     *is an indication that the CCBS request has failed because the network has received an invalid call linkage value.*

**invalidCCBSReference**                      **ERROR ::=51**  
--     *is an indication that the network cannot perform the requested action because the received CCBS reference value is invalid.*

**longTermDenial**                             **ERROR ::=52**  
--     *is an indication that the network cannot accept the request for the CCBS supplementary service because the CCBS supplementary service is not available to the destination network or user (used at the user A coincident S and T reference point).*

- shortTermDenial** **ERROR ::=53**  
 -- *is an indication that the network cannot accept the request for the CCBS supplementary service due to a temporary (fault) situation at the destination network or user (used at the user A coincident S and T reference point).*
- cCBSIsAlreadyActivated** **ERROR ::=54**  
 -- *is an indication that the network cannot accept the request for the CCBS supplementary service because the user has already activated the CCBS supplementary service for the call identified by the call linkage value.*
- alreadyAccepted** **ERROR ::=55**  
 -- *is an indication that the network cannot accept the CCBS call because another user has already responded to the CCBS recall indication.*
- outgoingCCBSQueueFull** **ERROR ::=56**  
 -- *is an indication that the network cannot accept the request for the CCBS supplementary service because user A's CCBS queue is full.*
- callFailureReasonNotBusy** **ERROR ::=57**  
 -- *is an indication that the network cannot accept the request for the CCBS supplementary service because the call failure reason was not due to the destination user being "busy".*
- notReadyForCall** **ERROR ::=58**  
 -- *is an indication that the network cannot accept the CCBS call as identified by the CCBS reference because the network is still monitoring the destination user for becoming free.*
- shortTermDenial** **ERROR ::=59**  
 -- *is an indication that the network cannot accept the request for the CCBS supplementary service due to a temporary (fault) situation at the destination network or user (used when user A is connected to a private ISDN).*
- longTermDenial** **ERROR ::=60**  
 -- *is an indication that the network cannot accept the request for the CCBS supplementary service because the CCBS supplementary service is not available to the destination network or user (used when user A is connected to a private ISDN).*
- linkIdNotAssignedByNetwork** **ERROR ::=61**  
 -- *is an indication that the network cannot accept the request to transfer a call because the received link identification value has not been assigned by the network.*

## APPENDIX I

### Clause headings of each Recommendation

Each clause of each Recommendation of the Q.95x-Series is numbered similarly. The following format should be used. Headings which are not applicable (e.g. "Activation/deactivation/registration"), should be entered to preserve the numbering sequence of the clauses. The text of each clause should read: "No signalling procedure is defined".

The clause on interaction with other supplementary services (clause 12) should only contain interactions among the services that are under consideration at present. Other future services should be marked "No applicable interaction at this time". It is intended that text specifying the possible interaction with other supplementary services should be documented only in one Recommendation, for any two supplementary services. As ITU-T Recommendations are issued at different times, it is advisable to consult the latest issued Recommendation for the most correct specification of possible supplementary service interactions.

The following definitions may be appropriate for the description of supplementary service interactions, to be used as appropriate:

Connection Endpoint Identifier (CEI): see 3.4.1/Q.920.

Local interaction for the access: the calls for which the local interaction exists are at the same access.

Local interaction for the call: the local interaction exists on a single call, i.e. both supplementary services are invoked for the same call.

Local interaction for the CEI: the calls for which the local interaction exists are at the same access, and are identified by the same CEI.

Local interaction: an interaction of the protocol for two or more supplementary services where the served user (of all supplementary services) is on the same access.

No impact: the interaction between the two identified supplementary services contains no requirements for the protocol over and above the requirements of the Recommendation for each individual supplementary service.

NOTE – Other aspects of interactions that do not affect the DSS 1 protocol are covered in the service description for the relevant supplementary services.

Not applicable: the interaction between the two identified supplementary services is outside the scope of this Recommendation, e.g. the interaction is between the supplementary service and itself, and is therefore covered in the Recommendation for the individual supplementary service.

Remote interaction: an interaction of the protocol for two or more supplementary services where one user is the served user for one supplementary service and (for the same call) the remote user for another supplementary service. The interaction for the served user's supplementary service exists at the remote user.

## Clause headings

- 1 Scope
- 2 References
- 3 Definition
- 4 Abbreviations
- 5 Description
- 6 Operational requirements
  - 6.1 Provision/withdrawal
  - 6.2 Requirements on the originating network side
  - 6.3 Requirements on the terminating network side
- 7 Coding requirements
- 8 State definitions
- 9 Signalling requirements
  - 9.1 Activation/deactivation/registration
    - 9.1.1 Normal operation (Note 1 – If applicable)
    - 9.1.2 Exceptional procedures (Note 1 – If applicable)
  - 9.2 Invocation and operation
    - 9.2.1 Normal operation
    - 9.2.2 Exceptional procedures

- 10 Procedures for interworking with private ISDNs
- 11 Interaction with other networks
  - 11.1 Interactions with non-ISDNs
- 12 Interaction with other supplementary services
  - 12.1 Call waiting
  - 12.2 Explicit call transfer
  - 12.3 Connected line identification presentation
  - 12.4 Connected line identification restriction
  - 12.5 Calling line identification presentation
  - 12.6 Calling line identification restriction
  - 12.7 Closed user group
  - 12.8 Conference calling
  - 12.9 Direct-Dialling-in
  - 12.10 Call diversion (call forwarding) services
    - 12.10.1 Call forwarding busy
    - 12.10.2 Call forwarding no reply
    - 12.10.3 Call forwarding unconditional
    - 12.10.4 Call deflection
  - 12.11 Line hunting (Note 2 – No access signalling requirements defined)
  - 12.12 Three-party service
  - 12.13 User-to-user signalling
    - 12.13.1 Service 1
    - 12.13.2 Service 2
    - 12.13.3 Service 3
  - 12.14 Multiple subscriber number
  - 12.15 Call hold
  - 12.16 Advice of charge
  - 12.17 Sub-addressing
  - 12.18 Terminal portability
  - 12.19 Completion of calls to busy subscribers
  - 12.20 Malicious call identification
  - 12.21 Reverse charging
  - 12.22 Multi-level precedence and preemption
  - 12.23 Support of private numbering plan
  - 12.24 International telecommunication charge card
  - 12.25 Global virtual network services

13 Parameter value (timers)

14 Dynamic description (SDLs)

Appendix I: Signalling flows (Note 3 – If required)

NOTE 4 – The layout may not be followed completely by all Recommendations of the Q.95x-Series.



## ITU-T RECOMMENDATIONS SERIES

- Series A Organization of the work of the 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 communication
- Series Z Programming languages