



INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

Q.950

(06/2000)

SERIES Q: SWITCHING AND SIGNALLING

Digital subscriber Signalling System No. 1 – Stage 3
description for supplementary services using DSS1

Supplementary services protocols, structure and general principles

ITU-T Recommendation Q.950

(Formerly CCITT Recommendation)

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

Supplementary services protocols, structure and general principles

Summary

This Recommendation provides an overview of the ITU-T 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 ITU-T Q.95x-series of Recommendations is structured and numbered in a similar manner to the ITU-T I.25x-series of Recommendations on Stage 1 ISDN supplementary services descriptions and the ITU-T Q.8x-series of Recommendations on Stage 2 descriptions.

The ITU-T Q.95x-series of Recommendations cover the protocol descriptions for DSS1. An overview of the SS No. 7 protocol descriptions is provided in ITU-T Q.730 [1].

The Stage 3 protocol descriptions in the ITU-T Q.95x-series using the Facility Information Element of the Functional Protocol are based on the generic procedures established in ITU-T Q.932 [5]. Any of the generic procedures in ITU-T Q.932 [5] (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 ITU-T Q.95x-series Recommendations.

This Recommendation lists the allocated INTEGER values for operations and errors defined in ITU-T Q.932 [5] and for supplementary services defined within the ITU-T 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 approved under the WTSC Resolution 1 procedure on 15 June 2000.

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.

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Document Sharing Hub

Supplementary services protocols, structure and general principles

1 Scope

This Recommendation provides an overview of the ITU-T 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 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; 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 published regularly.

- [1] ITU-T Q.730 (1999), *ISDN User Part supplementary services*.
- [2] ITU-T Q.775 (1997), *Guidelines for using transaction capabilities*.
- [3] ITU-T Q.920 (1993), *ISDN user-network interface data link layer – General aspects*.
- [4] ITU-T Q.931 (1998), *ISDN user-network interface layer 3 specification for basic call control*.
- [5] ITU-T Q.932 (1998), *Digital Subscriber Signalling System No. 1. Generic procedures for the control of ISDN supplementary services*.
- [6] ITU-T Q.951.1 (1992), *Stage 3 description for number identification supplementary services using DSS 1: Direct-dialling-in (DDI)*.
- [7] ITU-T Q.951.2 (1992), *Stage 3 description for number identification supplementary services using DSS 1: Multiple subscriber number (MSN)*.
- [8] ITU-T Q.951.3 (1993), *Stage 3 description for number identification supplementary services using DSS 1: Calling line identification presentation*.
- [9] ITU-T Q.951.4 (1993), *Stage 3 description for number identification supplementary services using DSS 1: Calling line identification restriction*.
- [10] ITU-T Q.951.5 (1993), *Stage 3 description for number identification supplementary services using DSS 1: Connected line identification presentation*.
- [11] ITU-T Q.951.6 (1993), *Stage 3 description for number identification supplementary services using DSS 1: Connected line identification restriction*.
- [12] ITU-T Q.951.7 (1997), *Stage 3 description for number identification supplementary services using DSS 1: Malicious call identification (MCID)*.
- [13] ITU-T Q.951.8 (1992), *Stage 3 description for number identification supplementary services using DSS 1: Sub-addressing (SUB)*.
- [14] ITU-T Q.952 (1993), *Stage 3 service description for call offering supplementary services using DSS 1 – Diversion supplementary services*.
- [15] ITU-T Q.952.7 (1997), *Stage 3 description for call offering supplementary services using DSS 1: Explicit call transfer (ECT)*.

- [16] ITU-T Q.953, *Stage 3 description for call completion supplementary services using DSS 1.*
- [17] ITU-T Q.953.1 (1992), *Stage 3 description for call completion supplementary services using DSS 1: Call waiting.*
- [18] ITU-T Q.953.2 (1993), *Stage 3 description for call completion supplementary services using DSS 1: Call hold.*
- [19] ITU-T Q.953.3 (1997), *Stage 3 description for call completion supplementary services using DSS 1: Completion of calls to busy subscribers (CCBS).*
- [20] ITU-T Q.953.4 (1995), *Stage 3 description for call completion supplementary services using DSS 1: Terminal Portability (TP).*
- [21] ITU-T Q.953.5 (1999), *Stage 3 description for call completion supplementary services using DSS 1: Call Completion on No Reply (CCNR).*
- [22] ITU-T Q.954, *Stage 3 description for multiparty supplementary services using DSS 1.*
- [23] ITU-T Q.954.1 (1993), *Stage 3 description for multiparty supplementary services using DSS 1: Conference calling.*
- [24] ITU-T Q.954.2 (1995), *Stage 3 description for multiparty supplementary services using DSS 1: Three-party service (3PTY).*
- [25] ITU-T Q.955, *Stage 3 description for community of interest supplementary services using DSS 1.*
- [26] ITU-T Q.955.1 (1992), *Stage 3 description for community of interest supplementary services using DSS 1: Closed user group.*
- [27] ITU-T Q.955.3 (1993), *Stage 3 description for community of interest supplementary services using DSS 1: Multi-level precedence and preemption (MLPP).*
- [28] ITU-T Q.956, *Stage 3 description for charging supplementary services using DSS 1.*
- [29] ITU-T Q.956.2 (1995), *Stage 3 description for charging supplementary services using DSS 1: Advice of charge.*
- [30] ITU-T Q.956.3 (1995), *Stage 3 description for charging supplementary services using DSS 1: Reverse charging.*
- [31] ITU-T Q.957, *Stage 3 description for additional information transfer supplementary services using DSS 1.*
- [32] ITU-T Q.957.1 (1996), *Stage 3 description for additional information transfer supplementary services using DSS 1: User-to-user signalling (UUS).*
- [33] CCITT X.208 (1988) | ISO/IEC 8824:1990, *Specification of Abstract Syntax Notation One (ASN.1).*
- [34] CCITT X.219 (1988) | ISO/IEC 9072-1:1989, *Remote Operations: Model, notation and service definition.*
- [35] CCITT X.229 (1988) | ISO/IEC 9072-2:1989, *Remote operations: Protocol specification.*
- [36] ITU-T X.680 (1997) | ISO/IEC 8824-1:1998, *Information technology – Abstract Syntax Notation One (ASN.1): Specification of basic notation.*
- [37] ITU-T X.880 (1994) | ISO/IEC 13712-1:1995, *Information technology – Remote Operations: Concepts, model and notation.*

3 Description

3.1 Structure of ITU-T Q.95x-series Recommendations

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

The ITU-T Q.95x-series of Recommendations cover the protocol descriptions for DSS1. An overview of the SS No. 7 protocol descriptions is provided in ITU-T Q.730 [1].

The Stage 3 supplementary services definitions are structured as follows:

- ITU-T Q.951 Number Identification supplementary services
 - Clause 1 Direct-Dialling-In (DDI) [6]
 - Clause 2 Multiple Subscriber Number (MSN) [7]
 - Clause 3 Calling Line Identification Presentation (CLIP) [8]
 - Clause 4 Calling Line Identification Restriction (CLIR) [9]
 - Clause 5 Connected Line Identification Presentation (COLP) [10]
 - Clause 6 Connected Line Identification Restriction (COLR) [11]
 - Clause 7 Malicious Call Identification (MCID) [12]
 - Clause 8 Sub-addressing (SUB) [13]
- ITU-T Q.952 Call Offering supplementary services
 - Clause 2 Call Forwarding Busy (CFB) [14]
 - Clause 3 Call Forwarding No Reply (CFNR) [14]
 - Clause 4 Call Forwarding Unconditional (CFU) [14]
 - Clause 5 Call Deflection (CD) [14]
 - Clause 7 Explicit Call Transfer (ECT) [15]
- ITU-T Q.953 Call Completion supplementary services
 - Clause 1 Call Waiting (CW) [17]
 - Clause 2 Call Hold (HOLD) [18]
 - Clause 3 Completion of Calls to Busy Subscriber (CCBS) [19]
 - Clause 4 Terminal Portability (TP) [20]
 - Clause 5 Completion of Calls on No Reply (CCNR) [21]
- ITU-T Q.954 Multiparty supplementary services
 - Clause 1 Conference Calling (CONF) [23]
 - Clause 2 Three-Party (3PTY) [24]
- ITU-T Q.955 Community of Interest supplementary services
 - Clause 1 Closed User Group (CUG) [26]
 - Clause 3 Multi-level Precedence and Preemption (MLPP) [27]
- ITU-T Q.956 Charging supplementary services
 - Clause 2 Advice of Charge (AOC) [29]
 - Clause 3 Reverse Charging (REV) [30]
- ITU-T Q.957 Additional Information Transfer supplementary services
 - Clause 1 User-to-User Signalling (UUS) [32]