



INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

X.78

(06/99)

SERIES X: DATA NETWORKS AND OPEN SYSTEM COMMUNICATIONS

Public data networks – Transmission, signalling and
switching

Interworking procedures between networks providing frame relay data transmission services via B-ISDN

ITU-T Recommendation X.78

(Previously CCITT Recommendation)



Documents

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ITU-T X-SERIES RECOMMENDATIONS
DATA NETWORKS AND OPEN SYSTEM COMMUNICATIONS

PUBLIC DATA NETWORKS

Services and facilities	X.1-X.19
Interfaces	X.20-X.49

Transmission, signalling and switching	X.50-X.89
---	------------------

Network aspects	X.90-X.149
Maintenance	X.150-X.179
Administrative arrangements	X.180-X.199

OPEN SYSTEMS INTERCONNECTION

Model and notation	X.200-X.209
Service definitions	X.210-X.219
Connection-mode protocol specifications	X.220-X.229
Connectionless-mode protocol specifications	X.230-X.239
PICS proformas	X.240-X.259
Protocol Identification	X.260-X.269
Security Protocols	X.270-X.279
Layer Managed Objects	X.280-X.289
Conformance testing	X.290-X.299

INTERWORKING BETWEEN NETWORKS

General	X.300-X.349
Satellite data transmission systems	X.350-X.399

MESSAGE HANDLING SYSTEMS

DIRECTORY	X.400-X.499
------------------	--------------------

OSI NETWORKING AND SYSTEM ASPECTS

Networking	X.600-X.629
Efficiency	X.630-X.639
Quality of service	X.640-X.649
Naming, Addressing and Registration	X.650-X.679
Abstract Syntax Notation One (ASN.1)	X.680-X.699

OSI MANAGEMENT

Systems Management framework and architecture	X.700-X.709
Management Communication Service and Protocol	X.710-X.719
Structure of Management Information	X.720-X.729
Management functions and ODMA functions	X.730-X.799

SECURITY	X.800-X.849
-----------------	--------------------

OSI APPLICATIONS

Commitment, Concurrency and Recovery	X.850-X.859
Transaction processing	X.860-X.879
Remote operations	X.880-X.899

OPEN DISTRIBUTED PROCESSING	X.900-X.999
------------------------------------	--------------------

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

ITU-T RECOMMENDATION X.78

INTERWORKING PROCEDURES BETWEEN NETWORKS PROVIDING FRAME RELAY DATA TRANSMISSION SERVICES VIA B-ISDN

Summary

This Recommendation defines the procedures for interworking case of concatenation of networks providing FRDTS via B-ISDN. It includes reference configurations, protocol stacks and detailed signalling procedures. This Recommendation may be used in the case where frame relay links between networks providing FRDTS services are transferred over B-ISDN networks as backbone networks. Interworking scenario used in this Recommendation is Network interworking scenario as specified in Recommendation I.555, and port access method of interworking as specified in the X.300-series Recommendations.

Source

ITU-T Recommendation X.78 was prepared by ITU-T Study Group 7 (1997-2000) and was approved under the WTSC Resolution No. 1 procedure on the 18th of June 1999.

FOREWORD

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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

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CONTENTS

	<i>Page</i>
1 Scope	1
2 References	1
3 Terms and Definitions	2
4 Abbreviations.....	2
5 Conventions	3
6 Reference Configurations	3
6.1 Case where B-ISDN provides PVC.....	3
6.2 Case where B-ISDN provides SVC.....	4
7 Service parameters and Service quality	5
7.1 Peak cell rate	5
7.2 Service quality.....	5
8 Addressing and routing aspects	6
9 Physical layer.....	6
10 ATM layer	6
11 ATM Adaptation layer.....	6
11.1 U-plane.....	6
11.2 C-plane	6
12 Signalling procedures	6
12.1 General	6
12.2 Outgoing X.76 Call	7
12.3 Incoming X.76 Call	7
12.4 ATM Switched Virtual Channel Connection Clearing.....	8
12.5 Restart Procedures.....	8
12.6 Handling of Error condition	8
13 ATM-adaptor functionalities	9
13.1 General	9
13.2 Physical interface	10
13.3 Mapping of signalling information and procedures between the X.76 interface and the S _B /T _B reference point.....	10
13.4 Synchronization.....	10
13.5 Maintenance	10
Annex A – X.78 example message flow diagrams	10
A.1 X.78 call setup message flow sequences.....	10
A.2 X.78 call releasing message flow sequences	12
A.3 X.78 restart message flow sequences	12
Annex B – The mapping of Q.2931 Cause information element identifier field to X.76 cause.....	16

Recommendation X.78

INTERWORKING PROCEDURES BETWEEN NETWORKS PROVIDING
FRAME RELAY DATA TRANSMISSION SERVICES VIA B-ISDN

(Geneva, 1999)

1 Scope

This Recommendation defines the procedures for interworking case of concatenation of networks providing FRDTS via B-ISDN. It includes reference configurations, protocol stacks and detailed signalling procedures. Interworking scenario used in this Recommendation is Network interworking scenario as specified in Recommendation I.555, and port access method of interworking as specified in the X.300-series Recommendations.

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 E.164 (1997), *The international public telecommunication numbering plan*.
- [2] CCITT Recommendation G.702 (1988), *Digital hierarchy bit rates*.
- [3] ITU-T Recommendation G.804 (1998), *ATM cell mapping into Plesiochronous Digital Hierarchy (PDH)*.
- [4] ITU-T Recommendation I.361 (1999), *B-ISDN ATM layer specification*.
- [5] ITU-T Recommendation I.362 (1993 – withdrawn in 1997), *B-ISDN ATM adaptation layer (AAL) functional description*.
- [6] ITU-T Recommendation I.363 (1993), *B-ISDN ATM adaptation layer (AAL) specification*.
- [7] ITU-T Recommendation I.365.1 (1993), *Frame Relaying Service Specific Convergence Sublayer (FR-SSCS)*.
- [8] ITU-T Recommendation I.371 (1996), *Traffic control and congestion control in B-ISDN*.
- [9] ITU-T Recommendation I.413 (1993), *B-ISDN user-network interface*.
- [10] ITU-T Recommendation I.430 (1995), *Basic user-network interface – Layer 1 specification*.
- [11] ITU-T Recommendation I.432, *B-ISDN user-network interface – Physical layer specification*.
- [12] ITU-T Recommendation I.555 (1997), *Frame relaying bearer service interworking*.
- [13] ITU-T Recommendation I.610 (1999), *B-ISDN operation and maintenance principles and functions*.
- [14] ITU-T Recommendation Q.2110 (1994), *B-ISDN ATM adaptation layer – Service specific connection oriented protocol (SSCOP)*.



Documents

Document Sharing Hub

Recommendation X.78 (06/99)

1

- [15] ITU-T Recommendation Q.2130 (1994), *B-ISDN signalling ATM adaptation layer – Service specific coordination function for support of signalling at the user-network interface (SSCF at UNI)*.
- [16] ITU-T Recommendation Q.2931 (1995), *Digital Subscriber Signalling System No. 2 – User-Network Interface (UNI) layer 3 specification for basic call/connection control*.
- [17] ITU-T Recommendation X.76 (1995), *Network-to-network interface between public data networks providing the frame relay data transmission service*.
- [18] ITU-T Recommendation X.76 (1995)/Amendment 1 (1997), *Network-to-network interface between public data networks providing the frame relay data transmission service – Amd. 1: Switched Virtual Circuits*.

3 Terms and Definitions

This Recommendation defines the following term:

3.1 Frame Relay Service Specific Convergence Sublayer: FR SSCS is used at the TE and AU to interworking between AAL and Link Access Procedure for Frame mode bearer service (LAPF) (see Recommendation I.365.1).

4 Abbreviations

This Recommendation uses the following abbreviations:

AAL	ATM Adaptation Layer
ATM	Asynchronous Transfer Mode
AU	Access Unit
B-ISDN	Broadband ISDN
BCOB	Broadband Connection Oriented Bearer class
CPCS	Common Part Convergence Sublayer
FRDTS	Frame Relay Data Transmission Services
FRPDN	Frame Relay Public Data Network
ISDN	Integrated Services Digital Network
PVC	Permanent Virtual Circuit
QoS	Quality of Service
SSCS	Service Specific Convergence Sublayer
STE	Signalling Terminal
SVC	Switched Virtual Circuit
VCI	Virtual Channel Identifier
VPCI	Virtual Path Connection Identifier