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SERIES X: DATA NETWORKS AND OPEN SYSTEM
COMMUNICATIONS

Interworking between networks – General

**General arrangements for interworking between
networks providing frame relay data
transmission services and B-ISDN**

ITU-T Recommendation X.329

(Previously CCITT Recommendation)

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ITU-T RECOMMENDATION X.329

GENERAL ARRANGEMENTS FOR INTERWORKING BETWEEN NETWORKS PROVIDING FRAME RELAY DATA TRANSMISSION SERVICES AND B-ISDN

Summary

This Recommendation defines general arrangements for interworking between networks providing Frame Relay Data Transmission Services (FRDTS) and B-ISDN. It includes reference configurations, protocol stacks, FR/ATM element mapping and other general arrangements required for various interworking scenarios between the two types of networks. In particular, it focuses on the cases where dedicated Frame Relay networks are involved in such interworking scenarios.

Source

ITU-T Recommendation X.329 was prepared by ITU-T Study Group 7 (1997-2000) and was approved under the WTSC Resolution No. 1 procedure on 31 March 2000.

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

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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GENERAL ARRANGEMENTS FOR INTERWORKING BETWEEN NETWORKS PROVIDING FRAME RELAY DATA TRANSMISSION SERVICES AND B-ISDN

(Geneva, 2000)

1 Scope

This Recommendation defines general arrangements for interworking between FRDTS provided by public data networks and B-ISDN. It includes reference configurations, protocol stacks and FR/ATM element mappings.

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 I.233.1 (1991), *ISDN frame relaying bearer service*.
- [2] ITU-T Recommendation I.361 (1999), *B-ISDN ATM layer specification*.
- [3] ITU-T Recommendation I.363.5 (1996), *B-ISDN ATM Adaptation Layer specification: Type 5 AAL*.
- [4] ITU-T Recommendation I.365.1 (1993), *B-ISDN ATM adaptation layer sublayers: Frame relaying service specific convergence sublayer (FR-SSCS)*.
- [5] ITU-T Recommendation I.371 (1996), *Traffic control and congestion control in B-ISDN*.
- [6] ITU-T Recommendation I.555 (1997), *Frame Relaying Bearer Service interworking*.
- [7] ITU-T Recommendation I.610 (1999), *B-ISDN operation and maintenance principles and functions*.
- [8] ITU-T Recommendation I.620 (1996), *Frame relay operation and maintenance principles and functions*.
- [9] ITU-T Recommendation Q.2931 (1995), *Digital Subscriber Signalling System No. 2 (DSS 2) – User-Network Interface (UNI) – Layer 3 specification for basic call/connection control*.
- [10] ITU-T Recommendation Q.2933 (1996), *Digital subscriber Signalling System No. 2 (DSS 2) – Signalling specification for Frame Relay service*.
- [11] ITU-T Recommendation X.36 (2000), *Interface between Data Terminal Equipment (DTE) and Data Circuit-terminating Equipment (DCE) for public data networks providing frame relay data transmission service by dedicated circuit*.
- [12] ITU-T Recommendation X.76 (2000), *Network-to-network interface between public data networks providing the frame relay data transmission service*.
- [13] ITU-T Recommendation X.300 (1996), *General principles for interworking between public networks and between public networks and other networks for the provision of data transmission services*.

3 Terms and Definitions

This Recommendation defines the following term:

3.1 FR-SSCS: FR-SSCS is used at the TE and AU to interworking between AAL and LAPF.

4 Abbreviations

This Recommendation uses the following abbreviations:

AAL	ATM Adaptation Layer
ATC	ATM Transfer Capability
ATM	Asynchronous Transfer Mode
AU	Access Unit
B-ISDN	Broadband ISDN
B-TE	TE subscribing to a B-ISDN
BCOB	Broadband Connection Oriented Bearer class
BECN	Backward Explicit Congestion Notification
Bc	Committed Burst
Be	Excess Burst
CI	Congestion Indication
CIR	Committed Information Rate
CPCS	Common Part Convergence Sublayer
CPCS-CI	CPCS-Congestion Indication
CPCS-LP	CPCS-Loss Priority
CPCS-UU	CPCS-User-to-User indication
DE	Discard Eligibility
DLCI	Data Link Connection Identifier
DTE	Data Terminal Equipment (as traditionally defined in X-series Recommendations)
DTP	Data Transfer Protocol
FECN	Forward Explicit Congestion Notification
FR-DTE	DTE subscribing to a network providing FRDTS
FR-SSCS	Frame Relaying Service Specific Convergence Sublayer
FRDTS	Frame Relay Data Transmission Service
ISDN	Integrated Services Digital Network
IWF	InterWorking Function
LP	Loss Priority
PDU	Protocol Data Unit
PVC	Permanent Virtual Circuit
SAR	Segmentation and Reassembly