



INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

X.248

(11/95)

**DATA NETWORKS AND OPEN SYSTEM
COMMUNICATIONS**

**OPEN SYSTEMS INTERCONNECTION –
PICS PROFORMAS**

**INFORMATION TECHNOLOGY –
OPEN SYSTEMS INTERCONNECTION –
RELIABLE TRANSFER: PROTOCOL
IMPLEMENTATION CONFORMANCE
STATEMENT (PICS) PROFORMA**

ITU-T Recommendation X.248

(Previously "CCITT Recommendation")

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. Some 179 member countries, 84 telecom operating entities, 145 scientific and industrial organizations and 38 international organizations participate in ITU-T which is the body which sets world telecommunications standards (Recommendations).

The approval of Recommendations by the Members of ITU-T is covered by the procedure laid down in WTSC Resolution No. 1 (Helsinki, 1993). In addition, the World Telecommunication Standardization Conference (WTSC), which meets every four years, approves Recommendations submitted to it and establishes the study programme for the following period.

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. The text of ITU-T Recommendation X.248 was approved on 21st of November 1995. The identical text is also published as ISO/IEC International Standard 9066-3.

NOTE

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

© ITU 1996

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, except as noted in footnote 1) in Annex A.

ITU-T X-SERIES RECOMMENDATIONS

DATA NETWORKS AND OPEN SYSTEM COMMUNICATIONS

(February 1994)

ORGANIZATION OF X-SERIES RECOMMENDATIONS

Subject area	Recommendation Series
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
Mobile Data Transmission Systems	X.350-X.369
Management	X.370-X.399
MESSAGE HANDLING SYSTEMS	X.400-X.499
DIRECTORY	X.500-X.599
OSI NETWORKING AND SYSTEM ASPECTS	
Networking	X.600-X.649
Naming, Addressing and Registration	X.650-X.679
Abstract Syntax Notation One (ASN.1)	X.680-X.699
OSI MANAGEMENT	X.700-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

CONTENTS

	<i>Page</i>
Summary	iii
Introduction	iii
1 Scope	1
2 Normative references	1
2.1 Identical Recommendations International Standards	1
2.2 Paired Recommendations International Standards equivalent in technical content	1
2.3 Additional references	2
3 Definitions	2
4 Abbreviations	2
5 Conformance	2
Annex A – PICS proforma for the reliable transfer protocol	3
A.1 Identification of PICS proforma corrigenda	3
A.2 Instructions	3
A.2.1 Purpose and structure of the proforma	3
A.2.2 Symbols, terms and abbreviations	3
A.2.2.1 Introduction	3
A.2.2.2 Prerequisite notation	4
A.2.2.3 Item numbering	4
A.2.2.4 Status column	4
A.2.2.5 Support column	5
A.2.2.6 Definition of support	5
A.2.2.7 Constraints for supported values	5
A.2.2.8 Mode or Note column	5
A.2.2.9 Clause reference column	5
A.2.2.10 Abbreviations	6
A.2.3 Instructions for completion	6
A.3 Identification of the implementation	6
A.3.1 Date of statement	6
A.3.2 Identification of the implementation and/or system	6
A.3.3 Identification of the system supplier and/or test laboratory client	7
A.4 Protocol identification	7
A.4.1 CCITT Rec. X.228 ISO/IEC 9066-2 protocol specification and amendments implemented	7
A.4.2 CCITT Rec. X.228 ISO/IEC 9066-2 technical corrigenda implemented	7
A.5 Global statement of conformance	8
A.6 Capabilities and options	8
A.6.1 Initiator/Responder capability	8
A.6.2 Major capabilities	8
A.6.2.1 Supported Modes of Operation	8
A.6.2.2 Supported Dialogue Mode	8
A.6.2.3 Elements of procedure	9
A.6.3 Timers and protocol parameters	9
A.6.3.1 Timers	9
A.6.3.2 Protocol parameters	9
A.6.4 Supported RSTE PDUs	10
A.6.5 Supported RTSE PDU parameters	10
A.6.5.1 RTORQapdu parameters	10
A.6.5.2 RTOACapdu parameters	11
A.6.5.3 RTORJapdu parameters	11
A.6.5.4 RTTPapdu parameters	12
A.6.5.5 RTTRapdu parameters	12
A.6.5.6 RTTBapdu parameters	12

	<i>Page</i>
A.6.6 Negotiation capabilities.....	12
A.6.7 Protocol error handling	13
A.6.8 Other information.....	13
A.7 Multi-layer dependencies	13
A.7.1 Upper layers	13
A.7.2 Lower layers.....	14
A.7.2.1 ACSE	14
A.7.2.2 Presentation.....	14
A.7.2.3 Session	14

Summary

This Recommendation | International Standard provides the Protocol Implementation Conformance Statement (PICS) proforma for the Reliable Transfer protocol specified in Recommendation X.228 (1988). The PICS proforma presents in tabular form the mandatory and optional elements of the Reliable Transfer protocol.

Introduction

This Recommendation | International Standard is one of a set of Recommendations | International Standards produced to facilitate the interconnection of information processing systems. It is related to other Recommendations and International Standards in the set as defined by the Reference Model for Open Systems Interconnection (see ITU-T Rec. X.200 | ISO/IEC 7498-1). The Reference Model subdivides the area of standardization for interconnection into a series of layers of specification, each of manageable size.

The goal of Open Systems Interconnection is to allow, with a minimum of technical agreement outside the interconnection standards, the interconnection of information processing systems:

- from different manufacturers;
- under different managements;
- of different levels of complexity; and
- of different technologies.

The Reliable Transfer Service Element (RTSE) is an application-service-element commonly used by a number of applications. RTSE provides for the reliable transfer of Application Protocol Data Units (APDUs) between open systems. It provides an application-independent mechanism to recover from communication and end-system failure minimizing the amount of retransmission.

To evaluate the conformance of a particular implementation, it is necessary to have a description of the capabilities and options which have been implemented. Such a description is called a Protocol Implementation Conformance Statement (PICS).

This Recommendation | International Standard includes the PICS proforma for the reliable transfer protocol as defined in CCITT Rec. X.228 (1988) | ISO/IEC 9066-2:1989.

Page blanche

page iv

