



INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

X.601

(03/2000)

SERIES X: DATA NETWORKS AND OPEN SYSTEM
COMMUNICATIONS

OSI networking and system aspects – Networking

Multi-peer communications framework

ITU-T Recommendation X.601

(Previously CCITT Recommendation)

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	X.400–X.499
--------------------------	-------------

DIRECTORY	X.500–X.599
-----------	-------------

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 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 communications
Series Y	Global information infrastructure and Internet protocol aspects
Series Z	Languages and general software aspects for telecommunication systems

18573

Printed in Switzerland

Geneva, 2000



Documents

Document Sharing Hub

ITU-T RECOMMENDATION X.601

MULTI-PEER COMMUNICATIONS FRAMEWORK

Summary

This Recommendation provides the basic framework to specify services and protocols for multi-peer communications. It also defines the basic concepts of group and various aspects of group communication, which are needed to specify specific services and protocols for multi-peer communications.

Source

ITU-T Recommendation X.601 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

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 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 2000

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

Page

1	Scope	1
2	Normative references	1
2.1	Identical Recommendations International Standards	1
3	Definitions and abbreviations	1
3.1	Terms defined in the OSI Basic Reference Model	1
3.2	Abbreviations defined in the OSI Basic Reference Model	2
3.3	Abbreviations defined in this Recommendation	2
4	Notation	2
5	Description of multi-peer	2
5.1	Definitions	2
5.2	Description	2
6	Group descriptions	3
6.1	Definitions	3
6.2	Descriptions	3
6.3	Group characteristics	4
6.4	Naming and addressing	5
6.5	Active Group Integrity (AGI)	6
6.6	Ordering	6
6.7	Synchronization	7
7	Model of multi-peer communications	8
7.1	Group Association (GA)	8
7.2	Group Connection	9
7.3	Relationship among GA, GC and Groups	10
8	Quality of Service (QoS)	11
8.1	Levels of QoS agreement	12
8.2	QoS negotiation	12
9	Phases of multi-peer communication	13
9.1	Multicast-group creation phase	13
9.2	Registration/de registration phase	13
9.3	Enrollment/de-enrollment phase	13
9.4	Activation/deactivation	14
9.5	Data transfer phase	15

