

INTERNATIONAL STANDARD

ISO/IEC
8072

Third edition
1996-08-01

Information technology — Open systems interconnection — Transport service definition

*Technologies de l'information — Interconnexion de systèmes ouverts
(OSI) — Définition du service de transport*



Reference number
ISO/IEC 8072:1996(E)

CONTENTS

	<i>Page</i>
SECTION 1 – GENERAL	1
1 Scope.....	1
2 Normative references	1
2.1 Identical Recommendations International Standards	1
3 Definitions.....	2
3.1 Reference Model definitions.....	2
3.2 Service (Definition) conventions.....	2
3.3 Transport Service Definitions.....	2
4 Abbreviations	3
5 Conventions.....	3
5.1 General conventions.....	3
5.2 Parameters.....	3
6 Overview and general characteristics.....	3
7 Classes and types of Transport Service.....	4
SECTION 2 – DEFINITION OF THE CONNECTION-MODE SERVICE	4
8 Features of the connection-mode Transport Service.....	4
9 Model of the connection-mode Transport Service.....	5
9.1 General.....	5
9.2 Model of a Transport Connection	5
10 Quality of connection-mode Transport Service	7
10.1 TC establishment delay	8
10.2 TC establishment failure probability.....	8
10.3 Throughput.....	8
10.4 Transit delay.....	9
10.5 Residual error rate.....	9
10.6 Transfer failure probability	9
10.7 TC release delay	10
10.8 TC release failure probability	10
10.9 TC protection	10
10.10 TC priority	10
10.11 Resilience of the TC.....	10
11 Sequence of Transport Service primitives.....	11
11.1 Relation of TS primitives at the two TC endpoints.....	11
11.2 Sequence of TS primitives at one TC endpoint	11

© ISO/IEC 1996

All rights reserved. Unless otherwise specified, 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 publisher.

ISO/IEC Copyright Office • Case postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

12	Transport Connection establishment phase	14
12.1	Function	14
12.2	Types of TS primitives and parameters	14
12.2.1	Addresses	14
12.2.2	Called Address	14
12.2.3	Calling Address	15
12.2.4	Responding Address	15
12.2.5	Expedited Data option	15
12.2.6	Quality of Service	15
12.2.7	TS user-data	16
12.3	Sequence of TS primitives	16
12.4	Negotiation of expedited data transfer service	16
13	Data transfer phase	17
13.1	Data Transfer Service	17
13.1.1	Function	17
13.1.2	Types of TS primitives and parameters	17
13.1.2.1	TS user-data	17
13.1.3	Sequence of TS primitives	17
13.2	Expedited data transfer service	17
13.2.1	Function	17
13.2.2	Types of TS primitives and parameters	18
13.2.2.1	TS user-data	18
13.2.3	Sequence of TS primitives	18
14	Transport Connection release phase	18
14.1	Function	18
14.2	Types of TS primitives and parameters	19
14.2.1	Reason	19
14.2.2	TS user-data	19
14.3	Sequence of TS primitives when releasing an established transport connection	19
14.4	Sequence of TS primitives in TS user rejection of a TC establishment	21
14.5	Sequence of TS primitives in a TS provider rejection of a TC Establishment attempt	21
SECTION 3 – DEFINITION OF THE CONNECTIONLESS-MODE SERVICE		21
15	Features of the connectionless-mode Transport Service	21
16	Model of the connectionless-mode Transport Service	22
16.1	General	22
16.2	Model of transport connectionless-mode transmission	22
17	Quality of connectionless-mode Transport Service	23
17.1	Determination of QOS	23
17.2	Definition of connectionless-mode QOS parameters	23
17.2.1	Transit delay	23
17.2.2	Protection	24
17.2.3	Residual error probability	24
17.2.4	Priority	24
18	Sequence of connectionless-mode primitives at one TSAP	24
19	Data transfer	25
19.1	Function	25
19.2	Types of primitives and parameters	25
19.2.1	Addresses	25
19.2.2	Quality of Service	25
19.2.3	TS user data	26
19.3	Sequence of primitives	26

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

International Standard ISO/IEC 8072 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems*, in collaboration with ITU-T. The identical text is published as ITU-T Recommendation X.214.

This third edition cancels and replaces the second edition (ISO/IEC 8072:1994), which has been technically revised.

Introduction

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

This Recommendation | International Standard defines the Service provided by the Transport Layer to the Session Layer at the boundary between the Transport and Session Layers of the Reference Model. It provides for the designers of Session Protocols a definition of the Transport Service existing to support the Session Protocol and for designers of Transport Protocols a definition of the services to be made available through the action of the Transport Protocol over the underlying service. This relationship is illustrated in Figure Intro.1.

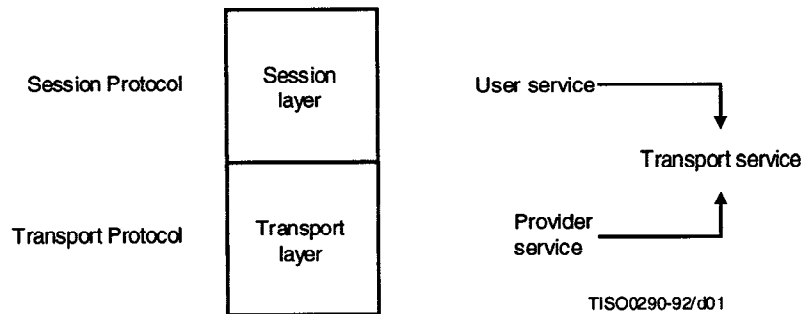


Figure Intro. 1 – Relationship of the Transport Service to OSI Transport and Session Protocols

Throughout the set of OSI Recommendations | International Standards, the term “Service” refers to the abstract capability provided by one layer of the OSI Reference Model to the layer above it. Thus, the Transport Service defined in this Recommendation | International Standard is a conceptual architectural Service, independent of administrative divisions.

NOTE – It is important to distinguish the specialized use of the term “Service” within the set of OSI Recommendations | International Standards from its use elsewhere to describe the provision of a service by an organization (such as the provision of a service, as defined in other Recommendations, by an Administration).

INTERNATIONAL STANDARD**ITU-T RECOMMENDATION****INFORMATION TECHNOLOGY –
OPEN SYSTEMS INTERCONNECTION – TRANSPORT SERVICE DEFINITION****SECTION 1 – GENERAL****1 Scope**

This Recommendation | International Standard defines in an abstract way the externally visible service provided by the OSI Transport Layer in terms of:

- a) the primitive actions and events of the service;
- b) the parameter data associated with each primitive action and event;
- c) the relationship between, and the valid sequences of, these actions and events.

The service defined in this Recommendation | International Standard is that which is provided by all OSI Transport Protocols (in conjunction with the Network Service) and which may be used by any OSI Session Protocol.

This Recommendation | International Standard does not specify individual implementations or products, nor does it constrain the implementation of entities and interfaces within a system. Conformance of equipment to this Recommendation | International Standard is achieved by conformance to the protocols specified to fulfil the Transport Service defined in this Recommendation | International Standard.

2 Normative references

The following Recommendations and International Standards contain provisions which, through reference in this text, constitute provisions of this Recommendation | International Standard. At the time of publication, the editions indicated were valid. All Recommendations and Standards are subject to revision and parties to agreements based on this Recommendation | International Standard are encouraged to investigate the possibility of applying the most recent edition of the Recommendations and International Standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards. The Telecommunication Standardization Bureau of the ITU maintains a list of currently valid ITU-T Recommendations.

2.1 Identical Recommendations | International Standards

- ITU-T Recommendation X.200 (1994) | ISO/IEC 7498-1:1994, *Information technology – Open Systems Interconnection – Basic Reference Model: The Basic Model*.
- ITU-T Recommendation X.210 (1993) | ISO/IEC 10731:1994, *Information technology – Open Systems Interconnection – Basic Reference Model: Conventions for the definition of OSI services*.