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Draft for Development

Open Systems Interconnection: protocol to provide the connectionless-mode transport service utilizing either the connectionless-mode or the connection-oriented network service (ISO/DP 8602)

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This publication is not to be regarded as a British Standard. It is being issued in the Draft for Development series of publications and is of a provisional nature because the subject matter is in process of ongoing development within the International Standards Committee (ISO/TC 97/SC 6 Telecommunications and Information Exchange between Systems).

It should be applied on this provisional basis, so that information and experience of its practical application may be obtained.

A review of this Draft for Development will be carried out not later than two years after its publication. Notification of the start of the review period, with a request for the submission of comments from users of this Draft for Development will be made in an announcement in the appropriate issue of *BSI News*. Observations which it is felt should receive attention before the official call for comments will be welcomed.

According to the replies received, the responsible BSI Committee will judge whether the Draft for Development can be converted into a British Standard or what other action should be taken.

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National foreword

This Draft for Development has been prepared under the direction of the Office and Information Standards Committee. The primary objective of this Draft for Development is to give advance guidance to product and systems designers concerned with the Transport Layer of the Basic Reference Model for Open Systems Interconnection (OSI).

The text of the Draft for Development is identical with the Draft Proposal ISO/DP 8602.2 (reference ISO/TC 97/SC 6 N 3223) issued 30 August 1984 by the International Organization for Standardization (ISO).

For ease of reproduction the ISO text has been reproduced unchanged.

The UK has actively participated through BSI Technical Committee OIS/6 in the development of the ISO Draft Proposal. The Technical Committee will review any agreed amendment or addenda to the ISO text and will, where appropriate, update the text of this Draft for Development via an amendment or revision. When the ISO draft reaches an appropriate level of agreement and stability, this Draft for Development may then be converted to a British Standard.

For information, a list of published British Standards and Drafts for Development (together with those scheduled for publication at the time of publication of this Draft for Development) for OSI, data communications and computer graphics is attached as national appendix A. Press releases for new OSI, data communications and computer graphics British Standards publications will be issued to the computing press, and details of all new publications will be recorded in full in *BSI News*.

Terminology and conventions. The text of the Draft Proposal has been approved as suitable for publication as a Draft for Development without deviation. Some terminology and certain conventions are not identical with those used in Drafts for Development; attention is drawn especially to the following.

Wherever the words 'International Standard' appear, referring to this Draft for Development, they should be read as 'Draft for Development'.

Cross-references

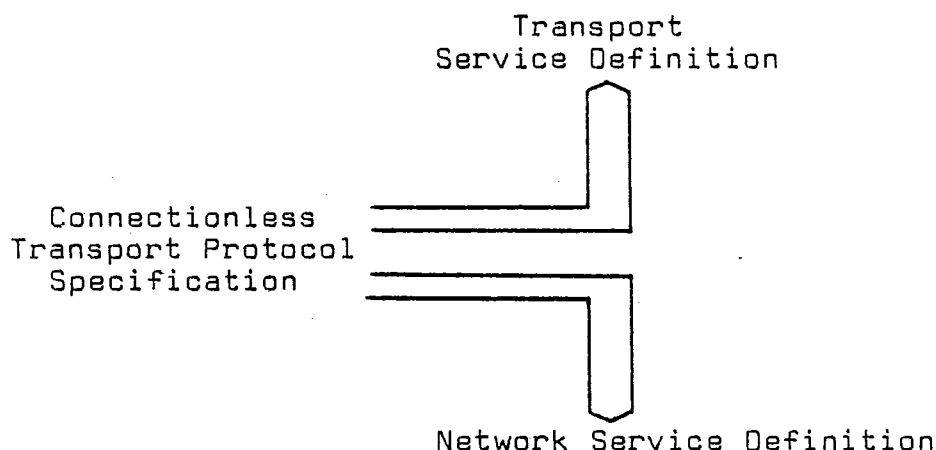
International standard	Corresponding British Standard
ISO 7498	BS 6568 : 1984 Description of basic reference model for open systems interconnection (Identical)
ISO 7498 DAD 1	DD 125* Basic reference model for Open Systems Interconnection: connectionless mode transmission (ISO 7498 DAD 1) (Identical)
ISO/DIS 8072	DD 115 : 1985 Open Systems Interconnection: transport service definition (ISO/DIS 8072) (Identical)
ISO/DIS 8073	DD 116 : 1985 Open Systems Interconnection: transport protocol specification (ISO/DIS 8073) (Identical)
ISO/DIS 8073 DAD 1	DD 116 : 1985 Open Systems Interconnection: transport protocol specification (ISO/DIS 8073) National appendix A (Identical)
ISO/DIS 8348	DD 119 : 1985 Open Systems Interconnection: connection-mode network service definition (ISO/DIS 8348) (Identical)
ISO/DIS 8348 DAD 1	DD 118 : 1985 Open Systems Interconnection: protocol for providing the connectionless-mode network service (ISO/DIS 8473 and ISO/DIS 8348 DAD 1) National appendix A (Identical)

*In preparation.

0 INTRODUCTION

The Transport Protocol Standard (ISO DIS 8073) is one of a set of International Standards produced to facilitate the interconnection of computer systems. The set of standards covers the services and protocols required to achieve such interconnection.

The Transport Protocol Standard is positioned with respect to other related standards by the layers defined in the Reference Model for Open Systems Interconnection (ISO 7498). In particular, it is a protocol of the Transport Layer. It is most closely related to the Transport Service Definition (ISO DIS 8072) and the Addendum to the Transport Service Definition Covering Connectionless-Mode Transmission (DIS 8072/DAD1), the Network Service Definition (DIS 8348), and the Addendum to the Network Service Definition Covering Connectionless-Mode Transmission (DIS 8348/DAD1). The interrelationship of these standards is depicted below:



The structure of this Addendum is similar to the structure of the connection-oriented Transport Protocol Specification (ISO DIS 8073) in order to facilitate cross reference between the two standards.

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1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies:

- a) procedures for the connectionless transmission of data and protocol control information from one transport-entity to one peer transport entity;
- b) the encoding of the Transport Protocol Data Units used for the transmission of data and control information;
- c) procedures for the correct interpretation of Transport protocol control information; and
- d) the functional requirements for implementations claiming conformance to the Standard.

The Procedures are defined in terms of:

- a) the interactions among peer transport-entities through the exchange of Transport Protocol Data Units;
- b) the interactions between a transport-entity and a Transport Service user through the exchange of Transport Service primitives; and
- c) the interaction between a transport-entity and a Network Service provider through the exchange of Network Service primitives.

This International Standard specifies a connectionless-mode Transport Protocol. The connection-oriented Transport Protocol is specified in a separate standard (ISO DIS 8073).

[ISO page 2]

This publication is a Draft for Development and is therefore not to be regarded as a British Standard. See page 1.

2REFERENCES

- ISO 7498 Information Processing Systems - Open Systems
Interconnection - Basic Reference Model
- ISO 7498/DAD1 Addendum to the Reference Model Covering
Connectionless Mode Transmission
- DIS 8072 Information Processing System - Open Systems
Interconnection - Transport Service
Definition
- DIS 8073 Information Processing Systems - Open Systems
Interconnection - Transport Protocol
Specification
- DIS 8073/DAD1 Addendum to the Transport Service Definition
Covering Connectionless Mode Transmission
- DIS 8348 Information Processing Systems - Data
Communications - Network Service Definition
- DIS 8348/DAD1 Addendum to the Network Service Definition
Covering Connectionless Mode Transmission

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SECTION ONE. GENERAL3 DEFINITIONS

3.1 REFERENCE MODEL DEFINITIONS

This document uses the following concepts defined in ISO 7498:

- a) OSI-Network Layer
- b) OSI-Transport Layer
- c) OSI-Transport-Service-Access-Point
- d) OSI-Transport-Service-Access-Point-address
- e) OSI-Transport-Entity
- f) Protocol
- g) Service

3.2 ADDITIONAL DEFINITIONS

For the purpose of this document, the following definitions apply:

- h) Source-transport-address

Identifies the TSAP through which the Transport Service user may act as the source of data during a particular instance of Transport-connectionless mode transmission.

- i) Identifies the TSAP through which the Transport Service user may act as the sink of data during a particular instance of Transport-connectionless mode transmission.

[ISO page 4]

4 SYMBOLS AND ABBREVIATIONS

4.1 DATA UNITS

TPDU	Transport Protocol Data Unit
TSDU	Transport Service Data Unit
NSDU	Network Service Data Unit

4.2 TRANSPORT PROTOCOL DATA UNITS

UD TPOU	Unit Data TPOU
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4.3 TPOU FIELDS

LI	Length Indicator
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4.4 PARAMETERS

Source TSAP-ID
Destination TSAP-ID
Checksum

4.5 MISCELLANEOUS

TS-user	Transport Service user
TSAP	Transport service access point
NSAP	Network service access point

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5 OVERVIEW OF THE TRANSPORT PROTOCOL

5.1 SERVICE PROVIDED BY THE TRANSPORT LAYER

The service provided by the protocol herein described is a connectionless Transport Service. The connectionless Transport Service is described in the Addendum to the Transport Service Definition Covering Connectionless-Mode Transmission (DIS 8072/OAD1). The Transport Service primitives provided are summarized below:

PRIMITIVE	PARAMETERS
T-UNITDATA request	Calling Address, Called Address, Quality of Service, TS-Userdata
T-UNITDATA indication	Calling Address, Called Address, Quality of Service, TS-Userdata

Table 1 - Transport Service Primitives

[ISO page 6]

5.2

SERVICE ASSUMED FROM THE NETWORK LAYER

The Transport Protocol described in this standard can operate over the connection-mode Network Service defined in DIS 8348 and over the connectionless-mode Network Service defined in DIS 8348/OA01. When operating over a connection-mode Network Service, the following Network Service primitives are used:

PRIMITIVE	PARAMETERS
N-CONNECT request	Called Address, Calling Address, Quality of Service
N-CONNECT indication	
N-CONNECT response	
N-CONNECT confirm	
N-DATA request	NS-Userdata
N-DATA indication	NS-Userdata
N-DISCONNECT request	Reason
N-DISCONNECT indication	

Table 2 - Connection mode Network Service Primitives