

**norme belge
enregistrée**

NBN EN 28073

1e éd., juin 1994

Indice de classement: Z 07

**Technologies de l'information - Télécommunications et échange
d'informations entre systèmes - Interconnexion de systèmes ouverts
(OSI) - Protocole pour fourniture du service de transport en mode
connexion (ISO/IEC 8073:1992 et rectificatif technique 1:1993)(+AC:1994)**

Informatietechnologie - Telecommunicatie en uitwisseling van informatie tussen systemen - Interconnectie van open systemen (OSI) - Protocol voor de levering van de verbindinggeoriënteerde transportdienst (ISO/IEC 8073:1992 en technisch corrigendum 1:1993)(+AC:1994)

Information technology - Telecommunications and information exchange between systems - Open systems Interconnection - Protocol for providing the connection-mode transport service (ISO/IEC 8073:1992 and Technical Corrigendum 1:1993)(+AC:1994)

Autorisation de publication: 29 juin 1994

La présente norme européenne EN 28073 :1992 a le statut d'une norme belge.

La présente norme européenne existe en trois versions officielles (allemand, anglais, français); la traduction néerlandaise a été faite par l'Institut Belge de Normalisation (IBN) et a le même statut.

Geregistreeerde Belgische norm

NBN EN 28073

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Normklasse: Z 07

Informatietechnologie - Telecommunicatie en uitwisseling van informatie tussen systemen - Interconnectie van open systemen (OSI) - Protocol voor de levering van de verbindinggeoriënteerde transportdienst (ISO/IEC 8073:1992 en technisch corrigendum 1:1993)(+AC:1994)

Technologies de l'information - Télécommunications et échange d'informations entre systèmes - Interconnexion de systèmes ouverts (OSI) - Protocole pour fourniture du service de transport en mode connexion (ISO/IEC 8073:1992 et rectificatif technique 1:1993)(+AC:1994)

Information technology - Telecommunications and information exchange between systems - Open systems Interconnection - Protocol for providing the connection-mode transport service (ISO/IEC 8073:1992 and Technical Corrigendum 1:1993)(+AC:1994)

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Deze Europese norm EN 28073 : 1992 heeft de status van een Belgische norm.

Deze Europese norm bestaat in drie officiële versies (Duits, Engels, Frans); de Nederlandse vertaling werd gemaakt door het Belgisch Instituut voor Normalisatie (BIN) en heeft dezelfde waarde.

NORME EUROPÉENNE

EN 28073

EUROPÄISCHE NORM

EUROPEAN STANDARD

Novembre 1993

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Descripteurs: Traitement de l'information, échange d'information, interconnexion de réseaux, interconnexion de systèmes ouverts, procédure de transmission de données, procédure de commande, protocole

Version française

**Technologies de l'information -
Télécommunications et échange d'informations
entre systèmes - Interconnexion de systèmes
ouverts (OSI) - Protocole pour fourniture du
service de transport en mode connexion (ISO/IEC
8073:1992 et rectificatif technique 1:1993)**

Informationstechnik - Telekommunikation und Informationsaustausch zwischen Systemen - Kommunikation offener Systeme - Protokoll zur Erbringung des verbindungsorientierten Transportdienstes (ISO/IEC 8073:1992 und Technisches Corrigendum 1:1993)

Information technology - Telecommunications and information exchange between systems - Open Systems Interconnection - Protocol for providing the connection-mode transport service (ISO/IEC 8073:1992 and Technical Corrigendum 1:1993)

La présente Norme Européenne a été adoptée par le CEN le 1993-11-25. Les membres du CEN sont tenus de se soumettre au Règlement Intérieur du CEN/CENELEC qui définit les conditions dans lesquelles doit être attribué, sans modification, le statut de norme nationale à la Norme Européenne.

Les listes mises à jour et les références bibliographiques relatives à ces normes nationales peuvent être obtenues auprès du Secrétariat Central ou auprès des membres du CEN.

Les Normes Européennes existent en trois versions officielles (allemand, anglais, français). Une version faite par traduction sous la responsabilité d'un membre du CEN dans sa langue nationale et notifiée au Secrétariat Central, a le même statut que les versions officielles.

Les membres du CEN sont les organismes nationaux de normalisation des pays suivants: Allemagne, Autriche, Belgique, Danemark, Espagne, Finlande, France, Grèce, Irlande, Islande, Italie, Luxembourg, Norvège, Pays-Bas, Portugal, Royaume-Uni, Suède et Suisse.

CEN

Comité Européen de Normalisation
Europäisches Komitee für Normung
European Committee for Standardization

Secrétariat Central: rue de Stassart, 36 B-1050 Bruxelles

Avant-propos

Le Bureau Technique avait décidé de soumettre la norme internationale et le corrigendum technique:

"Technologies de l'information - Télécommunications et échange d'informations entre systèmes - Interconnexion de systèmes ouverts (OSI) - Protocole pour fourniture du service de transport en mode connexion (ISO/IEC 8073:1992 et le corrigendum technique 1:1993)"

à la Procédure d'Acceptation Unique (UAP).

Le résultat de la Procédure d'Acceptation Unique était positif.

Pour le moment, ce document n'existe qu'en version anglaise.

Cette norme européenne devra recevoir le statut de norme nationale, soit par publication d'un texte identique, soit par entérinement, au plus tard en mai 1994, et toutes les normes nationales en contradiction devront être retirées au plus tard en mai 1994.

Selon le règlement intérieur du CEN/CENELEC, les pays suivants sont tenus de mettre cette norme européenne en application:

Allemagne, Autriche, Belgique, Danemark, Espagne, Finlande, France, Grèce, Irlande, Islande, Italie, Luxembourg, Norvège, Pays-Bas, Portugal, Royaume-Uni, Suède et Suisse.

Notice d'entérinement

Le texte de la norme internationale ISO/IEC 8073:1992 et le corrigendum technique 1:1993 a été approuvé par le CEN comme norme européenne sans aucune modification.

ISO/IEC 8073 : 1992 (E)

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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 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 8073 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*.

This third edition cancels and replaces the second edition (ISO/IEC 8073:1988) and includes technical revisions that have been published as: ISO 8073:1986/Add.1:1988, ISO/IEC 8073:1988/Add.2:1989, ISO/IEC 8073:1988/Am.3, ISO/IEC 8073:1988/Tech.Cor.1:1990, ISO/IEC 8073:1988/Tech.Cor.2:1990, ISO/IEC 8073:1988/Tech.Cor.3:1990, ISO/IEC 8073:1988/Tech.Cor.4:1991, ISO/IEC 8073:1988/Tech.Cor.5:1991 and ISO/IEC 8073:1988/Tech.Cor.6:1992. This edition also includes ISO/IEC 8073:1988/Dam.4 and various technical revisions that have been balloted together with the Draft International Standard of this edition.

Annex A, B and C form an integral part of this International Standard. Annexes D and E are for information only.

Introduction

This International Standard is one of a set of International Standards produced to facilitate the interconnection of information processing systems. This set of International Standards covers the services and protocols required to achieve such interconnection.

The Transport Protocol Standard is positioned with respect to other related International Standards by the layers defined in the Reference Model for Open Systems Interconnection (ISO 7498). It is most closely related to, and lies within the field of application of the Transport Service Standard (ISO 8072). It also uses and makes reference to the Network Service Standard (ISO/IEC 8348), whose provisions it assumes in order to accomplish the transport protocol's aims. The interrelationship of these International Standards is illustrated in Figure 1.

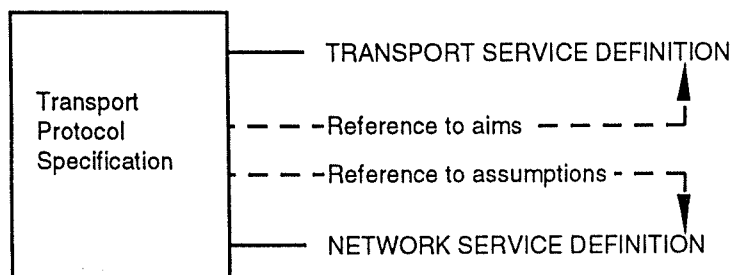


Figure 1 – Relationship between the Transport Protocol and adjacent services

This International Standard specifies a common encoding and a number of classes of transport protocol procedures to be used with different network qualities of service.

It is intended that the Transport Protocol should be simple but general enough to cater for the total range of Network Service qualities possible, without restricting future extensions.

The protocol is structured to give rise to classes of protocol which are designed to minimize possible incompatibilities and implementation costs.

The classes are selectable with respect to the Transport and Network Services in providing the required quality of service for the interconnection of two session entities (each class provides a different set of functions for enhancement of service qualities).

This International Standard defines mechanisms that can be used to optimize network tariffs and enhance the following qualities of service:

- a) different throughput;
- b) different error rates;
- c) integrity of data requirements;
- d) reliability requirements.

It does not require an implementation to use all of these mechanisms, nor does it define methods for measuring achieved quality of service or criteria for deciding when to release transport connections following quality of service degradation.

The primary aim of this International Standard is to provide a set of rules for communication expressed in terms of the procedures to be carried out by peer entities at the time of communication. These rules for communication are intended to provide a sound basis for development in order to serve a variety of purposes i.e.:

- a) as a guide for implementors and designers;
- b) for use in the testing and procurement of equipment;
- c) as part of an agreement for the admittance of systems into the open systems environment;
- d) as a refinement of the understanding of OSI.

As it is expected that the initial users of this International Standard will be designers and implementors of equipment this International Standard contains, in notes or in annexes, guidance on the implementation of the procedures defined herein.

It should be noted that, as the number of valid protocol sequences is very large, it is not possible with current technology to verify that an implementation will operate the protocol defined in this International Standard correctly under all circumstances. It is possible by means of testing to establish confidence that an implementation correctly operates the protocol in a representative sample of circumstances. It is, however, intended that this International Standard can be used in circumstances where two implementations fail to communicate in order to determine whether one or both have failed to operate the protocol correctly.

This International Standard contains a section on conformance of equipment claiming to implement the procedures in this International Standard. To evaluate conformance of a particular implementation, it is necessary to have a statement of which capabilities and options have been implemented for a given OSI protocol. Such a statement is called a Protocol Implementation Conformance Statement (PICS). A PICS proforma is provided in Annex C. Attention is drawn to the fact that this International Standard does not contain any tests to demonstrate this conformance.

The variations and options available within this International Standard are essential as they enable a transport service to be provided for a wide variety of applications over a variety of network qualities. Thus, a minimally conforming implementation will not be suitable for use in all possible circumstances. It is important, therefore, to qualify all references to this International Standard with statements of the options provided or required or with statements of the intended purpose of provision or use.

Information technology — Telecommunications and information exchange between systems — Open Systems Interconnection — Protocol for providing the connection-mode transport service

1 Scope

This International Standard specifies

- a) five classes of procedures when operating over the connection-mode network service:
 - 1) class 0: simple class;
 - 2) class 1: basic error recovery class;
 - 3) class 2: multiplexing class;
 - 4) class 3: error recovery and multiplexing class;
 - 5) class 4: error detection and recovery class;

for the connection-mode transfer of data and control information from one transport entity to a peer transport entity;

- b) one class (class 4) of procedure when operating over the connectionless-mode network service;
- c) the means of negotiating the class of procedures to be used by the transport entities;
- d) the structure and encoding of the transport protocol data units used for the transfer of data and control information.

The procedures are defined in terms of

- a) the interactions between peer transport entities through the exchange of transport protocol data units;
- b) the interactions between a transport entity and the transport service user in the same system through the exchange of transport service primitives;
- c) the interactions between a transport entity and the network service provider through the exchange of network service primitives.

These procedures are defined in the main text of this International Standard supplemented by state tables in annex A.

These procedures are applicable to instances of communication between systems which support the Transport Layer of the OSI Reference Model and which wish to interconnect in an open systems environment.

This International Standard specifies, in clause 14, conformance requirements for systems implementing these procedures and provides the PICS proforma in compliance with the relevant requirements, and in accordance with the relevant guidance, given in ISO/IEC 9646-2. It does not contain tests which can be used to demonstrate this conformance.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 7498:1984, *Information processing systems — Open Systems Interconnection — Basic Reference Model*.

ISO 7498:1984/Add.1:1987, *Information processing systems — Open Systems Interconnection — Basic Reference Model — Addendum 1: Connectionless-mode transmission*.

ISO 7498-3:1989, *Information processing systems — Open Systems Interconnection — Basic Reference Model — Part 3: Naming and addressing*.

ISO 8072:1986, *Information processing systems — Open Systems Interconnection — Transport service definition*.

ISO/IEC 8348:1992, *Information processing systems — Data communications — Network service definition*.