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INTERNATIONAL STANDARD

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Information technology — Open Systems Interconnection — Transport Fast Byte Protocol

*Technologies de l'information — Interconnexion de systèmes
ouverts (OSI) — Protocole de byte rapide de transport*



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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 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 14699 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.634.

Annex A forms an integral part of this International Standard. Annex B is for information only.

Introduction

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

The Transport Fast Byte Protocol Recommendation | International Standard is positioned with respect to other related Recommendations | International Standards by the layers defined in the Reference Model for Open Systems Interconnection (see ITU-T Rec. X.200 | ISO/IEC 7498-1). It is most closely related to, and lies within the field of application of, the Transport Service definition (see ITU-T Rec. X.214 | ISO/IEC 8072). It also uses and makes reference to the Network Service definition (see ITU-T Rec. X.213 | ISO/IEC 8348), whose provisions it assumes in order to accomplish Transport Fast Byte's aims. The interrelationship of these Recommendations | International Standards is illustrated in Figure Intro. 1.

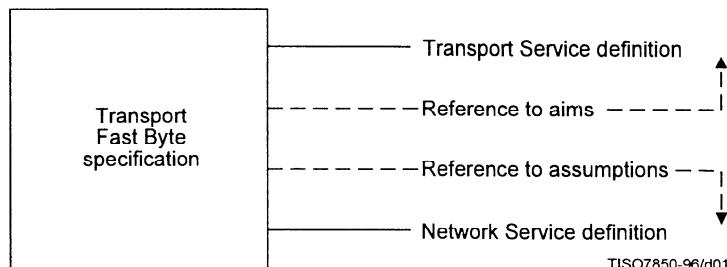


Figure Intro. 1 – Relationship between the Transport Fast Byte Protocol and adjacent services

This Recommendation | International Standard specifies a common encoding and protocol procedures. It is intended that the Transport Fast Byte Protocol should be simple and cater for a specific range of Network Service qualities possible.

The protocol is structured to give rise to two modes of operation which are designed to minimize possible incompatibilities and implementation costs. The modes are selectable with respect to the Transport and Network services in providing the required Quality of Service for the interconnection of two session entities (one mode ignores network signalled errors, the other mode does not). This Recommendation | International Standard does not define mechanisms that can be used to optimize network tariffs or enhance the quality of Network Service.

The primary aim of this Recommendation | 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:

- 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 Recommendation | International Standard will be designers and implementors of equipment, this Recommendation | International Standard contains, in notes or in annexes, guidance on the implementation of the procedures defined herein.

This Recommendation | International Standard contains a clause on conformance of equipment claiming to implement the procedures in this Recommendation | International Standard (see clause 8). 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 A. Attention is drawn to the fact that this Recommendation | International Standard does not contain any tests to demonstrate this conformance.

It should be noted that it may not be possible with current technology to verify that an implementation will operate the protocol defined in this Recommendation | 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 Recommendation | 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.

INTERNATIONAL STANDARD**ITU-T RECOMMENDATION**

INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION – TRANSPORT FAST BYTE PROTOCOL

1 Scope

This Recommendation | International Standard specifies:

- a) Two modes of procedures when operating over the connection oriented network service:
 - 1) mode 0: acts on network signalled errors;
 - 2) mode 4: ignores network signalled errors,
 for the connection oriented transfer of data and control information from one transport entity to a peer transport entity.
- b) The means of selecting the mode of procedures to be used by the transport entities.
- c) The structure and encoding of the TPDUs 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 TPDUs;
- 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 applicable to instances of communication between systems which support the Transport Layer of the OSI Reference Model and wish to interconnect in the open systems environment using the Transport Fast Byte Protocol.

This Recommendation | International Standard specifies, in clause 8, 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 ITU-T Rec. X.296 and ISO/IEC 9646-7. It does not contain tests which can be used to demonstrate this conformance.

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 International 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*.
- ITU-T Recommendation X.213 (1995) | ISO/IEC 8348:1996, *Information technology – Open Systems Interconnection – Network service definition*.

- ITU-T Recommendation X.214 (1995) | ISO/IEC 8072:1996, *Information technology – Open Systems Interconnection – Transport service definition*.
- ITU-T Recommendation X.224 (1995) | ISO/IEC 8073:1997, *Information technology – Open Systems Interconnection – Protocol for providing the OSI connection-mode transport service*.
- ITU-T Recommendation X.263 (1995) | ISO/IEC TR 9577:1996, *Information technology – Protocol identification in the Network layer*.

2.2 Paired Recommendations | International Standards equivalent in technical contents

- ITU-T Recommendation X.290 (1995), *OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications – General Concepts*.
ISO/IEC 9646-1:1994, *Information technology – Open Systems Interconnection – Conformance testing methodology and framework – Part 1: General concepts*.
- ITU-T Recommendation X.296 (1995), *OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications – Implementation conformance statements*.
ISO/IEC 9646-7:1995, *Information technology – Open Systems Interconnection – Conformance testing methodology and framework – Part 7: Implementation Conformance Statements*.