INTERNATIONAL STANDARD

ISO/IEC 9576

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Information technology — Open Systems Interconnection — Connectionless presentation protocol specification

Technologies de l'information — Interconnexion de systèmes ouverts — Spécification de protocole de présentation en mode sans connexion

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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 9576 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology.*

Annex A forms an integral part of this International Standard.

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Introduction

This International Standard (ISO 9576) is one of a set of International Standards produced to facilitate the interconnection of information processing systems. The set of standards covers the services and protocols required to achieve such interconnection.

This International Standard is positioned with respect to other related standards by the layers defined in the Reference Model for Open System Interconnection (ISO 7498). In particular, it is a protocol of the Presentation Layer. It is most closely related to the Presentation Service Definition (ISO 8822) and the addendum to the Presentation Service Definition covering connectionless-mode transmission (ISO 8822/Amd.1), the Session Service Definition (ISO 8326), and the addendum to the Session Service Definition covering connectionless-mode transmission (ISO 8326/Amd.3). The interrelationships of these standards is depicted below:

<div align="center">

Presentation
Service Definition

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Connectionless
Presentation Protocol
Specification

↓

Session
Service Definition

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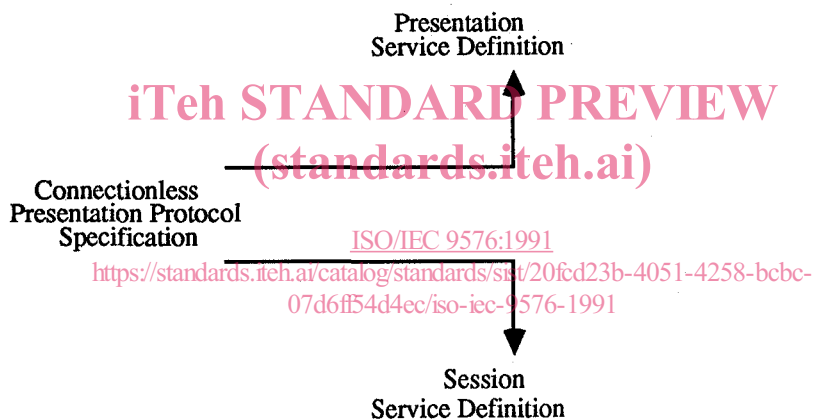
The structure of this International Standard is similar to the structure of the connection-oriented Presentation Protocol specification in order to facilitate cross reference between the two standards.

Information technology - Open Systems Interconnection - Connectionless presentation protocol specification

1 Scope

This International Standard[1] specifies

a) procedures for the transfer of data and control information from one presentation-entity to a peer presentation-entity;

b) the structure and encoding of the presentation-protocol-data-units used for the transfer of data and control information;

The procedures are defined in terms of:

c) the interactions between peer presentation-entities through the exchange of presentation-protocol-data-units;

d) the interactions between a presentation-entity and the presentation-service-user in the same system through the exchange of presentation-service primitives;

e) the interactions between a presentation-entity and the session-service-provider through the exchange of session-service primitives.

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

These procedures are applicable to instances of communication between systems which support the Presentation Layer of the OSI Reference Model, and which wish to transfer presentation service data units using connectionless-mode presentation service primitives.

This International Standard also specifies conformance criteria for systems implementing these procedures. 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/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 8326: 1987, *Information processing systems - Open Systems Interconnection - Basic connection oriented session service definition.*

ISO 8326/Add.3: -[2], *Information processing systems - Open Systems Interconnection - Basic connection oriented session service definition - Addendum 3: Connectionless-mode session service.*

ISO/TR 8509: 1987, *Information processing systems - Open Systems Interconnection - Service conventions.*

ISO 8822: 1988, *Information processing systems - Open Systems Interconnection - Connection oriented presentation service definition.*

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1) The implementation and use of this International Standard for Open Systems Interconnection requires the public assignment of values of ASN.1 type OBJECT IDENTIFIER to specifications of abstract syntaxes and transfer syntaxes. Public specification and naming of abstract syntaxes and transfer syntaxes can occur in ISO standards, or under the mechanisms identified in the Registration Authority procedures. A Registration Authority procedure specification is under development.

2) To be published.

ISO 8822/Amd.1: -[1], *Information processing systems - Open Systems Interconnection - Connection oriented presentation service definition - Amendment 1: Connectionless-mode presentation service.*

ISO 8823: 1988, *Information processing systems - Open Systems Interconnection - Connection oriented presentation protocol specification.*

ISO 8824: 1987, *Information processing systems - Open Systems Interconnection - Specification of Abstract Syntax Notation One (ASN.1).*

ISO 8825: 1987, *Information processing systems - Open Systems Interconnection - Specification of Basic Encoding Rules For Abstract Syntax Notation One (ASN.1).*

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1) To be published.

3 Definitions

3.1 Reference model definitions

This International Standard is based on the concepts developed in ISO 7498 and ISO 7498/Add.1 and makes use of the following terms derived from them:

a) Presentation Layer;

b) presentation-protocol-data-unit;

c) presentation-service;

d) presentation-service-access-point;

e) presentation-service-data-unit;

f) presentation-protocol-control-information;

g) Session Layer;

h) session-service-data-unit;

i) session-service-access-point;

j) transfer syntax;

k) (N)-connectionless-mode-transmission.

3.2 Naming and Addressing definitions

This International Standard makes use of the following terms defined in ISO 7498-3:

a) session-address;

b) presentation-address;

c) presentation-selector.

3.3 Service conventions definitions

This International Standard makes use of the following terms defined in ISO/TR 8509 as they apply in the Presentation Layer.

a) service-user;

b) service-provider;

c) service primitive;

d) request;

e) indication;

f) non-confirmed service;

3.4 Presentation Service definitions

This International Standard is also based on concepts developed in ISO 8822 and ISO 8822/Amd.1, and makes use of the following terms defined in those International Standards:

a) abstract syntax;

b) abstract syntax name;

c) transfer syntax name;

d) presentation data value;

e) presentation context;

f) default context.

4 Abbreviations

4.1 Data Units

PPDU	presentation-protocol-data-unit
PSDU	presentation-service-data-unit
SSDU	session-service-data-unit

4.2 Types of presentation-protocol-data-units

UD PPDU	Unit Data PPDU

4.3 Other Abbreviations

ASN.1	Abstract Syntax Notation One
PPCI	presentation-protocol-control-information
PPM	presentation protocol machine
PS	presentation-service
PSAP	presentation-service-access-point
PS-user	presentation-service-user
SS	session-service
SSAP	session-service-access-point

5 Overview of the connectionless presentation protocol

5.1 Service provided by the Presentation Layer

The Service provided by the protocol herein described is a connectionless-mode presentation-service. The connectionless-mode presentation service is described in ISO 8822/Amd.1. The connectionless presentation-service primitives provided are summarized in Table 1.

5.2 Service assumed from the Session Layer

The Presentation Protocol described in this International Standard can operate only over the connectionless-mode session-service as indicated in Table 2.

5.3 Functions of the Presentation Layer

The functions of the Presentation Layer for connectionless-mode transmission are described in the addendum to the Reference Model, ISO 7498/Amd.1, and are further expanded in the Connectionless-mode Presentation Service Definition, ISO 8822/Amd.1.

5.4 Model of the Presentation Layer

A presentation-protocol-entity is comprised of one or more presentation protocol machines (PPMs). A PPM may be connection oriented or connectionless. The connectionless-mode PPM communicates with the presentation-service-user through one or more PSAPs by means of the connectionless-mode presentation service primitives. These presentation-service primitives cause or result from the exchange of PPDUs between peer presentation-entities engaged in connectionless-mode transmission. These protocol exchanges are effected by making use of the services of the Session Layer, as defined in the addendum to the Session Service Definition covering connectionless-mode transmission (ISO 8326/Add.3).

Table 1 - Presentation Service Primitives

Primitive	Parameters
P-UNIT-DATA request	Calling-presentation-address Called-presentation-address Presentation context definition list Quality of service User data
P-UNIT-DATA indication	Calling-presentation-address Called-presentation-address Presentation context definition list User data

Table 2 - Session Service Primitives

Primitive	Parameters
S-UNIT-DATA request	Calling-session-address Called-session-address Quality of service SS-user data
S-UNIT-DATA indication	Calling-session-address Called-session-address SS-user data

The reception of a service primitive and the generation of dependant actions are considered to be an indivisible action. The reception of a PPDU and the generation of dependant actions are considered to be an indivisible action. The model of the presentation layer in connectionless-mode is illustrated in Figure 1.
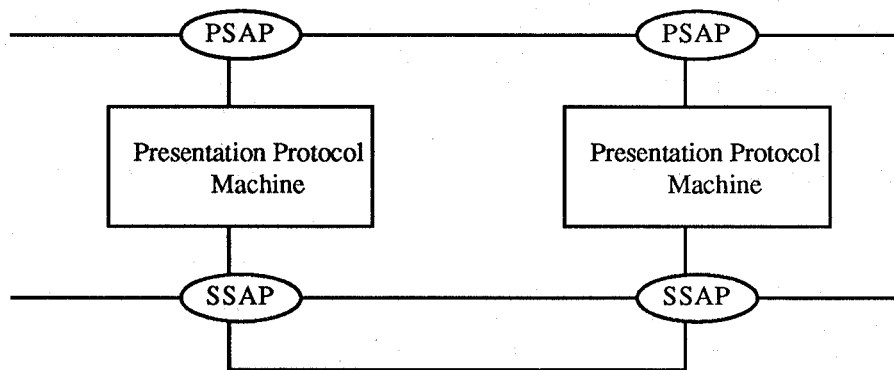
Figure 1 - Model of the Presentation Layer