
**Information technology — Open Systems
Interconnection — Distributed Transaction
Processing —**

Part 6:
Unstructured Data Transfer

*Technologies de l'information — Interconnexion de systèmes ouverts
(OSI) — Traitement transactionnel réparti —*

Partie 6: Transfert de données non structuré



Reference number
ISO/IEC 10026-6:1995(E)

Foreword

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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 10026-6 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 21, *Open systems interconnection, data management and open distributed processing*.

ISO/IEC 10026 consists of the following parts, under the general title *Information technology — Open Systems Interconnection — Distributed Transaction Processing*:

- *Part 1: OSI TP Model*
- *Part 2: OSI TP Service*
- *Part 3: Protocol specification*
- *Part 4: Protocol Implementation Conformance Statement (PICS) proforma*
- *Part 5: Application context proforma and guidelines when using OSI TP*
- *Part 6: Unstructured Data Transfer*

Annex A forms an integral part of this part of ISO/IEC 10026. Annexes B and C are for information only.

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Introduction

ISO/IEC 10026 is one of a set of standards produced to facilitate the interconnection of computer systems. It is related to other International Standards in the set as defined by the Reference Model for Open Systems Interconnection (ISO 7498). The Reference Model subdivides the area of standardization for interconnection into a series of layers of specification, each of manageable size.

The aim of Open Systems Interconnection is to allow, with a minimum of technical agreement outside the interconnection standards, the interconnection of computer systems

- a) from different manufacturers;
- b) under different management;
- c) of different levels of complexity; and
- d) of different technologies.

ISO/IEC 10026-1, -2 and -3 define the OSI TP Model, OSI TP Service and OSI TP Protocol available within the Application Layer of the OSI Reference Model. ISO/IEC 10026-4 is the OSI TP PICS and ISO/IEC 10026-5 defines the Application Context Proforma and Guidelines When Using OSI TP.

This part of ISO/IEC 10026 defines a model for unstructured data transfer within the OSI TP environment. UDT operates within the constraints specified for U-ASEs in ISO/IEC 10026. UDT is not suitable for use outside the OSI TP environment.

Information technology — Open Systems Interconnection — Distributed Transaction Processing —

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1 Scope

This part of ISO/IEC 10026 provides a model for the transfer of application data for transaction processing applications whose application-specific protocol has not been standardized within the OSI environment.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO/IEC 10026. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO/IEC 10026 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/IEC 9646-1:1994, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 1: General concepts*.

ISO/IEC 9646-2:1994, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 2: Abstract Test Suite specification*.

ISO/IEC 9646-3:1992, *Information technology - Open Systems Interconnection - Conformance testing methodology and framework — Part 3: The Tree and Tabular Combined Notation (TTCN)*.

ISO/IEC 9646-4:1994, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 4: Test realization*.

ISO/IEC 9646-5:1994, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 5: Requirements on test laboratories and clients for the conformance assessment process*.

ISO/IEC 9834-1:1993 *Information technology — Open Systems Interconnection — Procedures for the operation of OSI Registration Authorities — Part 1: General procedures*.

ISO/IEC 10026-1:1992, *Information technology — Open Systems Interconnection — Distributed Transaction Processing — Part 1: OSI TP Model*.

ISO/IEC 10026-2:1992, *Information technology — Open Systems Interconnection — Distributed Transaction Processing — Part 2: OSI TP Service*.

ISO/IEC 10026-3:1992, *Information technology — Open Systems Interconnection — Distributed Transaction Processing — Part 3: Protocol specification*.

ISO/IEC 10731:1994, *Information technology — Open Systems Interconnection — Basic Reference Model — Conventions for the definition of OSI services*.

3 Definitions

For the purposes of this part of ISO/IEC 10026, the definitions given in ISO/IEC 10026-1 and the following definition apply:

3.1 non-OSI-standard: A specification not formally approved by the recognized world-wide standardization bodies for OSI.

4 Abbreviations

Abbreviations used in this part of ISO/IEC 10026 are defined in ISO/IEC 10026-1, except the following:

UD	Unstructured Data
UDT	Unstructured Data Transfer

5 Conventions

This part of ISO/IEC 10026 uses the conventions defined in ISO/IEC 10731.

6 Unstructured Data Transfer in OSI TP

6.1 Purpose

This part of ISO/IEC 10026 defines two approaches for transferring application data which allow non-OSI-standardized applications to operate in the OSI TP environment. UDT, thus, provides for the rapid migration of networked transaction programs which were originally written for operation in networks without facilities similar to those of the OSI Application and Presentation Layers (i.e., for interoperation between heterogeneous systems).

It should be emphasized that the second form of UDT described in 6.2 ('restricted UDT') should only be used in specialized circumstances, i.e., where there is a need to exchange APDUs of existing applications in an OSI TP environment. Adopting this approach will prevent applications from exploiting the important features of the Presentation Layer.

6.2 Model for UDT

In order to transfer data between application programs (TPSUIs) in an OSI TP environment, the applications must make use of the facilities of the Presentation Service. This part of ISO/IEC 10026 does not define a service to offer Presentation facilities to the application; rather it assumes that the necessary elements of the Presentation Service will be made available to the application.

NOTE — In a real implementation, it is assumed that the API being provided for application communication (e.g. for 'peer-to-peer' operation) would include a service that would be mapped directly to the relevant Presentation Layer facilities.

In order to make correct use of the Presentation Layer, the application program must specify what abstract and transfer syntaxes are to be used. UDT assumes that cooperating TPSUIs exchanging the APDUs of a non-standardized protocol will have *a priori* knowledge of the syntax and semantics of the protocol APDUs, thus enabling the TPSUIs to correctly generate and interpret the data being exchanged. The abstract and transfer syntaxes being used must be registered with an OSI registration authority operating under the procedures of ISO/IEC 9834-1. The unambiguous names resulting from this registration are used to denote the application protocol's syntaxes during Presentation negotiation.

It is also necessary that the name of any application context being used be similarly registered. This registered application context name is used by ACSE; it implies the application layer semantics and mappings of all the application protocols that may be used during that instance of communication, including the one (or more) using the UDT approach.

UDT may be used in two ways as described below.

6.2.1 Using UDT with registered syntaxes

The recommended approach is to register the application protocol's abstract and transfer syntaxes, so that the resulting names may be used in transferring APDUs using Presentation Services. (Normally, the P-Data service will be used to transfer APDUs, although other Presentation services may also be used, so long as this is done in a manner which will not interfere with TP's use of the Presentation Layer.)

Typically, it will also be necessary to specify an application context name. Annex B contains an application context proforma that may be completed to yield a complete application context definition, for registration under the procedures of ISO/IEC 9834-1.

6.2.2 Using UDT with *a priori* knowledge of application syntax

In the case where it is not convenient to register a non-OSI-standardized application protocol's syntaxes, it may be possible to present application data values as sequences of octets. In support of this approach, annex A provides generic abstract and transfer syntax names (together with an application context name) which can be used to support the mapping of any application protocol's abstract and transfer syntax onto such a sequence of octets.

In other words, these generic abstract and transfer syntax names can be used to provide a means whereby APDUs may be transferred without the need to register or more specifically define the application protocol. It must be emphasized, however, that adopting this approach requires that cooperating TPSUIs have *a priori* knowledge of the syntax, semantics, and mapping of the APDUs; this is required if the TPSUIs are to correctly generate and interpret both the syntax and semantics of the messages thus exchanged using the octet string mapping described in annex A.

7 UDT ASE Specification

7.1 Overview

The UDT ASE is an essentially null ASE that acts as the User-ASE in the TP model when the application protocol requires no additional protocol support from the User-ASE within the TPPM other than the specification of the mapping to the Presentation service.

The UDT ASE has one service, UD-TRANSFER that models the transmission of data between the TPSUIs on a TP dialogue. The UD-TRANSFER service is subject to the constraints specified for the generic TP-DATA specified in ISO/IEC 10026-2 and 3. The service relates to a particular dialogue.