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INTERNATIONAL STANDARDIZED PROFILE

ISO/IEC ISP 12061-5

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Information technology — Open Systems Interconnection — International Standardized Profiles: OSI Distributed Transaction Processing —

Part 5:
Application supported transactions — Polarized control (ATP11)

Technologies de l'information — Interconnexion de systèmes ouverts (OSI) — Profils normalisés internationaux: Traitement transactionnel réparti —

Partie 5: Transactions garanties par l'application — Contrôle polarisé (ATP11)



Reference number
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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. In addition to developing International Standards, ISO/IEC JTC 1 has created a Special Group on Functional Standardization for the elaboration of International Standardized Profiles.

An International Standardized Profile is an internationally agreed, harmon-ized document which identifies a standard or group of standards, together with options and parameters, necessary to accomplish a function or set of functions.

Draft International Standardized Profiles are circulated to national bodies for voting. Publication as an International Standardized Profile requires approval by at least 75 % of the national bodies casting a vote.

International Standardized Profile ISO/IEC ISP 12061-5 was prepared with the collaboration of

— Asia-Oceania Workshop (AOW);

— European Workshop for Open Systems (EWOS);

— Open Systems Environment Implementors' Workshop (OIW).

ISO/IEC ISP 12061 consists of the following parts, under the general title *Information technology — Open Systems Interconnection — International Standardized Profiles: OSI Distributed Transaction Processing*:

— *Part 1: Introduction to the Transaction Processing Profiles*

— *Part 2: Support of OSI TP APDUs*

— *Part 3: Support of CCR APDUs*

— *Part 4: Support of Session, Presentation and ACSE PDUs*

— *Part 5: Application supported transactions — Polarized control (ATP11)*

— *Part 6: Application supported transactions — Shared control (ATP12)*

— *Part 7: Provider supported unchained transactions — Polarized control (ATP21)*

— *Part 8: Provider supported unchained transactions — Shared control (ATP22)*

— *Part 9: Provider supported chained transactions — Polarized control (ATP31)*

— *Part 10: Provider supported chained transactions — Shared control (ATP32)*

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Introduction

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

- from different manufacturers,
- under different management,
- of different levels of complexity,
- of different technologies.

Transaction Processing is concerned with identifiable information which can be related as transactions, which may involve two or more Open Systems. In the framework of Open Systems Interconnection (OSI) a transaction is defined as "a set of related operations characterized by four properties: atomicity, consistency, isolation and durability."

The definition highlights that a distributed transaction is more than a simple exchange of messages, but that the exchanges form a protected indivisible set.

This multi-part International Standardized Profile contains the complete specification of the six profiles identified in ISO/IEC TR 10000-2.[1]

Part 1 Introduces the overall structure of the specification of the OSI TP Profiles, including the definitions and abbreviations used through out the various parts of ISO/IEC 12061.

Part 2 contains the specification of the support of OSI TP APDUs for each of the profiles specified in parts 5 to 10.

Part 3 contains the specification of the support of the CCR APDUs for each of the profiles specified in parts 5 to 10.

Part 4 contains the specification of the support of ACSE, Presentation and Session APDUs for each of the profiles specified in parts 5 to 10.

Parts 5 to 10 specify the six profiles which are defined, based on the OSI TP standard. These six parts make reference to parts 2 to 4.

[1]ISO/IEC TR 10000-2: 1992, Information Technology - Framework and Taxonomy of International Standardized Profiles - Part2: Taxonomy of OSI Profiles

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Information technology — Open Systems Interconnection — International Standardized Profiles: OSI Distributed Transaction Processing —

Part 5:
Application supported transactions — Polarized control (ATP11)

1 Scope

This Part of ISO/IEC ISP 12061 defines the OSI TP profile used for Application Supported Transaction while the application is using the Polarized Control paradigm for communications.

2 Normative references

The following documents contain provisions which, through reference in this text, constitute provisions of this part of ISO/IEC ISP 12061. At the time of publication, the editions indicated were valid. All documents are subject to revision, and parties to agreements based on this part of ISO/IEC ISP 12061 are warned against automatically applying any more recent editions of the documents listed below, since the nature of references made by ISPs to such documents, is that they may be specific to a particular edition. Members of IEC and ISO maintain registers of currently valid International Standards and ISPs, and ITU-T maintains published editions of its current Recommendations.

ISO/IEC ISP 12061-1:1995 , *Information technology - Open Systems Interconnection - International Standardized Profiles: OSI Distributed Transaction Processing - Part 1: Introduction to the Transaction Processing Profiles.*

ISO/IEC ISP 12061-2:1995 , *Information technology - Open Systems Interconnection - International Standardized Profiles: OSI Distributed Transaction Processing - Part 2: Support of OSI TP APDUs.*

ISO/IEC ISP 12061-4:1995 , *Information technology - Open Systems Interconnection - International Standardized Profiles: OSI Distributed Transaction Processing - Part 4: Support of Session, Presentation, and ACSE PDUs.*

3 Definitions and abbreviations

The definitions and abbreviations listed in ISO/IEC ISP 12061-1 apply.

4 Overview

Profile ATP11 is applicable to end systems concerned with operating in the Open Systems Interconnection (OSI) environment. This profile specifies a combination of OSI standards, which collectively provide support for Application Supported Distributed Transactions, where the applications take responsibility for ensuring that transaction semantics are maintained, and for restoring consistency after any failure. The dialogue between the applications is subject to strict turn control. The handshake facility is available.

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5 Use of functional units

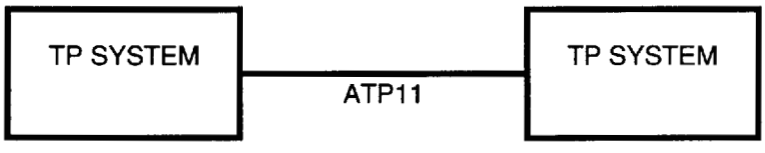
An implementation of this profile supports the OSI TP functional units identified in the table hereafter:

DIALOGUE	mandatory
POLARIZED CONTROL	mandatory
HANDSHAKE	mandatory

It conforms to the Application Transactions conformance class defined in ISO 10026-3.

6 Scenario

The applicability of the ATP11 profile is illustrated by the figure hereafter:



7 Usage of underlying standards

This profile specifies the required functions from the supporting protocol stacks shown below. The use of ISO/IEC 9804/9805 (CCR) by a referencing specification is forbidden and is a protocol error.

Application Layer	ISO 10026-3:1992 (OSI TP) ISO 8650 (ACSE)
Presentation Layer	ISO 8825:1990 (BER ASN.1) ISO 8823:1988(Presentation)
Session Layer	ISO 8327

8 Detailed description

The support of the OSI TP, ACSE, Presentation and Session PDUs for ATP11 is as described in ISO/IEC ISP 12061-1, ISO/IEC ISP 12061-2 and ISO/IEC ISP 12061-4.

9 Conformance

Conformance requirements specified in ISO/IEC ISP 12061-1, ISO/IEC ISP 12061-2 and ISO/IEC ISP 12061-4 apply.
For each implementation claiming conformance to this part of ISO/IEC ISP 12061, the following PICS Proformas shall be completed and made available :

- ISO/IEC 10026-4 (OSI TP)
- ISO/IEC 8650-2 (ACSE)
- ISO/IEC 8823-2 (Presentation)
- ISO/IEC 8327-2 (Session)

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