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Information technology — International Standardized Profiles ADInn — OSI Directory —

Part 3:

ADI21 — DSA Performer Role

*Technologies de l'information — Profils normalisés internationaux
ADInn — L'Annuaire —*

Partie 3: ADI21 — Rôle de réalisateur du DSA



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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 Standard 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 JTC1. In addition to developing International Standards, ISO/IEC JTC1 has created a Special Group on Functional Standardization for the elaboration of International Standardized Profiles.

An International Standardized Profile is an internationally agreed, harmonized document which identifies a standard or group of standards, together with options and parameters, necessary to accomplish a function or a 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 10615-3 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 10615 consists of the following parts, under the general title *Information technology - International Standardized Profiles ADInn - OSI Directory*

- Part 3:ADI21 - DSA Performer Role
- Part 4:ADI22 - DSA Invoker Role

Annexes A and B form an integral part of this part of ISO/IEC ISP 10615.

Introduction

This part of ISO/IEC ISP 10615 is defined within the context of Functional Standardization, in accordance with the principles specified by ISO/IEC TR 10000, "Framework and Taxonomy of International Standardized Profiles". The context of Functional Standardization is one part of the overall field of Information Technology (IT) standardization activities, covering base standards, profiles, and registration mechanisms. A profile defines a combination of base standards that collectively perform a specific well-defined IT function. Profiles standardize the use of options and other variations in the base standards, and provide a basis for the development of uniform, internationally recognized system tests.

One of the most important roles for an ISP is to serve as the basis for the development (by organizations other than ISO and IEC) of internationally recognized tests and test methods. ISPs are produced not simply to "legitimize" a particular choice of base standards and options, but to promote real system interoperability. The development and widespread acceptance of tests based on this and other ISPs is crucial to the successful realization of this goal.

The text of this part of ISO/IEC ISP 10615 was developed in close co-operation among the Directory Expert Groups of the three International OSI Workshops: OSE Implementors' Workshop (OIW), the European Workshop for Open Systems (EWOS) and the OSI Asia-Oceania Workshop (AOW). This part of ISO/IEC ISP 10615 is harmonized among these three Workshops and it was finally ratified by the Workshops' plenary assemblies.

Information technology — International Standardized Profiles

ADInn — OSI Directory —

Part 3:

ADI21 — DSA Performer Role

1 Scope

1.1 General

This part of ISO/IEC ISP 10615 covers the use of the DSP protocol by a DSA which receives an invoke from another DSA and responds with a result or error. The related part of the ISP, ADI32, covers the behavior of the DSA in fulfilling distributed operations, when considered to be independent of the protocol used.

The objective of this part of ISO/IEC ISP 10615 is to define capabilities and constraints on support for DSP by performer functions of DSAs so that DSAs will be able to interwork within the Directory. Factors outside the scope of this part of ISO/IEC ISP 10615 include, but are not limited to, DIT structure, behaviour in distributed operations and some aspects of authentication (e.g., simple authentication with protected passwords, strong authentication, and the use of non-local authentication).

The scope of ISO/IEC ISP 10615 is limited to the '88 edition of the Directory standards.

1.2 Position Within the Taxonomy

This part of ISO/IEC ISP 10615 is identified in ISO/IEC TR 10000-2 as "ADI21 - DSA Performer Role".

It may be combined with other parts of ISO/IEC ISP 10615, with ISO/IEC ISP 10616 specifying use of the directory, and with T-Profiles specifying the OSI connection-mode transport service.

1.3 Scenario

The model used is described in Overview of Concepts, Models, and Services in ISO/IEC 9594-1 : CCITT X.500. Specifications of ISO/IEC ISP 10615-3 apply to the performer role of DSP for a DSA within the scenario of Figure 1.

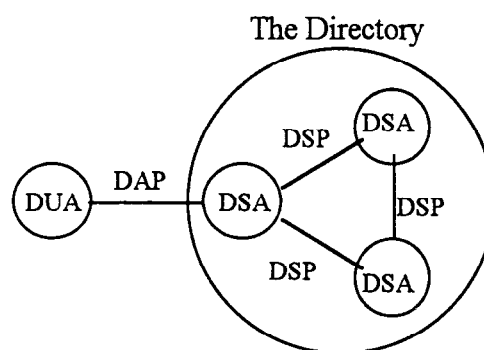


Figure 1 - Access to the Directory and Distributed Directory Model

2 Normative References

The following documents contain provisions which, through references in this text, constitute provisions of this part of ISO/IEC 10615. 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 10615 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 2022 : 1994, *Information technology - Character code structure and extension techniques*.

ISO 3166 : 1993, *Codes for the representation of names of countries*.

ISO/IEC 8824 : 1990, *Information technology - Open Systems Interconnection - Specification of Abstract Syntax Notation One (ASN.1)*.
(See also CCITT Recommendation X.208: 1988.)

ISO/IEC 8825 : 1990, *Information technology - Open Systems Interconnection - Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1)*.

(See also CCITT Recommendation X.209: 1988.)

ISO/IEC 9594-1 : 1990, *Information technology - Open Systems Interconnection - The Directory - Part 1 : Overview of concepts, models, and services*. (See also CCITT Recommendation X.500(1989).)

ISO/IEC 9594-2 : 1990, *Information technology - Open Systems Interconnection - The Directory - Part 2 : Models*. (See also CCITT Recommendation X.501(1989).)

ISO/IEC 9594-3 : 1990, *Information technology - Open Systems Interconnection - The Directory - Part 3 : Abstract service definition*. (See also CCITT Recommendation X.511(1989).)

ISO/IEC 9594-4 : 1990, *Information technology - Open Systems Interconnection - The Directory - Part 4 : Procedures for Distributed Operation*. (See also CCITT Recommendation X.518(1989).)

ISO/IEC 9594-5 : 1990, *Information technology - Open Systems Interconnection - The Directory - Part 5: Protocol specifications*. (See also CCITT Recommendation X.519(1989).)

ISO/IEC 9594-6 : 1990, *Information technology - Open Systems Interconnection - The Directory - Part 6 : Selected attribute types*. (See also CCITT Recommendation X.520(1989).)

ISO/IEC 9594-7 : 1990, *Information technology - Open Systems Interconnection - The Directory - Part 7 : Selected object classes*. (See also CCITT Recommendation X.521(1989).)

ISO/IEC 9594-8 : 1990, *Information technology - Open Systems Interconnection - The Directory - Part 8 : Authentication framework*. (See also CCITT Recommendation X.509(1989).)

ISO/IEC 9646-1 : 1994, *Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1 : General concepts*. (See also ITU-T Recommendation X.290(1995).)

ISO/IEC 9646-2 : 1994, *Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2 : Abstract Test Suite specification*. (See also ITU-T Recommendation X.291(1995).)

ISO/IEC TR 10000-1 : 1995, *Information technology - Framework and taxonomy of International Standardized Profiles - Part 1 : General principles and documentation framework*.

ISO/IEC TR 10000-2 : 1995, *Information technology - Framework and taxonomy of International Standardized Profiles - Part 2 : Principles and Taxonomy for OSI profiles*.

CCITT Recommendation T.61 : 1988, *Character Repertoire and Coded Character Sets for the International Teletex Service*.

CCITT Recommendation X.581 : 1992, *Directory Access Protocol - Protocol Implementation Conformance Statement (PICS) Proforma*.

CCITT Recommendation X.582 : 1992, *Directory System Protocol - Protocol Implementation Conformance Statement (PICS) Proforma*.

3 Definitions

For the purposes of this part of ISO/IEC ISP 10615, the following definitions apply.

Terms used in this part of ISO/IEC ISP 10615 are defined in the referenced base standards.

In addition, the following terms are defined.

3.1 General

3.1.1 APDU size (for sending/receiving): the size of the sent/received transfer encoding, including the ROSE header.

3.1.2 supported (for reception by a performer): A feature (capability, operation, or protocol element) is supported by a receiving performer if the implementation is able to process the features in accordance with the base standards and this ISP to accomplish the function associated by the base standards with that feature. If a protocol element is claimed to be supported, the full range of values shall be supported, unless stated otherwise.

3.1.3 supported (for sending by a performer): A feature (capability, result, error or protocol element) is supported for sending by a performer if the performer is able to generate the feature in response to each requests that requires that feature to support the function of the request.

3.2 Support level

To specify the support level of protocol features for this part of ISO/IEC ISP 10615, the following terminology is defined in 3.2.1 through 3.2.5.

3.2.1 mandatory (requirement to support), m: Support for this item is required.

3.2.2 optional (requirement to support), o: Support for this item is optional.

3.2.3 conditional (requirement to support), c: The requirement to support this item is depends on the specified condition. The condition and the resulting support requirements are stated separately, usually via reference based on a number following the 'c'.

3.2.4 outside the scope (requirement to support), i: Support for item is outside of the scope of this part of ISO/IEC ISP 10615.

3.2.5 not applicable (requirement to support), -: This item is not defined in the context in which is mentioned. There is no support requirement.

4 Abbreviations

For the purposes of this part of ISO/IEC 10615, the following abbreviations apply.

Abbreviations used in this part of ISO/IEC ISP 10615 are defined in the referenced base standards.

ACSE	Association Control Service Element
APDU	Application Protocol Data Unit
AVA	Attribute Value Assertion
DAP	Directory Access Protocol
DIB	Directory Information Base
DIT	Directory Information Tree
DSA	Directory System Agent
DSP	Directory System Protocol
DUA	Directory User Agent
IPRL	ISPICS Requirements List
ISP	International Standardized Profile
ISPICS	ISP Implementation Conformance Statement
PICS	Protocol Implementation Conformance Statement
RDN	Relative Distinguished Name
ROSE	Remote Operations Service Element
SPDU	Session Protocol Data Unit
SSDU	Session Service Data Unit

5 Conformance

This part of ISO/IEC ISP 10615 states requirements upon implementations to achieve interworking. A claim of conformance to this part of ISO/IEC ISP 10615 is a claim that all requirements in the relevant base standards are satisfied, and that all requirements in the following clauses and in annex A of this part of ISO/IEC ISP 10615 are satisfied. Annex A states the relationship between these requirements and those of the base standards.

To conform to this part of ISO/IEC ISP 10615, implementations shall conform to all requirements of 9.2 in ISO/IEC 9594-2 for a DSA implementing the directorySystemAC application context, including the requirements directory and indirectly referenced by that clause. A DSA claiming conformance to this part of ISO/IEC ISP 10615 shall satisfy the requirements specified in 5.1 through 5.3 following.

5.1 Conformance Statement

For each implementation claiming conformance to this part of ISO/IEC ISP 10615, an appropriate set of PICSs shall be produced stating support or non-support of each option identified in this part of O/IEC ISP 10615. The PICS shall conform to 9.2.1 in ISO/IEC 9594-5, and to the IPRL, annex A of this ISO/IEC ISP 10615.

5.2 Static Conformance Requirements

To conform to this part of ISO/IEC ISP 10615, implementations shall conform to all requirements of 9.2.2 in ISO/IEC 9594-5 for a DSA supporting the directorySystemAC application context, and shall conform to the requirements stated in the IPRL (Annex A) and the remainder of 5.2 of the part of ISO/IEC ISP 10615.

NOTE - In the IPRL defined in Annex A of this part of ISO/IEC ISP 10615, where protocol elements are nested, the conformance requirements is of relevance only when the immediately containing protocol element is transmitted (or received). The conformance requirement of the protocol elements at the highest level is of relevance only when the related operation is supported.

5.2.1 APDU Size

Implementations shall be capable of accepting and processing operation request APDUs of any size up to 32 767 (32k-1) octets. DSAs shall be capable of sending response APDUs of any size up to 262 143 (256k-1) octets in length.

NOTE - See also 5.3.1 APDU Size Constraints.

5.2.2 Security Level

To conform to this part of ISO/IEC ISP 10615, implementations shall be able to carry out the peer entity authentication of DSAs by following ways:

- none
- simple authentication with unprotected password

The following method of peer entity authentication is optional.