INTERNATIONAL STANDARDIZED PROFILE

ISO/IEC ISP 11188-2

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Information technology — International Standardized Profile — Common upper layer requirements —

Part 2:
Basic connection oriented requirements for ROSE-based profiles

Technologies de l'information — Profil normalisé international — Prescriptions communes pour la couche supérieure —

Partie 2: Prescriptions orientées vers la connexion de base pour les profils basés sur ROSE

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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 organisation to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organisations, governmental or 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 JTC1 has created a Special Group on Functional Standardization for 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 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.

This part of ISO/IEC ISP 11188 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 11188 consists of the following parts, under the general title *Information technology - International Standardized Profile - Common upper layer requirements :*

- *Part 1 : Basic connection oriented requirements*
- *Part 2 : Basic connection oriented requirements for ROSE-based profiles*
- *Part 3 : Minimal OSI upper layer facilities*

Annexes A and B form an integral part of this part of ISO/IEC ISP 11188.

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Introduction

This part of ISO/IEC ISP 11188 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.

ISO/IEC ISP 11188 as a multipart ISP specifies the general requirements on the use of OSI connection-mode protocols by A-profiles. These are identified as "Common upper layer requirements".

The parts of ISO/IEC ISP 11188 do not contain the definition of any complete profiles, but can be referenced normatively by other ISPs which do define A-profiles. In addition, a referencing ISP may specify further requirements on the protocols, provided it does not contradict this ISP.

The purpose ISO/IEC ISP 11188 is to provide common text for ISPs which specify A-profiles. In addition to simplifying their drafting, it also facilitates the common implementation of the protocols for use in different A-profile contexts.

This part of ISO/IEC ISP 11188 documents ROSE-specific requirements over and above the common upper layer requirements specified in ISO/IEC ISP 11188-3. It specifies the use of the connection-mode protocols of the ACSE, the ROSE and the Presentation and Session layers of OSI.

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Information technology - International Standardized Profile - Common upper layer requirements -

Part 2 :
Basic connection oriented requirements for ROSE-based profiles

1 Scope

1.1 General

This part of ISO/IEC ISP 11188 specifies the common upper layer elements of ROSE-based A-profiles, which do not use RTSE. It documents ROSE-specific upper layer requirements over and above the common upper layer requirements specified in ISO/IEC ISP 11188-3. The common elements are specified by reference to OSI connection mode standards for the ROSE protocol, the ACSE protocol, the presentation layer protocol and the session layer protocol.

An ISP defining a ROSE-based A-profile may reference ISO/IEC ISP 11188-3 and this part of ISO/IEC ISP 11188 as the common basis for the selection of options for the upper layers, supplemented by a statement of its own specific upper layer requirements for the use of the same protocol standards.

The rest of the A-profile definition including for instance its use of standards for Application Service Elements (ASE, see also figure 1), follows the general rules of ISO/IEC TR 10000-1.

1.2 Position within the taxonomy

This part of ISO/IEC ISP 11188 does not specify a full A-profile, and therefore has no place within the taxonomy of ISO/IEC TR 10000-2.

1.3 Scenario

The model used is one of two end systems running an end-to-end association using the ROSE, ACSE, Presentation and Session services and protocols (see figure 1).

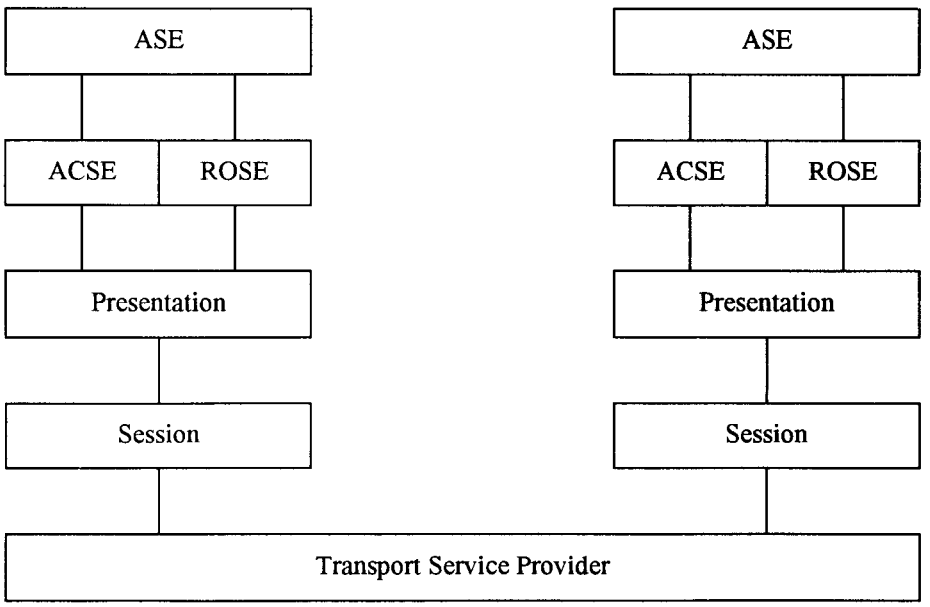

Figure 1 - Model of the supportive layers for ROSE-based ASEs

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2 Compliance

2.1 Compliance statement

A referencing specification may use the requirements in this part of ISO/IEC ISP 11188 and claim compliance to them, in one of the following ways:

a) The referencing specification does not duplicate any of the requirements of this part of ISO/IEC ISP 11188 within its own specifications and instead requires the implementation to conform to the requirements of this part of ISO/IEC ISP 11188. This is the preferred method.

b) The referencing specification replicates all of the requirements of this part of ISO/IEC ISP 11188 as parts of its requirements and related conformance statements.

In the case of b) a reference to this part of ISO/IEC ISP 11188 shall be included in clause 1 (Scope) as well as in clause 3 (Normative references) of the referencing specification.

2.1.1 A referencing specification that replicates all of the requirements of this part of ISO/IEC ISP 11188 complies if the specification's specific upper layer requirements do not conflict with the requirements of this part of ISO/IEC ISP 11188.

2.1.2 A specification that requires an implementation to conform to the requirements contained within this part of ISO/IEC ISP 11188 complies if

a) the conformance requirement of the referencing specification states that an implementation shall conform to the requirements of this part of ISO/IEC ISP 11188; and

b) the referencing specification's specific upper layer requirements do not conflict with the requirements of this part of ISO/IEC ISP 11188.

2.1.3 This part of ISO/IEC ISP 11188 states requirements upon implementations to achieve interworking.

A claim of compliance is a claim that all requirements in the relevant base standards are satisfied, and that all requirements in this part of ISO/IEC ISP 11188 are satisfied. Annex B states the relationship between these requirements and those of the base standards.

2.2 Relationship with base standards

A compliant referencing specification shall require an implementation that claims conformance to the referencing specification to include the aspects specified in 2.2.1 through 2.2.4 and 2.3.

2.2.1 ROSE conformance

To conform to the Remote Operations Service Element (ROSE) protocol used in this part of ISO/IEC ISP 11188, implementations shall implement all supported features (identified in B.4).

2.2.2 ACSE conformance

To conform to the Association Control Service Element (ACSE) protocol used in this part of ISO/IEC ISP 11188, implementations shall implement the normal mode and shall implement all supported features (identified in B.5).

2.2.3 Presentation Layer Conformance

To conform to the Presentation protocol used in this part of ISO/IEC ISP 11188, implementations shall implement the normal mode and shall implement all supported features (identified in B.6).

2.2.4 Transfer syntax conformance

An implementation shall support the "Basic Encoding of a single ASN.1 type" as specified in ITU-T Rec. X.690 | ISO/IEC 8825-1, except where the referencing specification or the associated base standard specifies some other mandatory encoding, together with the additional rules defined in clause 8, for the generation of protocol encoding specified in ASN.1. The referencing ISP may require support of this or other transfer syntaxes for any abstract syntaxes which it defines.

2.2.5 Session Layer Conformance

To conform to the Presentation protocol used in this part of ISO/IEC ISP 11188, implementations shall implement the normal mode and shall implement all supported features (identified in B.7).

2.3 Relationship with ISO/IEC ISP 11188-3

Each implementation conforming to this part of ISO/IEC ISP 11188 shall also conform to ISO/IEC ISP 11188-3.

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3 Normative references

The following documents contain provisions which, through reference in this text, constitute provisions of this part of ISO/IEC ISP 11188. 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 part of ISO/IEC ISP 11188 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.

3.1 Identical Recommendations| International Standards

- ITU-T Recommendation X.225 (1994) | ISO/IEC 8327-1: [1], *Information technology - Open Systems Interconnection - Connection-oriented Session protocol : Protocol specification.*
- CCITT Recommendation X.226 (1994) | ISO/IEC 8823-1: 1994, *Information technology - Open Systems Interconnection - Connection-oriented Presentation protocol : Protocol specification.*
- ITU-T Recommendation X.227 (1994) | ISO/IEC 8650-1: [2], *Information technology - Open Systems Interconnection - Connection-oriented protocol for the Association Control Service Element : Protocol specification.*
- ITU-T Recommendation X.246 (1994) | ISO/IEC 8823-2: 1995, *Information technology - Open Systems Interconnection - Connection-oriented Presentation protocol: Protocol Implementation Conformance Statement (PICS) proforma.*
- ITU-T Recommendation X.247 (1994) | ISO/IEC 8650-2: 1995, *Information technology - Open Systems Interconnection - Protocol specification for the Association Control Service Element : Protocol Implementation Conformance Statement (PICS) proforma.*

3.2 Paired Recommendations | International Standards equivalent in technical content

- CCITT Recommendation X.219 (1988), *Remote Operations: Model, notation and service definition.*
- ISO/IEC 9072-1 : 1989, *Information processing systems - Text communication - Remote Operations - Part 1: Model, notation and service definition.*
- CCITT Recommendation X.229 (1988), *Remote operations: Protocol specification.*
- ISO/IEC 9072-2 : 1989, *Information processing systems - Text communication - Remote Operations - Part 2: Protocol specification.*

3.3 Additional references

- ISO/IEC 8327-2: [3], *Information technology - Open Systems Interconnection - Basic connection-oriented session protocol specification - Part 2: Protocol Implementation Conformance Statement (PICS) proforma.*
- ISO/IEC 9072-4: [3], *Information technology - Remote Operations Service Element (ROSE) - Part 4 : Protocol Implementation Conformance Statement (PICS) proforma.*
- ISO/IEC ISP 11188-3: [3], *Information technology - International Standardized Profile - Common upper layer requirements - Part 3: Minimal OSI upper layer facilities.*

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[1] Revision of ISO 8327: 1987. To be published

[2] Revision of ISO 8650: 1988. To be published

[3] To be published

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4 Definitions

For the purposes of this part of ISO/IEC ISP 11188, the definitions given in ISO/IEC ISP 11188-3 apply.

5 Abbreviations

For the purposes of this part of ISO/IEC ISP 11188, the abbreviations given in ISO/IEC ISP 11188-3 and the following abbreviations apply.

ROSE Remote Operations Service Element

RTSE Reliable Transfer Service Element

6 Remote Operations Service Element (ROSE)

The support of functions and parameters for the Remote Operations Service Element is as specified in B.5.

7 Association Control Service Element (ACSE)

The support of functions and parameters for the Association Control Service Element is as specified in B.6.

8 Presentation layer

The support of functions and parameters for the Presentation protocol is as specified in B.7.

9 Session layer

The support of functions and parameters for the Session protocol is as specified in B.8.

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Annex A

(normative)

Profile ICS Proforma for ROSE-implementations

A.1 General

This annex provides an Implementation Conformance Statement Proforma to describe the support of ROSE-mechanisms by a ROSE-implementation.

A.2 Classification of requirements

Throughout this annex, to specify the level of support for each feature, the following classification is used.

A.2.1 Status column

The status column reflects the classification to be found in the ROSE base standard.

- o : optional
- o.n : optional with at least one of the marked items being selected

A.2.2 Support column

The support column reflects the support of a specific implementation.

- y : supported
- n : not supported

A.3 Supported roles

Index	supported role	Status	Support
1	invoker of a ROSE BIND/UNBIND operation	o.1	
2	performer of a ROSE BIND/UNBIND operation	o.1	

A.4 Support of BIND/UNBIND parameters

Index	supported Parameters	Status	Support
1	BIND Argument	o	
2	BIND Result	o	
3	BIND Error	o	
4	UNBIND Argument	o	
5	UNBIND Result	o	
6	UNBIND Error	o	

A.5 Support of Operations

Index	operation support	Status	Support
1	Operation Class 1	o.1	
2	Operation Class 2	o.1	
3	Operation Class 3	o.1	
4	Operation Class 4	o.1	
5	Operation Class 5	o.1	
6	invoking operations	o.2	
7	performing operations	o.2	

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Annex B

(normative)

PRL for ROSE, ACSE, Presentation and Session

B.1 General

This annex describes the ROSE, ACSE, Presentation and Session requirements for ROSE-based profiles. The tables in B4 to B7 complement the requirements stated in annexes A, B and C of ISO/IEC ISP 11188-3. ISO/IEC ISP 11188-3 leaves options for some features which are redefined by the tables in this annex.

The requirements in this annex are formulated in terms of tables which reference the base standards PICS proformas. Together with the tables in ISO/IEC ISP 11188-3, annex A, B and C they are intended to give a precise specification of requirements on responses given in a completed PICS. All open parameters in ISO/ISP 11188-3 remain open, unless they are redefined by the tables in this annex.

B.2 References

In the PICS proforma reference column of B.5 to B.8 tables within the base standard PICS proforma are referenced. The first letter identifies the specific PICS proforma:

R: ROSE - ISO/IEC 9072-4

A: ACSE - ISO/IEC 8650-2

P: Presentation - ISO/IEC 8823-2

S: Session - ISO/IEC 8327-2

The characters from the second character to the solidus ('/') form a reference to the specific subclause in annex A of that PICS proforma which contains the table in question. The number after the solidus references the row number in the table.

B.3 Classification of requirements

Throughout this annex, to specify the level of support for each feature, the following classification is used:

B.3.1 Status column

The status column reflects the classification to be found in the base standard PICS proforma:

o : optional

o.n : optional with at least one of the marked items being selected

c : conditional

The definitions of conditional items may be found in the respective PICS proformas. Where the status entry contains two classifications seperated by a comma, these reference the sending and receiving capabilities respectively.

B.3.2 Profile column

The profile column reflects the requirements of this part of ISO/IEC ISP 11188. Each entry in this column is chosen from the following list (for definitions see clause 3):

m: mandatory support

C: conditional support mandated by this part of ISO/IEC ISP 11188

c : conditional support as mandated in the base standard PICS

O.N : optional with at least one of the marked items being selected

i : outside the scope

- : not applicable

The definitions of conditional items mandated by this part of ISO/IEC ISP 11188 are listed in B.8. Where the profile entry contains two classifications separated by a comma, these reference the sending and receiving capabilities respectively.

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B.4 Value of the 'Role-Variables' used in ISO/IEC ISP 11188-3 annex A, B and C

ISO/IEC ISP 11188-3 2.3 describes a concept of roles for association establishment, normal data transfer and association-release. These roles are expressed as boolean values of 'role-variables'. The 'Role-variables' are used to formulate conditional-requirements in annex A, B and C of ISO/IEC ISP 11188-3. For ROSE-based profiles the values of some role-variables can be determined:

default: *Establishment-initiator* = 'i'
Establishment-responder = 'i'
Release-requestor = 'i'
Release-acceptor= 'i'
normal-data-requestor = 'i'
normal-data-acceptor = 'i'

if A.3/1 then *Establishment-initiator* = 'm' and
Release-requestor = 'm'

if A.3/2 then *Establishment-responder* = 'm' and
Release-acceptor= 'm'

if (A.5/5 and A.5/6 and not(A.5/1 or A.5/2 or A.5/3 or A.5/4 or A.5/7)) then
normal-data-requestor = 'm'

if (A.5/5 and A.5/7 and not(A.5/1 or A.5/2 or A.5/3 or A.5/4 or A.5/6)) then
normal-data-acceptor = 'm'

if ((A.5/1 or A.5/2 or A.5/3 or A.5/4) or (A.5/5 and A.5/6 and A.5/7)) then
normal-data-requestor = 'm' and
normal-data-acceptor = 'm'

B.5 ROSE PRL

PICS Proforma Reference	Name of Item	Normative Reference	Status	Profile
R.A.6.6/2	operation-value *(RORS origination)*		o	O.1
R.A.6.6/3	result *(RORS origination)*		o	O.1
R.A.6.7/2	operation-value *(RORS reception)*		o	O.2
R.A.6.7/3	result *(RORS reception)*		o	O.2

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B.6 ACSE PRL

PICS Proforma Reference	Name of Item	Normative Reference	Status	Profile
A.A.10.1/15	User Information *(AARQ)*		c6 , c7	C3 , m
A.A.10.2/13	User Information *(AARE)*		c10 , c6	C4 , m
A.A.10.3/1	Reason *(RLRQ)*		c12 , c4	C1 , m
A.A.10.3/2	User information *(RLRQ)*		c12 , c4	C5 , m
A.A.10.4/1	Reason *(RLRE)*		c13 , c3	C2 , m
A.A.10.4/2	User information *(RLRE)*		c13 , c3	C6 , m

B.7 Presentation PRL

No additional requirements over and above those stated in ISO/IEC ISP 11188-3 annex B.

B.8 Session PRL

PICS Proforma Reference	Name of Item	Normative Reference	Status	Profile
S.A.8.5.2/5	Reason Code *(RF - single items)*		c6 , c5	C2 , C1
S.A.8.6/3	User data *(FN)*		c87 , c12	C1 , m
S.A.8.7/2	User data *(DN)*		c88 , c11	C2 , m

B.9 List of conditional statements

The conditional statements in this annex B are based on the tables in annex A.

C1 : if A.4/1 then m else i
C2 : if A.4/2 then m else i
C3 : if A.4/1 and A.5/1 then m else i
C4 : if A.4/2 and (A.5/2 or A.5/3) then m else i
C5 : if A.4/1 and A.5/4 then m else i
C6 : if A.4/2 and (A.5/5 or A.5/6) then m else i

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