INTERNATIONAL STANDARDIZED PROFILE

ISO/IEC ISP 11187-2

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Information technology — International Standardized Profiles AVT1n, AVT2n — Virtual Terminal Basic Class — Application Profiles —

Part 2:
Common Supporting Layers Requirements

Technologies de l'information — Profils normalisés internationaux AVT1n, AVT2n — Classe de base du terminal virtuel — Profils d'application —

Partie 2: Prescriptions communes pour couches support

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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, 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.

International Standardized Profile ISO/IEC ISP 11187-2 was prepared with the collaboration of

— Asia-Oceania Workshop (AOW);

— European Workshop for Open Systems (EWOS);

— Open Systems Environment Implementors' Workshop.

ISO/IEC ISP 11187 consists of the following parts, under the general title *Information technology — International Standardized Profiles AVT1n, AVT2n — Virtual Terminal Basic Class — Application Profiles*:

— *Part 1: Common VT Protocol Requirements*

— *Part 2: Common Supporting Layers Requirements*

— *Part 3: AVT22 — S-mode Forms Application Profile*

— *Part 4: AVT23 — S-mode Paged Application Profile*

— *Part 5: AVT16 — A-mode Generalized Telnet Application Profile*

— *Part 6: AVT15 — A-mode Transparent Application Profile*

Annex A forms an integral part of this part of ISO/IEC ISP 11187.

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Introduction

ISO/IEC ISP 11187 is defined within the context of Functional Standardization, in accordance with the principles specified in 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.

This International Standardized Profile contains Open Systems Interconnection (OSI) Application Profiles (A-profiles) defined within the framework of ISO/IEC TR 10000 for Virtual Terminal Basic Class Service and Protocol that is specified in ISO 9040 and ISO 9041-1.

This part of ISO/IEC ISP 11187 contains requirements that are common to more than one Application Profile. It does not in itself contain the specification of any one OSI Application Profile. The requirements it contains are instead incorporated by reference into other parts of ISO/IEC 11187 that do contain such specifications.

This part of ISO/IEC ISP 11187 was developed in close cooperation between the three Regional OSI Workshops, namely the OSE Implementors' Workshop (OIW) of the United States, the European Workshop for Open Systems (EWOS) and the OSI Asia-Oceania Workshop (AOW). The text is harmonized between these three Workshops and it has been ratified by the plenary assemblies of each Workshop.

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Information technology — International Standardized Profiles AVT1n, AVT2n — Virtual Terminal Basic Class — Application Profiles —

Part 2:
Common Supporting Layers Requirements

1 Scope

1.1 General

The concept of Profiles for OSI, and the structure of the International Standardized Profiles that document them, are defined in ISO/IEC TR 10000-1. Such Profiles are divided into a number of different classes and sub-classes. Two of these classes contain sub-classes comprising functions of the Virtual Terminal Basic Class Service and Protocol specified in the base standards ISO 9040 and ISO 9041-1. These are the Application Profiles (A-Profiles) and the Interchange Format and Representation Profiles (F-Profiles).

It is a requirement of ISO/IEC 9646-7 that the specification of a Profile shall provide a Profile Requirements List (Profile RL) which modifies the ICS proformas of the referenced base standards. A Profile specification may in addition provide a Profile Specific ICS proforma.

This part of ISO/IEC ISP 11187 specifies a Common RL for the supporting layer protocols that shall be incorporated by reference into each VT Application Profile specified in other parts of ISO/IEC ISP 11187.

1.2 Position in the Taxonomy

The taxonomy of International Standardized Profiles for OSI is laid down in ISO/IEC TR 10000-2. Within the classification scheme of this taxonomy, the OSI Profiles specified in this International Standardized Profile are in the Virtual Terminal sub-class of the class of Application Profiles.

A Profile within this subclass has a Profile Identifier of the form AVT*ab*, where *ab* is a structured numerical identifier that identifies the position of the Profile within two levels of the subdivision of the subclass. The value of *a* is a single digit but *b* is an integer that is not necessarily a single digit.

In principle, the ISO Virtual Terminal model allows for multiple classes of operation, although at the time of publication of this International Standardized Profile, only the Basic Class has been defined. The value of the identifier component *a* distinguishes between the permitted modes of operation of the Virtual Terminal Service as follows:

— *a* = 1 for A-mode (asynchronous mode) operation;

— *a* = 2 for S-mode (synchronous mode) operation.

Values of *a* greater than 2 are reserved for future developments.

This International Standardized Profile ISO/ISP 11187 contains the specifications of the Profiles with identifiers of the form AVT1*b* and AVT2*b*. The components *b* distinguishes between different Application Profiles that make use of the same mode of operation.

This part of ISO/IEC ISP 11187 may be incorporated by reference into the Profile RL for any profile with an identifier of the form AVT1*b* or AVT2*b*.

2 Principles of conformance to VT Profiles

2.1 Conformance to an OSI Profile

The supplier of a protocol implementation which is claimed to conform to an OSI International Standardized Profile is required to describe the supported capabilities of the system by providing a Profile Implementation Conformance Statement (Profile ICS) for the system in accordance with ISO/IEC 9646-7. The general requirements of that standard are as follows:

A Profile ICS contains a Protocol ICS (PICS) or Information Object ICS for each OSI Protocol or Information Object respectively that is referenced by the profile specification. Each such constituent ICS is a statement of the capabilities and options that have been implemented for the particular Protocol or Information Object concerned. In addition, the Profile ICS contains a Profile RL that places constraints on the answers permitted in each constituent ICS. It may also contain a Profile Specific ICS that gives any necessary further statement of capabilities and options implemented, related to the Profile but not concerning the conformance requirements of any specific

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Protocol or Information Object.

Each constituent ICS, including the Profile Specific ICS if present, is produced by the completion of an ICS proforma that is a questionnaire or checklist associated with the relevant Specification but not forming part of it. The ICS proforma assigns a status value to each capability or option to indicate whether the implementation is mandatory, optional, prohibited, not applicable or is any of these depending on whether one or more capabilities or options are also implemented. These status values constrain the answers permitted in the completed questionnaire or checklist. They are not a normative statement of static conformance of the associated specification; these requirements must be stated elsewhere in the Specification and the status values are accompanied by a well defined mapping, by references, to these static conformance requirements.

The Profile RL forms part of the specification of the Profile concerned. It may further strengthen the requirements placed on the implementation by modifying the status values for each referenced ICS proforma; modification that weakens the requirements is not permitted. In contrast to the situation for an ICS proforma, an RL is a normative statement of requirements of the Profile concerned; A.5.3 of ISO/IEC TR 10000-1 states that preference shall be given to recording as much as possible of the Profile requirements once and once only in the Profile RL.

The first stage in the test operations phase of the conformance assessment process for an implementation is the static conformance review. This assesses the extent to which the static conformance requirements of the profile are met. It is accomplished by a review of the answers provided in the ICS to ensure that they are consistent with the status values given in both the ICS proformas and the Profile RL.

2.2 Common Supporting Layers Requirements

This RL requires that the provisions of ISO/IEC ISP 11188-1 are supported.

Further requirements over and above those specified in ISO/IEC ISP 11188-1 are specified in this RL in tabular form. The items in the tables represent profiling decisions that are made in respect of the conformance requirements on the ACSE, Presentation and Session standards by reference to table entries in their respective PICS proformas.

3 Normative references

The following documents contain provisions which, through reference in this text, constitute provisions of this part of ISO/IEC ISP 11187. 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 11187 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 8327-2:1996, *Information technology — Open Systems Interconnection — Connection-oriented Session protocol: Protocol Implementation Conformance Statement (PICS) proforma.*
- ISO/IEC 8650-2:1995, *Information technology — Open Systems Interconnection — Protocol specification for the Association Control Service Element: Protocol Implementation Conformance Statement (PICS) proforma.*
- ISO/IEC 8823-2:1995, *Information technology — Open Systems Interconnection — Connection-oriented presentation protocol: Protocol Implementation Conformance Statement (PICS) proforma.*
- ISO 9040:1990, *Information technology — Open Systems Interconnection — Virtual Terminal Basic Class Service.*
- ISO 9041-1:1990, *Information technology — Open Systems Interconnection — Virtual Terminal Basic Class Protocol — Part 1: Specification.*
- ISO 9041-2:1993, *Information technology — Open Systems Interconnection — Virtual Terminal Basic Class Protocol — Part 2: Protocol Implementation Conformance Statement (PICS) proforma.*
- ISO/IEC 9646-1:1994, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 1: General concepts.*
- ISO/IEC 9646-7:1995, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 7: Implementation Conformance Statements.*
- ISO/IEC TR 10000-1:1995, *Information technology — Framework and taxonomy of International Standardized Profiles — Part 1: General principles and documentation framework (third edition).*
- ISO/IEC TR 10000-2:1995, *Information technology — Framework and taxonomy of International Standardized Profiles — Part 2: Principles and taxonomy for OSI profiles (fourth edition).*
- ISO/IEC ISP 11188-1:1995, *Information technology — International Standardized Profile — Common upper layer requirements — Part 1: Basic connection oriented requirements.*

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4 Definitions

For the purposes of this part of ISO/IEC ISP 11187 the following definitions apply.

4.1 General OSI terminology

This part of ISO/IEC ISP 11187 makes use of the following terms defined in ISO/IEC 9646-1:

a) capability (of an implementation)

b) implementation conformance statement (ICS)

c) implementation conformance statement proforma

d) PICS proforma

e) profile requirements list (Profile RL)

f) profile specific ICS

g) protocol implementation conformance statement (PICS)

h) requirements list (RL)

i) static conformance requirement

j) static conformance review

4.2 Terminology of VT standards

This part of ISO/IEC ISP 11187 makes use of the following terms defined in ISO 9040:

a) A-mode (Asynchronous mode);

b) S-mode (Synchronous mode);

5 Abbreviations

For the purposes of this part of ISO/IEC ISP 11187 the following abbreviations apply.

ICS	Implementation Conformance Statement
PICS	Protocol Implementation Conformance Statement
RL	Requirements List

6 Requirements List format

The RL table "reference" column contains identifiers each of which correspond to a PICS proforma entry in the base standard PICS proforma. The identifier is structured in four parts. The first part consists of a single letter and identifies the PICS proforma:

A	ACSE PICS Proforma, ISO/IEC 8650-2:1995
P	Presentation PICS Proforma, ISO/IEC 8823-2:1995
S	Session PICS Proforma, ISO/IEC 8327-2:1996

The second part is a numeric clause number (less the annex letter) that identifies a particular table in the PICS proforma. The third part is separated from the second part by a solidus "/" and consists of a row number which identifies the item in the referenced table. The last part is optional and is present when the referenced table is made up of two halves such as "sender" and "receiver". This part is a letter "a" if the left half of the entry is referenced and "b" if the right half of the entry is referenced.

The RL table "name of item" column contains names of individual items as specified in the base standard PICS proforma. The "profile status" column specifies the profile selection of an option in the base standard. This contains "m" if the option is to be supported, "-" if not applicable, "i" if out of scope and contains a conditional reference otherwise of the form "cn" where "n" is a number. The condition is then expressed as a boolean expression beneath the table. Reference may be made to answers in the VT, ACSE, Presentation, Session base standard PICS proformas. The answer is referenced as described above for the "reference" column with the addition that "VT" refers to the VT PICS proforma (ISO/IEC 9041-2).

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Annex A
(normative)
Common Supporting Layers Requirements List

A.1 General

A.2 ACSE requirements

A.2.1 ACSE capabilities

Table A.1 - ACSE capabilities

PICS Proforma reference	Name of item	Profile status
A.5/1	Are all mandatory features implemented?	m
A.6.1/1	Initiator (Association Establishment)	c1
A.6.1/2	Responder (Association Establishment)	c2
A.6.2/1	Requestor (Normal Release)	m
A.6.2/2	Acceptor (Normal Release)	m
A.7/1	Normal mode	m
A.7/4	Support for operation of Session Version 2	m
c1: if VT.4.1/1 then m else - c2: if VT.4.1/2 then m else -		

A.2.2 ACSE PDUs

Table A.2 - ACSE PDUs

PICS Proforma reference	Name of item	Profile status
AARQ		
A.10.1/15a	User information	c1
A.10.1/15b	User information	c2
AARE		
A.10.2/13a	User information	c2
A.10.2.13b	User information	c1
RLRE		
A.10.4/2a	User information	m
ABRT		
A.10.5/3a	User information	m
A.11.1/1a	Form 1 (Directory Name)	o
A.11.1/2a	Form 2 (Object identifier and integer)	m
c1: if VT.4.1/1 then m else - c2: if VT.4.1/2 then m else -		

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A.3 Presentation requirements

A.3.1 Presentation capabilities

Table A.3 - Presentation capabilities

PICS Proforma reference	Name of item	Profile status
P.5/1	Are all mandatory features implemented?	m
P.6.1/2	Normal	m
P.6.2/5	Half Duplex	c3
P.6.2/6	Duplex	c4
P.6.2/7	Expedited Data	c6
P.6.2/8	Typed Data	m
P.6.2/13	Major Synchronize	c5
P.6.2/14	Resynchronize	c7
P.7.1.1.1/1	Initiator (P Connect)	c1
P.7.1.1.1/2	Responder (P Connect)	c2
P.7.1.1.2/1	Requestor (Normal data)	m
P.7.1.1.2/2	Acceptor (Normal data)	m
P.7.1.1.3/1	Requestor (P Release)	m
P.7.1.1.3/2	Acceptor (P Release)	m
P.7.1.2/5a	ARU	m
P.7.4.4/1	Requestor (Expedited Data)	c6
P.7.4.4/2	Acceptor (Expedited Data)	c6
P.7.4.5/1	Requestor (Typed Data)	m
P.7.4.5/2	Acceptor (Typed Data)	m
P.7.4.10/1	Requestor (Major Sync)	c5
P.7.4.10/2	Acceptor (Major Sync)	c5
c1: if VT.4.1/1 then m else - c2: if VT.4.1/2 them m else - c3: if VT.2.2/1 or VT.2.2/3 then m else - c4: if VT.2.2/2 and not VT.2.2/3 then m else - c5: if VT.2.1/1 then m else - c6: if S.6.1/5 then m else - c7: if VT2.1/5 then m else -		

A.3.2 Presentation PDUs

Table A.4 - Presentation PDUs

PICS Proforma reference	Name of item	Profile status
CP		
P.8.1/2a	Called presentation selector	m
P.8.1/4a	Presentation context definition list	m
P.8.1/5a	Default context name	c1
P.8.1/9a	User data	m
CPA		
P.8.2/7a	User data	m
CPR		
P.8.3/4a	Default context result	c1
P.8.3/6a	User data	m
ARU		
P.8.4/2a	User data	m
c1: if S.6.1/5 then m else -		

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A.4 Session requirements

A.4.1 Session capabilities

Table A.5 - Session capabilities

PICS Proforma reference	Name of item	Profile status
S.4/2	Version 2	m
S.5	Are all mandatory features implemented?	m
S.6.1/3	Half Duplex	c3
S.6.1/4	Duplex	c4
S.6.1/6	Typed Data	m
S.6.1/11	Major Synchronize	c5
S.6.1/12	Resynchronize	c7
S.6.2/1	Use of Transport Expedited, if available	m
S.6.2/6	Segmenting (sending)	i
S.6.2/7	Segmenting (receiving)	i
S.6.2/8	Max size of SS-user data < or = 512	i
S.6.2/9	Max size of SS-user data < or = 10240	m
S.6.2/10	Max size of SS-user data < or = 9	i
S.7.1.1.1/1	Initiator (Session Connect)	c1
S.7.1.1.1/2	Responder (Session Connect)	c2
S.7.1.1.2/1	Requestor (Orderly Release)	m
S.7.1.1.2/2	Acceptor (Orderly Release)	m
S.7.1.1.3/1	Requestor (Normal Data Transfer)	m
S.7.1.1.3/2	Acceptor (Normal Data Transfer)	m
S.7.5.1/1	Requestor (Expedited Data)	c6
S.7.5.1/2	Acceptor (Expedited Data)	c6
S.7.6.1/1	Requestor (Typed Data)	m
S.7.6.1/2	Acceptor (Typed Data)	m
S.7.11.1/1	Requestor (Major Sync)	c5
S.7.11.1/2	Acceptor (Major Sync)	c5
S.7.11.2/3	Restart (resync type)	c7

c1: if VT.4.1/1 then m else -
c2: if VT.4.1/2 them m else -
c3: if VT.2.2/1 or VT.2.2/3 then m else -
c4: if VT.2.2/2 and not VT.2.2/3 then m else -
c5: if VT.2.1/1 then m else -
c6: if S.6.1/5 then m else -
c7: if VT.2.1/5 then m else -

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A.4.2 Session PDUs

Table A.6 - Session PDUs

PICS Proforma reference	Name of item	Profile status
S.8.1.2.1/1 a&b	Protocol Options	m
S.8.1.2.1/2 a&b	TSDU Maximum Size	i
S.8.1.2.1/5 a&b	Token Setting Item	m
S.8.1.3/2a	Calling Session Selector	m
S.8.4.2.1/1 a&b	Protocol Options	m
S.8.4.2.1/2 a&b	TSDU Maximum Size	i
S.8.4.2.1/5 a&b	Token Setting Item	m
S.8.4.3/1a	Token Item	m
S.8.4.3/4a	Calling Session Selector	m
S.8.4.3/5a	Responding Session Selector	m
S.8.5.2/2a	Session User Requirements	m
S.8.5.2/3a	Version Number	m
S.8.5.2/5a	Reason Code	m
S.8.7/2a	User Data	m
S.8.9/4a	User Data	m
S.8.16/1a	Token Item	m
S.8.17/1a	Token Item	m
S.8.20/4a	User Data	m
S.8.21/4a	User Data	m
S.8.22/7a	User Data	m
S.8.23/7a	User Data	m

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