

INTERNATIONAL STANDARDIZED PROFILE

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

Part 1: Common VT Protocol Requirements

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

Partie 1: Prescriptions communes pour protocole VT



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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 11187-1 was prepared with the collaboration of

- OSI Asia-Oceania Workshop (AOW);
- European Workshop for Open Systems (EWOS);
- Open Systems Environment Implementors' Workshop (OIW).

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.

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 the Virtual Terminal Basic Class Service and Protocol that is specified in ISO 9040 and ISO 9041.

This part of ISO/IEC ISP 11187 contains requirements that are common to more than one Application Profile. It does not 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 ISP 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.

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

Part 1: Common VT Protocol 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. These are the Application Profiles (A-Profiles) and the Interchange Format and Representation Profiles (F-Profiles).

The relationship between A-Profiles and F-Profiles is described in 7.3.2 of ISO/IEC TR 10000-1 and is as follows. Application Layer base standards require, implicitly or explicitly, the structure of information carried or referenced by them to be specified for each instance of communication. It is the purpose of F-Profiles to specify Information Objects that provide these structures. Particular functional requirements may then be met by the combination of an A-Profile with one or more F-Profiles.

Establishment of a VT-association involves the selection by negotiation of a particular Virtual Terminal Environment profile (VTE-profile), and of particular values for any arguments of that VTE-profile. The VTE-profile specification, and possibly also the values of certain VTE-profile arguments, may in turn reference the definitions of VT control object types and assignment types. These VTE-profiles, control object types and assignment types are therefore Information Objects that require explicit reference within the VT protocol. Particular instances of these Information Objects are fully defined within the base standards, but the base standards also provide for further instances to be defined by registration. Each registered instance constitutes an F-Profile within the framework of ISO/IEC TR 10000.

The Virtual Terminal Basic Class Service and Protocol may be used to realise a wide range of distinct functions. Particular functions may be realised through the selection of appropriate VT functional units, F-Profiles and other VTE-profile argument values. The specification of the selection required to realise a particular function and to promote interoperability constitutes a Virtual Terminal A-Profile within the framework of ISO/IEC TR 10000.

The three International Registers of VT information objects and the specifications of VT Application Profiles are each published as a separate multi-part ISP as follows:

- ISO/IEC ISP 11184 is the Register of VTE-profiles;
- ISO/IEC ISP 11185 is the Register of control object type definitions;
- ISO/IEC ISP 11186 is the Register of assignment-type definitions;
- ISO/IEC ISP 11187 contains the specifications of VT Application Profiles.

It is a requirement of ISO/IEC 9646-7 that the specification of an Information Object shall provide an Information Object Implementation Conformance Statement (ICS) proforma. This is a document in the form of a questionnaire or checklist to be completed by the supplier or implementor of an implementation for which conformance is claimed to the Information Object concerned. It is also 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 provides guidance on the interpretation of these requirements for Profiles of the Virtual Terminal Basic Class Service and Protocol. It also specifies a Common RL for the VT Protocol that shall be incorporated by reference into each VT Application Profile specified in other parts of ISO/IEC ISP 11187.

1.2 Position within 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, Profiles of the Virtual Terminal Registered Objects subclass of the class of Interchange Format and Representation Profiles (F-Profiles) have taxonomy identifiers of the form FVTabc. Profiles of the Virtual Terminal subclass of the class of Application Profiles requiring connection-mode Transport Service have taxonomy identifiers of the form AVTbc. In these identifiers, abc and bc

are structured numerical identifiers in which the values of *a* and *b* are single digits but *c* is an integer that is not necessarily a single digit. These numerical identifiers identify the position of the Profile within the hierarchy of levels of subdivision of the subclass.

The guidance on RLs and ICS proformas given in this part of ISO/IEC ISP 11187 is applicable to all Profiles in either of these two subclasses. The Common RL for the VT Protocol given in this part of ISO/IEC ISP 11187 is applicable to all Application Profiles with identifiers of the form AVT1c or AVT2c. Other parts of this ISP give either further common requirements or the specification of an individual Application Profile with an identifier of one of these forms. The value of the identifier component *b* in the identifiers AVT*b*c distinguishes between permitted modes of operation of the Virtual Terminal Service as follows:

- *b* = 1 for Basic Class A-mode (asynchronous mode);
- *b* = 2 for Basic Class S-mode (synchronous mode).

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

2 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 7498-1:1994, *Information technology — Open Systems Interconnection — Basic Reference Model: The Basic Model*. (See also ITU-T Recommendation X.200).

ISO/IEC 8824-1:1995, *Information technology — Abstract Syntax Notation One (ASN.1): Specification of basic notation* (third edition). (See also ITU-T Recommendation X.680).

ISO/IEC 8825-1:1995, *Information technology — ASN.1 encoding rules — Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER)* (third edition). (See also ITU-T Recommendation X.690).

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 9041-1:1990:Cor.1:1992, *Information technology — Open Systems Interconnection — Virtual Terminal Basic Class Protocol — Part 1: Specification. Technical Corrigendum 1*.

ISO 9041-1:1990:Cor.2:1993, *Information technology — Open Systems Interconnection — Virtual Terminal Basic Class Protocol — Part 1: Specification. Technical Corrigendum 2*.

ISO 9041-1:1990/Amd.2:1992, *Information technology — Open Systems Interconnection — Virtual Terminal Basic Class Protocol — Part 1: Specification. Amendment 2: Additional functional units*.

ISO/IEC 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* (second edition). (See also ITU-T Recommendation X.290).

ISO/IEC 9646-6:1994, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 6: Protocol profile test specification*. (See also ITU-T Recommendation X.295).

ISO/IEC 9646-7:1995, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 7: Implementation conformance statements*. (See also ITU-T Recommendation X.296).

ISO/IEC 9834-4:1991, *Information technology — Open Systems Interconnection — Procedures for the operation of OSI Registration Authorities — Part 4: Register of VTE Profiles*.

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 10731:1994, *Information technology — Open Systems Interconnection — Basic Reference Model — Conventions for the definition of OSI services*. (See also ITU-T Recommendation X.210).

ISO/IEC 10739-1:1994, *Information technology — Open Systems Interconnection — Conformance test suite for ISO 9041-1 — Virtual terminal basic class protocol — Part 1: Test suite structure and test purposes*.

ISO/IEC ISP 11188-1:1995, *Information technology — International Standardized Profile — Common upper layer requirements — Part 1: Basic connection oriented requirements*.

3 Definitions

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

3.1 General OSI terminology

3.1.1 This part of ISO/IEC ISP 11187 makes use of the following terms defined in ISO/IEC 10731:

- a) service primitive;
- b) service-provider.