INTERNATIONAL STANDARD

ISO/IEC 10745

Information technology — Open Systems Interconnection — Upper layers security model

Technologies de l'information — Interconnexion de systèmes ouverts — Modèle de sécurité pour les couches hautes

CONTENTS

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. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

International Standard ISO/IEC 10745 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 21, *Open systems interconnection, data management and open distributed processing*, in collaboration with ITU-T. The identical text is published as ITU-T Recommendation X.803.

Annexes A and B of this International Standard are for information only.

Introduction

The OSI Security Architecture (CCITT Rec. X.800 I ISO 7498-2) defines the security-related architectural elements which are appropriate for application when security protection is required in an open systems environment.

This Recommendation I International Standard describes the selection, placement, and use of security services and mechanisms in the upper layers (Application, Presentation, and Session Layers) of the OSI Reference Model.

INTERNATIONAL STANDARD

ITU-T RECOMMENDATION

INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION – UPPER LAYERS SECURITY MODEL

1 Scope

1.1 This Recommendation I International Standard defines an architectural model that provides a basis for:

a) the development of application-independent services and protocols for security in the upper layers of OSI; and

b) the utilization of these services and protocols to fulfil the security requirements of a wide variety of applications, so that the need for application-specific ASEs to contain internal security services is minimized.

1.2 In particular, this Recommendation I International Standard specifies:

a) the security aspects of communication in the upper layers of OSI;

b) the support in the upper layers of the security services defined in the OSI Security Architecture and the Security Frameworks for Open Systems;

c) the positioning of, and relationships among, security services and mechanisms in the upper layers, according to the guidelines of CCITT Rec. X.800 I ISO 7498-2 and ITU-T Rec. X.207 I ISO/IEC 9545.

d) the interactions among the upper layers, and interactions between the upper layers and the lower layers, in providing and using security services;

e) the requirement for management of security information in the upper layers.

1.3 With respect to access control, the scope of this Recommendation I International Standard includes services and mechanisms for controlling access to OSI resources and resources accessible via OSI.

1.4 This Recommendation I International Standard does not include:

a) definition of OSI services or specification of OSI protocols;

b) specification of security techniques and mechanisms, their operation, and their protocol requirements; or

c) aspects of providing security which are not concerned with OSI communications.

1.5 This Recommendation I International Standard is neither an implementation specification for systems nor a basis for appraising the conformance of implementations.

NOTE – The scope of this Recommendation I International Standard includes security for connectionless applications and for distributed applications (such as store-and-forward applications, chained applications, and applications acting on behalf of other applications).

2 Normative references

The following Recommendations and International Standards contain provisions which, through reference in this text, constitute provisions of this Recommendation I International Standard. At the time of publication, the editions indicated were valid. All Recommendations and Standards are subject to revision, and entities to agreements based on this Recommendation I International Standard are encouraged to investigate the possibility of applying the most recent editions of the Recommendations and Standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards. The Telecommunication Standardization Bureau of the ITU maintains a list of currently valid ITU-T Recommendations.

2.1   Identical Recommendations | International Standards

–   ITU-T Recommendation X.207 (1993) | ISO/IEC 9545:1994, *Information technology – Open Systems Interconnection – Application layer structure.*

–   ITU-T Recommendation X.811[1] (1993) | ISO/IEC 10181-2....[1], *Information technology – Security frameworks in Open Systems: Authentication framework.*

–   ITU-T Recommendation X.812[1] (1993) | ISO/IEC 10181-3....[1], *Information technology – Security frameworks in Open Systems: Access control framework.*

2.2   Paired Recommendations | International Standards equivalent in technical content

–   CCITT Recommendation X.200 (1988), *Basic reference model of open systems interconnection for CCITT applications.*

     ISO 7498:1984/Corr.1:1988, *Information processing systems – Open Systems Interconnection – Basic Reference Model.*

–   CCITT Recommendation X.216 (1988), *Presentation service definition for open systems interconnection for CCITT applications.*

     ISO 8822:1988, *Information processing systems – Open Systems Interconnection – Connection oriented presentation service definition.*

–   CCITT Recommendation X.217 (1988), *Association control service definition for open systems interconnection for CCITT applications.*

     ISO 8649:1988, *Information processing systems – Open Systems Interconnection – Service definition for the Association Control Service Element.*

–   CCITT Recommendation X.700 (1992), *Management framework definition for Open Systems Interconnection for CCITT applications.*

     ISO/IEC 7498-4:1989, *Information processing systems – Open Systems Interconnection – Basic Reference Model – Part 4: Management framework.*

–   CCITT Recommendation X.800 (1991), *Security architecture for Open Systems Interconnection for CCITT applications.*

     ISO 7498-2:1989, *Information processing systems – Open Systems Interconnection – Basic Reference Model – Part 2: Security architecture.*

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[1] Presently at stage of draft.