INTERNATIONAL STANDARD

ISO/IEC 10181-2

First edition
1996-05-15

Information technology — Open Systems Interconnection — Security frameworks for open systems: Authentication framework

Technologies de l'information — Interconnexion de systèmes ouverts: Cadre général d'authentification

Reference number
ISO/IEC 10181-2:1996(E)

CONTENTS

		Page
1	Scope	1
2	Normative references	2
	2.1 Identical Recommendations | International Standards	2
	2.2 Paired Recommendations | International Standards equivalent in technical content	2
	2.3 Additional references	2
3	Definitions	2
4	Abbreviations	4
5	General discussion of authentication	4
	5.1 Basic concepts of authentication	4
	5.2 Aspects of authentication service	6
	5.3 Principles used in authentication	8
	5.4 Phases of authentication	8
	5.5 Trusted Third Party Involvement	9
	5.6 Types of principal	12
	5.7 Human user authentication	13
	5.8 Types of attack on authentication	13
6	Authentication information and facilities	15
	6.1 Authentication information	15
	6.2 Facilities	18
7	Characteristics of authentication mechanisms	22
	7.1 Symmetry/Asymmetry	22
	7.2 Use of cryptographic/Non-cryptographic techniques	23
	7.3 Types of authentication	23
8	Authentication mechanisms	23
	8.1 Classification by vulnerabilities	23
	8.2 Initiation of transfer	29
	8.3 Use of authentication certificates	29
	8.4 Mutual authentication	29
	8.5 Summary of class characteristics	30
	8.6 Classification by configuration	30
9	Interactions with other security services/mechanisms	33
	9.1 Access control	33
	9.2 Data integrity	33
	9.3 Data confidentiality	34
	9.4 Non-repudiation	34
	9.5 Audit	34

© ISO/IEC 1996
All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

ISO/IEC Copyright Office • Case postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

Annex A – Human user authentication 35
Annex B – Authentication in the OSI Model 37
Annex C Countering replay using unique numbers or challenges 38
Annex D – Protection against some forms of attack on authentication 39
Annex E – Bibliography 42
Annex F – Some specific examples of authentication mechanisms 43
Annex G – Authentication facilities outline 46