

This is a preview - [click here to buy the full publication](#)

INTERNATIONAL STANDARD

ISO/IEC 10021-10

Second edition
1999-12-15

Information technology — Message Handling Systems (MHS): MHS routing

*Technologies de l'information — Systèmes de messagerie (MHS): Routage
MHS*

Reference number
ISO/IEC 10021-10:1999(E)



© ISO/IEC 1999

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

© ISO/IEC 1999

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 either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.ch
Web www.iso.ch

Published by ISO in 2000

Printed in Switzerland

CONTENTS

		<i>Page</i>
1	Scope	1
2	Normative references	1
	2.1 Presentation references	1
	2.2 Directory references	1
	2.3 Message Handling references	2
	2.4 Country Code references	2
	2.5 Additional references	2
3	Definitions	2
	3.1 MHS-routing definitions	2
	3.2 MHS definitions	3
	3.3 Directory definitions	3
4	Abbreviations	3
5	Conventions	3
	5.1 Conventions for routing model specification	3
	5.2 General font conventions	4
	5.3 Font conventions for ASN.1 definitions	4
	5.4 Rules for ASN.1 definitions	4
6	MHS-routing Overview	4
	6.1 Operational characteristics	4
	6.2 Components of the model	5
	6.2.1 Routing-collective	6
	6.2.2 Routing-MTA	6
	6.2.3 Connection-group	7
	6.2.4 OR-address-subtree	8
	6.2.5 Routing-advice	9
	6.2.6 Local use tables	10
	6.3 Routing decision overview	10
	6.4 Directory organization	11
	6.5 Authentication principles	11
7	Routing-collective-subtree	12
	7.1 Object classes	12
	7.1.1 Routing Collective object class	12
	7.1.2 Routing MTA object class	12
	7.1.3 Connection Group object class	12
	7.1.4 MTA Information object class	12
	7.2 Attribute types	13
	7.2.1 Routing Collective attribute types	13
	7.2.2 Routing MTA attribute types	13
	7.2.3 Connection Group attribute types	14
	7.2.4 MTA Information attribute types	16
	7.3 Name forms	17
8	OR-address-subtree	17
	8.1 OR-address Element object class	17
	8.2 OR-address Element attribute types	17
	8.2.1 Routing Advice	17
	8.2.2 Expression Matches	19
	8.2.3 Next Level Complete	20
	8.2.4 Recipient MD Assigned Alternate Recipient	20

8.3	OR-address Element subclasses	20
8.3.1	OR-address Subtree Base object class	20
8.3.2	Common OR-address object classes.....	20
8.3.3	Mnemonic OR-address object classes	21
8.3.4	Terminal OR-address object classes.....	21
8.3.5	Numeric OR-address object classes.....	22
8.3.6	Postal OR-address object classes.....	22
8.4	OR-address Element Names	22
8.4.1	Common OR-address Element Names	22
8.4.2	Mnemonic OR-address Element Names.....	22
8.4.3	Terminal OR-address Element Names	23
8.4.4	Numeric OR-address Element Names	23
8.4.5	Postal OR-address Element Names	23
8.5	Generation of OR-address-element attributes	24
8.6	OR-address-subtree name forms	24
9	Procedures	25
9.1	Routing-MTA procedures	25
9.1.1	Amendment to the Front-end procedure.....	26
9.1.2	Routing-decision procedure.....	26
9.1.3	OR-address-subtree-read procedure	29
9.1.4	Local-delivery-evaluation procedure.....	31
9.1.5	Routing-knowledge-acquisition procedure.....	31
9.1.6	MTA-bind-in procedure	35
9.1.7	MTA-bind-out procedure	37
9.1.8	Trace verification step	38
9.2	Administrative procedures.....	39
9.2.1	Routing-MTA configuration.....	39
9.2.2	OR-address-subtree construction.....	39
10	Conformance	41
10.1	Routing-MTA conformance	41
10.2	Administrative DUA conformance.....	41
10.3	DSA conformance	41
Annex A	– Reference Definition of Object Identifiers	42
Annex B	– Reference Definition of MHS-routing Directory Objects.....	44
Annex C	– Reference Definition of MHS-routing OR-address-subtree.....	47
Annex D	– OR-address-subtree structure.....	54
D.1	Common OR-address elements	55
D.1.1	MHS Country	55
D.1.2	MHS ADMD	55
D.1.3	MHS PRMD	55
D.2	Mnemonic OR-address elements.....	55
D.2.1	MHS Organization	55
D.2.2	MHS Organizational Unit.....	55
D.2.3	MHS Common Name	56
D.2.4	MHS Surname	56
D.2.5	MHS Given Name	56
D.2.6	MHS Initials	56
D.2.7	MHS Generation Qualifier	57
D.3	Terminal OR-address elements	57
D.3.1	MHS Network Address	57
D.3.2	MHS Terminal Identifier.....	57
D.3.3	MHS Terminal Type.....	57
D.4	Numeric OR-address elements	58
D.5	Postal OR-address elements	58
D.5.1	MHS PDS Name	58
D.5.2	MHS Physical Delivery Country	58
D.5.3	MHS Postal Code	58

	<i>Page</i>
Annex E – Example of extension to the OR-address-subtree schema for MHS Network Address	59
E.1 Network address subfield object classes.....	59
E.2 Network address subfield Element Names	59
E.3 Network address subfield name forms	59
E.4 Network address subfield structure rules.....	60
Annex F – MHS-routing example applications.....	61
F.1 Simple PRMD	61
F.2 Large PRMD with autonomous departments	61
F.3 Internal use by ADMDs.....	62
F.4 'Public access' in a community	62
Annex G – Routing knowledge acquisition example.....	64
Annex H – Profile and Connection-group Identifiers	65
H.1 Common Profiles.....	65
H.2 ISP profiles	65
H.3 Common profile connection-groups.....	66
Annex I – Glossary of terms	67
Index	68

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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.

Attention is drawn to the possibility that some of the elements of this part of ISO/IEC 10021 may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

International Standard ISO/IEC 10021-10 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems*, in collaboration with ITU-T. The identical text is published as ITU-T Recommendation X.412.

This second edition cancels and replaces the first edition (ISO/IEC 10021-10:1998), which has been technically revised.

ISO/IEC 10021 consists of the following parts, under the general title *Information technology — Message Handling Systems (MHS)*:

- *Part 1: System and Service Overview*
- *Part 2: Overall architecture*
- *Part 3: Abstract Service Definition Conventions*
- *Part 4: Message transfer system: Abstract service definition and procedures*
- *Part 5: Message store: Abstract service definition*
- *Part 6: Protocol specifications*
- *Part 7: Interpersonal messaging system*
- *Part 8: Electronic Data Interchange Messaging Service*
- *Part 9: Electronic Data Interchange Messaging System*
- *Part 10: MHS routing*
- *Part 11: Guide for Messaging Systems Managers*

Annexes A to D form a normative part of this part of ISO/IEC 10021. Annexes E to I are for information only.

Introduction

This Recommendation | International Standard is one of a series of Recommendations | International Standards defining Message Handling in a distributed open systems environment.

Message Handling provides for the exchange of messages between users on a store-and-forward basis. A message submitted by one user (the originator) is transferred through the message-transfer-system (MTS) and delivered to one or more other users (the recipients).

This Recommendation | International Standard defines a method for routing messages through the Message Handling System (MHS).

This Recommendation | International Standard has been produced by joint ITU-T – ISO/IEC agreement. The corresponding documents are ITU-T Rec. X.412 and ISO/IEC 10021-10.

INTERNATIONAL STANDARD**ITU-T RECOMMENDATION****INFORMATION TECHNOLOGY –
MESSAGE HANDLING SYSTEMS (MHS):
MHS ROUTING****1 Scope**

This Recommendation | International Standard specifies the means by which messages are routed through the MHS, and supplements the procedures defined in 14.3 of ITU-T Rec. X.411 | ISO/IEC 10021-4.

Other Recommendations | parts of ISO/IEC 10021 define other aspects of the MHS. ITU-T Rec. F.400/X.400 | ISO/IEC 10021-1 defines the user-oriented services provided by the MHS. ITU-T Rec. X.402 | ISO/IEC 10021-2 provides an architectural overview of the MHS. ITU-T Rec. X.411 | ISO/IEC 10021-4 defines the abstract-service of the Message Transfer System.

2 Normative references

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

2.1 Presentation references

This Recommendation | International Standard cites the following Presentation specifications:

- ITU-T Recommendation X.680 (1997) | ISO/IEC 8824-1: 1998, *Information technology – Abstract Syntax Notation One (ASN.1): Specification of basic notation.*
- ITU-T Recommendation X.681 (1997) | ISO/IEC 8824-2: 1998, *Information technology – Abstract Syntax Notation One (ASN.1): Information object specification.*

2.2 Directory references

This Recommendation | International Standard cites the following Directory specifications:

- ITU-T Recommendation X.500 (1997) | ISO/IEC 9594-1: 1998, *Information technology – Open Systems Interconnection – The Directory: Overview of concepts, models, and services.*
- ITU-T Recommendation X.501 (1997) | ISO/IEC 9594-2: 1998, *Information technology – Open Systems Interconnection – The Directory: Models.*
- ITU-T Recommendation X.520 (1997) | ISO/IEC 9594-6: 1998, *Information technology – Open Systems Interconnection – The Directory: Selected attribute types.*
- ITU-T Recommendation X.521 (1997) | ISO/IEC 9594-7: 1998, *Information technology – Open Systems Interconnection – The Directory: Selected object classes.*

2.3 Message Handling references

This Recommendation | International Standard cites the following Message Handling System specifications:

- ITU-T Recommendation F.400/X.400 (1999), *Message handling services: Message handling system and service overview*.
- ISO/IEC 10021-1: 1999, *Information technology – Message Handling Systems (MHS) – Part 1: System and service overview*.
- ITU-T Recommendation X.402 (1999) | ISO/IEC 10021-2: 1999, *Information technology – Message Handling Systems (MHS): Overall architecture*.
- ITU-T Recommendation X.411 (1999) | ISO/IEC 10021-4: 1999, *Information technology – Message Handling Systems (MHS): Message transfer system: Abstract service definition and procedures*.

2.4 Country Code references

This Recommendation | International Standard cites the following Country Code specifications:

- ISO 3166-1: 1997, *Codes for the representation of names of countries and their subdivisions – Part 1: Country codes*.
- ITU-T Recommendation X.121 (1996), *International number plan for public data networks*.

2.5 Additional references

This Recommendation | International Standard cites the following specification:

- ISO/IEC 9945-2: 1993, *Information technology – Portable Operating System Interface (POSIX) – Part 2: Shell and Utilities*.