
**Information technology — Message
Handling Systems (MHS) management:
Message Transfer Agent management**

*Technologies de l'information — Gestion des systèmes de messagerie
(MHS): Entité de l'agent de transfert de message*

Contents

	<i>Page</i>
SECTION 1 – INTRODUCTION	1
1 Scope	1
2 Normative references	1
3 Definitions	2
4 Abbreviations	4
5 Conventions	5
SECTION 2 – MTA MANAGEMENT PRINCIPLES	5
6 Requirements	5
7 Service definitions	7
8 MTA model	35
SECTION 3 – MANAGEMENT INFORMATION MODEL	41
9 Definition of managed object classes	41
10 Definitions of packages	46
11 Definition of attributes	59
12 Definition of notifications	92
13 Definition of actions	92
14 Name bindings	92
SECTION 4 – CONFORMANCE STATEMENTS	100
15 Conformance statements	100

© ISO/IEC 1997

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

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 11588-8 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 18, *Document processing and related communication*, in collaboration with ITU-T. The identical text is published as ITU-T Recommendation X.467.

ISO/IEC 11588 consists of the following parts, under the general title *Information technology — Message Handling Systems (MHS) management*:

- *Part 1: Model and architecture*
- *Part 2: Information*
- *Part 3: Logging information*
- *Part 4: Security management function*
- *Part 5: Configuration management function*
- *Part 6: Fault management function*
- *Part 7: Performance management function*
- *Part 8: Message transfer agent management*

Annex A forms an integral part of this part of ISO/IEC 11588. Annexes B and C are for information only.

This page intentionally left blank

IECNORM.COM : Click to view the full PDF of ISO/IEC 11588-8:1997

INTERNATIONAL STANDARD

ITU-T RECOMMENDATION

INFORMATION TECHNOLOGY – MESSAGE HANDLING SYSTEMS (MHS) MANAGEMENT: MESSAGE TRANSFER AGENT MANAGEMENT

SECTION 1 – INTRODUCTION

1 Scope

This Recommendation | International Standard provides the specification of management information related to a Message Transfer Agent (MTA). The modelling of this information is done in accordance with CCITT Rec. X.722 | ISO/IEC 10165-4: the Guidelines for the Definition of Managed Objects.

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 Recommendations and Standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards. The Telecommunication Standardization Bureau of ITU maintains a list of currently valid ITU-T Recommendations.

2.1 Identical Recommendations International Standards

- ITU-T Recommendation X.200 (1994) | ISO/IEC 7498-1:1994, *Information technology – Open Systems Interconnection – Basic Reference Model: The Basic Model*.
- ITU-T Recommendation X.217 (1995) | ISO/IEC 8649:1996, *Information technology – Open Systems Interconnection – Service definition for the association control service element*.
- ITU-T Recommendation X.402 (1995) | ISO/IEC 10021-2:1996, *Information technology – Message Handling Systems (MHS): Overall architecture*.
- ITU-T Recommendation X.411 (1995) | ISO/IEC 10021-4:1997, *Information technology – Message Handling Systems (MHS): Message transfer system : Abstract service definition and procedures*.
- ITU-T Recommendation X.460 (1995) | ISO/IEC 11588-1:1996, *Information technology — Message Handling Systems (MHS) management: Model and architecture*.
- ITU-T Recommendation X.462 (1996) | ISO/IEC 11588-3:1997, *Information technology – Message Handling Systems (MHS) management: Logging information*.
- ITU-T Recommendation X.501 (1993) | ISO/IEC 9594-2:1995, *Information technology – Open Systems Interconnection – The Directory: Models*.
- ITU-T Recommendation X.509 (1993) | ISO/IEC 9594-8:1995, *Information technology – Open Systems Interconnection – The Directory: Authentication framework*.
- CCITT Recommendation X.701 (1993) | ISO/IEC 10040:1992, *Information technology – Open Systems Interconnection – System management overview*.
- CCITT Recommendation X.720 (1992) | ISO/IEC 10165-1:1993, *Information technology – Open Systems Interconnection – Structure of management information: Management Information Model*.
- CCITT Recommendation X.721 (1992) | ISO/IEC 10165-2:1992, *Information technology – Open Systems Interconnection – Structure of management information: Definition of management information*.
- CCITT Recommendation X.722 (1992) | ISO/IEC 10165-4:1992, *Information technology – Open Systems Interconnection – Structure of management information: Guidelines for the definition of managed objects*.

- CCITT Recommendation X.731 (1992) | ISO/IEC 10164-2:1992, *Information technology – Open Systems Interconnection – Systems management: State management function.*
- CCITT Recommendation X.733 (1992) | ISO/IEC 10164-4:1992, *Information technology – Open Systems Interconnection – Systems management: Alarm reporting function.*
- CCITT Recommendation X.736 (1992) | ISO/IEC 10164-7:1992, *Information technology – Open Systems Interconnection – Systems Management: Security alarm reporting function.*

2.2 Paired Recommendations | International Standards equivalent in technical content

- ITU-T Recommendation F. 400/X.400 (1996), *Message handling: System and service overview.*
ISO/IEC 10021-1¹⁾, *Information technology – Message Handling Systems (MHS) – Part 1: System and Service Overview.*
- CCITT Recommendation X.700 (1992), *Management framework for Open Systems Interconnection (OSI) for CCITT applications.*
ISO/IEC 7498-4:1989, *Information processing systems – Open Systems Interconnection – Basic Reference Model – Part 4: Management framework.*
- CCITT Recommendation X.710 (1991), *Common management information service definition for CCITT applications.*
ISO/IEC 9595:1991, *Information technology – Open Systems Interconnection – Common management information service definition.*

2.3 Additional references

- CCITT Recommendation X.408 (1988), *Message handling systems: Encoded information type conversion rules.*
- ITU-T Recommendation M. 3010 (1996), *Principles for a telecommunications management network.*
- ITU-T Recommendation Q.822 (1994), *Stage 1, Stage 2 and Stage 3 description for the Q3 interface – Performance management.*

3 Definitions

For the purposes of this Recommendation | International Standard, the following definitions apply.

3.1 Basic Reference Model definitions

This Recommendation | International Standard makes use of the following term defined in ITU-T Rec. X.200 | ISO/IEC 7498-1:

- application service element.

3.2 ACSE definitions

This Recommendation | International Standard makes use of the following terms defined in ITU-T Rec. X.217 | ISO/IEC 8649:

- a) association;
- b) application context;
- c) association initiator;
- d) association responder.

3.3 Telecommunication management network definitions

This Recommendation | International Standard makes use of the following term defined in Recommendation M. 3010:

- network element.

¹⁾ To be published. (Revision of ISO/IEC 10021-1:1990)

3.4 OSI system management definitions

This Recommendation | International Standard makes use of the following terms defined in CCITT Rec. X.700 and ISO/IEC 7498-4:

- a) managed object;
- b) managed information base.

This Recommendation | International Standard makes use of the following terms defined in CCITT Rec. X.701 | ISO/IEC 10040:

- a) managed object class;
- b) management information.

This Recommendation | International Standard makes use of the following terms defined in CCITT Rec. X.710 and ISO/IEC 9595:

- a) attribute;
- b) common management information service element.

This Recommendation | International Standard makes use of the following terms defined in CCITT Rec. X.720 | ISO/IEC 10165-1:

- a) behaviour;
- b) conditional package;
- c) inheritance;
- d) naming tree;
- e) package;
- f) subclass;
- g) super class.

3.5 Message handling systems management definitions

This Recommendation | International Standard makes use of the following terms defined in ITU-T Rec. X.460 | ISO/IEC 11588-1:

- a) MHS management domain;
- b) MHS system;
- c) MIS management domain.

3.6 Message Handling Systems definitions

This Recommendation | International Standard makes use of the following term defined in ITU-T Rec. X.400 and ISO/IEC 10021-1:

- alternate recipient assignment.

This Recommendation | International Standard makes use of the following terms defined in ITU-T Rec. X.411 | ISO/IEC 10021-4 (MTS abstract service definition):

- a) content;
- b) content-integrity-check;
- c) content-type;
- d) controls;
- e) credentials;
- f) deferred-delivery-time;
- g) delivery-controls;
- h) encoded-information-type;
- i) explicit-conversion;
- j) global-domain-identifier;
- k) initiator-bind-token;

- l) initiator-certificate;
- m) message-origin-authentication-check;
- n) message-security-label;
- o) message-token;
- p) MTA-name;
- q) MTS-Identifier;
- r) OR-name;
- s) originator-certificate;
- t) password;
- u) priority;
- v) probe-origin-authentication-check;
- w) PSAP-address;
- x) recipient-certificate;
- y) report-origin-authentication-check;
- z) security-context;
- aa) simple-credentials;
- bb) strong credentials;
- cc) submission-controls;
- dd) permissible-operations;
- ee) permissible-lowest-priority;
- ff) permissible-encoded-information-types;
- gg) permissible-content-types;
- hh) permissible-maximum-content-length.

This Recommendation | International Standard makes use of the following terms defined in ITU-T Rec. X.411 | ISO/IEC 10021-4 (MTA abstract service definition):

- a) trace-information-elements;
- b) internal-trace-information-elements.

4 Abbreviations

For the purposes of this Recommendation | International Standard, the following abbreviations apply:

AU	Access Unit
ASE	Application Service Entity
BM	Business Management
CMISE	Common Management Information Service Element
DIB	Directory Information Base
DL	Distribution List
EIT	Encoded Information Type
GDMO	Guidelines for the Definition of Managed Objects
MD	MHS Management Domain
MHS	Message Handling System
MIB	Management Information Base
MIM	Management Information Model
MPR	Message Probe or Report
MS	Message Store
MTA	Message Transfer Agent

MTS	Message Transfer Service
NEM	Network Element Management
NM	Network Management
OSI	Open System Interconnection
SM	Service Management
SMASE	System Management Application Service Entity
TMN	Telecommunications Management Network
UA	User Agent

5 Conventions

This Recommendation | International Standard makes use of the following conventions:

- a) the term MTS User is used to denote an AU, MS or UA;
- b) the term MTS User name is used to denote a Directory name and an MTS User address or both.

SECTION 2 – MTA MANAGEMENT PRINCIPLES

6 Requirements

An MHS system manager may express requirements on MTA management. An MHS system manager is a corporation, organisation or individual which is responsible for the management of the resources of an MHS system.

Table 1 provides a summary of MTA management requirements.

Table 1 – Users requirements

Requirements	Detailed requirements
Management of MTA overall operability and availability	
Management of MTA functions	– Management of MTA Conversion function – Management of MTA Distribution List Expansion function – Management of MTA Routing function – Management of MTA Security function
Management of associations	– Management of MTS User associations – Management of Adjacent MTA associations
Management of MPR	– Management of messages – Management of probes – Management of reports
Management of MTS Users capabilities assessments	
Management of Adjacent MTA capabilities assessments	

6.1 Management of MTA overall operability and availability

The requirement to be satisfied is to provide the MHS system manager the ability to control and monitor the overall operability and availability of each managed MTA within the MIS management domain.

If Directory services are used by MHS entities of the MIS management domain to get access to MTA capabilities, then consistency between the Directory and MHS management information bases is required.

6.2 Management of MTA functions

6.2.1 Management of MTA Conversion function

The requirement to be satisfied is to provide the MHS system manager, for each managed MTA which can perform content conversion within the MIS management domain, the ability:

- a) To control and monitor:
 - 1) the conversions on messages;
 - 2) the indications of those conversions that would have been performed on probes.
- b) To examine and modify information on the supported conversions.

6.2.2 Management of MTA Distribution List Expansion function

The requirement to be satisfied is to provide the MHS system manager, for each managed MTA which can perform distribution list expansion within the MIS management domain, the ability to control and monitor:

- a) the distribution lists expansions on messages;
- b) the verifications whether distribution list expansion would occur, if requested, on probes.

6.2.3 Management of MTA Routing function

The requirement to be satisfied is to provide the MHS system manager, for each managed MTA within the MIS management domain, the ability:

- a) to control and monitor the routing and rerouting of MPR;
- b) to examine and modify routing information.

This Specification describes how to monitor the operational state and usage state of the Routing Function of an MTA. The current version of this Specification does not describe the information to be maintained by MTA to provide routing and loop detection capabilities nor the model to examine and modify such information.

6.3 Management of associations

The requirement to be satisfied is to provide the MHS system manager the ability to control and monitor the associations established with each managed MTA within the MIS management domain.

6.4 Management of MPR

The requirement to be satisfied is to provide the MHS system manager the ability to control and monitor the MPR being processed by each managed MTA within the MIS management domain.

6.5 Management of MTS Users capabilities assessments

The requirement to be satisfied is to provide the MHS system manager the ability to examine and update information on capabilities assessments of the MTS Users of each managed MTA within the MIS management domain.

If Directory services are used by MHS entities of the MIS management domain to get access to MTS User capabilities, then consistency between Directory and MHS management information bases is required.

6.6 Management of Adjacent MTA capabilities assessments

The requirement to be satisfied is to provide the MHS system manager the ability to examine and update information on capabilities assessments of the Adjacent MTA of each managed MTA within the MIS management domain.

If Directory services are used by MHS entities of the MIS management domain to get access to MTA capabilities, the MHS system manager shall be able to maintain consistency between Directory and MHS management information bases.

7 Service definitions

7.1 Introduction

The MTA management services are provided to a MHS system manager so that he can:

- a) control and monitor the behaviour of a managed MTA;
- b) examine and modify MTA parameters.

Table 2 provides the list of the MTA management services that meet the MTA management requirements defined in clause 6.

The services are classified in three groups:

- MHS capabilities management (MHS);
- MHS security capabilities management (SEC);
- Performance management (PERF).

Table 2 – MTA management services overview

Requirements	Services	Service group
MTA overall availability and operability	MTA main capabilities management	MHS
management	MTA main capabilities performance	PERF
Conversion management	Conversion functions management	MHS
	Conversion performance management	PERF
(and security management)	Secure conversions management	SEC
Distribution list expansion management	Distribution list expansion function management	MHS
	Distribution list expansion performance	PERF
Routing management	Routing function management	MHS
	Routing performance	PERF
Security management	Message origin authentication function management	SEC
	Probe origin authentication function management	SEC
	Report origin authentication function management	SEC
Logging of a managed MTA	MHS events logging	MHS
Management of associations	MTS Users associations management	MHS
	Adjacent MTA associations management	MHS
(and security management)	Secure MTS Users associations management	SEC
	Secure Adjacent MTA associations management	SEC
Management of MPR	MPR management	MHS
(and security management)	Secure messages management	SEC
	Secure probes management	SEC
	Secure reports management	SEC
Management of MTS Users capabilities assessments	MTS Users capabilities assessments management	MHS
(and security management)	MTS Users security assessments management	SEC
Management of Adjacent MTA capabilities assessments	Adjacent MTA capabilities assessments management	MHS
(and security management)	Adjacent MTA security assessments management	SEC

7.2 MTA main capabilities management

7.2.1 Description

The MTA main capabilities management service provides primitives:

- a) to create and delete a management view of the main capabilities of a managed MTA;
- b) to retrieve and modify main capabilities parameters of a managed MTA;
- c) to suspend or resume a managed MTA activity;
- d) to receive operability change notifications from a managed MTA;
- e) to receive equipment alarms from a managed MTA;

7.2.2 Main parameters

7.2.2.1 Alarm Status

This attribute indicates the occurrence of an abnormal condition relating to the managed MTA. It is used to indicate the existence of an equipment alarm on the managed MTA. This attribute is described in details in Recommendation M.3100.

NOTE – This attribute is inherited from the equipmentEquipmentsAlarm package defined in Recommendation M.3100.

7.2.2.2 Default Non Urgent MPR Expiry Duration

This attribute defines the default duration in seconds from the arrival time of a non-urgent MPR after which the managed MTA determines that the MTS cannot deliver the message or report or affirm the probe.

7.2.2.3 Default Normal MPR Expiry Duration

This attribute defines the default duration in seconds from the arrival time of a normal MPR after which the managed MTA determines that the MTS cannot deliver the message or report or affirm the probe.

7.2.2.4 Default Urgent MPR Expiry Duration

This attribute defines the default duration in seconds from the arrival time of an urgent MPR after which the managed MTA determines that the MTS cannot deliver the message or report or affirm the probe.

7.2.2.5 Equipment Identifier

This attribute is used to name the MTA managed object instance. This attribute is described in details in Recommendation M.3100.

NOTE – This attribute is inherited from the equipment object class defined in Recommendation M.3100.

7.2.2.6 Global Domain Identifier

This attribute provides the identification of the management domain used by the managed MTA to create MTS-identifiers, trace-information-elements and internal-trace-information-elements. This attribute may have one of the possible values of a **global-domain-identifier** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'Generic Global Domain Identifier' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

7.2.2.7 Maximum Adjacent MTA Inbound Associations

This attribute defines the maximum number of associations that may be simultaneously established, at the initiative of adjacent MTA, between the managed MTA and its adjacent MTA.

7.2.2.8 Maximum Adjacent MTA Outbound Associations

This attribute defines the maximum number of associations that may be simultaneously established, at the initiative of the managed MTA, between the managed MTA and its adjacent MTA.

7.2.2.9 Maximum MTS User Inbound Associations

This attribute defines the maximum number of associations that may be simultaneously established, at the initiative of MTS Users, between the managed MTA and its MTS Users.

7.2.2.10 Maximum MTS User Outbound Associations

This attribute defines the maximum number of associations that may be simultaneously established, at the initiative of MTS Users, between the managed MTA and its MTS Users.

7.2.2.11 MTA Name

This attribute specifies the name of the managed MTA. This attribute may have one of the possible values of an **MTA-name** MTS abstract service parameter defined in Recommendation X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic MTA name' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

7.2.2.12 Replaceable

This attribute indicates if the managed MTA is replaceable or non-replaceable. This attribute is described in details in Recommendation M.3100.

NOTE – This attribute is inherited from the equipment object class defined in Recommendation M.3100.

7.2.2.13 Supported Application Contexts

This attribute defines the MHS application contexts that are supported by the managed MTA.

7.2.3 State parameters

7.2.3.1 Administrative State

The Administrative State enables the MHS system manager to suspend or resume the managed MTA activity. The Administrative state parameter has three possible values: locked, shutting down and unlocked. These are described in CCITT Rec. X.731 | ISO/IEC 10164-2.

NOTE – This attribute is inherited from the equipment object class defined in Recommendation M.3100.

7.2.3.2 Operational State

The Operational State parameter describes the operability of the managed MTA. The Operational State attribute has two possible values: disabled and enabled. These are described in CCITT Rec. X.731 | ISO/IEC 10164-2.

NOTE – This attribute is inherited from the equipment object class defined in Recommendation M.3100.

7.2.4 MD alternate recipient assignment parameters

7.2.4.1 MD Assigned Alternate Recipient

If the MD alternate recipient assignment service is supported by the managed MTA, this attribute indicates the MTS User Name of an alternate recipient which may be assigned by the managed MTA acting as recipient to messages where there is not exact match between the recipient attributes and the name of an MTS User of the MD. This attribute may have one of the possible values of an **OR-name** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic MTS User name' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

NOTE – The operation of the MD alternate recipient assignment is part of the Routing function. In some cases, the routing information will supply values for the alternate recipient address which override this attribute.

7.2.5 Directory Access parameters

If Directory is used for MHS and an **mhs-message-transfer-agent** directory object instance is present for the managed element, the directory access parameters enable to maintain consistency between the MIB and the DIB. The mhs-message-transfer-agent directory object class is described in Annex A of ITU-T Rec. X.402 | ISO/IEC 10021-2.

7.2.5.1 Directory Name

If Directory is used for MHS and a directory object instance is present for the managed element, this attribute specifies the **directory name** of the directory object instance. This attribute may have one of the possible values of a directory name parameter defined in ITU-T Rec. X.501 | ISO/IEC 9594-2. For a non-standardised implementation of a Directory, a 'generic directory name' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

NOTE – The description of the use of the Directory Name parameter to maintain consistency between the MIB and the DIB is out of the scope of this Recommendation | International Standard

7.2.6 Optional parameters

7.2.6.1 Vendor Name

If vendor information is supported by the managed MTA, this attribute indicates the vendor name of the managed MTA.

NOTE – This attribute is inherited from the equipment object class defined in Recommendation M.3100.

7.2.6.2 Version

If version information is supported by the managed MTA, this attribute indicates the version of the managed MTA.

NOTE – This attribute is inherited from the equipment object class defined in Recommendation M.3100.

7.2.6.3 Location Name

If location information is supported by the managed MTA, this attribute indicates the location of the managed MTA.

NOTE – This attribute is inherited from the equipment object class defined in Recommendation M.3100.

7.2.6.4 Current Problem List

If current problem list information is supported by the managed MTA, this attribute indicates the current existing problems of the managed MTA.

NOTE – This attribute is inherited from the equipment object class defined in Recommendation M.3100.

7.2.7 Service primitives

Table 3 provides the list of the MTA main capabilities management service primitives.

Table 3 – MTA main capabilities management service primitives

Primitives	Service SMASE	CMISE	Objects
Creation of a managed MTA	PT-Create	M-Create	MTA, MPRList, routingFunction
Deletion of a managed MTA	PT-Delete	M-Delete	MTA
Retrieval of MTA parameters	PT-Get	M-Get	MTA
Modification of MTA parameters	PT-Set	M-Set	MTA
Suspension of MTA activity	State Management function	M-Set	MTA
Resumption of MTA activity	State Management function	M-Set	MTA
State change notification	State Management function	M-EventReport	MTA
Equipment alarm notification	Alarm reporting Management Function	M-EventReport	MTA

7.3 MTA main capabilities performance

7.3.1 Description

The performance management services enable the MHS system manager to collect and store at intervals performance measurement data related to each monitored capability of the managed MTA. These services provide primitives:

- a) to control the collection of performance indicators;
- b) to have historical data stored for a prescript duration;
- c) to assign thresholds values to performance indicators and to be notified of threshold violations;
- d) to receive reports on collected performance information;
- e) to receive quality alarm notifications due to threshold violations;

NOTE – Performance management general mechanism is defined in Recommendation Q.822.

Performance can be measured for the processing of a selection of MPR. The selection can be done according to the following selection criteria:

- type of MPR (messages, probes or reports);
- grade of delivery (urgent, normal or non-urgent);
- next adjacent MTA name;
- last adjacent MTA name.

7.3.2 Parameters

For the purpose of MTA main capabilities performance, the following performance indicators are monitored.

NOTE – Because of inheritance some performance control parameters are defined in Recommendation Q.822.

7.3.2.1 Maximum Mta Response Time

This attribute defines the maximum response time, during the measurement interval, of those MPR that meet the selection criteria. response time is the time between arrival and departure of a MPR in the managed MTA.

7.3.2.2 Maximum Mpr Size Delivered

This attribute defines the size of the largest MPR delivered to users of the managed MTA, during the measurement interval, of those MPR that meet the selection criteria.

7.3.2.3 Maximum Mpr Size Submitted

This attribute defines the size of the largest MPR submitted by users of the managed MTA, during the measurement interval, of those MPR that meet the selection criteria. In the case of a probe, it is the size of the probe itself which is measured, not the size of the subject message.

7.3.2.4 Maximum Mpr Size Transferred In

This attribute defines the size of the largest MPR the managed MTA has received from another MTA, during the measurement interval, of those MPR that meet the selection criteria. In the case of a probe, it is the size of the probe itself which is measured, not the size of the subject message.

7.3.2.5 Maximum Mpr Size Transferred Out

This attribute defines the size of the largest MPR the managed MTA has sent to another MTA, during the measurement interval, of those MPR that meet the selection criteria. In the case of a probe, it is the size of the probe itself which is measured, not the size of the subject message.

7.3.2.6 Mean Mta Response Time

This attribute defines the mean response time, during the measurement interval, of those MPR that meet the selection criteria. Response time is the time between arrival and departure of a MPR in the managed MTA.

7.3.2.7 Mean Number of Stored Mpr

This attribute defines the mean number of MPR stored in the managed MTA, during the measurement interval, of those MPR that meet the selection criteria.

7.3.2.8 Mean Mpr Size Delivered

This attribute defines the mean size of MPR delivered to users of the managed MTA, during the measurement interval, of those MPR that meet the selection criteria.

7.3.2.9 Mean Mpr Size Submitted

This attribute defines the mean size of MPR submitted by users of the managed MTA, during the measurement interval, of those MPR that meet the selection criteria. In the case of a probe, it is the size of the probe itself which is measured, not the size of the subject message.

7.3.2.10 Mean Mpr Size Transferred In

This attribute defines the mean size of MPR the managed MTA has received from another MTA, during the measurement interval, of those MPR that meet the selection criteria. In the case of a probe, it is the size of the probe itself which is measured, not the size of the subject message.

7.3.2.11 Mean Mpr Size Transferred Out

This attribute defines the mean size of MPR the managed MTA has sent to another MTA, during the measurement interval, of those MPR that meet the selection criteria. In the case of a probe, it is the size of the probe itself which is measured, not the size of the subject message.

7.3.2.12 Minimum Mta Response Time

This attribute defines the minimum response time, during the measurement interval, of those MPR that meet the selection criteria. Response time is the time between arrival and departure of a MPR in the managed MTA.

7.3.2.13 Minimum Mpr Size Delivered

This attribute defines the size of the smallest MPR delivered to users of the managed MTA, during the measurement interval, of those MPR that meet the selection criteria.

7.3.2.14 Minimum Mpr Size Submitted

This attribute defines the size of the smallest MPR submitted by users of the managed MTA, during the measurement interval, of those MPR that meet the selection criteria. In the case of a probe, it is the size of the probe itself which is measured, not the size of the subject message.

7.3.2.15 Minimum Mpr Size Transferred In

This attribute defines the size of the smallest MPR the managed MTA has received from another MTA, during the measurement interval, of those MPR that meet the selection criteria. In the case of a probe, it is the size of the probe itself which is measured, not the size of the subject message.

7.3.2.16 Minimum Mpr Size Transferred Out

This attribute defines the size of the smallest MPR the managed MTA has sent to another MTA, during the measurement interval, of those MPR that meet the selection criteria. In the case of a probe, it is the size of the probe itself which is measured, not the size of the subject message.

7.3.2.17 Mean Storage Occupied

This attribute indicates the mean percentage, during the measurement interval, of the storage available which is occupied by the MPR that meet the selection criteria.

7.3.2.18 Number of Mpr Deferred

This attribute defines the number of MPR the managed MTA has deferred to another MTA, during the measurement interval, of those MPR that meet the selection criteria.

7.3.2.19 Number of Mpr Delivered

This attribute defines the number of MPR delivered, during the measurement interval, of those MPR that meet the selection criteria.

7.3.2.20 Number of Recipient Processed

This attribute defines the number of recipient processed, during the measurement interval, of those MPR that meet the selection criteria.

7.3.2.21 Number of Mpr Redirected

This attribute defines the number of MPR the managed MTA has redirected to another mts user, during the measurement interval, of those MPR that meet the selection criteria.

7.3.2.22 Number of Mpr Rejected

This attribute defines the number of MPR rejected, during the measurement interval, of those MPR that meet the selection criteria. An MPR is considered to be rejected when the managed MTA determines that the mts cannot deliver a message or a report or affirm a probe.

7.3.2.23 Number of Mpr Submitted

This attribute defines the number of MPR submitted, during the measurement interval, of those MPR that meet the selection criteria.

7.3.2.24 Number of Mpr Transferred In

This attribute defines the number of MPR the managed MTA has received from another MTA, during the measurement interval, of those MPR that meet the selection criteria.

7.3.2.25 Number of Mpr Transferred Out

This attribute defines the number of MPR the managed MTA has transferred to another MTA, during the measurement interval, of those MPR that meet the selection criteria.

7.3.3 Service primitives

An overview of MTA performance management service primitives is provided in Table 4.

The perfMTAcurrentdata, perfMTAhistorydata and thresholddata managed objects are defined for the purpose of MTA main capabilities performance management.

Table 4 – MTA performance management service primitives overview

Primitives	Service SMASE	CMISE	Objects
Creation of performance monitoring capability	PT-Create	M-Create	CurrentData, ThresholdData
Deletion of performance monitoring capability	PT-Delete	M-Delete	CurrentData, ThresholdData
Suspension of performance data collection	State Management function	M-Set	CurrentData
Resumption of performance data collection	State Management function	M-Set	CurrentData
Modification of performance data collection conditions	Q3 interface Performance Management	M-Set	CurrentData
Modification of MPR filter	P-Set	M-Set	CurrentData
Modification of performance data storage conditions	Q3 interface Performance Management	M-Set	CurrentData
Retrieval of performance data	Q3 interface Performance Management	M-Get	CurrentData
Modification of performance data reporting conditions	Q3 interface Performance Management	M-Set	CurrentData
Performance data reporting	Q3 interface Performance Management	M-EventReport	CurrentData
Modification of thresholds	Q3 interface Performance Management	M-Set	ThresholdData
Quality of Service alarm	Q3 interface Performance Management	M-EventReport	ThresholdData

7.4 Conversion function management

7.4.1 Description

Management of conversion is provided for each type of conversion supported by the managed MTA. For the purpose of MHS management, the MTA capability to provide a specific type of conversion (e.g. TTX to IA5Text) is called a Conversion function. A Conversion function is invoked each time the corresponding type of conversion is performed by the managed MTA.

NOTE – Different Conversions functions may be called for the processing of a single message or probe. A Conversion function may be called multiple times for the processing of a single message or probe.

This service provides primitives:

- to create and delete a management view of a Conversion function;
- to retrieve parameters of a Conversion function;

- c) to suspend or resume a Conversion function activity;
- d) to receive operability and usage change notifications from a Conversion function;
- e) to receive processing errors alarms from a Conversion function.

7.4.2 Main parameters

7.4.2.1 Content Types Supported

This attribute indicates the message content types the Conversion function is able to convert. This attribute may have one of the possible values of a set of **content-type** MTS abstract service parameters defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.4.2.2 ConversionFunction Object Instance Identifier

This attribute is used for the naming of the managed object instance.

7.4.2.3 Conversion Type

This attribute indicates the type of conversion provided by the Conversion function. This attribute may have one of the possible values of an **explicit-conversion** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic conversion type' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

7.4.2.4 Information Loss Suspected

This attribute indicates if there will be loss of information during conversion. Possible loss of information is described in Recommendation X.408.

7.4.3 State parameters

7.4.3.1 Administrative State

The Administrative State enables the MHS system manager to suspend or resume the activity of the managed MTA function. The Administrative state parameter has three possible values: locked, shutting down and unlocked. These are described in CCITT Rec. X.731 | ISO/IEC 10164-2.

7.4.3.2 Operational State

The Operational State parameter describes the operability of the managed MTA function. The operational state attribute has two possible values: disabled and enabled. These are described in CCITT Rec. X.731 | ISO/IEC 10164-2.

7.4.3.3 Usage State

The Usage State parameter describes the usage of the managed MTA function. The usage state attribute has three possible values: idle, active and busy. These are described in CCITT Rec. X.731 | ISO/IEC 10164-2.

7.4.4 Service primitives

Table 5 provides the list of the Conversion function management service primitives.

7.5 Conversion performance

7.5.1 Description

This service provides primitives to monitor a Conversion function. Performance management principles are described in 7.3.1.

7.5.2 Parameters

7.5.2.1 Maximum Function Processing Time

This attribute defines the maximum duration in second used to perform an MTA function, during the measurement interval, of those MPR that meet the selection criteria.

Table 5 – Conversion function management service primitives

Primitives	Service SMASE	CMISE	Objects
Creation of a Conversion function	PT-Create	M-Create	ConversionFunction
Deletion of a Conversion function	PT-Delete	M-Delete	ConversionFunction
Suspension of a Conversion function activity	State Management function	M-Set	ConversionFunction
Resumption of a Conversion function activity	State Management function	M-Set	ConversionFunction
Retrieval of parameters of a Conversion function	PT-Get	M-Get	ConversionFunction
State change notification	State Management function	M-EventReport	ConversionFunction
Processing alarm notification	Alarm reporting Management Function	M-EventReport	ConversionFunction

7.5.2.2 Maximum Size MPR Passing Function

This attribute defines the size of the largest MPR passing the MTA function, during the measurement interval, of those MPR that meet the selection criteria.

7.5.2.3 Mean Function Processing Time

This attribute defines the mean time used to perform an MTA function, during the measurement interval, of those MPR that meet the selection criteria.

7.5.2.4 Mean Size MPR Passing Function

This attribute defines the mean size of MPR passing the MTA function, during the measurement interval, of those MPR that meet the selection criteria.

7.5.2.5 Minimum Function Processing Time

This attribute defines the minimum time used to perform an MTA function, during the measurement interval, of those MPR that meet the selection criteria.

7.5.2.6 Minimum Size MPR Passing Function

This attribute defines the size of the smallest MPR passing the MTA function, during the measurement interval, of those MPR that meet the selection criteria.

7.5.2.7 Number of Invocations

This attribute defines the number of times the MTA function has been invoked, during the measurement interval, for the processing of those MPR that meet the selection criteria.

NOTE – This is not the number of MPR passing the function as a function may be invoked different times for a single MPR.

7.5.2.8 Number of Rejected Invocations

This attribute defines the number of rejected invocations of the MTA function, during the measurement interval, for the processing of those MPR that meet the selection criteria.

7.5.3 Service primitives

Performance management primitives are described in 7.3.3.

perfFunctioncurrentdata, perfFunctionhistorydata and thresholddata managed objets are defined for the purpose of Conversion performance management.

7.6 Secure Conversion function management

7.6.1 Description

Management of secure conversion may be provided for each type of conversion supported by the managed MTA. For the purpose of MHS management, the MTA capability to provide a specific type of conversion (e.g. TTX to IA5Text) in a secure context is called a Secure Conversion function. A Secure Conversion function is invoked each time the corresponding type of secure conversion is performed by the managed MTA. The Secure Conversion function enables the MHS system manager to manage the additional information necessary to extend an MHS Conversion to MHS secure mechanisms.

NOTE – This service is required because the security MHS system manager may want to separate the security management information from the other management information.

This service provides primitives:.

- a) to create and delete a management view of a Secure Conversion function;
- b) to retrieve and modify parameters of a Secure Conversion function;
- c) to suspend or resume a Secure Conversion function activity;
- d) to receive operability and usage change notifications from a Secure Conversion function;
- e) to receive processing errors alarms from a Secure Conversion function;
- f) to receive security alarms from a a Secure Conversion function.

7.6.2 Main parameters

7.6.2.1 Conversion Credentials

This attribute provides the credentials for the conversion. This attribute may have one of the possible values of a **credentials** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic credentials' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

7.6.2.2 Conversion Security Context

This attribute provides the security context for a secure conversion.

7.6.2.3 Conversion Security Labels

This attribute provides the security labels for a secure conversion.

7.6.2.4 SecConversion Object Instance Identifier

This attribute is used for the naming of the managed object instance.

7.6.3 State parameters

These parameters are described in 7.4.3.

7.6.4 Service primitives

An overview of Secure Conversion function management services primitives is provided in Table 6.

7.7 Distribution List Expansion function management

7.7.1 Description

For the purpose of MHS management, the MTA capability to expand distribution lists is called the DL Expansion function. This function is invoked each time a distribution list is expanded by the managed MTA.

NOTE – The DL Expansion function may be called multiple times for a single message or probe.

Table 6 – Secure Conversion function management service primitives overview

Primitives	Service SMASE	CMISE	Objects
Creation of a Secure Conversion function	PT-Create	M-Create	secConversionFunction
Deletion of a Secure Conversion function	PT-Delete	M-Delete	secConversionFunction
Suspension of a Secure Conversion function activity	State Management function	M-Set	secConversionFunction
Resumption of a Secure Conversion function activity	State Management function	M-Set	secConversionFunction
Retrieval of a Secure Conversion parameter	PT-Get	M-Get	secConversionFunction
Modification of a Secure Conversion parameter	PT-Set	M-Set	secConversionFunction
State change notification	State Management function	M-EventReport	secConversionFunction
Processing alarm notification	Alarm reporting Management Function	M-EventReport	secConversionFunction
Security alarm notification	Security alarm reporting Management Function	M-EventReport	secConversionFunction

This service provides primitives:

- a) To create and delete a management view of the DL Expansion function;
- b) To suspend or resume the DL Expansion function activity;
- c) To receive operability and usage change notifications from the DL Expansion function;
- d) To receive processing errors alarms from the DL Expansion function.

7.7.2 Main parameters

7.7.2.1 DistributionListFunction Object Instance Identifier

This attribute is used for the naming of the managed object instance.

7.7.3 State parameters

These parameters are described in 7.4.3.

7.7.4 Service primitives

Table 7 provides the list of the D. L. Expansion function management service primitives.

7.8 DL Expansion performance

7.8.1 Description

This service provides primitives to the D. L. Expansion function. The performance management principles are described in 7.3.1.

7.8.2 Parameters

The MTA functions performance attributes are described in 7.5.2.

7.8.3 Service primitives

The performance management primitives are described in 7.3.3.

perfFunctioncurrentdata, perfFunctionhistorydata and thresholddata managed objets are defined for the purpose of the DL Expansion performance management.

Table 7 – D. L. Expansion function management service primitives

Primitives	Service SMASE	CMISE	Objects
Creation of D. L. Expansion function	PT-Create	M-Create	Distribution List Function
Deletion of a D. L. Expansion function	PT-Delete	M-Delete	Distribution List Function
Suspension of the D. L. Expansion function activity	State Management function	M-Set	Distribution List Function
Resumption of the D. L. Expansion activity	State Management function	M-Set	Distribution List Function
State change notification	State Management function	M-EventReport	Distribution List Function
Processing alarm notification	Alarm reporting Management Function	M-EventReport	Distribution List Function

7.9 Routing function management

7.9.1 Description

For the purpose of MHS management, the MTA capability to determine routing actions for each message or probe recipients for which the MTA is responsible is called the Routing function. This function is invoked each time a routing instruction for a single recipient of a MPR is generated by the managed MTA.

NOTE – The Routing function may be called multiple times for a single message or probe.

This service provides primitives:

- a) to receive operability and usage change notifications from the Routing function;
- b) to receive processing error alarms from the Routing function.

7.9.2 Main parameters

7.9.2.1 RoutingFunction Object Instance Identifier

This attribute is used for the naming of the managed object instance.

7.9.3 State parameters

These parameters are described in 7.4.3.

7.9.4 Service primitives

Table 8 provides the list of the Routing function management service primitives.

Table 8 – Routing function management service primitives

Primitives	Service SMASE	CMISE	Objects
State change notification	State Management function	M-EventReport	RoutingFunction
Processing alarm notification	Alarm reporting Management Function	M-EventReport	RoutingFunction

7.10 Routing performance

7.10.1 Description

This service provides primitives to monitor the Routing function. The performance management principles are described in 7.3.1.

7.10.2 Parameters

The MTA functions performance attributes are described in 7.5.2.

7.10.3 Service primitives

The performance management primitives are described in 7.3.3.

perfFunctioncurrentdata, perfFunctionhistorydata and thresholddata managed objects are defined for the purpose of the Routing Function performance management.

7.11 Messages origin authentication Check function management

7.11.1 Description

For the purpose of MHS management, the MTA capability to provide the corroboration of the source of a message when an origin authentication is required is called the Message Origin Authentication function.

This service provides primitives:

- a) to create and delete a management view of the Messages origin authentication function;
- b) to retrieve and modify parameters of the Messages origin authentication function;
- c) to suspend or resume the Messages origin authentication function activity;
- d) to receive operability and usage change notifications from the Messages origin authentication function;
- e) to receive processing errors alarms from the Messages origin authentication function;
- f) to receive security alarms from the Messages origin authentication function.

7.11.2 Parameters

7.11.2.1 Message Origin Authentication Check Algorithm

This attribute provides the algorithm for the origin authentication.

7.11.2.2 Message Originator Certificate

This attribute provides the certificate of the originator. This attribute may have one of the possible values of an **originator-certificate** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC10021-4.

7.11.2.3 SecVerifMOAC Object Instance Identifier

This attribute is used for the naming of the managed object instance.

7.11.3 State parameters

These parameters are described in 7.4.3.

7.11.4 Service primitives

Table 9 provides the list of the Message origin authentication management service primitives.

Table 9 – Message Origin authentication management service primitives

Primitives	Service SMASE	CMISE	Objects
Creation of the Messages Origin Authentication function	PT-Create	M-Create	SecVerifMOACFunction
Deletion of the Messages Origin Authentication function	PT-Delete	M-Delete	SecVerifMOACFunction
Suspension of the Messages Origin Authentication function activity	State Management function	M-Set	SecVerifMOACFunction
Resumption of the Messages Origin Authentication function activity	State Management function	M-Set	SecVerifMOACFunction
Retrieval of parameters of the Messages Origin Authentication function	PT-Get	M-Get	SecVerifMOACFunction
Modification of parameters of the Messages Origin Authentication function	PT-Set	M-Set	SecVerifMOACFunction
State change notification	State Management function	M-EventReport	SecVerifMOACFunction
Processing alarm notification	Alarm reporting Management Function	M-EventReport	SecVerifMOACFunction
Security alarm notification	Security alarm reporting Management Function	M-EventReport	secConversionFunction

7.12 Probes origin authentication function management

This service is identical to the one described for messages in 7.11.

7.13 Reports origin authentication function management

This service is identical to the one described for messages in 7.11.

7.14 MHS event logs

The MHS events log service is described in ITU-T Rec. X.462 | ISO/IEC 11588-3.

7.15 MTS Users associations management

7.15.1 Description

The MTS Users association management enables the MHS system manager to monitor the establishment of an association between the managed MTA and one of its MTS Users.

This service provides primitives:

- a) to be notified of accepted and rejected association establishment attempts;
- b) to retrieve parameters of an association;
- c) to be notified of an association normal or abnormal release.

NOTES

1 This service enables the MHS system manager to retrieve information of 'a dynamic nature' on current established associations. Information of 'a static nature' (i.e. information that is needed prior to the establishment of an association) may be managed through MTS User capabilities assessments management services.

2 An association establishment attempt is accepted when the result parameter of the corresponding A-ASSOCIATE request takes the value 'accepted' as described in ITU-T Rec. X.217 | ISO/IEC 8649.

7.15.2 Main parameters

7.15.2.1 Application Context

This attribute identifies the application context negotiated during association establishment.

7.15.2.2 Association Initiator

This attribute defines who initiated the current association. The values can be local (i.e. the managed MTA) or remote.

7.15.2.3 Association Object Instance Identifier

This attribute is used for the naming of the managed object instance.

7.15.2.4 Creation Time

This attribute provides the time the Managed Object instance has been created.

7.15.2.5 Initiator Access Point Address

This attribute provides the access point address used by the initiator during association establishment. This attribute may have one of the possible values of a **PSAP-address** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic address' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

7.15.2.6 Responder Access Point Address

This attribute provides the access point address used by the responder during association establishment. This attribute may have one of the possible values of a **PSAP-address** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic address' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

7.15.3 State parameters

7.15.3.1 Operational State

The Operational State parameter describes the operability of the association. The operational state attribute has two possible values: disabled and enabled. An association is disabled in no operation can be performed on the association. The operational state parameter is defined in CCITT Rec. X.731 | ISO/IEC 10164-2. Table 10 describes the status of an association for each possible value of the usage state and operational state parameters.

7.15.3.2 Usage State

The usage state attribute has two possible values: idle and active. The value idle indicates that the association was previously established but is released. The usage state parameter is defined in CCITT Rec. X.731 | ISO/IEC 10164-2. Table 10 describes the status of an association for each possible value of the usage state and operational state parameters.

NOTE – CCITT Rec. X.731 | ISO/IEC 10164-2 defined a third value for the usage state: 'busy'. The use of this value for the usage state of an association is not defined in this Recommendation | International Standard.

Table 10 – Possible states of an association

Operational state value	Usage state value	Association status
enable	active	The association is currently established
disable	active	The association establishment failed
enable	idle	The association was normally released
disable	idle	The association was abnormally released

7.15.4 Simple authentication parameters

7.15.4.1 Initiator Simple Credentials

If simple authentication is used, for the current association, this attribute provides the simple credentials used by the initiator during association establishment. This attribute may have one of the possible values of a **password** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.15.4.2 Responder Simple Credentials

If simple authentication is used for the current association, this attribute provides the simple credentials used by the responder during association establishment. This attribute may have one of the possible values of a **password** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.15.5 Service primitives

Table 11 provides the list of the MTS User association management service primitives.

Table 11 – MTS User association management service primitives

Primitives	Service SMASE	CMISE	Objects
Retrieval of parameters of an association	PT-Get	M-Get	association
Association establishment notification	Object management function	M_EventReport	association
Association release notification	Object management function	M_EventReport	association
Association abort and recovery	State Management function	M-EventReport	association

7.16 Adjacent MTA associations management

7.16.1 Description

The Adjacent MTA association management enables the MHS system manager to monitor the establishment of an association between the managed MTA and one of its adjacent MTA.

This service provides primitives:

- a) to be notified of accepted and rejected association establishment attempts;
- b) to retrieve parameters of an association;
- c) to be notified of an association normal or abnormal release.

NOTES

- 1 This service enables the MHS system manager to retrieve information of 'a dynamic nature' on current established associations. Information of 'a static nature' (i.e. information that is needed prior to the establishment of an association) may be managed through Adjacent MTA capabilities assessments management services.
- 2 An association establishment attempt is accepted when the result parameter of the corresponding A-ASSOCIATE request takes the value 'accepted' as described in ITU-T Rec. X.217 | ISO/IEC 8649.

7.16.2 Parameters

The parameters are described in 7.15.2, 7.15.3 and 7.15.4.

7.16.3 Service primitives

Association management services primitives are described in 7.15.5.

7.17 Secure MTS Users associations management

7.17.1 Description

The Secure MTS Users association management enables the MHS system manager to monitor the establishment of a secure association between the managed MTA and one of its MTS Users.

This service provides primitives:

- a) to be notified of a secure MTS User association establishment;
- b) to retrieve security parameters of a secure MTS User association;
- c) to be notified of a secure MTS User association release;
- f) to receive security alarms.

NOTE – This services enables the MHS system manager to retrieve information of 'a dynamic nature' on current established associations. Information of 'a static nature' (i.e. information that is needed prior to the establishment of an association) may be managed through secure MTS User capabilities assessments management services.

7.17.2 Parameters

7.17.2.1 Initiator Strong Credentials

If strong authentication is used, this attribute provides the strong credentials used by the initiator during association establishment. This attribute may have one of the possible values of an **initiator-bind-token** and, optionally, an **initiator-certificate** MTS abstract service parameters defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic Strong Credentials' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

7.17.2.2 Initiator Security Context

If strong authentication is used, this attribute provides the security context proposed by the initiator during association establishment. This attribute may have one of the possible values of a **security-context** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.17.2.3 Responder Strong Credentials

If strong authentication is used, this attribute provides the strong credentials used by the responder during association establishment. This attribute may have one of the possible values of an **initiator-bind-token** and, optionally, an **initiator-certificate** MTS abstract service parameters defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic Strong Credentials' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

7.17.2.4 SecAssociation Object Instance Identifier

This attribute is used for the naming of the managed object instance.

7.17.3 Service primitives

Table 12 provides the list of the MTS User secure association management service primitives.

Table 12 – MTS User secure association management service primitives

Primitives	Service SMASE	CMISE	Objects
Retrieval of security parameters of an association	PT-Get	M-Get	secAssociation
Security association creation notification	Object management function	M_EventReport	secAssociation
Security association deletion notification	Object management function	M_EventReport	secAssociation
Security alarm notification	Security alarm reporting Management Function	M-EventReport	secConversionFunction

7.18 Secure adjacent MTA associations management

7.18.1 Description

The Secure adjacent MTA association management enables the MHS system manager to monitor the establishment of a secure association between the managed MTA and its adjacent mta.

This service provides primitives:

- a) to be notified of a secure adjacent MTA association establishment;
- b) to retrieve security parameters of a secure adjacent MTA association;
- c) to be notified of a secure adjacent MTA association release;
- d) to receive security alarms.

NOTE – This service enables the MHS system manager to retrieve information of 'a dynamic nature' on current established associations. Information of 'a static nature' (i.e. information that is needed prior to the establishment of an association) may be managed through secure Adjacent MTA capabilities assessments management services.

7.18.2 Parameters

The secure association parameters are described in 7.17.2.

7.18.3 Service primitives

Secure association management primitives are described in 7.17.3.

7.19 Management of MPR

7.19.1 Description

This service provides primitives:

- a) to examine the list of MPR currently processed by the managed MTA;
- b) to remove an MPR item from the MPR list;
- c) to create, examine and delete a detailed view of an MPR currently processed by the managed MTA;
- d) to control the processing of an MPR:
 - 1) adjust expiry duration;
 - 2) force the processing priority of an MPR;
 - 3) hold an MPR.

NOTES

- 1 An MPR item is removed from the MPR list when the MHS System manager determines that the MTS cannot deliver a message or a report or affirm a probe.
- 2 An MPR detailed view is deleted when the MHS System manager determines that the corresponding information is not useful anymore.

7.19.2 MPR list parameters

The MPR Information parameter provides information on all MPR currently processed by the managed MTA.

7.19.2.1 MPR Information

This attribute describes, for each MPR, its arrival Time and processing state.

NOTE – Arrival Time and Processing State attributes are described in 7.19.3.

7.19.2.2 MPRList Object Instance Identifier

This attribute is used for the naming of the managed object instance.

7.19.3 MPR main parameters

7.19.3.1 Arrival Time

This attribute provides the arrival time of the MPR in the managed MTA.

7.19.3.2 Content Type

This parameter provides the content type of the MPR. This parameter may have one of the possible value of a **content-type** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.19.3.3 Deferral Time

This attribute provides the deferral time of the MPR. This parameter may have one of the possible value of a **deferred-delivery-time** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.19.3.4 EITs

This attribute defines the encoded-information-types of the MPR. This attribute may have one of the possible values of an **encoded-information-types** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic encoded information types' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

7.19.3.5 Last Adjacent MTA Name

If the MPR was transferred from an adjacent MTA, this parameter provides the name of the adjacent MTA. An empty value indicates that the arrival of the MPR was not the result of a transfer operation. This attribute may have one of the possible values of an **MTA-name** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic MTA name' type may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

7.19.3.6 Message Content Size

This parameter provides the content size of the MPR.

7.19.3.7 MPR Object Instance Identifier

This attribute is used for the naming of the managed object instance.

7.19.3.8 MTS Identifier

This parameter provides the MTS-identifier of the MPR. This attribute may have one of the possible values of an **MTS-Identifier** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic MPDU identifier' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

7.19.3.9 Next Adjacent MTA Name

If the MPR is or will be transferred to an adjacent MTA, this parameter provides the name of the adjacent MTA. An empty value indicates that the MPR will not be transferred to an adjacent MTA or that the Routing function is not performed yet by the managed MTA for the current MPR. This attribute may have one of the possible values of an **MTA-name** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic MTA name' type may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

NOTE – The processing summary attribute described in 7.19.3 enables the MHS System manager to verify, for each MPR currently being processed by the managed MTA, if the Routing Function was performed.

7.19.3.10 Originator Name

This parameter provides the originator-name of the MPR. This attribute may have one of the possible values of an **OR-name** MTS abstract service parameter as defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic name' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

7.19.3.11 Priority

This parameter provides the priority of the MPR. This attribute may have one of the possible values of a **priority** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.19.3.12 Processing State

This parameter provides information on the function currently performed on the MPR. A processing state set to 'idle' indicates that the MPR is waiting to be processed. A processing state set to 'processed' indicates that the MPR was successfully processed. A processing state set to 'rejected' indicates that the MTS was not able to deliver the message or the report or affirm the probe. A processing state set to 'name-resolution', 'redirection', 'deferred-delivery', 'conversion' or 'securityContextCheck' indicates that the MPR is currently performing the corresponding function on the MPR. The value 'unknownFunction' indicates that the MTA is currently performing a function on the MPR that is not name resolution, dl expansion, redirection, deferred-delivery, conversion or security Context Check.

7.19.3.13 Processing Summary

This parameter provides information on the functions which were successfully performed on the MPR by the managed MTA since the arrival time. The following functions are monitored by this parameter: name resolution, dl expansion, redirection, deferred-delivery, conversion and security context check. If no function is performed yet by the MTA on the MPR, the processing Summary parameter is set to 'idle'.

7.19.3.14 Recipients Names

This attribute indicates the MTS User name of each recipient of the MPR. For a report this attribute indicates the actual recipients names. This attribute may have one of the possible values of a set of **OR-name** MTS abstract service parameters defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic name' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

7.19.3.15 Type of MPR

This attribute defines the type of the MPR. Possible values are message, probe or report.

7.19.4 MPR Processing Control parameters

7.19.4.1 Forced Expiry Duration

If MPR processing control is supported by the managed MTA, this attribute enables the MHS system manager to change the expiry duration of an MPR during its processing by the managed MTA. This attribute is empty unless set by the MHS system manager. If the value is empty or equal to zero, the expiry duration for the MPR is the default expiry duration value defined for the corresponding grade of delivery: Default Urgent MPR Expiry Duration, Default Non-Urgent MPR Expiry Duration or Default Normal MPR Expiry Duration.

NOTE – Default expiry duration parameters are described in 7.2.2.

7.19.4.2 Forced Processing Priority

If MPR processing control is supported by the managed MTA, this attribute enables the MHS system manager to change the processing priority of an MPR. Initial value of this attribute is the grade of delivery of the MPR.

7.19.4.3 Held by the manager

If MPR processing control is supported by the managed MTA, this attribute enables the MHS system manager to hold an MPR. Possible values are true or false (Boolean).

7.19.5 Service primitives

Table 13 provides the MPR list and MPR management service primitives.

Table 13 – MPR list and MPR management service primitives

Primitives	Service SMASE	CMISE	Objects
Retrieval of MPR list information	PT-Get	M-Get	MPRList
Removal of MPR from the MPR list	PT-Set	M-Set	MPRList
Creation of an MPR detailed view	PT-Create	M-Create	MPR
Deletion of an MPR detailed view	PT-Delete	M-Delete	MPR
Retrieval of parameters of an MPR detailed view	PT-Get	M-Get	MPR
Force expiry duration of an MPR	PT-Set	M-Set	MPR
Force processing priority of an MPR	PT-Set	M-Set	MPR
Hold of an MPR	PT-Set	M-Set	MPR

7.20 Secure messages management

7.20.1 Description

This service enables the MHS System manager to create, examine and delete a detailed view of security parameters of messages currently processed by the managed MTA.

7.20.2 Parameters

7.20.2.1 Content Integrity Check

This attribute indicates the integrity check of the content. This attribute may have one of the possible values of a **content-integrity-check** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.20.2.2 Message Origin Authentication Check

This attribute provides the authentication check to determine the origin. This attribute may have one of the possible values of a **message-origin-authentication-check** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.20.2.3 Message Originator Certificate

This attribute provides the certificate of the originator. This attribute may have one of the possible values of an **originator-certificate** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.20.2.4 Message Security Label

This attribute provides the labels for security. This attribute may have one of the possible values of a **message-security-label** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.20.2.5 Message Token

This attribute provides the security token. This attribute may have one of the possible values of a **message-token** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.20.2.6 Proof of Delivery Request

This attribute identifies if proof of Delivery is requested. This attribute may have one of the possible values of a **proof-of-delivery-request** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.20.2.7 SecMessage Object Instance Identifier

This attribute is used for the naming of the managed object instance.

7.20.3 Service primitives

Table 14 provides the secure message management service primitives.

Table 14 – Secure message management service primitives

Primitives	Service SMASE	CMISE	Objects
Creation of detailed view of an MPR security parameters	PT-Create	M-Create	secMessage
Deletion of a detailed view of an MPR security parameters	PT-Delete	M-Delete	secMessage
Retrieval of MPR security parameters	PT-Get	M-Gct	secMessage

7.21 Secure probes management

7.21.1 Description

This service provides primitives to create, examine and delete a detailed view of security parameters of a probe currently processed by the managed MTA.

7.21.2 Parameters

7.21.2.1 Probe Origin Authentication Check

This attribute provides the authentication check to determine the origin. This attribute may have one of the possible values of a **probe-origin-authentication-check** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.21.2.2 Probe Originator Certificate

This attribute provides the certificate of the originator. This attribute may have one of the possible values of an **originator-certificate** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.21.2.3 Probe Security Label

This attribute provides the labels for security. This attribute may have one of the possible values of a **message-security-label** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.21.2.4 SecProbe Object Instance Identifier

This attribute is used for the naming of the managed object instance.

7.21.3 Service primitives

MPR security management primitives are described in 7.18.

The secProbe managed object class represents probe security information.

7.22 Secure reports management

7.22.1 Description

This service provides primitives to create, examine and delete a detailed view of security parameters of reports currently processed by the managed MTA.

7.22.2 Parameters

7.22.2.1 Proof of Delivery Request

This attribute identifies if proof of Delivery is requested. This attribute may have one of the possible values of a **proof-of-delivery-request** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.22.2.2 Recipient Certificate

This attribute indicates the certificate of a recipient. This attribute may have one of the possible values of a **recipient certificate** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.22.2.3 Report Origin Authentication Check

This attribute provides the authentication check to determine the origin. This attribute may have one of the possible values of a **report-origin-authentication-check** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.22.2.4 Report Security Label

This attribute provides the labels for security. This attribute may have one of the possible values of a **message-security-label** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.22.2.5 SecReport Object Instance Identifier

This attribute is used for the naming of the managed object instance.

7.22.3 Service primitives

MPR security management primitives are described in 7.20.

The secReport managed object class represents report security information.

7.23 MTS Users capabilities assessments management

7.23.1 Description

This service provides primitives:

- a) to create and delete a management view of an MTS User;
- b) to retrieve and eventually modify MTS Users capabilities assessments;
- c) to permit or prohibit establishment of associations and exchange of MPR between the MTS User and the managed MTA;
- d) to be notified of attributes values changes due, for instance, to a Register or a Change credential MHS operation.

7.23.2 Main parameters

7.23.2.1 Collocated

This attribute indicates if the MTS User is collocated with the managed MTA.

7.23.2.2 Local MTA Simple Credentials

This attribute provides the simple password that can be used by the managed MTA during association establishment for simple authentication of itself. This attribute may have one of the possible values of a **password** MTS abstract service parameter as defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.23.2.3 MTS User Access Point Address

This attribute defines the access point address of the MTS User. This attribute may have one of the possible values of a **PSAP address** MTS abstract service parameter as defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic address' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

7.23.2.4 MTS User Deliverable Content Types

This attribute indicates which content types the MTS User is able to receive. This attribute may have one of the possible values of a set of **content-type** MTS abstract service parameters as defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.23.2.5 MTS User Deliverable EITS

This attribute indicates which encoded information types the MTS User is able to receive. This attribute may have one of the possible values of an **encoded-information-types** MTS abstract service parameter as defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic encoded information types' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

7.23.2.6 MTS User Deliverable Maximum Content Length

This attribute defines the maximum size of the content which can be processed by the MTS User.

7.23.2.7 MTS User Name

This attribute may have one of the possible values of the MTS User name of the MTS User. This attribute may have one of the possible values of an **OR-name** MTS abstract service parameter as defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic name' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

7.23.2.8 MTSUser Object Instance Identifier

This attribute is used for the naming of the managed object instance.

7.23.2.9 MTS User Preferred Delivery Method

This attribute describes the preferred delivery method of the MTS User. This attribute may have one of the possible values of a **requested-delivery-method** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.23.2.10 MTS User Simple Credentials

This attribute provides the simple password that can be used by the MTS User during association establishment for simple authentication of itself. This attribute may have one of the possible values of a **password** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.23.2.11 MTS User Supported Application Contexts

This attribute defines the MHS application contexts that are supported by the MTS User.

7.23.2.12 MTS User Type

This attribute indicates the nature of the MTS User. The nature can be an UA, MS or AU.

7.23.2.13 Wait Time to Release

This attribute describes the duration in seconds an association established at the initiative of the managed MTA will remain idle before being closed.

7.23.3 State Parameters

7.23.3.1 Administrative State

The Administrative state enables the MHS system manager to permit or prohibit establishment of associations and exchange of MPR between the MTS User and the managed MTA. The Administrative state parameter has three possible values: locked, shutting down and unlocked. These are described in CCITT Rec. X.731 | ISO/IEC 10164-2.

7.23.4 Default Delivery Control arameters

7.23.4.1 Default Permissible Operations

If the delivery control operation is supported by the MTS User, this parameter describes the default delivery controls on permissible operations. This attribute may have one of the possible values of a **permissible-operation** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.23.4.2 Default Permissible lowest priority

If the delivery control operation is supported by the MTS User, this parameter describes the default delivery controls on permissible lowest MPR priority. This attribute may have one of the possible values of a **permissible-lowest-priority** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.23.4.3 Default Permissible EITs

If the delivery control operation is supported by the MTS User, this parameter describes the default delivery controls on permissible encoded information types. This attribute may have one of the possible values of a **permissible-encoded information-types** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic encoded information types' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

7.23.4.4 Default Permissible content types

If the delivery control operation is supported by the MTS User, this parameter describes the default delivery controls on permissible content types. This attribute may have one of the possible values of a **permissible-content-types** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.23.4.5 Default Permissible maximum content length

If the delivery control operation is supported by the MTS User, this parameter describes the default delivery controls on maximum content length.

7.23.5 Simple Redirection parameters

7.23.5.1 Simple Redirection Recipient

If simple redirection was subscribed by the MTS User, this parameter provides a redirection address. This attribute may have one of the possible values of an **OR-name** MTS abstract service parameter as defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. If the redirection address has the value NULL, then redirection does not take place and the message is

non-delivered. For a non-standardised implementation of this MTS abstract service parameter a 'generic name' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

7.23.6 Restricted Delivery parameters

7.23.6.1 Permitted messages

If restricted delivery was subscribed by the MTS User, this parameter provides the selected messages the MTS User is willing to receive. This attribute may have one of the possible values of a set of **restrictions** MTS abstract service parameter as defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. An empty value indicates that all messages are accepted.

7.23.6.2 Disallowed messages

If restricted delivery was subscribed by the MTS User, this parameter provides the selected messages the MTS User is not willing to receive. This attribute may have one of the possible values of a set of **restrictions** MTS abstract service parameter as defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. An empty value indicates that all messages are accepted.

7.23.7 Directory access parameters

If Directory is used for MHS and an **mhs-user-agent** directory object instance is present for the managed element, the directory access parameters enable to maintain consistency between the MIB and the DIB. The mhs-user-agent directory object class is described in Annex A of ITU-T Rec. X.402 | ISO/IEC 10021-2.

Directory access parameters are described in 7.2.5.

7.23.8 Service primitives

Table 15 provides the list of the MTS User assessment management service primitives.

Table 15 – MTS User assessment management service primitives

Primitives	Service SMASE	CMISE	Objects
Creation of an MTS User	PT-Create	M-Create	mtsUser
Deletion of an MTS User	PT-Delete	M-Delete	mtsUser
Retrieval of capabilities assessments of an MTS User	PT-Get	M-Get	mtsUser
Modification of capabilities assessments of an MTS User	PT-Set	M-Set	mtsUser
Permit association and MPR exchanges	State Management function	M-Set	mtsUser
Prohibit association and MPR exchanges	State Management function	M-Set	mtsUser
State change notification	State Management function	M-EventReport	mtsUser
Attribute value change notification	Object management	M-EventReport	mtsUser

7.24 MTS Users security assessments management

7.24.1 Description

This service provides primitives to manage the additional information necessary to manage security with an MTS User. This service provides primitives:

- a) to create and delete a management view of security assessments of an MTS User;
- b) to retrieve and eventually modify the security assessments of an MTS User.

7.24.2 Parameters

7.24.2.1 Local MTA Strong Credentials

This attribute provides the strong credentials that can be used by the managed MTA during association establishment for strong authentication of itself. This attribute may have one of the possible values of an **initiator-bind-token** and, optionally, an **initiator-certificate** MTS abstract service parameters defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic Strong Credentials' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

7.24.2.2 MTS User Strong Credentials

This attribute provides the strong credentials that can be used by the MTS User during association establishment for strong authentication of itself. This attribute may have one of the possible values of an **initiator-bind-token** and, optionally, an **initiator-certificate** MTS abstract service parameters defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic Strong Credentials' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

7.24.2.3 SecMTSUser Object Instance Identifier

This attribute is used for the naming of the managed object instance.

7.24.2.4 Security Labels

This attribute provides the security labels that can be used by the MTS User to establish an association with the managed MTA.

7.24.3 Secure Redirection parameters

7.24.3.1 Redirections

If secure redirection was subscribed, this parameter provides, for each security label, a redirection address. If a redirection address has the value NULL, then redirection does not take place and the message is non-delivered.

7.24.4 Service primitives

Table 16 provides the list of the MTS User security assessments management service primitives.

Table 16 – MTS User security assessments management service primitives

Primitives	Service SMASE	CMISE	Objects
Creation of a secure MTS User	PT-Create	M-Create	secMtsUser
Deletion of a secure MTS User	PT-Delete	M-Delete	secMtsUser
Retrieval of security capabilities assessments of an MTS User	PT-Get	M-Get	secMtsUser
Modification of security capabilities assessments of an MTS User	PT-Set	M-Set	secMtsUser

7.25 Adjacent MTA capabilities assessments management

7.25.1 Description

This service provides primitives:

- a) to create and delete a management view of an adjacent MTA;
- b) to retrieve and modify adjacent MTA capabilities assessments;

- c) to permit or prohibit establishment of associations and exchange of MPR between the adjacent MTA and the managed MTA;
- d) to be notified of attributes values changes.

7.25.2 Parameters

7.25.2.1 Adjacent MTA Access Point Address

This attribute defines the access point address of the adjacent MTA. This attribute may have one of the possible values of a **PSAP address** MTS abstract service parameter as defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic address' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

7.25.2.2 Adjacent MTA Global Domain Identifier

This attribute provides the value of the Global Domain Identifier used by the adjacent MTA to create MTS identifiers, Trace information elements and Internal trace information elements. This attribute may have one of the possible values of a **global-domain-identifier** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic global domain identifier' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

7.25.2.3 Adjacent MTA Maximum Message Size

This attribute defines the maximum size of messages from the managed MTA which can be processed by this adjacent MTA.

7.25.2.4 Adjacent MTA Name

This attribute identifies the name of the adjacent MTA which shall be provided by the managed MTA during association establishment. This attribute may have one of the possible values of an **MTA-name** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic MTA name' type may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

7.25.2.5 Adjacent MTA Possible conversions

This attribute may have one of the possible values of a set of possible conversion which are supported by the adjacent MTA. This attribute may have one of the possible values of a set of **explicit-conversion** MTS abstract service parameters defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic conversion type' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

7.25.2.6 Adjacent MTA Simple Credentials

This attribute provides the simple password that can be used by the MTS User during association establishment for simple authentication of itself. This attribute may have one of the possible values of a **password** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.25.2.7 Adjacent MTA Supported Application Contexts

This attribute defines the MHS application contexts that are supported by the adjacent MTA.

7.25.2.8 Bilateral Deferral

This attribute specifies whether a bilateral agreement exists between the managed MTA and the adjacent MTA for deferring messages. If an agreement exists the MPR will be deferred.

7.25.2.9 Local MTA Maximum Message Size

This attribute defines the maximum size of messages from the adjacent MTA which can be processed by the managed MTA.

7.25.2.10 Local MTA Simple Credentials

This attribute provides the simple password that can be used by the managed MTA during association establishment for simple authentication of itself. This attribute may have one of the possible values of a **password** MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

7.25.2.11 Wait Time To Release

This attribute describes the amount of time in seconds an association established at the initiative of the managed MTA will remain idle before being closed.

7.25.3 State parameters

7.25.3.1 Administrative State

The Administrative State enables the MHS system manager to permit or prohibit establishment of associations and exchange of MPR between the adjacent MTA and the managed MTA. The Administrative state parameter has three possible values: locked, shutting down and unlocked. These are described in CCITT Rec. X.731 | ISO/IEC 10164-2.

7.25.4 Directory access parameters

If Directory is used for MHS and an **mhs-message-transfer-agent** directory object instance is present for the managed element, the directory access parameters enable to maintain consistency between the MIB and the DIB. The **mhs-message-transfer-agent** directory object class is described in Annex A of ITU-T Rec. X.402 | ISO/IEC 10021-2.

Directory access parameters are described in 7.2.5.

7.25.5 Service primitives

Table 17 provides the list of the Adjacent MTA assessments management service primitives.

Table 17 – Adjacent MTA assessments management service primitives

Primitives	Service SMASE	CMISE	Objects
Creation of an adjacent MTA	PT-Create	M-Create	adjMTA
Deletion of an adjacent MTA	PT-Delete	M-Delete	adjMTA
Retrieval of capabilities assessments of an adjacent MTA	PT-Get	M-Get	adjMTA
Modification of capabilities assessments of an adjacent MTA	PT-Set	M-Set	adjMTA
Permit association and MPR exchanges	State Management function	M-Set	adjMTA
Prohibit association and MPR exchanges	State Management function	M-Set	adjMTA
State change notification	State Management function	M-EventReport	adjMTA
Attribute value change notification	Object management	M-EventReport	adjMTA

7.26 Adjacent mta security assessments management

7.26.1 Description

This service provides primitives to manage the additional information necessary to manage security with an adjacent MTA.

This service provides primitives:

- a) to create and delete a management view of security assessments of an adjacent MTA;
- b) to retrieve and eventually modify the security assessments of an adjacent MTA.

7.26.2 Parameters

7.26.2.1 Adjacent MTA Strong Credentials

This attribute provides the strong credentials that can be used by the Adjacent MTA during association establishment for strong authentication of itself. This attribute may have one of the possible values of an **initiator-bind-token** and, optionally, an **initiator-certificate** MTS abstract service parameters defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.

For a non-standardised implementation of this MTS abstract service parameter a 'generic Strong Credentials' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

7.26.2.2 Local MTA Strong Credentials

This attribute provides the strong credentials that can be used by the managed MTA during association establishment for strong authentication of itself. This attribute may have one of the possible values of an **initiator-bind-token** and, optionally, an **initiator-certificate** MTS abstract service parameters defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic Strong Credentials' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.

7.26.2.3 secAdjMTA Object Instance Identifier

This attribute is used for the naming of the managed object instance.

7.26.2.4 Security Labels

This attribute provides the security labels that can be used by the adjacent MTA during association establishment.

7.26.3 Service primitives

Table 18 provides the list of the Adjacent MTA security assessments management service primitives.

Table 18 – MTA security assessments management service primitives

Primitives	Service SMASE	CMISE	Objects
Creation of a secure MTA	PT-Create	M-Create	secAdjMTA
Deletion of a secure MTA	PT-Delete	M-Delete	secAdjMTA
Retrieval of security capabilities assessments of an MTA	PT-Get	M-Get	secAdjMTA
Modification of security capabilities assessments of an MTA	PT-Set	M-Set	secAdjMTA

8 MTA model

8.1 Introduction

This specification on MHS management describes the Management Information Model (MIM) of a Message Transfer Agent (MTA).

In principle the model covers the five OSI Management functional areas: configuration-, performance-, fault-, security- and logging information management. Other MHS management specifications deal specifically with these functional areas and parts of the MTA MIM are described in these documents. This specification will therefore make references to the functional area specifications.

NOTE – For example the mhsEventLog is defined in the MHS Logging Information Management specification ITU-T Rec. X.462 | ISO/IEC 11588-3).

8.2 Position within TMN model

The MIM for MTA management is one of a set of MIMs for Network Elements in a message handling network. Management of a User Agent (UA), an Access Unit (AU) and a Message Store (MS) is described in ITU-T Rec. X.468 | ISO/IEC 11588-9, ITU-T Rec. X.470 | ISO/IEC 11588-11, ITU-T Rec. X.469 | ISO/IEC 11588-10 respectively. These MIMs fill the Network Element Management (NEM) layer of the TMN model for MHS Management.

The MIM for Network Management (NM) is described in five separate documents, each of which describes the aspects concerning one Open System Interconnection (OSI) functional area of management (configuration, performance, accounting, fault and security.). The NM functions use the management information provided by the NEM functions. NEM information is also input for some functions in the Service Management (SM) layer and Business Management (BM) layer. For example the usage metering information available within MTA (NEM function) are used for charging purposes in the SM layer.

8.3 MTA Management information model

The MTA MIM specifies a management view of a managed MTA which can be used to control and monitor the functions of a managed MTA, its associations with Neighbouring Network Elements (i.e. MTA or MTS Users) and the MPR currently under process. A managed MTA also needs to maintain a view of its Neighbouring Network Elements. This view is required to establish associations and control operations between the managed MTA and its Neighbouring Network Elements.

Configuration-, performance-, accounting-, fault- and security management aspects apply to MTA management. Figure 1 shows the naming tree for the MTA management information model.

Some managed objects in Figure 1 represent information of a static nature to the MTA. This information reflects the possible values of MHS parameters as known by the MTA. This information is not changed except under specific management actions of the MHS system manager. Examples of such information are the credentials attributes in the mtsUser and adjMTA managed objects. Managed information in other managed objects is of a dynamic nature, which reflects the current status of information known to the MTA. Examples of dynamic information are the credentials used within active associations.

mta

The mta managed object class describes general MTA management information (e.g. MTA name, MTA version and product information) in order to provide the management of the MTA overall operability and availability. For each MTA one instance of the mta managed object class exists. Management information regarding functional parts of a managed mta is defined in separate managed object classes subordinate to the mta managed object class. These functional parts are:

- a) Management of MTA functions (routingFunction, distributionListFunction and conversionFunction managed object classes).
- b) Management of Security Features – Management information on security features is defined in managed object classes sec*Function (e.g. secGenROACFunction managed object class).
- c) Management of associations (association managed object class).
- d) Management of MPR (mprList and mpr managed object classes).
- e) Management of MTS Users capabilities assessments (mtsUser managed object class).
- f) Management of Adjacent mta capabilities assessments (adjMTA managed object class).
- g) Logging of MTA (mhsEventLog.managed object class).
- h) Performance data – The performance data of the MTA is gathered with the managed object classes perfMTACurrentData, perfMTAHistoryData and thresholdData.

mtsUser

The mtsUser managed object describes the information required to establish an association and exchange MPR with an mtsUser of the managed MTA. One instance of this managed object class exists for each MTS User of the managed MTA. The association and the secMtsUser managed object classes are subordinated to the mtsUser managed object class:

- The secMtsUser object class provides the information required to build a secure association with an MTS User of the managed MTA.
- The association object class maintains dynamic information on an association established with the managed MTA. An association object instance is created for each association established with the managed MTA. An association object instance may also be created for a rejected attempt. An association object instance needs not be deleted when the corresponding association is released. As several associations can be established at the same time between the managed MTA and an MTS User, several association object instances can exist at the same time. If a secure association is required an instance of secAssociation managed object is created.

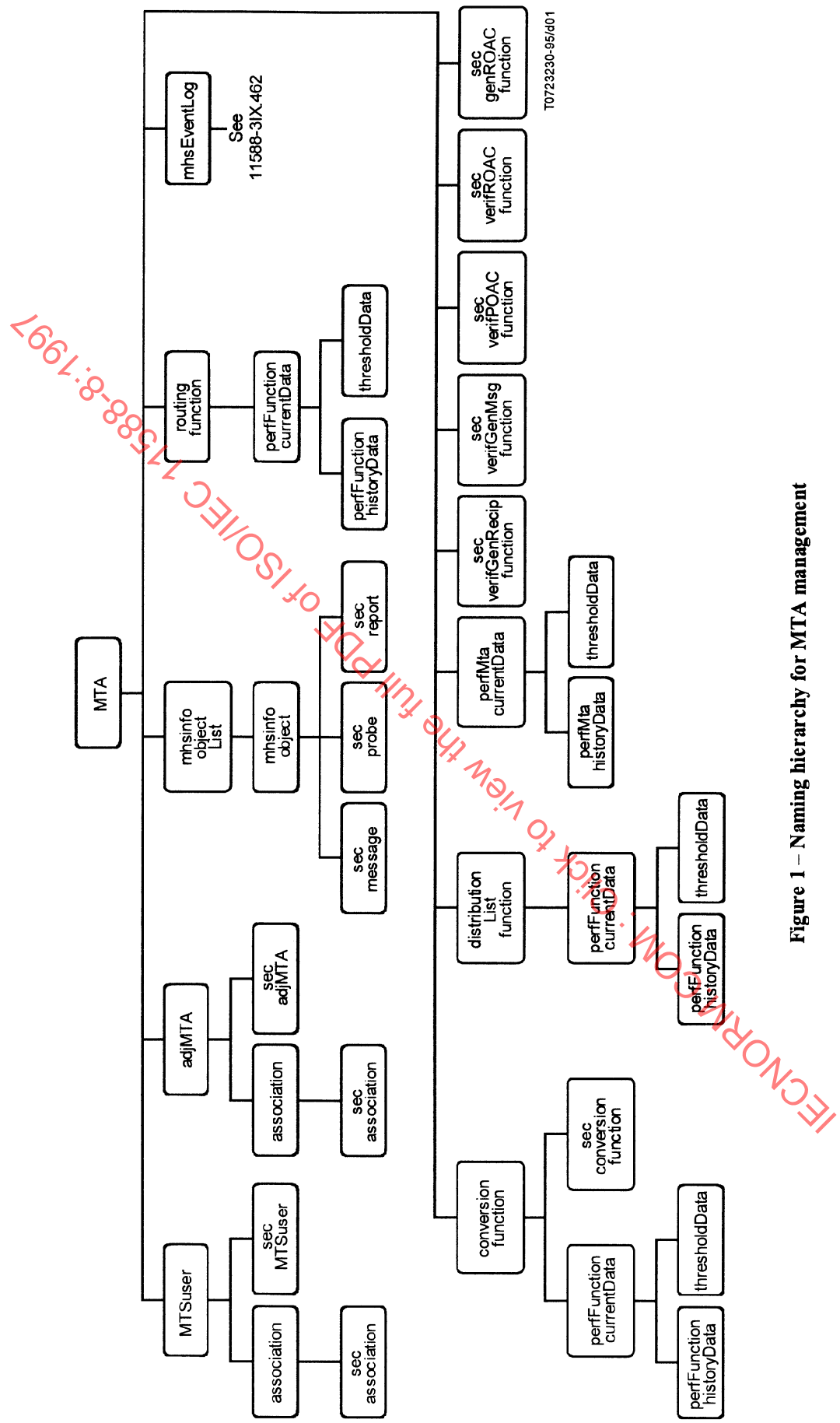


Figure 1 – Naming hierarchy for MTA management

adjMTA

The AdjMTA Managed Object class describes the information required to establish an association and exchange MPR with an adjacent MTA. For each adjacent MTA of the managed MTA, an instance of this class is created. The association and the secAdjMTA managed object classes are subordinated to the mtsUser managed object class:

- The secAdjMTA object class provides the information required to build a secure association with an adjacent MTA of the managed MTA.

mprList

The mprList Managed Object class represents a list of the MPR currently being processed by the managed MTA. An MPR item is removed from the MPR list when the MHS System manager determines that the MTS cannot deliver a message or a report or affirm a probe. The mpr managed object class is subordinated to the mprList managed object class:

- A mpr managed object instance is created on the request of the MHS system manager whenever he requires more information on a specific mpr than listed in the mprList object. A mpr object instance enables the MHS system manager to control and modify the processing of a specific mpr. If secure messages, probes or reports are supported, an instance of the managed objects secMessage, secProbe or secReport is created

NOTE 1 – The lifetime of an information object in a managed mta is normally very short. The majority of information objects are simply switched from an input port (submission, transfer in) to an output port (transfer out, delivery). It would create a lot of overhead in the MTA without any purpose to have a mpr managed object instance created for every message, probe or report. Only when a failure occurs it will be beneficial to create a mpr managed object instance.

routingFunction

The MTA capability to determine routing actions for each of a message or probes recipients for which the managed MTA is responsible is called the Routing function. This function is invoked each time a routing instruction for a single recipient of a message, a report or a probe is generated by the managed MTA.

To gather the performance data instances of the Routing functionality an instance of the perfFunctionCurrentData, perfFunctionHistoryData and thresholdData managed objects can be created.

conversionFunction

The MTA capability to provide a conversion of a specific type (e.g. from IA5Text to TTX) is called a Conversion function. This function is invoked each time a conversion of the corresponding type is performed by the managed MTA. A ConversionFunction Object instance is created for each type of conversion supported by the managed MTA. If secure conversion is offered, an instance of the secConversion managed object class will be created.

To gather the performance data of the Conversion functionality, an instance of the perfFunctionCurrentData, perfFunctionHistoryData and thresholdData managed objects can be created.

distributionListFunction

The MTA capability to expand distribution lists is called the D.L. Expansion function. This function is invoked each

by the perfMTACurrentData managed object class. As many instances of the perfMTAHistoryData managed object class exists as time intervals are passed. The thresholdData managed object class is also named by the perfMTACurrentData managed object class. The thresholdData managed object class describes thresholds on the performance data. If thresholds are violated an alarm report is generated.

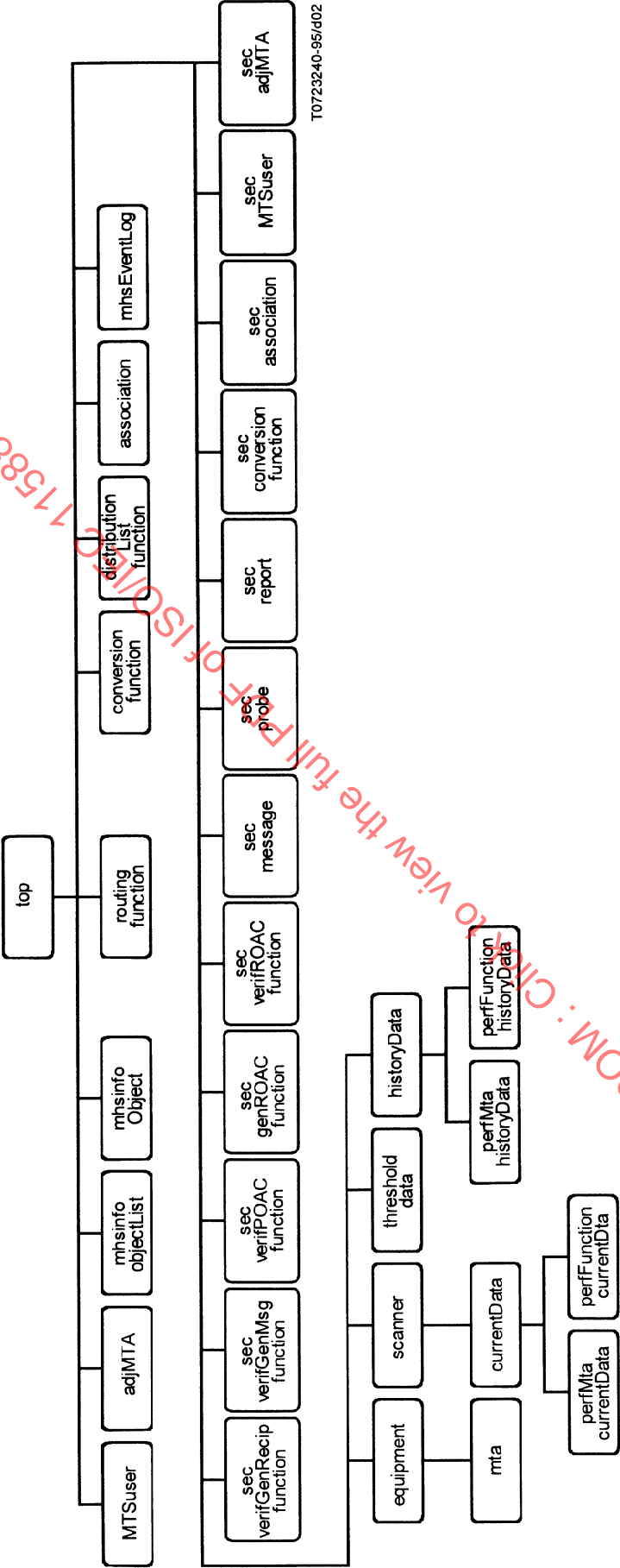
NOTE 2 – The same explanation applies for perfFunctionCurrentData and perfFunctionHistorydata.

sec*Function

The sec*Function managed object classes describe optional security functionality which may be offered by the managed MTA (* = verifGenRecip, verifGenMsg, verifPOAC, verifROAC or genROAC). Zero or more instances of a sec*Function managed object class may be created by the MHS system manager.

The inheritance trees for the managed object classes which are defined in this Recommendation | International Standard are depicted in Figure 2.

IECNORM.COM : Click to view the full PDF of ISO/IEC 11588-8:1997



T0723240-95/d02

Figure 2 – Inheritance tree for MTA management

SECTION 3 – MANAGEMENT INFORMATION MODEL

9 Definition of managed object classes

This clause defines Managed Object classes for the management of an MTA.

9.1 AdjMTA

adjMTA MANAGED OBJECT CLASS

DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2":top;

CHARACTERISED BY

adjMTAPackage,
"Rec. M.3100":createDeleteNotificationsPackage,
"Rec. M.3100":stateChangeNotificationPackage,
"Rec. M.3100":attributeValueChangeNotificationPackage;

CONDITIONAL PACKAGES

dirServiceReferencePackage PRESENT IF "Directory is used for MHS and an mhs-message-transfer-agent directory object instance is present for the adjacent MTA";

REGISTERED AS { MhsMgmtMTAObjectIdentifiers.id-moc-adjMTA };

9.2 Association

association MANAGED OBJECT CLASS

DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2":top;

CHARACTERISED BY

associationPackage,
"Rec. M.3100":createDeleteNotificationsPackage,
"Rec. M.3100":stateChangeNotificationPackage;

CONDITIONAL PACKAGES

simpleCredentialsPackage PRESENT IF "Simple credentials are used for the current association";

REGISTERED AS { MhsMgmtMTAObjectIdentifiers.id-moc-association };

9.3 ConversionFunction

conversionFunction MANAGED OBJECT CLASS

DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2":top;

CHARACTERISED BY

conversionPackage,
StatesOfMtaFunctionPackage,
"Rec. M.3100":createDeleteNotificationsPackage,
"Rec. M.3100":stateChangeNotificationPackage,
"Rec. M.3100":processingErrorAlarmPackage;

REGISTERED AS { MhsMgmtMTAObjectIdentifiers.id-moc-conversionFunction };

9.4 DistributionListFunction

distributionListFunction MANAGED OBJECT CLASS

DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2":top;

CHARACTERISED BY

distributionListPackage,
StatesOfMtaFunctionPackage,
"Rec. M.3100":createDeleteNotificationsPackage,
"Rec. M.3100":stateChangeNotificationPackage,
"Rec. M.3100":processingErrorAlarmPackage;

REGISTERED AS { MhsMgmtMTAObjectIdentifiers.id-moc-distributionListFunction };

9.5 Mpr

mpr MANAGED OBJECT CLASS

DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2":top;

CHARACTERISED BY

mprPackage;

CONDITIONAL PACKAGES

mprProcessingControlPackage PRESENT IF " MPR processing control function is supported by the managed MTA.";

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-moc-mpr };

9.6 MprList

mprList MANAGED OBJECT CLASS

DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2":top;

CHARACTERISED BY

mprListPackage;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-moc-mprList };

9.7 Mta

mta MANAGED OBJECT CLASS

DERIVED FROM "Rec. M.3100":equipment;

CHARACTERISED BY

- mtaPackage,
- "Rec. M.3100":createDeleteNotificationsPackage,
- "Rec. M.3100":administrativeOperationalStatesPackage,
- "Rec. M.3100":stateChangeNotificationPackage,
- "Rec. M.3100":equipmentsEquipmentAlarmPackage;

CONDITIONAL PACKAGES

MdAssignedAlternateRecipient Package PRESENT IF " MD Alternate recipient assignment is supported by the managed MTA",

dirServiceReferencePackage PRESENT IF "Directory is used for MHS and an mhs-message-transfer-agent directory object instance is present for the adjacent MTA";

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-moc-mta };

9.8 MtsUser

mtsUser MANAGED OBJECT CLASS

DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2":top;

CHARACTERISED BY

- mtsUserPackage;
- "Rec. M.3100":createDeleteNotificationsPackage,
- "Rec. M.3100":stateChangeNotificationPackage,
- "Rec. M.3100":attributeValueChangeNotificationPackage;

CONDITIONAL PACKAGES

defaultDeliveryControlsPackage PRESENT IF "delivery controls capability was subscribed by the MTS User",

simpleRedirectionPackage PRESENT IF "simpleRedirection was subscribed by the MTS User",

restrictedDeliveryPackage PRESENT IF "restricted delivery was subscribed by the MTS User",

dirServiceReferencePackage PRESENT IF "Directory is used for MHS and an mhs-user-agent directory object instance is present for the adjacent MTA";

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-moc-mtsUser };

9.9 PerfFunctionCurrentData

perfFunctionCurrentData MANAGED OBJECT CLASS

DERIVED FROM "Recommendation Q.822":currentData;

CHARACTERISED BY

mtaFunctionStatisticsPackage;

CONDITIONAL PACKAGES

filterPackage PRESENT IF "Performance filtering is supported for the MTA function";

REGISTERED AS { MhsMgmtMTAObjectIdentifiers.id-moc-perfFunctionCurrentData };

9.10 PerfFunctionHistoryData

perfFunctionHistoryData MANAGED OBJECT CLASS

DERIVED FROM "Recommendation Q.822":historyData;

CHARACTERISED BY

mtaFunctionStatisticsPackage;

CONDITIONAL PACKAGES

filterPackage PRESENT IF "Performance filtering is supported for the MTA function";

REGISTERED AS { MhsMgmtMTAObjectIdentifiers.id-moc-perfFunctionHistoryData };

9.11 PerfMTACurrentData

perfMTACurrentData MANAGED OBJECT CLASS

DERIVED FROM "Recommendation Q.822":currentData;

CHARACTERISED BY

mtaStatisticsPackage;

CONDITIONAL PACKAGES

filterPackage PRESENT IF "Performance filtering is supported for the MTA function";

REGISTERED AS { MhsMgmtMTAObjectIdentifiers.id-moc-perfMTACurrentData };

9.12 PerfMTAHistoryData

perfMTAhistoryData MANAGED OBJECT CLASS

DERIVED FROM "Recommendation Q.822":historyData;

CHARACTERISED BY

mtaStatisticsPackage;

CONDITIONAL PACKAGES

filterPackage PRESENT IF "Performance filtering is supported for the MTA function";

REGISTERED AS { MhsMgmtMTAObjectIdentifiers.id-moc-perfMTAHistoryData };

9.13 RoutingFunction

routingFunction MANAGED OBJECT CLASS

DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2":top;

CHARACTERISED BY

routingPackage,

"Rec. M.3100":stateChangeNotificationPackage;

"Rec. M.3100":processingErrorAlarmPackage;

REGISTERED AS { MhsMgmtMTAObjectIdentifiers.id-moc-routingFunction };

9.14 SecAdjMTA

secAdjMTA MANAGED OBJECT CLASS

DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2":top;

CHARACTERISED BY

secAdjMTAPackage,
"Rec. M.3100":createDeleteNotificationsPackage;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-moc-secAdjMTA };

9.15 SecAssociation

secAssociation MANAGED OBJECT CLASS

DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2":top;

CHARACTERISED BY

secAssociationPackage,
"Rec. M.3100":createDeleteNotificationsPackage,
SecurityAlarmPackage;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-moc-secAssociation };

9.16 SecConversion

secConversion MANAGED OBJECT CLASS

DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2":top;

CHARACTERISED BY

secConversionPackage,
StatesOfMtaFunctionPackage,
"Rec. M.3100":createDeleteNotificationsPackage,
"Rec. M.3100":stateChangeNotificationPackage,
"Rec. M.3100":processingErrorAlarmPackage,
SecurityAlarmPackage;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-moc-secConversion };

9.17 SecGenROACFunction

secGenROACFunction MANAGED OBJECT CLASS

DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2":top;

CHARACTERISED BY

secGenROACFunctionPackage,
StatesOfMtaFunctionPackage,
"Rec. M.3100":createDeleteNotificationsPackage,
"Rec. M.3100":stateChangeNotificationPackage,
"Rec. M.3100":processingErrorAlarmPackage
SecurityAlarmPackage;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-moc-secGenROACFunction };

9.18 SecMessage

secMessage MANAGED OBJECT CLASS

DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2":top;

CHARACTERISED BY

secMessagePackage;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-moc-secMessage };

9.19 SecMtsUser

secMtsUser MANAGED OBJECT CLASS

DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2":top;

CHARACTERISED BY

secMtsUserPackage,
"Rec. M.3100":createDeleteNotificationsPackage;

CONDITIONAL PACKAGES

secureRedirectionPackage PRESENT IF "secureRedirection service was subscribed by the MTS User",
"Rec. M.3100":createDeleteNotificationsPackage;

REGISTERED AS { MhsMgmtMTAObjectIdentifiers.id-moc-secMtsUser };

9.20 SecProbe

secProbe MANAGED OBJECT CLASS

DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2":top;

CHARACTERISED BY

secProbePackage;

REGISTERED AS { MhsMgmtMTAObjectIdentifiers.id-moc-secProbe };

9.21 SecReport

secReport MANAGED OBJECT CLASS

DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2":top;

CHARACTERISED BY

secReportPackage;

REGISTERED AS { MhsMgmtMTAObjectIdentifiers.id-moc-secReport};

9.22 SecVerifGenMsgFunction

secVerifGenMsgFunction MANAGED OBJECT CLASS

DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2":top;

CHARACTERISED BY

SecVerifGenMsgFunctionPackage,
StatesOfMtaFunctionPackage,
"Rec. M.3100":createDeleteNotificationsPackage,
"Rec. M.3100":stateChangeNotificationPackage,
"Rec. M.3100":processingErrorAlarmPackage,
SecurityAlarmPackage;

REGISTERED AS { MhsMgmtMTAObjectIdentifiers.id-moc-SecVerifGenMsgFunction };

9.23 SecVerifGenRecipFunction

secVerifGenRecipFunction MANAGED OBJECT CLASS

DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2":top;

CHARACTERISED BY

SecVerifGenRecipFunctionPackage,
StatesOfMtaFunctionPackage,
"Rec. M.3100":createDeleteNotificationsPackage,
"Rec. M.3100":stateChangeNotificationPackage,
"Rec. M.3100":processingErrorAlarmPackage,
SecurityAlarmPackage;

REGISTERED AS { MhsMgmtMTAObjectIdentifiers.id-moc-SecVerifGenRecipFunction};

9.24 **SecVerifMOACFunction**

SecVerifMOACFunction MANAGED OBJECT CLASS
DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2":top;

CHARACTERISED BY
SecVerifMOACFunctionPackage,
StatesOfMtaFunctionPackage,
"Rec. M.3100":createDeleteNotificationsPackage,
"Rec. M.3100":stateChangeNotificationPackage,
"Rec. M.3100":processingErrorAlarmPackage,
SecurityAlarmPackage;

REGISTERED AS { MhsMgmtMTAObjectIdentifiers.id-moc-SecVerifMOACFunction };

9.25 **SecVerifPOACFunction**

SecVerifPOACFunction MANAGED OBJECT CLASS
DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2":top;

CHARACTERISED BY
SecVerifPOACFunctionPackage,
StatesOfMtaFunctionPackage,
"Rec. M.3100":createDeleteNotificationsPackage,
"Rec. M.3100":stateChangeNotificationPackage,
"Rec. M.3100":processingErrorAlarmPackage,
SecurityAlarmPackage;

REGISTERED AS { MhsMgmtMTAObjectIdentifiers.id-moc-SecVerifPOACFunction };

9.26 **SecVerifROACFunction**

SecVerifROACFunction MANAGED OBJECT CLASS
DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2":top;

CHARACTERISED BY
SecVerifROACFunctionPackage,
StatesOfMtaFunctionPackage,
"Rec. M.3100":createDeleteNotificationsPackage,
"Rec. M.3100":stateChangeNotificationPackage,
"Rec. M.3100":processingErrorAlarmPackage,
SecurityAlarmPackage;

REGISTERED AS { MhsMgmtMTAObjectIdentifiers.id-moc-SecVerifROACFunction };

10 **Definitions of packages**

This clause specifies package definitions for the Managed Object class definitions of clause 9.

10.1 **AdjMTAPackage**

adjMTAPackage PACKAGE
BEHAVIOUR adjMTABehaviour,
 creationAndDeletionNotificationBehaviour,
 administrativeStateChangeNotificationBehaviour,
 attributeValueChangeNotificationBehaviour;

ATTRIBUTES
"Rec X.721 | ISO/IEC 10165-2":administrativeState GET-REPLACE,
adjMTAAccessPointAddress GET-REPLACE,
adjMTAGlobalDomainId GET-REPLACE,
adjMTAMaxMessageSize GET-REPLACE,
adjMtaName GET,
adjMTAPossibleConversions GET-REPLACE ADD-REMOVE,
adjMTASimpleCredentials GET-REPLACE,
adjMTASupportedApplicationContexts GET-REPLACE,

bilateralDeferral
 localMTAMaxMessageSize
 localMTASimpleCredentials
 waitTimeToRelease

GET-REPLACE,
 GET-REPLACE,
 GET-REPLACE,
 GET-REPLACE;

REGISTERED AS { MhsMgmtMTAObjectIdentifiers.id-package-adjMTAPackage };

adjMTABehaviour BEHAVIOUR

DEFINED AS

"The AdjMTA Managed Object class describes the information required to establish an association and exchange MPR with an adjacent MTA. For each adjacent MTA of the managed MTA, an instance of this class shall be created. An AdjMTA object instance is named by the adjMtaName attribute.";

creationAndDeletionNotificationBehaviour BEHAVIOUR

DEFINED AS

"An object creation or object deletion notification shall be generated at the creation and deletion of the object instance.";

administrativeStateChangeNotificationBehaviour BEHAVIOUR

DEFINED AS

"A state change notification is emitted when the administrative state attribute changes in value.";

AttributeValueChangeNotificationBehaviour BEHAVIOUR

DEFINED AS

"An attribute change notification is emitted when any of the attributes change in value.";

10.2 Association Package

associationPackage PACKAGE

BEHAVIOUR

associationBehaviour,
 associationCreationDeletionBehaviour,
 creationAndDeletionNotificationBehaviour,
 operationalStateChangeNotificationBehaviour,
 usageStateChangeNotificationBehaviour;

ATTRIBUTES

"Rec X.721 | ISO/IEC 10165-2":operationalState

GET,

"Rec X.721 | ISO/IEC 10165-2":usageState

GET,

applicationContext

GET,

associationInitiator

GET,

associationObjectInstanceId

GET,

creationTime

GET,

initiatorAccessPointAddress

GET,

responderAccessPointAddress

GET;

REGISTERED AS { MhsMgmtMTAObjectIdentifiers.id-package-associationPackage };

associationBehaviour BEHAVIOUR

DEFINED AS

"The association managed object maintains dynamic information on an association established with the managed MTA. As several associations can be established at the same time between the managed MTA and an MtsUser, several association object instances can exist at the same time. An association object instance is named by the associationObjectInstanceId attribute.";

associationCreationDeletionBehaviour BEHAVIOUR

DEFINED AS

"An association object instance is created each time an association is established with the managed MTA. An association object instance may also be created for a rejected attempt to establish an association. An association object instance need not be deleted when the corresponding association is released.

The operational state attribute is set to enable if the association request was accepted. The operational state attribute is set to disable if the association request was rejected.

The usage state attribute is set to active at the creation of an association object instance. The usage state attribute is set to idle when the association is normally released.

The usage state attribute is set to idle and the operational state attribute is set to disable when the association is abnormally released";

operationalStateChangeNotificationBehaviour BEHAVIOUR

DEFINED AS

"A state change notification is emitted when the operational state attribute changes in value.";

usageStateChangeNotificationBehaviour BEHAVIOUR

DEFINED AS

"A state change notification is emitted when the usage state attribute changes in value.";

10.3 Conversion Package

conversionPackage PACKAGE

BEHAVIOUR conversionBehaviour,
creationAndDeletionNotificationBehaviour,
administrativeStateChangeNotificationBehaviour,
operationalStateChangeNotificationBehaviour,
usageStateChangeNotificationBehaviour,
processingErrorAlarmBehaviour;

ATTRIBUTES

contentTypesSupported	GET,
conversionFunctionObjectInstanceId	GET,
conversionType	GET,
informationLossSuspected	GET;

REGISTERED AS { MhsMgmtMTAObjectIdentifiers.id-package-conversionPackage };

conversionBehaviour BEHAVIOUR

DEFINED AS

"The MTA capability to provide a conversion of a specific type (e.g. from IA5Text to TTX) is called a Conversion function. This function is invoked each time a conversion of the corresponding type is performed by the managed MTA. A ConversionFunction Object instance shall be created for each type of conversion supported by the managed MTA. A conversion object instance is named by the conversionFunctionObjectInstanceId attribute.";

processingErrorAlarmBehaviour BEHAVIOUR

DEFINED AS

"A processing error alarm notification shall be emitted when the entity experiences any of the processing alarms conditions defined in CCITT Rec. X.733 | ISO/IEC 10164-4 (e.g. storage capacity problem, version mismatch, corrupt data, software error, underlying resource unavailable).";

10.4 DefaultDeliveryControls Package

defaultDeliveryControlsPackage PACKAGE

BEHAVIOUR defaultDeliveryControlsPackageBehaviour;

ATTRIBUTES

defaultPermissibleOperations	GET-REPLACE ADD-REMOVE,
defaultPermissibleLowestPriority	GET-REPLACE,
defaultPermissibleEITs	GET-REPLACE ADD-REMOVE,
defaultPermissibleContentTypes	GET-REPLACE, ADD-REMOVE
defaultPermissibleMaxContentLength	GET-REPLACE;

REGISTERED AS { MhsMgmtMTAObjectIdentifiers.id-package-defaultDeliveryControlsPackage };

defaultDeliveryControlsPackageBehaviour BEHAVIOUR

DEFINED AS

"If the delivery control operation is supported by the MTS User, this package describes default delivery control information. This information may be changed by an MTS User abstract service operation or by specific management actions of the MHS system manager.";

10.5 DirServiceReference Package

dirServiceReferencePackage PACKAGE

BEHAVIOUR dirServiceReferencePackageBehaviour;

ATTRIBUTES

directoryName	GET-REPLACE,
---------------	--------------

REGISTERED AS { MhsMgmtMTAObjectIdentifiers.id-package-dirServiceReferencePackage };

dirServiceReferencePackageBehaviour BEHAVIOUR

DEFINED AS

"This package consist of information required for using a Directory service (e.g. Recommendation X.500).";

10.6 DistributionList Package

distributionListPackage PACKAGE

BEHAVIOUR distributionListBehaviour,
creationAndDeletionNotificationBehaviour,
administrativeStateChangeNotificationBehaviour,
operationalStateChangeNotificationBehaviour,
usageStateChangeNotificationBehaviour,
processingErrorAlarmBehaviour;

ATTRIBUTES

distributionListObjectInstanceId GET;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-distributionListPackage };

distributionListBehaviour BEHAVIOUR

DEFINED AS

"The MTA capability to expand distribution lists is called the D.L. Expansion function. This function is invoked each time a Distribution list is expanded by the managed MTA. If the managed MTA can perform the D.L. Expansion function, a distributionList object instance shall be created. One instance of the DistributionList object class exists for one managed MTA which supports D.L. Expansion. The distributionListObjectInstanceId attribute is used to name a distributionList object instance.";

10.7 Filter Package

filterPackage PACKAGE

BEHAVIOUR filterBehaviour;

ATTRIBUTES

lastAdjMTAName GET-REPLACE,
nextAdjMTAName GET-REPLACE,
priorityList GET-REPLACE ADD-REMOVE,
typeOfMpr GET-REPLACE;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-filterPackage };

filterBehaviour BEHAVIOUR

DEFINED AS

"This package discriminates for which kind of MPR statistics should be gathered. The TypeOfMpr attribute enables the MHS system manager to make a distinction between a message, probe and report. The PriorityList attribute enables the MHS system manager to make a distinction between urgent, normal and non-urgent. The nextAdjMTAName attribute enables the MHS system manager to make a selection on the next MTA destination, if any, of the MPR. The lastAdjMTAName attribute enables the MHS system manager to make a selection on the last MTA destination, if any, of the MPR. This information is not changed except under specific management actions of the MHS system manager.";

10.8 MdAssignedAlternateRecipient Package

mdAssignedAlternateRecipientPackage PACKAGE

BEHAVIOUR MdAssignedAlternateRecipientPackageBehaviour;

ATTRIBUTES

md_Assigned_Alternate_Recipient GET-REPLACE;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-mdAssignedAlternateRecipientPackage };

MdAssignedAlternateRecipientPackageBehaviour BEHAVIOUR

DEFINED AS

"If the MD alternate recipient assignment service is supported by the managed MTA, the MdAssignedAlternateRecipient package indicates the MTS User Name (e.g. the OR-name) of an alternate recipient which may be assigned by the managed MTA. This information is not changed, except under specific management actions of the MHS system manager.";

10.9 Mpr Package

mprPackage PACKAGE

BEHAVIOUR mprBehaviour;

ATTRIBUTES

arrivalTime GET,
contentType GET,
deferralTime GET,
eits GET,

lastAdjMTA Name	GET,
messageContentSize	GET,
mprObjectInstanceId	GET,
mtsIdentifier	GET,
nextAdjMTA Name	GET,
originatorName	GET,
priority	GET,
processingState	GET,
processingSummary	GET,
recipientsNames	GET,
typeOfMpr	GET;

REGISTERED AS { MhsMgmtMTAObjectIdentifiers.id-package-mprPackage };

mprBehaviour BEHAVIOUR

DEFINED AS

"The mpr managed object class represents a message, probe or report in the managed MTA. A mpr object instance is created on the request of the MHS system manager whenever he requires more information then listed in the mprList object instance. A mpr object instance enables the MHS system manager to control and modify the processing of a specific mpr. A mpr object instance is named by the mprObjectInstanceId attribute.";

10.10 MprList Package

mprListPackage PACKAGE

BEHAVIOUR mprListBehaviour;

ATTRIBUTES

mprInfo	GET-REPLACE ADD-REMOVE,
mprListObjectInstanceId	GET;

REGISTERED AS { MhsMgmtMTAObjectIdentifiers.id-package-mprListPackage };

mprListBehaviour BEHAVIOUR

DEFINED AS

"The mprList Managed Object class represents a list of the message, probes and reports currently in process in the managed MTA. A mprList object instance shall be created at the creation of the MTA object instance. One instance of the mprList object class exists for one managed MTA. An MPR item is removed from the mprInfo attribute when the MHS System manager determines that the MTS cannot deliver a message or a report or affirm a probe. A mprList object instance is named by the mprListObjectInstanceId attribute.";

10.11 MprProcessingControl Package

mprProcessingControlPackage PACKAGE

BEHAVIOUR mprProcessingControlBehaviour;

ATTRIBUTES

forcedExpiryDuration	GET-REPLACE,
forcedProcessingPriority	GET-REPLACE,
heldByManager	GET-REPLACE;

REGISTERED AS { MhsMgmtMTAObjectIdentifiers.id-package-mprProcessingControlPackage };

mprProcessingControlBehaviour BEHAVIOUR

DEFINED AS

"This package enables the MHS system manager to control the processing of an mpr. This information is not changed except under specific management actions of the MHS system manager.";

10.12 Mta Package

mtaPackage PACKAGE

BEHAVIOUR mtaBehaviour,
mtaCreationBehaviour,
creationAndDeletionNotificationBehaviour,
operationalStateChangeNotificationBehaviour,
usageStateChangeNotificationBehaviour,
equipmentsEquipmentAlarmBehaviour;

ATTRIBUTES

defaultNonUrgentMprExpiryDuration	GET-REPLACE,
defaultNormalMprExpiryDuration	GET-REPLACE,
defaultUrgentMprExpiryDuration	GET-REPLACE,

globalDomainId	GET-REPLACE,
maxAdjMTAInboundAssocs	GET-REPLACE,
maxAdjMTAOutboundAssocs	GET-REPLACE,
maxMtsUserInboundAssocs	GET-REPLACE,
maxMtsUserOutboundAssocs	GET-REPLACE,
mtaName	GET-REPLACE,
supportedApplicationContexts	GET-REPLACE ADD-REMOVE;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-mtaPackage };

mtaBehaviour BEHAVIOUR

DEFINED AS

"The MTA Managed Object class describes general MTA management information in order to provide the management of the MTA overall operability and availability. This information is not changed except under specific management actions of the MHS system manager. One instance of this object class shall be created for each managed MTA within the MIS management domain. The mta Managed Object class is inherited from the Managed Object class equipment which is defined in Recommendation M.3100. The following packages of the equipment object class shall be provided:

- * createDeleteNotificationPackage
- * stateChangeNotificationPackage
- * administrativeOperationalStatePackage
- * equipmentsEquipmentAlarmPackage

The following packages of the equipment object class may be provided:

- * vendorNamePackage
- * versionPackage
- * locationNamePackage
- * currentProblemListPackage

The equipmentId attribute is used to name an mta object instance.";

mtaCreationBehaviour BEHAVIOUR

DEFINED AS

"At the creation of an MTA managed object class, following subordinate objects shall be created:

- * mprList
- * routingFunction.";

equipmentsEquipmentAlarmBehaviour BEHAVIOUR

DEFINED AS

"A processing error alarm notification shall be emitted when the entity experiences any of the processing alarms conditions defined in CCITT Rec. X.733 | ISO/IEC 10164-4 (e. g. storage capacity problem, version mismatch, corrupt data, software error, underlying resource unavailable).";

10.13 MtaFunctionStatistics Package

mtaFunctionStatisticsPackage PACKAGE

BEHAVIOUR mtaFunctionStatisticsBehaviour;

ATTRIBUTES

maxFunctionProcessingTime	GET,
maxSizeMprPassingFunction	GET,
meanFunctionProcessingTime	GET,
meanSizeMprPassingFunction	GET,
minFunctionProcessingTime	GET,
minSizeMprPassingFunction	GET,
nrOfInvocations	GET,
nrOfRejectedInvocation	GET;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-mtaFunctionStatisticsPackage };

mtaFunctionStatisticsBehaviour BEHAVIOUR

DEFINED AS

"This package defines the performance parameters for the functionality of the Network Element (e.g. MTA). The functions are routing, conversion, and distribution list expansion.";

10.14 MtaStatistics Package

mtaStatisticsPackage PACKAGE
BEHAVIOUR mtaStatisticsBehaviour;

ATTRIBUTES

maxMTAResponseTime	GET,
maxSizeMprDelivered	GET,
maxSizeMprSubmitted	GET,
maxSizeMprTransferredIn	GET,
maxSizeMprTransferredOut	GET,
meanMTAResponseTime	GET,
meanNbOfStoredMpr	GET,
meanSizeMprDelivered	GET,
meanSizeMprSubmitted	GET,
meanSizeMprTransferredIn	GET,
meanSizeMprTransferredOut	GET,
meanStorageOccupied	GET,
minMTAResponseTime	GET,
minSizeMprDelivered	GET,
minSizeMprSubmitted	GET,
minSizeMprTransferredIn	GET,
minSizeMprTransferredOut	GET,
nrOfMprDeferred	GET,
nrOfMprDelivered	GET,
nrOfRecipientsProcessed	GET,
nrOfMprRedirected	GET,
nrOfMprRejected	GET,
nrOfMprSubmitted	GET,
nrOfMprTransferredIn	GET,
nrOfMprTransferredOut	GET;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-mtaStatisticsPackage };

mtaStatisticsBehaviour BEHAVIOUR
DEFINED AS

"This package defines the performance parameters of the MTA.";

10.15 MtsUser Package

mtsUserPackage PACKAGE
BEHAVIOUR mtsUserPackageBehaviour,
creationAndDeletionNotificationBehaviour,
administrativeStateChangeNotificationBehaviour,
attributeValueChangeNotificationBehaviour;

ATTRIBUTES

"Rec X.721 ISO/IEC 10165-2":administrativeState	GET-REPLACE,
colocated	GET,
LocalMTASimpleCredentials	GET-REPLACE,
mtsUserAccessPointAddress	GET-REPLACE,
mtsUserDeliverableContentTypes	GET-REPLACE ADD-REMOVE,
mtsUserDeliverableEits	GET-REPLACE ADD-REMOVE,
mtsUserDeliverableMaxContentLength	GET-REPLACE,
mtsUserName	GET-REPLACE,
mtsUserObjectInstanceId	GET,
mtsUserPreferredDeliveryMethod	GET-REPLACE,
mtsUserSimpleCredentials	GET-REPLACE,
mtsUserSupportedApplicationContexts	GET-REPLACE ADD-REMOVE,
mtsUserType	GET-REPLACE,
waitTimeToRelease	GET-REPLACE;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-mtsUserPackage };

mtsUserBehaviour BEHAVIOUR
DEFINED AS

"The mtsUser Managed Object class describes the information required to establish an association and exchange MPR with an mtsUser of the managed MTA. For each MTS User of the managed MTA, an instance of this class shall be created. A mtsUser object instance is named by the attribute mtsUserObjectInstanceId.";

10.16 RestrictedDelivery Package

restrictedDeliveryPackage PACKAGE

BEHAVIOUR restrictedDeliveryBehaviour;

ATTRIBUTES

permissibleMessages

GET-REPLACE ADD-REMOVE

disallowedMessages

GET-REPLACE ADD-REMOVE

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-restrictedDeliveryPackage };

restrictedDeliveryBehaviour BEHAVIOUR

DEFINED AS

"If restricted delivery was subscribed by the MTS User, this package provides the others MTS Users from whom the MTS User is willing (or unwilling) to receive messages.";

10.17 Routing Package

routingPackage PACKAGE

BEHAVIOUR routingBehaviour,
operationalStateChangeNotificationBehaviour,
usageStateChangeNotificationBehaviour,
processingErrorAlarmBehaviour;

ATTRIBUTES

routingFunctionObjectInstanceId

GET,

"Rec X.721 | ISO/IEC 10165-2":operationalState

GET,

"Rec X.721 | ISO/IEC 10165-2":usageState

GET;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-routingPackage };

routingBehaviour BEHAVIOUR

DEFINED AS

"The MTA capability to determine routing actions for each of a message or probes recipients for which the managed MTA is responsible is called the Routing function. This function is invoked each time a routing instruction for a single recipient of a message, a report or a probe is generated by the managed MTA. A routingFunction object instance shall be created at the creation of the MTA object instance. One instance of the routingFunction object class exists for one managed MTA. The routingFunctionObjectInstanceId attribute is used to name a RoutingFunction object instance.";

10.18 SecAdjMTA Package

secAdjMTAPackage PACKAGE

BEHAVIOUR secAdjMTAPackageBehaviour,
creationAndDeletionNotificationBehaviour;

ATTRIBUTES

adjMTAStrongCredentials

GET-REPLACE,

localMTAStrongCredentials

GET-REPLACE,

secAdjMTAObjectInstanceId

GET,

securityLabels

GET-REPLACE;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-secAdjMTAPackage };

secAdjMTABehaviour BEHAVIOUR

DEFINED AS

"The SecAdjMTA object class provides information to build a secure association with an adjacent MTA. This information is not changed except under specific management actions of the MHS system manager. For each adjacent MTA of the managed mta for which secure associations may be established, an instance of this class shall be created. Zero or one instance of the secAdjMTA object class exists for each adjacent MTA of the managed MTA. The secAdjMTAObjectInstanceId attribute is used to name a SecAdjMTA object instance";

10.19 SecAssociation Package

secAssociationPackage PACKAGE

BEHAVIOUR secAssociationPackageBehaviour,
creationAndDeletionNotificationBehaviour,
securityAlarmBehaviour;

ATTRIBUTES

initiatorSecurityContext

GET-REPLACE,

initiatorStrongCredentials

GET-REPLACE,

```
responderStrongCredentials
secAssociationObjectInstanceId
```

**GET-REPLACE,
GET;**

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-secAssociationPackage };

secAssociationPackageBehaviour BEHAVIOUR DEFINED AS

"The secAssociation managed object maintains dynamic information on a secure association established with the managed MTA. A secAssociation object instance shall be created each time a secure association is established with the managed MTA. The secAssociationObjectId attribute is used to name a SecAssociation object instance.";

**securityAlarmBehaviour BEHAVIOUR
DEFINED AS**

"A security error alarm notification shall be emitted when the entity experiences any of the security alarms conditions defined in CCITT Rec. X.736 | ISO/IEC 10164-7 (e. g. integrity violation, operational violation, physical violation, security service or mechanism violation, time domain violation).";

10.20 SecConversion Package

secConversionPackage PACKAGE

BEHAVIOUR **secConversionPackageBehaviour,**
creationAndDeletionNotificationBehaviour,
administrativeStateChangeNotificationBehaviour,
operationalStateChangeNotificationBehaviour,
usageStateChangeNotificationBehaviour,
processingErrorAlarmBehaviour,
securityAlarmBehaviour;

ATTRIBUTES

conversionCredentials
conversionSecurityContext
conversionSecurityLabels
secConversionObjectInstanceId

**GET-REPLACE,
GET-REPLACE,
GET-REPLACE ADD-REMOVE,
GET;**

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-secConversionPackage };

secConversionPackageBehaviour BEHAVIOUR DEFINED AS

"The MTA capability to provide a secure conversion of a specific type (e.g. from IA5Text to TTX) is called a Secure Conversion function. This function is invoked each time a secure conversion of the corresponding type is performed by the managed MTA. A secConversionFunction Object instance shall be created for each type of secure conversion supported by the managed MTA. The secConversionObjectId attribute is used to name a SecConversion object instance.";

10.21 SecGenROACFunction Package

secGenROACFunctionPackage PACKAGE

BEHAVIOUR secGenROACFunctionPackageBehaviour,
creationAndDeletionNotificationBehaviour,
administrativeStateChangeNotificationBehaviour,
operationalStateChangeNotificationBehaviour,
usageStateChangeNotificationBehaviour,
processingErrorAlarmBehaviour,
securityAlarmBehaviour;

ATTRIBUTES

```
reportOriginatorCertificate
reportROACAlg
secGenROACFunctionId
```

**GET-REPLACE ADD-REMOVE,
GET-REPLACE ADD-REMOVE,
GET;**

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-secGenROACFunctionPackage};

secGenROACFunctionPackageBehaviour BEHAVIOUR DEFINED AS

"The SecGenROACFunction object class enables the managed mta to generate the report-origin-authentication-check in a secure report. If The managed MTA is capable of generating ROAC, a SecGenROACFunction object instance holds information for the generation of a secure report on reception and relay. The secGenROACFunctionId attribute is used to name a SecGenROAC object instance.";

10.22 SecMessage Package

secMessagePackage PACKAGE
BEHAVIOUR secMessagePackageBehaviour;

ATTRIBUTES	
contentIntegrityCheck	GET,
messageOriginatorCertificate	GET,
messageOriginAuthenticationCheck	GET,
messageSecurityLabel	GET,
messageToken	GET,
proofOfDeliveryRequest	GET,
secMessageObjectInstanceId	GET;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-secMessagePackage};

secMessageBehaviour BEHAVIOUR
DEFINED AS

"The SecMessage object class enables the MHS system manager to secure message in the managed MTA. The secMessageObjectInstanceId attribute is used to name a SecMessage object instance.";

10.23 SecMtsUser Package

secMtsUserPackage PACKAGE
BEHAVIOUR secMtsUserPackageBehaviour,
 creationAndDeletionNotificationBehaviour;

ATTRIBUTES	
localMTAStrongCredentials	GET-REPLACE,
mtsUserStrongCredentials	GET-REPLACE,
secMtsUserObjectInstanceId	GET,
securityLabels	GET-REPLACE;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-secMtsUserPackage};

secMtsUserBehaviour BEHAVIOUR
DEFINED AS

"The secMtsUser object class provides information to build a secure association with an MtsUser of the managed MTA. The secMtsUserObjectInstanceId attribute is used to name a SecMtsUser object instance.";

10.24 SecProbe Package

secProbePackage PACKAGE
BEHAVIOUR secProbePackageBehaviour;

ATTRIBUTES	
probeOriginatorCertificate	GET,
probeOriginAuthenticationCheck	GET,
probeSecurityLabel	GET,
secProbeObjectInstanceId	GET;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-secProbePackage};

secProbePackageBehaviour BEHAVIOUR
DEFINED AS

"The SecProbe object class enables the MHS system manager to secure probe in the managed MTA. The secProbeObjectInstanceId attribute is used to name a SecProbe object instance.";

10.25 SecReport Package

secReportPackage PACKAGE
BEHAVIOUR secReportPackageBehaviour;

ATTRIBUTES	
proofOfDelivery	GET,
recipientCertificate	GET,

reportOriginAuthenticationCheck	GET,
reportSecurityLabel	GET,
secReportObjectInstanceId	GET;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-secReportPackage};

SecReportPackageBehaviour BEHAVIOUR

DEFINED AS

"The SecReport object class enables the MHS system manager to secure report in the managed MTA. The secReportObjectInstanceId attribute is used to name a SecReport object instance.";

10.26 SecureRedirection Package

secureRedirectionPackage PACKAGE

BEHAVIOUR secureRedirectionPackageBehaviour;

ATTRIBUTES

redirections	GET-REPLACE;
--------------	--------------

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-secureRedirectionPackage };

secureRedirectionPackageBehaviour BEHAVIOUR

DEFINED AS

"The attribute redirections indicates to which UA the messages, bases on the associated security labels, the messages should be send.";

10.27 SecurityAlarmPackage

SecurityAlarmPackage PACKAGE

NOTIFICATIONS

"Rec. X.721: integrityViolation,
"Rec. X.721: operationalViolation,
"Rec. X.721: operationalViolation,
"Rec. X.721: physicalViolation,
"Rec. X.721: securityServiceOrMechanismViolation,
"Rec. X.721: TimeDomainViolation;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-SecurityAlarmPackage };

10.28 SecVerifGenMsgFunction Package

secVerifGenMsgFunctionPackage PACKAGE

BEHAVIOUR secVerifGenMsgFunctionPackageBehaviour,
creationAndDeletionNotificationBehaviour,
administrativeStateChangeNotificationBehaviour,
operationalStateChangeNotificationBehaviour,
usageStateChangeNotificationBehaviour,
processingErrorAlarmBehaviour,
securityAlarmBehaviour;

ATTRIBUTES

messageEncAlg	GET-REPLACE ADD-REMOVE,
messageMOACAlg	GET-REPLACE ADD-REMOVE,
messageOriginatorCertificate	GET-REPLACE ADD-REMOVE,
newMessageEncAlg	GET-REPLACE ADD-REMOVE,
newMessageMOACAlg	GET-REPLACE ADD-REMOVE,
newMessageOriginatorCertificate	GET-REPLACE ADD-REMOVE,
secVerifGenMsgObjectInstanceId	GET;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-secVerifGenMsgFunctionPackage};

secVerifGenMsgFunctionPackageBehaviour BEHAVIOUR

DEFINED AS

"The SecVerifGenMsgFunction object class enables the verification and generation of new security attributes within the MTA. For example, for secure distributionListExpansion and secure conversion. The secVerifGenMsgObjectInstanceId attribute is used to name a SecVerifGenMsgFunction object instance.";

10.29 SecVerifGenRecipFunction Package

secVerifGenRecipFunctionPackage PACKAGE

BEHAVIOUR secVerifGenRecipFunctionPackageBehaviour,
creationAndDeletionNotificationBehaviour,
administrativeStateChangeNotificationBehaviour,
operationalStateChangeNotificationBehaviour,
usageStateChangeNotificationBehaviour,
processingErrorAlarmBehaviour,
securityAlarmBehaviour;

ATTRIBUTES

newRecipientCicAlg	GET-REPLACE ADD-REMOVE,
newRecipientName	GET-REPLACE,
newRecipientTokenAlg	GET-REPLACE ADD-REMOVE,
newRecipientTokenEncAlg	GET-REPLACE ADD-REMOVE,
newRecipientTokenSigAlg	GET-REPLACE ADD-REMOVE,
recipientCicAlg	GET-REPLACE ADD-REMOVE,
recipientName	GET-REPLACE,
recipientTokenAlg	GET-REPLACE ADD-REMOVE,
recipientTokenEncAlg	GET-REPLACE ADD-REMOVE,
recipientTokenSigAlg	GET-REPLACE ADD-REMOVE,
SecVerifGenRecipObjectInstanceId	GET;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-secVerifGenRecipFunctionPackage};

secVerifGenRecipFunctionPackageBehaviour BEHAVIOUR

DEFINED AS

"The SecVerifGenRecipFunction object class enables the verification and generation of new security attributes within the MTA. For example, for secure distributionListExpansion and secure conversion. The SecVerifGenRecipObjectInstanceId attribute is used to name a SecVerifGenRecipFunction object instance.";

10.30 SecVerifMOACFunction Package

secVerifMOACFunctionPackage PACKAGE

BEHAVIOUR secVerifMOACFunctionPackageBehaviour,
creationAndDeletionNotificationBehaviour,
administrativeStateChangeNotificationBehaviour,
operationalStateChangeNotificationBehaviour,
usageStateChangeNotificationBehaviour,
processingErrorAlarmBehaviour,
securityAlarmBehaviour;

ATTRIBUTES

messageOriginatorCertificate	GET-REPLACE ADD-REMOVE,
secVerifMOACFunctionObjectInstanceId	GET,
messageMOACAlg	GET-REPLACE ADD-REMOVE;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-secVerifMOACFunctionPackage};

secVerifMOACFunctionPackageBehaviour BEHAVIOUR

DEFINED AS

"The SecVerifMOACFunction object class enables the managed MTA to generate the message-origin-authentication-check in a secure message. An SecVerifMOACFunction object instance holds information for the verification of a secure message on reception and relay. The secVerifMOACFunctionObjectInstanceId attribute is used to name a SecVerifMOACFunction object instance.";

10.31 SecVerifPOACFunction Package

secVerifPOACFunctionPackage PACKAGE

BEHAVIOUR secVerifPOACFunctionPackageBehaviour,
creationAndDeletionNotificationBehaviour,
administrativeStateChangeNotificationBehaviour,
operationalStateChangeNotificationBehaviour,
usageStateChangeNotificationBehaviour,
processingErrorAlarmBehaviour,
securityAlarmBehaviour;

ATTRIBUTES

secVerifPOACObjectInstanceId	GET,
probeOriginatorCertificate	GET-REPLACE ADD-REMOVE,
probePOACAlg	GET-REPLACE ADD-REMOVE;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-secVerifPOACFunctionPackage};

secVerifPOACFunctionPackageBehaviour BEHAVIOUR

DEFINED AS

"The SecVerifPOACFunction object class enables the managed MTA to generate the probe-origin-authentication-check in a secure probe. An SecVerifPOACFunction object instance holds information for the verification of a secure probe on relay. The secVerifPOACObjectInstanceId attribute is used to name a SecVerifPOACFunction object instance.";

10.32 SecVerifROACFunction Package

secVerifROACFunctionPackage PACKAGE

BEHAVIOUR secVerifROACFunctionPackageBehaviour,
creationAndDeletionNotificationBehaviour,
administrativeStateChangeNotificationBehaviour,
operationalStateChangeNotificationBehaviour,
usageStateChangeNotificationBehaviour,
processingErrorAlarmBehaviour,
securityAlarmBehaviour;

ATTRIBUTES

reportOriginatorCertificate	GET-REPLACE ADD-REMOVE,
reportROACAlg	GET-REPLACE ADD-REMOVE,
secVerifROACObjectInstanceId	GET;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-secVerifROACFunctionPackage};

secVerifROACFunctionPackageBehaviour BEHAVIOUR

DEFINED AS

"The SecVerifROACFunction object class enables the managed MTA to generate the report-origin-authentication-check in a secure report. An SecVerifROACFunction object instance holds information for the verification of a secure report on relay and delivery. The secVerifROACObjectInstanceId attribute is used to name a SecVerifROACFunction object instance.";

10.33 SimpleCredentials Package

simpleCredentialsPackage PACKAGE

BEHAVIOUR simpleCredentialsBehaviour;

ATTRIBUTES

initiatorSimpleCredentials	GET-REPLACE,
responderSimpleCredentials	GET-REPLACE;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-simpleCredentialsPackage };

simpleCredentialsBehaviour BEHAVIOUR

DEFINED AS

"If simple authentication is used during an association, this package provides the simple credentials of the initiator and responder of an association.";

10.34 SimpleRedirection Package

simpleRedirectionPackage PACKAGE

BEHAVIOUR simpleRedirectionPackageBehaviour;

ATTRIBUTES

redirectionRecipient GET-REPLACE;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-simpleRedirectionPackage };

simpleRedirectionPackageBehaviour BEHAVIOUR

DEFINED AS

"If simple redirection was subscribed by the MTS User, this package provides a redirection address. If the redirection address has the value NULL, then redirection does not take place and the message is non-delivered.";

10.35 StatesOfMtaFunctionPackage

statesOfMtaFunctionPackage PACKAGE

BEHAVIOUR statesOfMtaFunctionPackageBehaviour;

ATTRIBUTES

"Rec X.721 ISO/IEC 10165-2":administrativeState	GET-REPLACE,
"Rec X.721 ISO/IEC 10165-2":operationalState	GET,
"Rec X.721 ISO/IEC 10165-2":usageState	GET;

REGISTERED AS { MhsMgntMTAObjectIdentifiers.id-package-statesOfMtaFunctionPackage };

statesOfMtaFunctionPackageBehaviour BEHAVIOUR

DEFINED AS

"This package provides the administrative state, operational state and usage state of an MTA function. These parameters are defined in CCITT Rec. X.731 | ISO/IEC 10164-2";

11 Definition of attributes

This clause defines attributes for the management of an MTA.

11.1 AdjMTAAccessPointAddress

adjMtaAccessPointAddress ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EMailAccessPointAddress;

MATCHES FOR EQUALITY;

BEHAVIOUR adjMtaAccessPointAddressBehaviour BEHAVIOUR

DEFINED AS

This attribute defines the access point address of the adjacent MTA. This attribute may have one of the possible values of a PSAP address MTS abstract service parameter as defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic address' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard";

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-adjMtaAccessPointAddress };

11.2 AdjMTAGlobalDomainId

adjMtaGlobalDomainId ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EMailGlobalDomainId;

MATCHES FOR EQUALITY;

BEHAVIOUR adjMtaGlobalDomainIdBehaviour BEHAVIOUR

DEFINED AS

"This attribute provides the value of the Global Domain Identifier used by the adjacent MTA to create MTS identifiers, Trace information elements and Internal trace information elements. This attribute may have one of the possible values of a global-domain-identifier MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic global domain identifier' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-adjMtaGlobalDomainId };

11.3 AdjMTAMaxMessageSize

adjMtaMaxMessageSize ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.SizeInOctets;

MATCHES FOR EQUALITY;

BEHAVIOUR adjMtaMaxMessageSizeBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the maximum size of messages from the managed MTA which can be processed by this adjacent MTA.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-adjMtaMaxMessageSize };

11.4 AdjMtaName**adjMtaName ATTRIBUTE****WITH ATTRIBUTE SYNTAX** MhsMTAAsn1Module.EMailMtaName;**MATCHES FOR EQUALITY;****BEHAVIOUR adjMtaNameBehaviour BEHAVIOUR****DEFINED AS**

"This attribute identifies the name of the adjacent MTA which shall be provided by the managed MTA during association establishment. This attribute may have one of the possible values of an MTA-name MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic MTA name' type may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-adjMtaName };**11.5 AdjMtaPossibleConversions****adjMtaPossibleConversions ATTRIBUTE****WITH ATTRIBUTE SYNTAX** MhsMTAAsn1Module.EMailConversionTypes;**MATCHES FOR SET-COMPARISON, SET-INTERSECTION;****BEHAVIOUR adjMtaPossibleConversionsBehaviour BEHAVIOUR****DEFINED AS**

"This attribute may have one of the possible values of a set of possible conversion which are supported by the adjacent MTA. This attribute may have one of the possible values of a set of explicit-conversion MTS abstract service parameters defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic conversion type' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-adjMtaPossibleConversions };**11.6 AdjMTASimpleCredentials****adjMtaSimpleCredentials ATTRIBUTE****WITH ATTRIBUTE SYNTAX** MhsMTAAsn1Module.EMailSimpleCredentials;**MATCHES FOR EQUALITY;****BEHAVIOUR adjMtaSimpleCredentialsBehaviour BEHAVIOUR****DEFINED AS**

"This attribute provides the simple password that can be used by the MTS User during association establishment for simple authentication of itself. This attribute may have one of the possible values of a password MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-adjMtaSimpleCredentials };**11.7 AdjMTAStrongCredentials****adjMtaStrongCredentials ATTRIBUTE****WITH ATTRIBUTE SYNTAX** MhsMTAAsn1Module.EMailStrongCredentials;**MATCHES FOR EQUALITY;****BEHAVIOUR adjMtaStrongCredentialsBehaviour BEHAVIOUR****DEFINED AS**

"This attribute provides the strong credentials that can be used by the Adjacent MTA during association establishment for strong authentication of itself. This attribute may have one of the possible values of an initiator-bind-token and, optionally, an initiator-certificate MTS abstract service parameters defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic Strong Credentials' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-adjMtaStrongCredentials };

11.8 AdjMtaSupportedApplicationContexts

adjMtaSupportedApplicationContexts ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ApplicationContexts;

MATCHES FOR EQUALITY;

BEHAVIOUR adjMtaSupportedApplicationContextsBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the MHS application contexts that are supported by the adjacent MTA.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-adjMtaSupportedApplicationContexts };

11.9 ApplicationContext

applicationContext ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ApplicationContext;

MATCHES FOR EQUALITY;

BEHAVIOUR applicationContextBehaviour BEHAVIOUR

DEFINED AS

"This attribute identifies the application context negotiated during association establishment.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-applicationContext };

11.10 ArrivalTime

arrivalTime ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.Time;

MATCHES FOR EQUALITY, ORDERING;

BEHAVIOUR arrivalTimeBehaviour BEHAVIOUR

DEFINED AS

"This attribute provides the arrival time of the MPR in the managed MTA.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-arrivalTime };

11.11 AssociationInitiator

associationInitiator ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.AssociationInitiator;

MATCHES FOR EQUALITY;

BEHAVIOUR associationInitiatorBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines who initiated the current association. The values can be local (i.e. the managed MTA) or remote.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-associationInitiator };

11.12 AssociationObjectInstanceId

associationObjectInstanceId ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ObjectIdOrDN;

MATCHES FOR EQUALITY;

BEHAVIOUR associationObjectInstanceIdBehaviour BEHAVIOUR

DEFINED AS

"This attribute is used for the naming of the managed object instance.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-associationObjectInstanceId };

11.13 BilateralDeferral

bilateralDeferral ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.BilateralDeferral;

MATCHES FOR EQUALITY;

BEHAVIOUR bilateralDeferralBehaviour **BEHAVIOUR**
DEFINED AS

"This attribute specifies whether a bilateral agreement exists between the managed MTA and the adjacent MTA for deferring messages. If an agreement exists the MPR will be deferred.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-bilateralDeferral };

11.14 Colocated

colocated ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.Colocated;

MATCHES FOR EQUALITY;

BEHAVIOUR colocatedBehaviour **BEHAVIOUR**
DEFINED AS

"This attribute indicates if the MTS User is colocated with the managed MTA.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-colocated };

11.15 ContentIntegrityCheck

contentIntegrityCheck ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ContentIntegrityCheck;

MATCHES FOR EQUALITY;

BEHAVIOUR contentIntegrityCheckBehaviour **BEHAVIOUR**
DEFINED AS

"This attribute indicates the integrity check of the content. This attribute may have one of the possible values of a content-integrity-check MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-contentIntegrityCheck };

11.16 ContentType

contentType ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ContentType;

MATCHES FOR EQUALITY;

BEHAVIOUR contentTypeBehaviour **BEHAVIOUR**
DEFINED AS

"This parameter provides the content type of the MPR. This parameter may have one of the possible value of a content-type MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-contentType };

11.17 ContentTypesSupported

contentTypesSupported ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ContentTypes;

MATCHES FOR SET-COMPARISON, SET-INTERSECTION;

BEHAVIOUR contentTypesSupportedBehaviour **BEHAVIOUR**
DEFINED AS

"This attribute indicates the message content types the Conversion function is able to convert. This attribute may have one of the possible values of a set of content-type MTS abstract service parameters defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-contentTypesSupported };

11.18 ConversionCredentials

conversionCredentials ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EmailCredentials;

MATCHES FOR EQUALITY;

BEHAVIOUR conversionCredentialsBehaviour **BEHAVIOUR**
DEFINED AS

"This attribute provides the credentials for the conversion. This attribute may have one of the possible values of a credentials MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic credentials' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-conversionCredentials };

11.19 ConversionFunctionObjectInstanceId

conversionFunctionObjectInstanceId **ATTRIBUTE**
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ObjectIdOrDN;

MATCHES FOR EQUALITY;

BEHAVIOUR conversionFunctionObjectInstanceId Behaviour **BEHAVIOUR**
DEFINED AS

"This attribute is used for the naming of the managed object instance. ";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-conversionFunctionObjectInstanceId };

11.20 ConversionSecurityContext

conversionSecurityContext **ATTRIBUTE**
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.SecurityContext;

MATCHES FOR EQUALITY;

BEHAVIOUR conversionSecurityContext Behaviour **BEHAVIOUR**
DEFINED AS

"This attribute provides the security context for a secure conversion. ";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-conversionSecurityContext };

11.21 ConversionSecurityLabels

conversionSecurityLabels **ATTRIBUTE**
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.SecurityLabels;

MATCHES FOR EQUALITY;

BEHAVIOUR conversionSecurityLabels Behaviour **BEHAVIOUR**
DEFINED AS

"This attribute provides the security labels for a secure conversion. ";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-conversionSecurityLabels };

11.22 ConversionType

conversionType **ATTRIBUTE**
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EmailConversionType;

MATCHES FOR EQUALITY;

BEHAVIOUR conversionTypeBehaviour **BEHAVIOUR**
DEFINED AS

"This attribute indicates the type of conversion provided by the Conversion function. This attribute may have one of the possible values of an explicit-conversion MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic conversion type' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-conversionType };

11.23 CreationTime

creationTime **ATTRIBUTE**
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.Time;

MATCHES FOR EQUALITY, ORDERING;

BEHAVIOUR creationTimeBehaviour BEHAVIOUR

DEFINED AS

"This attribute provides the time the Managed Object instance has been created.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-creationTime };

11.24 DefaultNonUrgentMprExpiryDuration

defaultNonUrgentMprExpiryDuration ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.DurationInSeconds;

MATCHES FOR EQUALITY;

BEHAVIOUR defaultNonUrgentMprExpiryDurationBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the default duration in seconds from the arrival time of a non-urgent MPR after which the managed MTA determines that the MTS cannot deliver the message or report or affirm the probe.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-defaultNonUrgentMprExpiryDuration };

11.25 DefaultNormalMprExpiryDuration

defaultNormalMprExpiryDuration ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.DurationInSeconds;

MATCHES FOR EQUALITY;

BEHAVIOUR defaultNormalMprExpiryDurationBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the default duration in seconds from the arrival time of a normal MPR after which the managed MTA determines that the MTS cannot deliver the message or report or affirm the probe.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-defaultNormalMprExpiryDuration };

11.26 defaultPermissibleContentTypes

defaultPermissibleContentTypes ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EmailContentTypes;

MATCHES FOR EQUALITY;

BEHAVIOUR defaultPermissibleContentTypesBehaviour BEHAVIOUR

DEFINED AS

"If the delivery control operation is supported by the MTS User, this parameter describes the default delivery controls on permissible content types. This attribute may have one of the possible values of a permissible-content-types MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. ";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-defaultPermissibleContentTypes};

11.27 defaultPermissibleEITs

defaultPermissiblePermissibleEITs ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EmailEITs;

MATCHES FOR EQUALITY;

BEHAVIOUR defaultPermissibleEITsBehaviour BEHAVIOUR

DEFINED AS

"If the delivery control operation is supported by the MTS User, this parameter describes the default delivery controls on permissible encoded information types. This attribute may have one of the possible values of a permissible-encoded information-types MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic encoded information types' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-defaultPermissibleEITs};

11.28 defaultPermissibleLowestPriority**defaultPermissibleLowestPriority ATTRIBUTE****WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.Priority;****MATCHES FOR EQUALITY;****BEHAVIOUR defaultPermissibleLowestPriorityBehaviour BEHAVIOUR****DEFINED AS**

"If the delivery control operation is supported by the MTS User, this parameter describes the default delivery controls on permissible lowest MPR priority. This attribute may have one of the possible values of a permissible-lowest-priority MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-defaultPermissibleLowestPriority};**11.29 defaultPermissibleMaxLength****defaultPermissibleMaxLength ATTRIBUTE****WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ContentLength;****MATCHES FOR EQUALITY;****BEHAVIOUR defaultPermissibleMaxLengthBehaviour BEHAVIOUR****DEFINED AS**

"If the delivery control operation is supported by the MTS User, this parameter describes the default delivery controls on maximum content length.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-defaultPermissibleMaxLength};**11.30 DefaultPermissibleOperations****defaultPermissibleOperations ATTRIBUTE****WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.Operations;****MATCHES FOR EQUALITY;****BEHAVIOUR defaultPermissibleOperationsBehaviour BEHAVIOUR****DEFINED AS**

"If the delivery control operation is supported by the MTS User, this parameter describes the default delivery controls on permissible operations. This attribute may have one of the possible values of a permissible-operation MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-defaultPermissibleOperations};**11.31 DefaultUrgentMprExpiryDuration****defaultUrgentMprExpiryDuration ATTRIBUTE****WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.DurationInSeconds;****MATCHES FOR EQUALITY;****BEHAVIOUR defaultUrgentMprExpiryDurationBehaviour BEHAVIOUR****DEFINED AS**

"This attribute defines the default duration in seconds from the arrival time of an urgent MPR after which the managed MTA determines that the MTS cannot deliver the message or report or affirm the probe.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-defaultUrgentMprExpiryDuration };**11.32 DeferralTime****deferralTime ATTRIBUTE****WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.Time;****MATCHES FOR EQUALITY;****BEHAVIOUR deferralTimeBehaviour BEHAVIOUR****DEFINED AS**

"This attribute provides the deferral time of the MPR. This parameter may have one of the possible value of a deferred-delivery-time MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-deferralTime };

11.33 DirectoryName

directoryName ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EmailDirectoryName;

MATCHES FOR EQUALITY;

BEHAVIOUR directoryNameBehaviour BEHAVIOUR

DEFINED AS

"If Directory is used for MHS and a directory object instance is present for the managed element, this attribute specifies the directory name of the directory object instance. This attribute may have one of the possible values of a directory name parameter defined in ITU-T Rec. X.501 | ISO/IEC 9594-2 . For a non-standardised implementation of a Directory, a 'generic directory name' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-directoryName };

11.34 disallowedMessages

disallowedMessages ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.restrictions;

MATCHES FOR EQUALITY; SET-COMPARISON, SET-INTERSECTION;

disallowedMessagesBehaviour BEHAVIOUR

DEFINED AS

"If restricted delivery was subscribed by the MTS User, this parameter provides the selected messages the MTS User is not willing to receive. This attribute may have one of the possible values of a set of restrictions MTS abstract service parameter as defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. An empty value indicates that all messages are accepted.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-disallowedMessages};

11.35 DistributionListObjectInstanceId

distributionListObjectInstanceId ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ObjectIdOrDN;

MATCHES FOR EQUALITY;

BEHAVIOUR distributionListObjectInstanceIdBehaviour BEHAVIOUR

DEFINED AS

"This attribute is used for the naming of the managed object instance. ";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-distributionListObjectInstanceId };

11.36 Eits

eits ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EmailEits;

MATCHES FOR EQUALITY;

BEHAVIOUR eitsBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the encoded-information-types of the MPR. This attribute may have one of the possible values of an encoded-information-types MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic encoded information types' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-eits };

11.37 ForcedExpiryDuration

forcedExpiryDuration ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.DurationInSeconds;

MATCHES FOR EQUALITY;

BEHAVIOUR forcedExpiryDurationBehaviour BEHAVIOUR
DEFINED AS

"If MPR processing control is supported by the managed MTA, this attribute enables the MHS system manager to change the expiry duration of an MPR during its processing by the managed MTA. This attribute is empty unless set by the MHS system manager. If the value is empty or equal to zero, the expiry duration for the MPR is the default expiry duration value defined for the corresponding grade of delivery: Default Urgent MPR Expiry Duration, Default Non-Urgent MPR Expiry Duration or Default Normal MPR Expiry Duration.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-forcedExpiryDuration };

11.38 ForcedProcessingPriority

forcedProcessingPriority ATTRIBUTE
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.Priority;

MATCHES FOR EQUALITY;

BEHAVIOUR forcedProcessingPriorityBehaviour BEHAVIOUR
DEFINED AS

"If MPR processing control is supported by the managed MTA, This attribute enables the MHS system manager to change the processing priority of an MPR. Initial value of this attribute is the grade of delivery of the MPR.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-forcedProcessingPriority };

11.39 GlobalDomainId

globalDomainId ATTRIBUTE
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EmailGlobalDomainId;

MATCHES FOR EQUALITY;

BEHAVIOUR globalDomainIdBehaviour BEHAVIOUR
DEFINED AS

"This attribute provides the identification of the management domain used by the managed MTA to create MTS-identifiers, trace-information-elements and internal-trace-information-elements. This attribute may have one of the possible values of a global-domain-identifier MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'Generic Global Domain Identifier' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-globalDomainId };

11.40 HeldByManager

heldByManager ATTRIBUTE
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.HeldByManager;

MATCHES FOR EQUALITY;

BEHAVIOUR heldByManagerBehaviour BEHAVIOUR
DEFINED AS

"If MPR processing control is supported by the managed MTA, This attribute enables the MHS system manager to hold an MPR. Possible values are true or false (Boolean).";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-heldByManager };

11.41 InformationLossSuspected

informationLossSuspected ATTRIBUTE
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.InformationLossSuspected;

MATCHES FOR EQUALITY;

BEHAVIOUR informationLossSuspectedBehaviour BEHAVIOUR
DEFINED AS

"This attribute indicates if there will be loss of information during conversion. Possible loss of information is described in Recommendation X.408.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-informationLossSuspected };

11.42 InitiatorAccessPointAddress

initiatorAccessPointAddress ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EmailAccessPointAddress;

MATCHES FOR EQUALITY;

BEHAVIOUR initiatorAccessPointAddressBehaviour BEHAVIOUR

DEFINED AS

"This attribute provides the access point address used by the initiator during association establishment. This attribute may have one of the possible values of a PSAP-address MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic address' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-initiatorAccessPointAddress};

11.43 InitiatorSecurityContext

initiatorSecurityContext ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.SecurityLabels;

MATCHES FOR EQUALITY, SET-COMPARISON, SET-INTERSECTION;

BEHAVIOUR initiatorSecurityContextBehaviour BEHAVIOUR

DEFINED AS

"If strong authentication is used, this attribute provides the security context proposed by the initiator during association establishment. This attribute may have one of the possible values of a security-context MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-initiatorSecurityContext};

11.44 InitiatorSimpleCredentials

initiatorCredentials ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EmailSimpleCredentials;

MATCHES FOR EQUALITY;

BEHAVIOUR initiatorCredentialsBehaviour BEHAVIOUR

DEFINED AS

"If simple authentication is used, for the current association, this attribute provides the simple credentials used by the initiator during association establishment. This attribute may have one of the possible values of a password MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-initiatorCredentials};

11.45 InitiatorStrongCredentials

initiatorStrongCredentials ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EmailStrongCredentials;

MATCHES FOR EQUALITY,;

BEHAVIOUR initiatorStrongCredentialsBehaviour BEHAVIOUR

DEFINED AS

"If strong authentication is used, this attribute provides the strong credentials used by the initiator during association establishment. This attribute may have one of the possible values of an initiator-bind-token and, optionally, an initiator-certificate MTS abstract service parameters defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic Strong Credentials' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-initiatorStrongCredentials};

11.46 LastAdjMTAName

lastAdjMTAName ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EmailMtaName;

MATCHES FOR EQUALITY;

**BEHAVIOUR lastAdjMTANameBehaviour BEHAVIOUR
DEFINED AS**

"If the MPR was transferred from an adjacent MTA, This parameter provides the name of the adjacent MTA. An empty value indicates that the arrival of the MPR was not the result of a transfer operation. This attribute may have one of the possible values of an MTA-name MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic MTA name' type may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-lastAdjMTAName};

11.47 LocalMTAMaxMessageSize

**localMTAMaxMessageSize ATTRIBUTE
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.SizeInOctets;**

MATCHES FOR EQUALITY;

**BEHAVIOUR localMTAMaxMessageSizeBehaviour BEHAVIOUR
DEFINED AS**

"This attribute defines the maximum size of messages from the adjacent MTA which can be processed by the managed MTA.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-localMTAMaxMessageSize};

11.48 LocalMTASimpleCredentials

**localMTASimpleCredentials ATTRIBUTE
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EMailSimpleCredentials;**

MATCHES FOR EQUALITY;

**BEHAVIOUR localMTASimpleCredentialsBehaviour BEHAVIOUR
DEFINED AS**

"This attribute provides the simple password that can be used by the managed MTA during association establishment for simple authentication of itself. This attribute may have one of the possible values of a password MTS abstract service parameter as defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-localMTASimpleCredentials};

11.49 LocalMTAStrongCredentials

**localMTAStrongCredentials ATTRIBUTE
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EMailStrongCredentials;**

MATCHES FOR EQUALITY;

**BEHAVIOUR localMTAStrongCredentialsBehaviour BEHAVIOUR
DEFINED AS**

"This attribute provides the strong credentials that can be used by the managed MTA during association establishment for strong authentication of itself. This attribute may have one of the possible values of an initiator-bind-token and, optionally, an initiator-certificate MTS abstract service parameters defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic Strong Credentials' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-localMTAStrongCredentials};

11.50 MaxAdjMTAInboundAssocs

**maxAdjMTAInboundAssocs ATTRIBUTE
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.NumberOfAssociations;**

MATCHES FOR EQUALITY;

**BEHAVIOUR maxAdjMTAInboundAssocsBehaviour BEHAVIOUR
DEFINED AS**

"This attribute defines the maximum number of associations that may be simultaneously established, at the initiative of adjacent MTA, between the managed MTA and its adjacent MTA.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-maxAdjMTAInboundAssocs};

11.51 MaxAdjMTAOutboundAssocs

maxAdjMTAOutboundAssocs ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.NumberOfAssociations;

MATCHES FOR EQUALITY;

BEHAVIOUR maxAdjMTAOutboundAssocsBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the maximum number of associations that may be simultaneously established, at the initiative of the managed MTA, between the managed MTA and its adjacent MTA.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-maxAdjMTAOutboundAssocs };

11.52 MaxFunctionProcessingTime

maxFunctionProcessingTime ATTRIBUTE

DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:gauge;

MATCHES FOR EQUALITY;

BEHAVIOUR maxFunctionProcessingTimeBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the maximum duration in seconds used to perform an MTA function, during the measurement interval, of those MPR that meet the selection criteria.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-maxFunctionProcessingTime };

11.53 MaxMTAResponseTime

maxMTAResponseTime ATTRIBUTE

DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:gauge;

MATCHES FOR EQUALITY;

BEHAVIOUR maxMTAResponseTimeBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the maximum response time, during the measurement interval, of those MPR that meet the selection criteria. Response time is the time between arrival and departure of a MPR in the managed MTA.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-maxMTAResponseTime };

11.54 MaxMtsUserInboundAssocs

maxMtsUserInboundAssocs ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.NumberOfAssociations;

MATCHES FOR EQUALITY;

BEHAVIOUR maxMtsUserInboundAssocsBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the maximum number of associations that may be simultaneously established, at the initiative of MTS Users, between the managed MTA and its MTS Users.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-maxMtsUserInboundAssocs };

11.55 MaxMtsUserOutboundAssocs

maxMtsUsersOutboundAssocs ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.NumberOfAssociations;

MATCHES FOR EQUALITY;

BEHAVIOUR maxMtsUsersOutboundAssocsBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the maximum number of associations that may be simultaneously established, at the initiative of MTS Users, between the managed MTA and its MTS Users.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-maxMtsUsersOutboundAssocs };

11.56 MaxSizeMprDelivered**maxSizeMprDelivered ATTRIBUTE****DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:gauge;****MATCHES FOR EQUALITY;****BEHAVIOUR maxSizeMprDeliveredBehaviour BEHAVIOUR****DEFINED AS**

"This attribute defines the size of the largest MPR delivered to users of the managed MTA, during the measurement interval, of those MPR that meet the selection criteria.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-maxSizeMprDelivered };**11.57 MaxSizeMprPassingFunction****maxSizeMprPassingFunction ATTRIBUTE****DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:gauge;****MATCHES FOR EQUALITY;****BEHAVIOUR maxSizeMprPassingFunctionBehaviour BEHAVIOUR****DEFINED AS**

"This attribute defines the size of the largest MPR passing the MTA function, during the measurement interval, of those MPR that meet the selection criteria.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-maxSizeMprPassingFunction };**11.58 MaxSizeMprSubmitted****maxSizeMprSubmitted ATTRIBUTE****DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:gauge;****MATCHES FOR EQUALITY;****BEHAVIOUR maxSizeMprSubmittedBehaviour BEHAVIOUR****DEFINED AS**

"This attribute defines the size of the largest MPR submitted by users of the managed MTA, during the measurement interval, of those MPR that meet the selection criteria. In the case of a probe, it is the size of the probe itself which is measured, not the size of the subject message.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-maxSizeMprSubmitted };**11.59 MaxSizeMprTransferredIn****maxSizeMprTransferredIn ATTRIBUTE****DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:gauge;****MATCHES FOR EQUALITY;****BEHAVIOUR maxSizeMprTransferredInBehaviour BEHAVIOUR****DEFINED AS**

"This attribute defines the size of the largest MPR the managed MTA has received from another MTA, during the measurement interval, of those MPR that meet the selection criteria. In the case of a probe, it is the size of the probe itself which is measured, not the size of the subject message.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-maxSizeMprTransferredIn };**11.60 MaxSizeMprTransferredOut****maxSizeMprTransferredOut ATTRIBUTE****DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:gauge;****MATCHES FOR EQUALITY;****BEHAVIOUR maxSizeMprTransferredOutBehaviour BEHAVIOUR****DEFINED AS**

"This attribute defines the size of the largest MPR the managed MTA has sent to another MTA, during the measurement interval, of those MPR that meet the selection criteria. In the case of a probe, it is the size of the probe itself which is measured, not the size of the subject message.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-maxSizeMprTransferredOut };

11.61 MdAssignedAlternateRecipient

mdAssignedAlternateRecipient ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EMailMtsUserName;

MATCHES FOR EQUALITY;

BEHAVIOUR mdAssignedAlternateRecipientBehaviour BEHAVIOUR

DEFINED AS

"If the MD alternate recipient assignment service is supported by the managed MTA, this attribute indicates the MTS User Name of an alternate recipient which may be assigned by the managed MTA acting as recipient to messages where there is not exact match between the recipient attributes and the name of an MTS User of the MD. This attribute may have one of the possible values of an OR-name MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic MTS User name' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-mdAssignedAlternateRecipient };

11.62 MeanFunctionProcessingTime

meanFunctionProcessingTime ATTRIBUTE

DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:gauge;

MATCHES FOR EQUALITY;

BEHAVIOUR meanFunctionProcessingTimeBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the mean time used to perform an MTA function, during the measurement interval, of those MPR that meet the selection criteria.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-meanFunctionProcessingTime };

11.63 MeanMTAResponseTime

meanMTAResponseTime ATTRIBUTE

DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:gauge;

MATCHES FOR EQUALITY;

BEHAVIOUR meanMTAResponseTimeBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the mean response time, during the measurement interval, of those MPR that meet the selection criteria. Response time is the time between arrival and departure of a MPR in the managed MTA.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-meanMTAResponseTime };

11.64 MeanNbOfStoredMpr

meanNbOfStoredMpr ATTRIBUTE

DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:gauge;

MATCHES FOR EQUALITY;

BEHAVIOUR meanNbOfStoredMprBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the mean number of MPR stored in the managed MTA, during the measurement interval, of those MPR that meet the selection criteria.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-meanNbOfStoredMpr };

11.65 MeanSizeMprDelivered

meanSizeMprDelivered ATTRIBUTE

DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:gauge;

MATCHES FOR EQUALITY;

BEHAVIOUR meanSizeMprDeliveredBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the mean size of MPR delivered to users of the managed MTA, during the measurement interval, of those MPR that meet the selection criteria.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-meanSizeMprDelivered };

11.66 MeanSizeMprPassingFunction**meanSizeMprPassingFunction** ATTRIBUTE

DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:gauge;

MATCHES FOR EQUALITY;

BEHAVIOUR meanSizeMprPassingFunctionBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the mean size of MPR passing the MTA function, during the measurement interval, of those MPR that meet the selection criteria.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-meanSizeMprPassingFunction };

11.67 MeanSizeMprSubmitted**meanSizeMprSubmitted** ATTRIBUTE

DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:gauge;

MATCHES FOR EQUALITY;

BEHAVIOUR meanSizeMprSubmittedBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the mean size of MPR submitted by users of the managed MTA, during the measurement interval, of those MPR that meet the selection criteria. In the case of a probe, it is the size of the probe itself which is measured, not the size of the subject message.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-meanSizeMprSubmitted };

11.68 MeanSizeMprTransferredIn**meanSizeMprTransferredIn** ATTRIBUTE

DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:gauge;

MATCHES FOR EQUALITY;

BEHAVIOUR meanSizeMprTransferredInBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the mean size of MPR the managed MTA has received from another MTA, during the measurement interval, of those MPR that meet the selection criteria. In the case of a probe, it is the size of the probe itself which is measured, not the size of the subject message.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-meanSizeMprTransferredIn };

11.69 MeanSizeMprTransferredOut**meanSizeMprTransferredOut** ATTRIBUTE

DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:gauge;

MATCHES FOR EQUALITY;

BEHAVIOUR meanSizeMprTransferredOutBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the mean size of MPR the managed MTA has sent to another MTA, during the measurement interval, of those MPR that meet the selection criteria. In the case of a probe, it is the size of the probe itself which is measured, not the size of the subject message.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-meanSizeMprTransferredOut };

11.70 MeanStorageOccupied**meanStorageOccupied** ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMEANAsn1Module.Percent;

MATCHES FOR EQUALITY;

BEHAVIOUR meanStorageOccupiedBehaviour BEHAVIOUR

DEFINED AS

"This attribute indicates the mean percentage, during the measurement interval, of the storage available which is occupied by the MPR that meet the selection criteria.";;

REGISTERED AS {MhsMgmtMEANObjectIdentifiers.id-attribute-meanStorageOccupied };

11.71 MessageContentSize

messageContentSize ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ContentLength;

MATCHES FOR EQUALITY;

BEHAVIOUR messageContentSizeBehaviour BEHAVIOUR
DEFINED AS

"This parameter provides the content size of the MPR.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-messageContentSize};

11.72 MessageEncAlg

messageEncAlg ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.AlgorithmIdentifier;

MATCHES FOR EQUALITY;

BEHAVIOUR messageEncAlgBehaviour BEHAVIOUR
DEFINED AS

"This attribute provides the algorithm for the Message Enc";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-messageEncAlg};

11.73 MessageMOACAlg

messageMOACAlg ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.AlgorithmIdentifier;

MATCHES FOR EQUALITY;

BEHAVIOUR messageMOACAlgBehaviour BEHAVIOUR
DEFINED AS

"This attribute provides the algorithm for the origin authentication.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-messageMOACAlg};

11.74 MessageOriginatorCertificate

messageOriginatorCertificate ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.OriginatorCertificate;

MATCHES FOR EQUALITY;

BEHAVIOUR messageOriginatorCertificateBehaviour BEHAVIOUR
DEFINED AS

"This attribute provides the certificate of the originator. This attribute may have one of the possible values of an originator-certificate MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-messageOriginatorCertificate};

11.75 MessageOriginAuthenticationCheck

messageOriginAuthenticationCheck ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.MessageOriginAuthenticationCheck;

MATCHES FOR EQUALITY;

BEHAVIOUR messageOriginAuthenticationCheckBehaviour BEHAVIOUR
DEFINED AS

"This attribute provides the authentication check to determine the origin. This attribute may have one of the possible values of a message-origin-authentication-check MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-messageOriginAuthenticationCheck};

11.76 MessageSecurityLabel**messageSecurityLabel ATTRIBUTE****WITH ATTRIBUTE SYNTAX**MhsMTAAsn1Module.SecurityLabel;**MATCHES FOR EQUALITY;****BEHAVIOUR messageSecurityLabelBehaviour BEHAVIOUR****DEFINED AS**

"This attribute provides the labels for security. This attribute may have one of the possible values of a message-security-label MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-messageSecurityLabel };**11.77 MessageToken****messageToken ATTRIBUTE****WITH ATTRIBUTE SYNTAX**MhsMTAAsn1Module.MessageToken;**MATCHES FOR EQUALITY;****BEHAVIOUR messageTokenBehaviour BEHAVIOUR****DEFINED AS**

"This attribute provides the security token. This attribute may have one of the possible values of a message-token MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-messageToken };**11.78 MinFunctionProcessingTime****minFunctionProcessingTime ATTRIBUTE****DERIVED FROM** Recommendation X.721 | ISO/IEC 10165-2:gauge;**MATCHES FOR EQUALITY;****BEHAVIOUR minFunctionProcessingTimeBehaviour BEHAVIOUR****DEFINED AS**

"This attribute defines the minimum time used to perform an MTA function, during the measurement interval, of those MPR that meet the selection criteria.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-minFunctionProcessingTime };**11.79 MinMTAResponseTime****minMTAResponseTime ATTRIBUTE****DERIVED FROM** Recommendation X.721 | ISO/IEC 10165-2:gauge;**MATCHES FOR EQUALITY;****BEHAVIOUR minMTAResponseTimeBehaviour BEHAVIOUR****DEFINED AS**

"This attribute defines the minimum response time, during the measurement interval, of those MPR that meet the selection criteria. Response time is the time between arrival and departure of a MPR in the managed MTA.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-minMTAResponseTime };**11.80 MinSizeMprDelivered****minSizeMprDelivered ATTRIBUTE****DERIVED FROM** Recommendation X.721 | ISO/IEC 10165-2:gauge;**MATCHES FOR EQUALITY;****BEHAVIOUR minSizeMprDeliveredBehaviour BEHAVIOUR****DEFINED AS**

"This attribute defines the size of the smallest MPR delivered to users of the managed MTA, during the measurement interval, of those MPR that meet the selection criteria.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-minSizeMprDelivered };

11.81 MinSizeMprPassingFunction

minSizeMprPassingFunction ATTRIBUTE

DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:gauge;

MATCHES FOR EQUALITY;

BEHAVIOUR minSizeMprPassingFunctionBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the size of the smallest MPR passing the MTA function, during the measurement interval, of those MPR that meet the selection criteria.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-minSizeMprPassingFunction };

11.82 MinSizeMprSubmitted

minSizeMprSubmitted ATTRIBUTE

DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:gauge;

MATCHES FOR EQUALITY;

BEHAVIOUR minSizeMprSubmittedBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the size of the smallest MPR submitted by users of the managed MTA, during the measurement interval, of those MPR that meet the selection criteria. In the case of a probe, it is the size of the probe itself which is measured, not the size of the subject message.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-minSizeMprSubmitted };

11.83 MinSizeMprTransferredIn

minSizeMprTransferredIn ATTRIBUTE

DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:gauge;

MATCHES FOR EQUALITY;

BEHAVIOUR minSizeMprTransferredInBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the size of the smallest MPR the managed MTA has received from another MTA, during the measurement interval, of those MPR that meet the selection criteria. In the case of a probe, it is the size of the probe itself which is measured, not the size of the subject message.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-minSizeMprTransferredIn };

11.84 MinSizeMprTransferredOut

minSizeMprTransferredOut ATTRIBUTE

DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:gauge;

MATCHES FOR EQUALITY;

BEHAVIOUR minSizeMprTransferredOutBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the mean size of MPR the managed MTA has sent to another MTA, during the measurement interval, of those MPR that meet the selection criteria. In the case of a probe, it is the size of the probe itself which is measured, not the size of the subject message.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-minSizeMprTransferredOut };

11.85 MprInfo

mprInfo ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.MprInfo;

MATCHES FOR EQUALITY;

BEHAVIOUR mprInfoBehaviour BEHAVIOUR

DEFINED AS

"This attribute describes, for each MPR, its arrival Time and processing state. ";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-mprInfo };

11.86 MprListObjectInstanceId**mprListObjectInstanceId ATTRIBUTE****WITH ATTRIBUTE SYNTAX** MhsMTAAsn1Module.ObjectIdOrDN;**MATCHES FOR EQUALITY;****BEHAVIOUR mprListObjectInstanceId Behaviour BEHAVIOUR****DEFINED AS**

"This attribute is used for the naming of the managed object instance. ";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-mprListObjectInstanceId };**11.87 MprObjectInstanceId****mprObjectInstanceId ATTRIBUTE****WITH ATTRIBUTE SYNTAX** MhsMTAAsn1Module.ObjectIdOrDN;**MATCHES FOR EQUALITY;****BEHAVIOUR mprObjectInstanceIdBehaviour BEHAVIOUR****DEFINED AS**

"This attribute is used for the naming of the managed object instance. ";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-mprObjectInstanceId };**11.88 MtaName****mtaName ATTRIBUTE****WITH ATTRIBUTE SYNTAX** MhsMTAAsn1Module.EMailMtaName;**MATCHES FOR EQUALITY;****BEHAVIOUR mtaNameBehaviour BEHAVIOUR****DEFINED AS**

"This attribute specifies the name of the managed MTA. This attribute may have one of the possible values of an MTA-name MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic MTA name' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-mtaName };**11.89 MtsIdentifier****mtsIdentifier ATTRIBUTE****WITH ATTRIBUTE SYNTAX** MhsMTAAsn1Module.EMailMpduIdentifier;**MATCHES FOR EQUALITY;****BEHAVIOUR mtsIdentifierBehaviour BEHAVIOUR****DEFINED AS**

"This parameter provides the MTS-identifier of the MPR. This attribute may have one of the possible values of an MTS-Identifier MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic MPDU identifier' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-mtsIdentifier };**11.90 MtsUserAccessPointAddress****mtsUserAccessPointAddress ATTRIBUTE****WITH ATTRIBUTE SYNTAX** MhsMTAAsn1Module.EMailAccessPointAddress;**MATCHES FOR EQUALITY;****BEHAVIOUR mtsUserAccessPointAddressBehaviour BEHAVIOUR****DEFINED AS**

"This attribute defines the access point address of the MTS User. This attribute may have one of the possible values of a PSAP address MTS abstract service parameter as defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic address' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-mtsUserAccessPointAddress };

11.91 MtsUserDeliverableContentTypes

mtsUserDeliverableContentTypes ATTRIBUTE
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EmailContentTypes;

MATCHES FOR SET-COMPARISON, SET-INTERSECTION;

BEHAVIOUR mtsUserDeliverableContentTypesBehaviour BEHAVIOUR
DEFINED AS

"This attribute indicates which content types the MTS User is able to receive. This attribute may have one of the possible values of a set of content-type MTS abstract service parameters as defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-mtsUserDeliverableContentTypes };

11.92 MtsUserDeliverableEits

mtsUserDeliverableEits ATTRIBUTE
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EMailEits;

MATCHES FOR SET-COMPARISON, SET-INTERSECTION;

BEHAVIOUR mtsUserDeliverableEitsBehaviour BEHAVIOUR
DEFINED AS

"This attribute indicates which encoded information types the MTS User is able to receive. This attribute may have one of the possible values of an encoded-information-types MTS abstract service parameter as defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic encoded information types' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-mtsUserDeliverableEits };

11.93 MtsUserDeliverableMaxContentLength

mtsUserDeliverableMaxContentLength ATTRIBUTE
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ContentLength;

MATCHES FOR EQUALITY;

BEHAVIOUR mtsUserDeliverableMaxContentLengthBehaviour BEHAVIOUR
DEFINED AS

"This attribute defines the maximum size of the content which can be processed by the MTS User.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-mtsUserDeliverableMaxContentLength };

11.94 MtsUserName

mtsUserName ATTRIBUTE
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EmailMtsUserName;

MATCHES FOR EQUALITY;

BEHAVIOUR mtsUserNameBehaviour BEHAVIOUR
DEFINED AS

"This attribute may have one of the possible values of the MTS User name of the MTS User. This attribute may have one of the possible values of an OR-name MTS abstract service parameter as defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic name' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-mtsUserName };

11.95 MtsUserObjectInstanceId

mtsUserObjectInstanceId ATTRIBUTE
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ObjectIdOrDN;

MATCHES FOR EQUALITY;

BEHAVIOUR mtsUserObjectInstanceIdBehaviour BEHAVIOUR
DEFINED AS

"This attribute is used for the naming of the managed object instance. ";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-mtsUserObjectInstanceId };

11.96 MtsUserPreferredDeliveryMethod**mtsUserPreferredDeliveryMethod ATTRIBUTE****WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.RequestedDeliveryMethods;****MATCHES FOR EQUALITY;****BEHAVIOUR mtsUserPreferredDeliveryMethodBehaviour BEHAVIOUR****DEFINED AS**

"This attribute describes the preferred delivery method of the MTS User. This attribute may have one of the possible values of a requested-delivery-method MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-mtsUserPreferredDeliveryMethod };**11.97 MtsUserSimpleCredentials****mtsUserSimpleCredentials ATTRIBUTE****WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EmailSimpleCredentials;****MATCHES FOR EQUALITY;****BEHAVIOUR mtsUserSimpleCredentialsBehaviour BEHAVIOUR****DEFINED AS**

"This attribute provides the simple password that can be used by the MTS User during association establishment for simple authentication of itself. This attribute may have one of the possible values of a password MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-mtsUserSimpleCredentials };**11.98 MtsUserStrongCredentials****mtsUserStrongCredentials ATTRIBUTE****WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EmailStrongCredentials;****MATCHES FOR EQUALITY;****BEHAVIOUR mtsUserStrongCredentialsBehaviour BEHAVIOUR****DEFINED AS**

"This attribute provides the strong credentials that can be used by the MTS User during association establishment for strong authentication of itself. This attribute may have one of the possible values of an initiator-bind-token and, optionally, an initiator-certificate MTS abstract service parameters defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic Strong Credentials' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-mtsUserStrongCredentials };**11.99 MtsUserSupportedApplicationContexts****mtsUserSupportedApplicationContexts ATTRIBUTE****WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ApplicationContexts;****MATCHES FOR EQUALITY;****BEHAVIOUR mtsUserSupportedApplicationContextsBehaviour BEHAVIOUR****DEFINED AS**

"This attribute defines the MHS application contexts that are supported by the MTS User.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-mtsUserSupportedApplicationContexts };**11.100 MtsUserType****mtsUserType ATTRIBUTE****WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.MtsUserType;****MATCHES FOR EQUALITY;****BEHAVIOUR mtsUserTypeBehaviour BEHAVIOUR****DEFINED AS**

"This attribute indicates the nature of the MTS User. The nature can be an UA, MS or AU.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-mtsUserType };

11.101 NewMessageEncAlg

newMessageEncAlg ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.AlgorithmIdentifier;

MATCHES FOR EQUALITY;

BEHAVIOUR newMessageEncAlgBehaviour BEHAVIOUR

DEFINED AS

"This attribute provides the new algorithm for the Message Enc";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-newMessageEncAlg };

11.102 NewMessageMOACAlg

newMessageMOACAlg ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.AlgorithmIdentifier;

MATCHES FOR EQUALITY;

BEHAVIOUR newMessageMOACAlgBehaviour BEHAVIOUR

DEFINED AS

"This attribute provides the new algorithm for the MOAC";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-newMessageMOACAlg };

11.103 NewMessageOriginatorCertificate

newMessageOriginatorCertificate ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.OriginatorCertificate;

MATCHES FOR EQUALITY;

BEHAVIOUR newMessageOriginatorCertificateBehaviour BEHAVIOUR

DEFINED AS

"This attribute provides the new message originator certificate";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-newMessageOriginatorCertificate };

11.104 NewRecipientCicAlg

newRecipientCicAlg ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.AlgorithmIdentifier;

MATCHES FOR EQUALITY;

BEHAVIOUR newRecipientCicAlgBehaviour BEHAVIOUR

DEFINED AS

"This attribute provides the new algorithm for the Recipient Cic";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-newRecipientCicAlg };

11.105 NewRecipientName

newRecipientName ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EMailMtsUserName;

MATCHES FOR EQUALITY;

BEHAVIOUR newRecipientNameBehaviour BEHAVIOUR

DEFINED AS

"This attribute provides the new Recipient name";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-newRecipientName };

11.106 NewRecipientTokenAlg

newRecipientTokenAlg ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.AlgorithmIdentifier;

MATCHES FOR EQUALITY;

BEHAVIOUR newRecipientTokenAlgBehaviour BEHAVIOUR

DEFINED AS

"This attribute provides the new token algorithm for the recipient";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-newRecipientTokenAlg };

11.107 NewRecipientTokenEncAlg

newRecipientTokenEncAlg ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.AlgorithmIdentifier;

MATCHES FOR EQUALITY;

BEHAVIOUR newRecipientTokenEncAlgBehaviour BEHAVIOUR

DEFINED AS

"This attribute provides the new token enc algorithm for the recipient";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-newRecipientTokenEncAlg };

11.108 NewRecipientTokenSigAlg

newRecipientTokenSigAlg ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.AlgorithmIdentifier;

MATCHES FOR EQUALITY;

BEHAVIOUR newRecipientTokenSigAlgBehaviour BEHAVIOUR

DEFINED AS

"This attribute provides the new token sig algorithm for the recipient";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-newRecipientTokenSigAlg };

11.109 NextAdjMTAName

nextAdjMTAName ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EmailMtaName;

MATCHES FOR EQUALITY;

BEHAVIOUR nextAdjMTANameBehaviour BEHAVIOUR

DEFINED AS

"If the MPR is or will be transferred to an adjacent MTA, this parameter provides the name of the adjacent MTA. An empty value indicates that the MPR will not be transferred to an adjacent MTA or that the Routing function is not performed yet by the managed MTA for the current MPR. This attribute may have one of the possible values of an MTA-name MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic MTA name' type may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-nextAdjMTAName};

11.110 NrOfInvocations

nrOfInvocations ATTRIBUTE

DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:counter;

MATCHES FOR EQUALITY;

BEHAVIOUR nrOfInvocationsBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the number of times the MTA function has been invoked, during the measurement interval, for the processing of those MPR that meet the selection criteria.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-nrOfInvocations };

11.111 NrOfMprDeferred

nrOfMprDeferred ATTRIBUTE

DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:counter;

MATCHES FOR EQUALITY;

BEHAVIOUR nrOfMprDeferredBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the number of MPR the managed MTA has deferred to another MTA, during the measurement interval, of those MPR that meet the selection criteria. ";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-nrOfMprDeferred };

11.112 NrOfMprDelivered

nrOfMprDelivered ATTRIBUTE

DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:counter;

MATCHES FOR EQUALITY;

BEHAVIOUR nrOfMprDeliveredBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the number of MPR delivered, during the measurement interval, of those MPR that meet the selection criteria.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-nrOfMprDelivered };

11.113 NrOfMprRedirected

nrOfMprRedirected ATTRIBUTE

DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:counter;

MATCHES FOR EQUALITY;

BEHAVIOUR nrOfMprRedirectedBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the number of MPR the managed MTA has redirected to another mts user, during the measurement interval, of those MPR that meet the selection criteria.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-nrOfMprRedirected };

11.114 NrOfMprRejected

nrOfMprRejected ATTRIBUTE

DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:counter;

MATCHES FOR EQUALITY;

BEHAVIOUR nrOfMprRejectedBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the number of MPR rejected, during the measurement interval, of those MPR that meet the selection criteria. An MPR is considered to be rejected when the managed MTA determines that the mts cannot deliver a message or a report or affirm a probe.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-nrOfMprRejected };

11.115 NrOfMprSubmitted

nrOfMprSubmitted ATTRIBUTE

DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:counter;

MATCHES FOR EQUALITY;

BEHAVIOUR nrOfMprSubmittedBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the number of messages or probes submitted to the MTA";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-nrOfMprSubmitted };

11.116 NrOfMprTransferredIn

nrOfMprTransferredIn ATTRIBUTE

DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:counter;

MATCHES FOR EQUALITY;

BEHAVIOUR nrOfMprTransferredIntBehaviour BEHAVIOUR**DEFINED AS**

"This attribute defines the number of MPR the managed MTA has received from another MTA, during the measurement interval, of those MPR that meet the selection criteria.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-nrOfMprTransferredIn };

11.117 NrOfMprTransferredOut**nrOfMprTransferredOut ATTRIBUTE**

DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:counter;

MATCHES FOR EQUALITY;

BEHAVIOUR nrOfMprTransferredOutBehaviour BEHAVIOUR**DEFINED AS**

"This attribute defines the number of MPR the managed MTA has transferred to another MTA, during the measurement interval, of those MPR that meet the selection criteria.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-nrOfMprTransferredOut };

11.118 NrOfRecipientsProcessed**nrOfRecipientsProcessed ATTRIBUTE**

DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:counter;

MATCHES FOR EQUALITY;

BEHAVIOUR nrOfRecipientsProcessedBehaviour BEHAVIOUR**DEFINED AS**

"This attribute defines the number of recipient processed, during the measurement interval, of those MPR that meet the selection criteria.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-nrOfRecipientsProcessed };

11.119 NrOfRejectedInvocations**nrOfRejectedInvocations ATTRIBUTE**

DERIVED FROM Recommendation X.721 | ISO/IEC 10165-2:counter;

MATCHES FOR EQUALITY;

BEHAVIOUR nrOfRejectedInvocationsBehaviour BEHAVIOUR**DEFINED AS**

"This attribute defines the number of rejected invocations of the MTA function, during the measurement interval, for the processing of those MPR that meet the selection criteria.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-nrOfRejectedInvocations };

11.120 OriginatorName**originatorName ATTRIBUTE**

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EmailMtsUserName;

MATCHES FOR EQUALITY;

BEHAVIOUR originatorNameBehaviour BEHAVIOUR**DEFINED AS**

"This parameter provides the originator-name of the MPR";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-originatorName };

11.121 PermittedMessages**permittedMessages ATTRIBUTE**

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.restrictions;

MATCHES FOR EQUALITY; SET-COMPARISON, SET-INTERSECTION;

permittedMessagesBehaviour BEHAVIOUR

DEFINED AS

If restricted delivery was subscribed by the MTS User, this parameter provides the selected messages the MTS User is willing to receive. This attribute may have one of the possible values of a set of restrictions MTS abstract service parameter as defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. An empty value indicates that all messages are accepted.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-permittedMessages};

11.122 Priority

priority ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.Priority;

MATCHES FOR EQUALITY;

BEHAVIOUR priorityBehaviour **BEHAVIOUR**

DEFINED AS

"This parameter provides the priority of the MPR. This attribute may have one of the possible values of a priority MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-priority };

11.123 PriorityList

priorityList ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.PriorityList;

MATCHES FOR SET-COMPARISON, SET-INTERSECTION;

BEHAVIOUR priorityListBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute may have one of the possible values of the set of priorities from messages for which performance data should be gathered";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-priorityList };

11.124 ProbeOriginatorCertificate

probeOriginatorCertificate ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.OriginatorCertificate;

MATCHES FOR EQUALITY;

BEHAVIOUR probeOriginatorCertificateBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute provides the certificate of the originator";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-probeOriginatorCertificate };

11.125 ProbeOriginAuthenticationCheck

probeOriginAuthenticationCheck ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ProbeOriginAuthenticationCheck;

MATCHES FOR EQUALITY;

BEHAVIOUR probeOriginAuthenticationCheckBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute provides the authentication check to determine the origin. This attribute may have one of the possible values of a report-origin-authentication-check MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-probeOriginAuthenticationCheck };

11.126 ProbePOACAlg

probePOACAlg ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.AlgorithmIdentifier;

MATCHES FOR EQUALITY;

BEHAVIOUR probePOACAlgATTRIBUTBehaviour **BEHAVIOUR**
DEFINED AS

"This attribute provides the algorithm for the POAC";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-probePOACAlgATTRIBUTE };

11.127 ProbeSecurityLabel

probeSecurityLabel ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.SecurityLabel;

MATCHES FOR EQUALITY;

BEHAVIOUR probeSecurityLabelBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute provides the labels for security";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-probeSecurityLabel };

11.128 ProcessingState

processingState ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ProcessingState;

MATCHES FOR EQUALITY;

BEHAVIOUR processingStateBehaviour **BEHAVIOUR**

DEFINED AS

"This parameter provides information on the function currently performed on the MPR. A processing state set to 'idle' indicates that the MPR is waiting to be processed. A processing state set to 'processed' indicates that the MPR was successfully processed. A processing state set to 'rejected' indicates that the MTS was not able to deliver the message or the report or affirm the probe. A processing state set to 'name-resolution', 'redirection', 'deferred-delivery', 'conversion' or 'securityContextCheck' indicates that the MPR is currently performing the corresponding function on the MPR. The value 'unknownFunction' indicates that the MTA is currently performing a function on the MPR that is not name resolution, dl expansion, redirection, deferred-delivery, conversion or security Context Check.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-processingState };

11.129 ProcessingSummary

processingSummary ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ProcessingSummary;

MATCHES FOR EQUALITY;

BEHAVIOUR processingSummaryBehaviour **BEHAVIOUR**

DEFINED AS

"This parameter provides information on the functions which were successfully performed on the MPR by the managed MTA since the arrival time. The following functions are monitored by this parameter: name resolution, dl expansion, redirection, deferred-delivery, conversion and security context check. If no function is performed yet by the MTA on the MPR, the processing Summary parameter is set to 'idle'.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-processingSummary };

11.130 ProofOfDelivery

proofOfDelivery ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ProofOfDelivery;

MATCHES FOR EQUALITY;

BEHAVIOUR proofOfDeliveryBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute identifies if proofOfDelivery is applied";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-proofOfDelivery };

11.131 ProofOfDeliveryRequest

proofOfDeliveryRequest ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ProofOfDeliveryRequest;

MATCHES FOR EQUALITY;

BEHAVIOUR proofOfDeliveryRequestBehaviour BEHAVIOUR

DEFINED AS

"This attribute identifies if proof of Delivery is requested. This attribute may have one of the possible values of a proof-of-delivery-request MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-proofOfDeliveryRequest };

11.132 RecipientCertificate

recipientCertificate ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.RecipientCertificate;

MATCHES FOR EQUALITY, SET-COMPARISON, SET-INTERSECTION;

BEHAVIOUR recipientCertificateBehaviour BEHAVIOUR

DEFINED AS

"This attribute indicates the certificate of a recipient";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-recipientCertificate };

11.133 RecipientCicAlg

recipientCicAlg ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.AlgorithmIdentifier;

MATCHES FOR EQUALITY;

BEHAVIOUR recipientCicAlgBehaviour BEHAVIOUR

DEFINED AS

"This attribute provides the Cic algorithm for the recipient";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-recipientCicAlg };

11.134 RecipientName

recipientName ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EmailMtsUserName;

MATCHES FOR EQUALITY;

BEHAVIOUR recipientNameBehaviour BEHAVIOUR

DEFINED AS

"This attribute provides the MTS User name of the recipient";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-recipientName };

11.135 RecipientsNames

recipientsNames ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EmailMtsUserNames;

MATCHES FOR SET-COMPARISON, SET-INTERSECTION;

BEHAVIOUR recipientsNamesBehaviour BEHAVIOUR

DEFINED AS

"This attribute indicates the MTS User name of each recipient of the MPR. For a report this attribute indicates the actual recipients names. This attribute may have one of the possible values of a set of OR-name MTS abstract service parameters defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic name' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-recipientsNames };

11.136 RecipientTokenAlg**recipientTokenAlg ATTRIBUTE****WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.AlgorithmIdentifier;****MATCHES FOR EQUALITY;****BEHAVIOUR recipientTokenAlgBehaviour BEHAVIOUR****DEFINED AS****"This attribute provides the token algorithm for the recipient";;****REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-recipientTokenAlg };****11.137 RecipientTokenEncAlg****recipientTokenEncAlg ATTRIBUTE****WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.AlgorithmIdentifier;****MATCHES FOR EQUALITY;****BEHAVIOUR recipientTokenEncAlgBehaviour BEHAVIOUR****DEFINED AS****"This attribute provides the token enc algorithm for the recipient";;****REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-recipientTokenEncAlg };****11.138 RecipientTokenSigAlg****recipientTokenSigAlg ATTRIBUTE****WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.AlgorithmIdentifier;****MATCHES FOR EQUALITY;****BEHAVIOUR recipientTokenSigAlgBehaviour BEHAVIOUR****DEFINED AS****"This attribute provides the algorithm for the ROAC";;****REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-recipientTokenSigAlg };****11.139 RedirectionRecipient****redirectionRecipient ATTRIBUTE****WITH ATTRIBUTE SYNTAX MhSMTAAsn1Module.EmailMtsUserName;****MATCHES FOR EQUALITY;****BEHAVIOUR redirectionRecipientBehaviour BEHAVIOUR****DEFINED AS****"This attribute indicates the alternate recipient if set by the MTS User. If this attribute has the value NULL, then there is no redirected recipient";;****REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-redirectionRecipient };****11.140 Redirections****redirections ATTRIBUTE****WITH ATTRIBUTE SYNTAX MhSMTAAsn1Module.EmailRedirections;****MATCHES FOR EQUALITY;****BEHAVIOUR redirectionsBehaviour BEHAVIOUR****DEFINED AS****"If secure redirection was subscribed, this parameter provides, for each security label, a redirection address. If a redirection address has the value NULL, then redirection does not take place and the message is non-delivered.";;****REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-redirections };**

11.141 ReportOriginatorCertificate

reportOriginatorCertificate ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.OriginatorCertificate;

MATCHES FOR EQUALITY;

BEHAVIOUR reportOriginatorCertificateBehaviour BEHAVIOUR

DEFINED AS

"This attribute provides the originator certificate of a report";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-reportOriginatorCertificate };

11.142 ReportOriginAuthenticationCheck

reportOriginAuthenticationCheck ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ReportOriginAuthenticationCheck;

MATCHES FOR EQUALITY;

BEHAVIOUR reportOriginAuthenticationCheckBehaviour BEHAVIOUR

DEFINED AS

"This attribute provides the authentication check to determine the origin";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-reportOriginAuthenticationCheck };

11.143 ReportROCAAlg

reportROCAAlg ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.AlgorithmIdentifier;

MATCHES FOR EQUALITY;

BEHAVIOUR reportROCAAlgBehaviour BEHAVIOUR

DEFINED AS

"This attribute provides the algorithm for the ROAC";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-reportROCAAlg };

11.144 ReportSecurityLabel

reportSecurityLabel ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.SecurityLabel;

MATCHES FOR EQUALITY;

BEHAVIOUR reportSecurityLabelBehaviour BEHAVIOUR

DEFINED AS

"This attribute provides the labels for security";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-reportSecurityLabel };

11.145 ResponderAccessPointAddress

responderAccessPointAddress ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EMailAccessPointAddress;

MATCHES FOR EQUALITY;

BEHAVIOUR responderAccessPointAddressBehaviour BEHAVIOUR

DEFINED AS

"This attribute provides the access point address used by the responder during association establishment. This attribute may have one of the possible values of a PSAP-address MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic address' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-responderAccessPointAddress };

11.146 ResponderSimpleCredentials**responderCredentials ATTRIBUTE****WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EmailSimpleCredentials;****MATCHES FOR EQUALITY;****BEHAVIOUR responderCredentialsBehaviour BEHAVIOUR****DEFINED AS**

"If simple authentication is used for the current association, this attribute provides the simple credentials used by the responder during association establishment. This attribute may have one of the possible values of a password MTS abstract service parameter defined in ITU-T Rec. X.411 | ISO/IEC 10021-4.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-responderCredentials };**11.147 ResponderStrongCredentials****responderStrongCredentials ATTRIBUTE****WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.EmailStrongCredentials;****MATCHES FOR EQUALITY;****BEHAVIOUR responderStrongCredentialsBehaviour BEHAVIOUR****DEFINED AS**

"If strong authentication is used, this attribute provides the strong credentials used by the responder during association establishment. This attribute may have one of the possible values of an initiator-bind-token and, optionally, an initiator-certificate MTS abstract service parameters defined in ITU-T Rec. X.411 | ISO/IEC 10021-4. For a non-standardised implementation of this MTS abstract service parameter a 'generic Strong Credentials' value may be used. The description of the use of this generic type is out of the scope of this Recommendation | International Standard.";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-responderStrongCredentials };**11.148 RoutingFunctionObjectInstanceId****routingFunctionObjectInstanceId ATTRIBUTE****WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ObjectIdOrDN;****MATCHES FOR EQUALITY;****BEHAVIOUR routingFunctionObjectInstanceIdBehaviour BEHAVIOUR****DEFINED AS**

"This attribute is used for the naming of the managed object instance. ";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-routingFunctionObjectInstanceId };**11.149 SecAdjMTAObjectInstanceId****secAdjMTAObjectInstanceId ATTRIBUTE****WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ObjectIdOrDN;****MATCHES FOR EQUALITY;****BEHAVIOUR secAdjMTAObjectInstanceIdBehaviour BEHAVIOUR****DEFINED AS**

"This attribute is used for the naming of the managed object instance. ";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-secAdjMTAObjectInstanceId };**11.150 SecAssociationObjectInstanceId****secAssociationObjectInstanceId ATTRIBUTE****WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ObjectIdOrDN;****MATCHES FOR EQUALITY;****BEHAVIOUR secAssociationObjectInstanceIdBehaviour BEHAVIOUR****DEFINED AS**

"This attribute is used for the naming of the managed object instance. ";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-secAssociationObjectInstanceId };

11.151 SecConversionObjectInstanceId

secConversionObjectInstanceId ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ObjectIdOrDN;

MATCHES FOR EQUALITY;

BEHAVIOUR secConversionObjectInstanceIdBehaviour BEHAVIOUR
DEFINED AS

"This attribute is used for the naming of the managed object instance. ";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-secConversionObjectInstanceId};

11.152 SecGenROACObjectInstanceId

secGenROACObjectInstanceId ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ObjectIdOrDN;

MATCHES FOR EQUALITY;

BEHAVIOUR secGenROACObjectInstanceIdBehaviour BEHAVIOUR
DEFINED AS

"This attribute is used for the naming of the managed object instance. ";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-secGenROACObjectInstanceId};

11.153 SecMessageObjectInstanceId

secMessageObjectInstanceId ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ObjectIdOrDN;

MATCHES FOR EQUALITY;

BEHAVIOUR secMessageObjectInstanceIdBehaviour BEHAVIOUR
DEFINED AS

"This attribute is used for the naming of the managed object instance. ";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-secMessageObjectInstanceId};

11.154 SecMtsUserObjectInstanceId

secMtsUserObjectInstanceId ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ObjectIdOrDN;

MATCHES FOR EQUALITY;

BEHAVIOUR secMtsUserObjectInstanceIdBehaviour BEHAVIOUR
DEFINED AS

"This attribute is used for the naming of the managed object instance. ";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-secMtsUserObjectInstanceId};

11.155 SecProbeObjectInstanceId

secProbeObjectInstanceId ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ObjectIdOrDN;

MATCHES FOR EQUALITY;

BEHAVIOUR secProbeObjectInstanceIdBehaviour BEHAVIOUR
DEFINED AS

"This attribute is used for the naming of the managed object instance. ";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-secProbeObjectInstanceccId};

11.156 SecReportObjectInstanceId

secReportObjectInstanceId ATTRIBUTE

WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ObjectIdOrDN;

MATCHES FOR EQUALITY;

BEHAVIOUR secReportObjectInstanceIdBehaviour BEHAVIOUR
DEFINED AS

"This attribute is used for the naming of the managed object instance. ";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-secReportObjectInstanceId };

11.157 SecurityLabels

securityLabels ATTRIBUTE
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.SecurityLabels;

MATCHES FOR SET-COMPARISON, SET-INTERSECTION;

BEHAVIOUR securityLabelsBehaviour BEHAVIOUR
DEFINED AS

"This attribute provides the security labels that can be used by the MTS User to establish an association with the managed MTA. ";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-securityLabels };

11.158 SecVerifGenMsgObjectInstanceId

secVerifGenMsgObjectInstanceId ATTRIBUTE
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ObjectIdOrDN;

MATCHES FOR EQUALITY;

BEHAVIOUR secVerifGenMsgObjectInstanceIdBehaviour BEHAVIOUR
DEFINED AS

"This attribute is used for the naming of the managed object instance. ";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-secVerifGenMsgObjectInstanceId };

11.159 SecVerifGenRecipObjectInstanceId

SecVerifGenRecipObjectInstanceId ATTRIBUTE
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ObjectIdOrDN;

MATCHES FOR EQUALITY;

BEHAVIOUR SecVerifGenRecipObjectInstanceIdBehaviour BEHAVIOUR
DEFINED AS

"This attribute is used for the naming of the managed object instance. ";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.Id-attribute-SecVerifGenRecipObjectInstanceId};

11.160 SecVerifMOACFunctionObjectInstanceId

secVerifMOACFunctionObjectInstanceId ATTRIBUTE
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ObjectIdOrDN;

MATCHES FOR EQUALITY;

BEHAVIOUR secVerifMOACFunctionObjectInstanceIdBehaviour BEHAVIOUR
DEFINED AS

"This attribute is used for the naming of the managed object instance. ";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-SecVerifGenRecipObjectInstanceId };

11.161 SecVerifPOACObjectInstanceId

secVerifPOACObjectInstanceId ATTRIBUTE
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ObjectIdOrDN;

MATCHES FOR EQUALITY;

BEHAVIOUR secVerifPOACObjectInstanceIdBehaviour BEHAVIOUR
DEFINED AS

"This attribute is used for the naming of the managed object instance. ";;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-attribute-secVerifPOACObjectInstanceId };

11.162 SecVerifROACObjectInstanceId

secVerifROACObjectInstanceId ATTRIBUTE
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ObjectIdOrDN;

MATCHES FOR EQUALITY;

BEHAVIOUR secVerifROACObjectInstanceIdBehaviour BEHAVIOUR
DEFINED AS

"This attribute is used for the naming of the managed object instance. ";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-secVerifROACObjectInstanceId };

11.163 SupportedApplicationContexts

supportedApplicationContexts ATTRIBUTE
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.ApplicationContexts;

MATCHES FOR EQUALITY;

BEHAVIOUR supportedApplicationContextsBehaviour BEHAVIOUR
DEFINED AS

"This attribute defines the MHS application contexts that are supported by the managed MTA.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-supportedApplicationContexts };

11.164 TypeOfMpr

typeOfMpr ATTRIBUTE
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.TypeOfMpr;

MATCHES FOR EQUALITY;

BEHAVIOUR typeOfMprBehaviour BEHAVIOUR
DEFINED AS

"This attribute defines the type is message, probe or report";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-typeOfMpr };

11.165 WaitTimeToRelease

waitTimeToRelease ATTRIBUTE
WITH ATTRIBUTE SYNTAX MhsMTAAsn1Module.DurationInSeconds;

MATCHES FOR EQUALITY;

BEHAVIOUR waitTimeToReleaseBehaviour BEHAVIOUR
DEFINED AS

"This attribute describes the duration in seconds an association established at the initiative of the managed MTA will remain idle before being closed.";;

REGISTERED AS {MhsMgntMTAObjectIdentifiers.id-attribute-waitTimeToRelease };

12 Definition of notifications

No specific notifications are defined for the purpose of MTA management. All notifications definitions are imported from Recommendation M.3100 or CCITT Rec. X.721 | ISO/IEC 10165-2.

13 Definition of actions

No specific actions are defined for the purpose of MTA management.

14 Name bindings

This clause specifies name bindings for the MTA management managed object classes.

14.1 AdjMTA-mta

adjMTA-mta NAME BINDING

SUBORDINATE OBJECT CLASS adjMTA;

NAMED BY SUPERIOR OBJECT CLASS mta;

WITH ATTRIBUTE mtaId;

BEHAVIOUR adjMTA-mtaBehaviour BEHAVIOUR

DEFINED AS

"For each adjacent MTA of the managed mta, an instance of this class shall be created";;

CREATE WITH-REFERENCE-OBJECT;

DELETE ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-name-binding-adjMTA-mta};

14.2 Association-adjMTA

association-adjMTA NAME BINDING

SUBORDINATE OBJECT CLASS association;

NAMED BY SUPERIOR OBJECT CLASS adjMTA;

WITH ATTRIBUTE associationObjectInstanceId;

BEHAVIOUR association-adjMTABehaviour BEHAVIOUR

DEFINED AS

"An association object instance shall be created each time an association is established between the adjacent MTA and the managed MTA";;

CREATE WITH-REFERENCE-OBJECT;

DELETE ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-name-binding-association-adjMTA};

14.3 Association-MtsUser

association-MtsUser NAME BINDING

SUBORDINATE OBJECT CLASS association;

NAMED BY SUPERIOR OBJECT CLASS MtsUser;

WITH ATTRIBUTE associationObjectInstanceId;

BEHAVIOUR association-MtsUserBehaviour BEHAVIOUR

DEFINED AS

"An association object instance shall be created each time an association is established between the Mts-User and the managed MTA";;

CREATE WITH-REFERENCE-OBJECT;

DELETE ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-name-binding-association-MtsUser};

14.4 ConversionCurrentData-ConversionFunction

conversionCurrentData-conversionFunction NAME BINDING

SUBORDINATE OBJECT CLASS conversionCurrentData AND SUBCLASSES;

NAMED BY SUPERIOR OBJECT CLASS conversionFunction;

WITH ATTRIBUTE "Recommendation X.739 | 10164-11":scannerId;

CREATE

WITH-REFERENCE-OBJECT,

WITH-AUTOMATIC-INSTANCE-NAMING;

DELETE

DELETES-CONTAINED-OBJECTS;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-name-binding-conversionCurrentData-conversion};

14.5 ConversionFunction-mta

conversionFunction-mta NAME BINDING

SUBORDINATE OBJECT CLASS conversionFunction;

NAMED BY SUPERIOR OBJECT CLASS mta;

WITH ATTRIBUTE conversionFunctionObjectInstanceId;

BEHAVIOUR conversionFunction-mtaBehaviour BEHAVIOUR

DEFINED AS

"A ConversionFunction Object instance shall be created for each type of conversion supported by the managed MTA";;

DELETE ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {MhsMgmtMTAObjectIdentifiers.id-name-binding-conversionFunction-mta};