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TITLE: OSI SYSTEMS MANAGEMENT IMPLEMENTOR'S GUIDE (VERSION 7,
MAY 1999)

STATUS: Changes adopted by ITU-T SG 4 at its meeting in March 1999.

ABSTRACT: This document is a compilation of reported defects and their resolutions pertaining to the ITU-T X.700-series Recommendations | ISO/IEC 9595, 9596, 10040, 10164 and 10165 Standards on OSI Systems Management. It is intended to be an additional authoritative source of information for implementors to be read in conjunction with the Recommendations | International Standards themselves.

In the case of X.790, the approved Draft technical corrigenda will not be published in collaboration with ISO/IEC JTC 1.

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Preface

The purpose of this Guide is to help implementors of the 1991/93 ITU-T Recommendations | ISO/IEC International Standards on OSI Systems Management. This Guide is not part of those Recommendations or International Standards, but may be used in their ongoing maintenance.

The first version of the guide was produced following the February 1993 ITU-T/SG 7 meeting.

Items marked with an asterisk (*) were added to the Guide or modified (approval status changed, with some editorial changes) for this Version.

A separate level 2 clause is presented in clause 3 for each Recommendation. Within that subclause is a separate level 3 subclause for each corrigenda. The approval levels are indicated as either: draft technical corrigenda (awaiting SG 4 approval), approved DTC (i.e. awaiting publication), or Technical corrigenda (i.e. published)

At the end of each level three clause heading a defect report number (DR) is included if appropriate. This defect report number is used in Appendix A, which is a register of defect reports raised and their current status. Note that a single bullet may relate to more than one defect report, or a single defect report may result in more than one bullet being generated.

Wide distribution of this document is expected and encouraged.

This Guide is published in the spirit of international communication and cooperation. However the authors assume no responsibility for the accuracy of the information it contains or for the consequences arising from its use.

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1 Introduction

1.1 Background

This Guide concerns the ITU-T Recommendations and ISO/IEC International Standards on OSI Systems Management. These documents have been developed collaboratively by ITU-T and ISO/IEC to result in identical technical content. In ITU-T these are the X.700-series and in ISO/IEC the 9595, 9596, 10040, 10164 and 10165 series. The documents of both bodies are either technically aligned but with presentation differences, which take account of the different structure of documents published by both bodies (X.700, X.710 and X.711) or are textually identical (the remainder of the X.700-series). The text identical documents are prepared using the text layout rules in Recommendation A.1000 | ISO/IEC 1000.

For documents which are technically identical but have presentation difference (i.e. X.700, X.710 and X.711) text changes resulting from agreed resolutions on defects and Addenda will be identical in both the ITU-T and ISO/IEC version. However the page numbers and line numbers within a paragraph may differ. For all other documents the changes text and location in the document will be identical.

This Guide is informal in nature. The information provided here is informative and this Guide is not an ITU-T Recommendation. The information it contains will serve as an information source for the collaborative ITU-T and ISO/IEC group on Systems Management, who have been assigned the responsibility of maintaining the OSI Systems Management documents, and other users. The changes are expected to be included into future versions of Recommendations | International Standards.

1.2 Scope of the Guide

This Guide resolves defects in (only) the following categories:

- editorial errors;
- technical errors, such as omissions or inconsistencies;
- ambiguities.

In addition the Guide may include explanatory text found necessary as a result of interpretation difficulties apparent from the defect reports.

*Common Text - changes to these Recommendations will be contained in Technical Corrigenda published in common text format. The text of these Technical Corrigenda will be contained in the Implementor's Guide.

*Twin text - ITU has not and will not publish Technical Corrigenda for these texts. In these cases the Implementor's Guide is the only place where ITU members can obtain the text of the agreed changes. In all cases the changes will be exactly aligned with the technical content of the equivalent ISO/IEC Technical Corrigendum.

NOTE - This Guide will not address proposed additions, deletions or modifications to the Recommendations | International Standards that are not strictly related to implementation difficulties in the above categories. Proposals for new features should be made in the normal way through contributions to National Bodies.

1.3 Contacts and Distribution of the Guide

This Guide will be made available at ITU-T SG 7 meetings. In addition copies of this Guide can, in general, also be made available from one's national representative for ITU-T or ISO/IEC JTC 1/ SC 33/WG 6. The Guide is also available from the ITU-T Study Group 4 pages of the ITU site on the WWW (<http://www.itu.int>). Copies may also be obtained from other agencies.

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Defect group leaders

This list includes the names of leaders for specifications, that have defects raised against them. When and if other Systems Management specifications have defects raised against them the leader or those specifications will be included.

Recommendation International Standard	Defect group leader	
ITU-T Rec. X.701 ISO/IEC 10040 - Information Technology - Open Systems Interconnection - Systems management overview	Tom Rutt Lucent Technologies USA	Tel: +1 949 7862 Fax: +1 949 1106 Email: terutt@lucent.com
ITU-T Rec. X.710 ISO/IEC 9595 - Information Technology - Open Systems Interconnection - Common management information service definition	Neil Trickey Marconi Communications, Technology Drive, Beeston, Nottingham, NG9 1LA UK	Tel: +44 115 906 4650 Fax: +44 115 943 3346 Email: trickey_na@ncp.gpt.co.uk
ITU-T Rec. X.711 ISO/IEC 9596-1 - Information Technology - Open Systems Interconnection - Common management information protocol - Part 1: Specification	Neil Trickey Marconi Communications, Technology Drive, Beeston, Nottingham, NG9 1LA UK	Tel: +44 115 906 4650 Fax: +44 115 943 3346 Email: trickey_na@ncp.gpt.co.uk
ITU-T Rec. X.712 ISO/IEC 9596-1 - Information Technology - Open Systems Interconnection - Common management information protocol - Part 2 : Protocol implementation conformance statement (PICS) proforma	Neil Trickey Marconi Communications, Technology Drive, Beeston, Nottingham, NG9 1LA UK	Tel: +44 115 906 4650 Fax: +44 115 943 3346 Email: trickey_na@ncp.gpt.co.uk

Recommendation International Standard	Defect group leader	
ITU-T Rec. X.720 ISO/IEC 10165-1 - Information Technology - Open Systems Interconnection - Structure of management information: Management information model	John Paul Golick IBM, Research Triangle Park, NC 27709, USA	Tel: +1 919 301 4004 Fax: +1 919 3013853 Email: GOLICK@us.ibm.com
ITU-T Rec. X.721 ISO/IEC 10165-2 - Information Technology - Open Systems Interconnection - Structure of management information: Definition of management information	John Paul Golick IBM, Research Triangle Park, NC 27709, USA	Tel: +1 919 301 4004 Fax: +1 919 3013853 Email: GOLICK@us.ibm.com
ITU-T Rec. X.722 ISO/IEC 10165-4 - Information Technology - Open Systems Interconnection - Structure of management information: Guidelines for the definition of managed objects	John Paul Golick IBM, Research Triangle Park, NC 27709, USA	Tel: +1 919 301 4004 Fax: +1 919 3013853 Email: GOLICK@us.ibm.com
ITU-T Rec. X.723 ISO/IEC 10165-5 - Information Technology - Open Systems Interconnection - Structure of management information: Generic Management Information	John Paul Golick IBM, USA	Tel: +1 919 301 4004 Fax: +1 919 3013853 Email: GOLICK@us.ibm.com
ITU-T Rec. X.724 ISO/IEC 10165-6 - Information Technology - Open Systems Interconnection - Structure of management information: Requirement and Guidelines for Implementation Conformance Statement Proformas Associated with OSI Management		
ITU-T Rec. X.730 ISO/IEC 10164-1 - Information Technology - Open Systems Interconnection - Systems Management: Object Management Function	Amir Talae BT B83/2/op, BT Laboratories, Martlesham Heath, Suffolk, IP5 7RE, UK	Tel: +44 1473 649814 Fax: +44 1473 646064 Email: talaee@ses6a.bt.co.uk
ITU-T Rec. X.731 ISO/IEC 10164-2 - Information Technology - Open Systems Interconnection - Systems Management: State Management Function	Amir Talae BT B83/2/op, BT Laboratories, Martlesham Heath, Suffolk, IP5 7RE, UK	Tel: +44 1473 649814 Fax: +44 1473 646064 Email: talaee@ses6a.bt.co.uk

Recommendation International Standard	Defect group leader	
ITU-T Rec. X.732 ISO/IEC 10164-3 - Information Technology - Open Systems Interconnection - Systems Management: Attributes for Representing Relationships	Amir Talaee BT B83/2/op, BT Laboratories, Martlesham Heath, Suffolk, IP5 7RE, UK	Tel: +44 1473 649814 Fax: +44 1473 646064 Email: talaee@ses6a.bt.co.uk
ITU-T Rec. X.733 ISO/IEC 10164-4 - Information Technology - Open Systems Interconnection - Systems Management: Alarm Reporting Function		
ITU-T Rec. X.734 ISO/IEC 10164-5 - Information Technology - Open Systems Interconnection - Systems Management: Event Report Management Function	Mark Klerer	Tel: 973 292 5710 Fax: 973 294 4161 Email: mark.klerer@nortel.com
ITU-T Rec. X.735 ISO/IEC 10164-6 - Information Technology - Open Systems Interconnection - Systems Management: Log Control Function		
ITU-T Rec. X.736 ISO/IEC 10164-7 - Information Technology - Open Systems Interconnection - Systems Management: Security Alarm Reporting Function	Neil Trickey Marconi Communications, Technology Drive, Beeston, Nottingham, NG9 1LA UK	Tel: +44 115 906 4650 Fax: +44 115 943 3346 Email: trickey_na@ncp.gpt.co.uk
ITU-T Rec. X.738 ISO/IEC 10164-13 - Information Technology - Open Systems Interconnection - Systems Management: Summarization Function	Michael Chernick National Institute of Standards & Technology, Room 445, Bldg 850, Gaithersburg, Maryland, USA	Tel: +1 301 975 3610 Fax: +1 301 590 0932 Email: chernick@nist.gov
ITU-T Rec. X.739 ISO/IEC 10164-7 11 - Information Technology - Open Systems Interconnection - Systems Management: Metric Objects and Attributes	*Michael Chernick National Institute of Standards & Technology, Room 445, Bldg 850, Gaithersburg, Maryland, USA	Tel: +1 301 975 3610 Fax: +1 301 590 0932 Email: chernick@nist.gov
ITU-T Rec. X.740 ISO/IEC 10164-8 - Information Technology - Open Systems Interconnection - Systems Management: Security Audit Trail Function	Neil Trickey Marconi Communications, Technology Drive, Beeston, Nottingham, NG9 1LA UK	Tel: +44 115 906 4650 Fax: +44 115 943 3346 Email: trickey_na@ncp.gpt.co.uk

Recommendation International Standard	Defect group leader	
*ITU-T Rec. X.741 ISO/IEC 10164-9 - Information Technology - Open Systems Interconnection - Objects and Attributes for Access Control		
ITU-T Rec. X.742 ISO/IEC 10164-10 - Information Technology - Open Systems Interconnection - Systems Management: Usage Metering for Accounting Purposes	Ole Krog Thomsen, TMN Strategy, C-110, Sletvej 30, DK-8310 Aarhus- TranbjergJ, DENMARK	Tel: +45 89 45 46 16 Fax: +45 86 28 96 47 Email: okt@cs.jt.dk
ITU-T Rec. X.745 ISO/IEC 10164-12 - Information Technology - Open Systems Interconnection - Systems Management: Test Management Function		
ITU-T Rec. X.790 Trouble Management Function For ITU-T Applications NOTE - Mr. Modha will carry out this role until 30 June 1996 and will confirm to the Rapporteur if he will continue beyond this.	Vinod Modha BT, pp450 4th Floor, Phase, Bibb Way, Ipswich, Suffolk, IP1 2EQ, UK	Tel: +44 1473 227703 Email: modha_v_s@bt-web.bt.co.uk

1.4 History Log - Changes over Version 6

This version of the X.700 implementor's guide includes all agreed Technical Corrigenda, as well as those Draft Technical corrigenda under Resolution 1 processing for approval at the February, 2000 SG 4 meeting. All of the text of published TCs and approved DTCs has replaced the text from Version 6.

Since X.701, X.710 and X.711 have been republished as approved in 1997, only defects from the newly published base are included in this version of the implementor's guide.

2 Defect Report and Resolution Procedures

2.1 Submission of Defects

Any implementor of the OSI Systems Management Recommendations | International Standards is invited to submit an OSI Systems Management defect report using the form in Appendix C of the Guide. The defect should be submitted to the ITU-T Rapporteur. Each form should cover a single defect. It is important that the form is completed accurately, especially the sections which relate to the base material against which the defect report is being raised.

NOTE - Where in the table of defect group leaders (clause 1.3) a leader is not shown a defect report may be sent to the ITU-T Rapporteur. In this case the ITU-T Rapporteur will progress the defect and act in the defect leader role until another person takes over this role.

2.2 Resolution of Defects

A collaborative OSI Systems Management Defect resolution group has been established for each of the Recommendations | International Standards. In some cases a group covers more than one Recommendation | International Standard. Each group represents the ITU-T and ISO/IEC JTC 1 interests by including national representatives.

Following agreement on a resolution, within a collaborative Defect Resolution Group, the proposed resolution may require approval of ISO/IEC JTC 1.

This Guide will contain resolutions as they are agreed by the Defect Resolution Group. The status of each will be reflected in Appendix A of the Guide and any modifications required to the resolutions themselves prior to final approval, will be reflected in Section 3 of the Guide.

Please note that individual responses cannot be given to an individual who submitting defect reports, and that the procedure is not intended as a consulting service.

Appendix B of this Guide directs the reader to a list of the ITU-T and ISO/IEC documents containing the agreed defect resolutions extracted from Section 3.

3 Implementation Guidance

Remember that this Guide is intended to be an authoritative source of information for implementors of the OSI Systems Management Recommendations | International Standards. However it is not itself an ITU-T Recommendation or ISO/IEC International Standard.

Items which were also included (although the new guide may have an updated version) in Version 4 of this guide, have the letter (A through S) which was used to refer to that Corrigenda in Version 4. Corrigenda new to either Version 5, or this new Version 6, do not have the letter in the heading.

At the end of each bullet title a defect report number (DR) is included if appropriate. This defect report number is used in Annex A, which is a register of defect reports raised and their current status. Note that a single bullet may relate to more than one defect report, or a single defect report may result in more than one bullet being generated.

3.1 Changes to CCITT Recommendation X.700 (1992)

None.

3.2 Changes to ITU-T Recommendation X.701 (1997) | ISO/IEC 10040 : 1998

None. ITU-T Recommendation X.701 (1997) | ISO/IEC 10040 : 1998 incorporates all technical corrigenda applied to the 1992 version.

3.3 Changes to ITU-T Recommendation X.710 (1997) | ISO/IEC 9596 : 1998

None. ITU-T Recommendation X.710 (1997) | ISO/IEC 9595 : 1998 incorporates all technical corrigenda applied to the 1991 version.

3.4 Changes to CCITT Recommendation X.711 (1997) ISO/IEC 9596-1 : 1998

ITU-T Recommendation X.711 (1997) | ISO/IEC 9596 : 1998 incorporates all previously published technical corrigenda applied to the 1991 version. The following corrigenda apply to the 1997 publication.

3.4.1 *Approved Draft Technical Corrigendum 1 to CCITT X.711 | ISO/IEC 9596-2 resulting from X.711 : 1997 Defect Report (001) (approved at March 1999 SG 4 Plenary)

In ASN.1 production for FilterItem in CMIP-1 (Clause 7.4)

Replace:

"lessOrEqual [3] IMPLICIT Attribute,-- asserted value \geq attribute value"

With:

"lessOrEqual [3] IMPLICIT Attribute,-- asserted value \leq attribute value"

3.4.2 *Draft Technical Corrigendum 2 to CCITT X.711 | ISO/IEC 9596-2 resulting from ASN.1 1997 Defect (For approval at February 2000 SG 4 Plenary)

INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION — COMMON MANAGEMENT INFORMATION PROTOCOL: SPECIFICATION

DRAFT TECHNICAL CORRIGENDUM 2

1) Insert the following references into clause 2.1:

"

- ITU-T Recommendation X.680 (1997) | ISO/IEC 8824-1:1998, *Information technology – Abstract Syntax Notation One (ASN.1): Specification of Basic Notation.*
- ITU-T Recommendation X.681 (1994) | ISO/IEC 8824-2:1995, *Information technology – Abstract Syntax Notation One (ASN.1): Information object specification.*
- ITU-T Recommendation X.690 (1997) | ISO/IEC 8825-1:1998, *Information technology – ASN.1 Encoding Rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER).*
- ITU-T Recommendation X.691 (1997) | ISO/IEC 8825-2:1998, *Information technology – ASN.1 Encoding Rules: Specification of Packed Encoding Rules (PER).*
- ITU-T Recommendation X.880 (1994) | ISO/IEC 13712-1:1995, *Information technology – Remote Operations: Concepts, model and notation.*
- ITU-T Recommendation X.881 (1994) | ISO/IEC 13712-2:1994, *Information technology – Remote Operations: OSI realizations – Remote Operations Service Element (ROSE) service definition.*
- ITU-T Recommendation X.882 (1994) | ISO/IEC 13712-3:1995, *Information technology – Remote Operations: OSI realizations – Remote Operations Service Element (ROSE) protocol specification.*

"

2) *Replace clause 2.2 with the following:*

"

2.2 Paired Recommendations | International Standards equivalent in technical content

– 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*.

"

3) *Replace clause 3.3 with the following:*

"

3.3 Remote Operations definitions

This Recommendation | International Standard makes use of the following term defined in ITU-T Rec. X.880 | ISO/IEC 13172-1:

a) linked-operation.

This Recommendation | International Standard makes use of the following terms defined in ITU-T Rec. X.881 | ISO/IEC 13172-2:

- a) association-initiator;
- b) association-responder;
- c) Remote Operation Service Element;
- d) invoker;
- e) performer.

"

4) *Replace the first paragraph of clause 5.2 with the following:*

"

This Recommendation | International Standard uses the RO-INVOKE, RO-RESULT, RO-ERROR and RO-REJECT-U services of the Remote Operations Service Element (ROSE) defined in ITU-T Rec. X.880 | ISO/IEC 13712-1. ROSE assumes the use of the presentation service defined in ITU-T Rec. X.216 | ISO/IEC 8822. The confirmed operations of CMIP are asynchronous or synchronous as required by the application. The choice of asynchronous or synchronous is a local matter implemented by the application. The unconfirmed operations of CMIP are asynchronous, outcome not reported. Both the association-initiating and the association-responding application entities can invoke operations.

"

5) *Apply the following change to clause 5.2.2:*

Replace "CCITT Rec. X.229 | ISO/IEC 9072-2" with "ITU-T Rec. X.882 | ISO/IEC 13712-3".

6) *Apply the following changes to clause 6.2.1:*

Replace "CCITT Rec. X.229 | ISO/IEC 9072-2" with "ITU-T Rec. X.882 | ISO/IEC 13712-3".

Replace "InvokeID" with "invokeId" in Table 2.

Replace "Linked-ID" with "linkedId" in Table 2.

7) *Apply the following change to clause 6.4.3:*

Replace "linked-ID" with "linkedId" (occurs 4 times).

8) *Apply the following change to clause 6.4.4:*

Replace "linked-ID" with "linkedId" (occurs 2 times).

9) *Apply the following change to clause 6.5.3:*

Replace "linked-ID" with "linkedId" (occurs 4 times).

10) *Apply the following change to clause 6.5.4:*

Replace "linked-ID" with "linkedId" (occurs 2 times).

11) *Apply the following change to clause 6.6.3:*

Replace "linked-ID" with "linkedId" (occurs 4 times).

12) *Apply the following change to clause 6.6.4:*

Replace "linked-ID" with "linkedId" (occurs 2 times).

13) *Apply the following change to clause 6.8.3:*

Replace "linked-ID" with "linkedId" (occurs 4 times).

14) *Apply the following change to clause 6.8.4:*

Replace "linked-ID" with "linkedId" (occurs 2 times).

15) *Replace the first paragraph of clause 7.1 with the following:*

"

The abstract syntax is defined using the notation specified in CCITT Rec. X.680 | ISO/IEC 8824-1.

"

16) *Apply the following changes to clause 7.2:*

Replace "Linked-ID" with "linkedId" in Table 4.

Remove the last line of Table 4.

17) Replace clause 7.4 with the following:

"

7.4 CMIP data units

The protocol is described in terms of Common Management Information Protocol Data Units exchanged between the peer CMISEs. The PDUs are specified using ASN.1 and the ROSE information objects defined in ITU-T Rec. X.880 | ISO/IEC 13712-1.

-- Common Management Information Protocol (CMIP)

CMIP-1 {joint-iso-itu-t ms(9) cmip(1) modules(0) protocol(3)}

DEFINITIONS ::= BEGIN

-- This ASN.1 specification has been checked for conformance with the ASN.1 standard by the OSS ASN.1 Tools

IMPORTS

ERROR, OPERATION

FROM Remote-Operations-Information-Objects

{joint-iso-itu-t remote-operations(4) informationObjects(5) version1(0)}

ROS{, InvokeId, noInvokeId

FROM Remote-Operations-Generic-ROS-PDUs

{joint-iso-itu-t remote-operations(4) generic-ROS-PDUs(6) version1(0)};

CMIP-Operations OPERATION ::= {

m-Action	
m-Action-Confirmed	
m-CancelGet	
m-Create	
m-Delete	
m-EventReport	
m-EventReport-Confirmed	
m-Get	
m-Linked-Reply	
m-Set	
m-Set-Confirmed	}

CMIP-Confirmed-Operations OPERATION ::= {

m-Action-Confirmed	
m-CancelGet	
m-Create	
m-Delete	
m-EventReport-Confirmed	
m-Get	
m-Set-Confirmed	}

-- CMISE error definitions

accessDenied ERROR ::= {

PRIORITY {0}
CODE local : 2 }

classInstanceConflict ERROR ::= {

PARAMETER BaseManagedObjectId
PRIORITY {1}
CODE local : 19 }

complexityLimitation ERROR ::= {

PARAMETER ComplexityLimitation OPTIONAL TRUE
PRIORITY {1}
CODE local : 20 }

duplicateManagedObjectInstance ERROR ::= {

PARAMETER ObjectInstance
PRIORITY {1}
CODE local : 11 }

getListError ERROR ::= {

PARAMETER GetListError

```

        PRIORITY    {1}
        CODE        local : 7 }
invalidArgumentValue ERROR ::= {
        PARAMETER InvalidArgumentValue
        PRIORITY    {1}
        CODE        local : 15 }
invalidAttributeValue ERROR ::= {
        PARAMETER Attribute
        PRIORITY    {1}
        CODE        local : 6 }
invalidFilter ERROR ::= {
        PARAMETER CMISFilter
        PRIORITY    {1}
        CODE        local : 4 }
invalidObjectInstance ERROR ::= {
        PARAMETER ObjectInstance
        PRIORITY    {1}
        CODE        local : 17 }
invalidScope ERROR ::= {
        PARAMETER Scope
        PRIORITY    {1}
        CODE        local : 16 }
missingAttributeValue ERROR ::= {
        PARAMETER SET OF AttributeId
        PRIORITY    {1}
        CODE        local : 18 }
mistypedOperation ERROR ::= {
        PRIORITY    {1}
        CODE        local : 21 }
noSuchAction ERROR ::= {
        PARAMETER NoSuchAction
        PRIORITY    {1}
        CODE        local : 9 }
noSuchArgument ERROR ::= {
        PARAMETER NoSuchArgument
        PRIORITY    {1}
        CODE        local : 14 }
noSuchAttribute ERROR ::= {
        PARAMETER AttributeId
        PRIORITY    {1}
        CODE        local : 5 }
noSuchEventType ERROR ::= {
        PARAMETER NoSuchEventType
        PRIORITY    {1}
        CODE        local : 13 }
noSuchInvokeId ERROR ::= {
        PARAMETER InvokeIDType
        PRIORITY    {1}
        CODE        local : 22 }
noSuchObjectClass ERROR ::= {
        PARAMETER ObjectClass
        PRIORITY    {1}
        CODE        local : 0 }
noSuchObjectInstance ERROR ::= {
        PARAMETER ObjectInstance
        PRIORITY    {1}
        CODE        local : 1 }
noSuchReferenceObject ERROR ::= {
```

```

    PARAMETER ObjectInstance
    PRIORITY    {1}
    CODE        local : 12 }
operationCancelled ERROR ::= {
    PRIORITY    {1}
    CODE        local : 23 }
processingFailure ERROR ::= {
    PARAMETER ProcessingFailure OPTIONAL TRUE
    PRIORITY    {1}
    CODE        local : 10 }
setListError ERROR ::= {
    PARAMETER SetListError
    PRIORITY    {1}
    CODE        local : 8 }
syncNotSupported ERROR ::= {
    PARAMETER CMISync
    PRIORITY    {1}
    CODE        local : 3 }

-- CMISE operations
-- Action operation (M-ACTION)
m-Action OPERATION ::= {
    ARGUMENT        ActionArgument
    RETURN RESULT    FALSE
    ALWAYS RESPONDS FALSE
    CODE            local : 6 }
m-Action-Confirmed OPERATION ::= {
    ARGUMENT        ActionArgument
    RESULT          ActionResult OPTIONAL TRUE
-- this result is conditional;
-- for conditions see 8.3.3.2.9

of ITU-T Rec. X.710
    ERRORS          {accessDenied | classInstanceConflict | complexityLimitation | invalidScope |
                    invalidArgumentValue | invalidFilter | noSuchAction | noSuchArgument |
                    noSuchObjectClass | noSuchObjectInstance | processingFailure | syncNotSupported}
    LINKED          {m-Linked-Reply}
    CODE            local : 7 }

-- Cancel get operation (M-CANCEL-GET)
m-CancelGet OPERATION ::= {
    ARGUMENT        InvokeIDType
    RETURN RESULT    TRUE
    ERRORS          {mistypedOperation | noSuchInvokeId | processingFailure}
    CODE            local : 10 }

-- Create operation (M-CREATE)
m-Create OPERATION ::= {
    ARGUMENT        CreateArgument
    RESULT          CreateResult OPTIONAL TRUE
-- this result is conditional;
-- for conditions see 8.3.4.1.3

of ITU-T Rec. X.710
    ERRORS          {accessDenied | classInstanceConflict | duplicateManagedObjectInstance |
                    invalidAttributeValue | invalidObjectInstance | missingAttributeValue | noSuchAttribute |
                    noSuchObjectClass | noSuchObjectInstance | noSuchReferenceObject | processingFailure}
    CODE            local : 8 }

-- Delete operation (M-DELETE)
m-Delete OPERATION ::= {
    ARGUMENT        DeleteArgument
    RESULT          DeleteResult OPTIONAL TRUE
-- this result is conditional;
-- for conditions see 8.3.5.2.8 of ITU-T

Rec. X.710

```

```

ERRORS {accessDenied | classInstanceConflict | complexityLimitation | invalidFilter |
invalidScope |
noSuchObjectClass | noSuchObjectInstance | processingFailure | syncNotSupported}
LINKED {m-Linked-Reply}
CODE local : 9 }
-- Event Reporting operations (M-EVENT-REPORT)
m-EventReport OPERATION ::= {
ARGUMENT EventReportArgument
RETURN RESULT FALSE
ALWAYS RESPONDS FALSE
CODE local : 0 }
m-EventReport-Confirmed OPERATION ::= {
ARGUMENT EventReportArgument
RESULT EventReportResult OPTIONAL TRUE
ERRORS {invalidArgumentValue | noSuchArgument | noSuchEventType |
noSuchObjectClass |
noSuchObjectInstance | processingFailure}
CODE local : 1 }
-- Get operation (M-GET)
m-Get OPERATION ::= {
ARGUMENT GetArgument
RESULT GetResult OPTIONAL TRUE -- this result is conditional;
-- for conditions see 8.3.1.2.8
of ITU-T Rec. X.710
ERRORS {accessDenied | classInstanceConflict | complexityLimitation | getListError |
invalidFilter |
invalidScope | noSuchObjectClass | noSuchObjectInstance | operationCancelled |
processingFailure | syncNotSupported}
LINKED {m-Linked-Reply}
CODE local : 3 }
-- Linked operation to M-GET, M-SET (Confirmed), M-ACTION (Confirmed), and M-DELETE
m-Linked-Reply OPERATION ::= {
ARGUMENT LinkedReplyArgument
CODE local : 2 }
-- Set operations (M-SET)
m-Set OPERATION ::= {
ARGUMENT SetArgument
RETURN RESULT FALSE
ALWAYS RESPONDS FALSE
CODE local : 4 }
m-Set-Confirmed OPERATION ::= {
ARGUMENT SetArgument
RESULT SetResult OPTIONAL TRUE -- this result is conditional;
-- for conditions see 8.3.2.2.9
of ITU-T Rec. X.710
ERRORS {accessDenied | classInstanceConflict | complexityLimitation | invalidFilter |
invalidScope |
noSuchObjectClass | noSuchObjectInstance | processingFailure | setListError |
syncNotSupported}
LINKED {m-Linked-Reply}
CODE local : 5 }
-- INFORMATION OBJECT definitions
CMIP-ACTION ::= CLASS {
&id ActionTypeId UNIQUE,
&Value }
WITH SYNTAX {TYPE &Value
ID &id }

```

```

CMIP-ATTRIBUTE ::= CLASS {
    &id      AttributeId UNIQUE,
    &Value
    WITH SYNTAX      {TYPE      &Value
                      ID          &id }
CMIP-AVA ::= CLASS {
    &id      OBJECT IDENTIFIER UNIQUE,
    &Value
}
CMIP-EVENT ::= CLASS {
    &id      EventTypeId UNIQUE,
    &Value
    WITH SYNTAX      {TYPE      &Value
                      ID          &id }
CMIP-SPECIFICERROR ::= CLASS {
    &id      OBJECT IDENTIFIER UNIQUE,
    &Value
    WITH SYNTAX      {TYPE      &Value
                      ID          &id }

-- Supporting type definitions
AccessControl      ::= EXTERNAL
ActionArgument     ::= SEQUENCE {
    COMPONENTS OF      BaseManagedObjectId,
    accessControl       [5] AccessControl OPTIONAL,
    synchronization     [6] IMPLICIT CMISync DEFAULT bestEffort,
    scope               [7] Scope DEFAULT namedNumbers : baseObject,
    filter              CMISFilter DEFAULT and : {},
    actionInfo          [12] IMPLICIT ActionInfo,
    ...
}
ActionError ::= SEQUENCE {
    managedObjectClass      ObjectClass OPTIONAL,
    managedObjectInstance   ObjectInstance OPTIONAL,
    currentTime             [5] IMPLICIT GeneralizedTime OPTIONAL,
    actionErrorInfo         [6] ActionErrorInfo,
    ...
}
ActionErrorInfo ::= SEQUENCE {
    errorStatus ENUMERATED { accessDenied          (2),
                             noSuchAction          (9),
                             noSuchArgument        (14),
                             invalidArgumentValue   (15),
                             ... },
    errorInfo CHOICE {
        actionType      ActionTypeId,
        actionArgument  [0] NoSuchArgument,
        argumentValue    [1] InvalidArgumentValue
    },
    ...
}
ActionInfo ::= SEQUENCE {
    actionType      CMIP-ACTION.&id ({ActionSet}),
    actionReplyInfo [4] CMIP-ACTION.&Value ({ActionSet} {@actionType}) OPTIONAL
}
ActionReply ::= SEQUENCE {
    actionType      CMIP-ACTION.&id ({ActionSet}),
    actionReplyInfo [4] CMIP-ACTION.&Value ({ActionSet} {@actionType})
}

```

```

ActionResult ::= SEQUENCE {
    managedObjectClass      ObjectClass OPTIONAL,
    managedObjectInstance   ObjectInstance OPTIONAL,
    currentTime              [5] IMPLICIT GeneralizedTime OPTIONAL,
    actionReply              [6] IMPLICIT ActionReply OPTIONAL,
    ...
}

ActionSet CMIP-ACTION ::= {...}
ActionTypeId ::= CHOICE {
    globalForm    [2] IMPLICIT OBJECT IDENTIFIER,
    localForm     [3] IMPLICIT INTEGER
}

-- This Recommendation / International Standard does not allocate any values for localForm.
-- Where this alternative is used, the permissible values for the integers and their meanings shall be defined
-- as part of the application context in which they are used
Attribute ::= SEQUENCE {
    id      CMIP-ATTRIBUTE.&id      ({AttributeSet}),
    value   CMIP-ATTRIBUTE.&Value   ({AttributeSet} {@id})
}
AttributeError ::= SEQUENCE {
    errorStatus  ENUMERATED {
        accessDenied          (2),
        noSuchAttribute        (5),
        invalidAttributeValue (6),
        invalidOperation       (24),
        invalidOperator        (25),
        ... },
    modifyOperator [2] IMPLICIT ModifyOperator OPTIONAL, -- present for invalidOperator
    ...
}

and invalidOperation
    attributeId    CMIP-ATTRIBUTE.&id ({AttributeSet}),
    attributeValue CMIP-ATTRIBUTE.&Value ({AttributeSet} {@attributeId}) OPTIONAL
    ...
}

value is absent for setToDefault
AttributeId ::= CHOICE {
    globalForm [0] IMPLICIT OBJECT IDENTIFIER,
    localForm  [1] IMPLICIT INTEGER
}

-- This Recommendation / International Standard does not allocate any values for localForm.
-- Where this alternative is used, the permissible values for the integers and their meanings shall be defined
-- as part of the application context in which they are used
AttributeIdError ::= SEQUENCE {
    errorStatus ENUMERATED { accessDenied          (2),
                             noSuchAttribute (5),
                             ... },
    attributeId AttributeId,
    ...
}
AttributeSet CMIP-ATTRIBUTE ::= {...}
AttributeValueAssertion ::= SEQUENCE {
    id      CMIP-AVA.&id      ({AvaSet}),
    value   CMIP-AVA.&Value   ({AvaSet} {@id})
}
AvaSet CMIP-AVA ::= {...}
BaseManagedObjectId ::= SEQUENCE {
    baseManagedObjectClass ObjectClass,
    baseManagedObjectInstance ObjectInstance
}

```

```

CMISFilter ::= CHOICE {
    item      [8] FilterItem,
    and       [9] IMPLICIT SET OF CMISFilter,
    or        [10] IMPLICIT SET OF CMISFilter,
    not       [11] CMISFilter
}
CMISync ::= ENUMERATED {    bestEffort    (0),
                           atomic      (1) }

ComplexityLimitation ::= SET {
    scope [0] Scope OPTIONAL,
    filter [1] CMISFilter OPTIONAL,
    sync [2] CMISync OPTIONAL,
    ...
}

CreateArgument ::= SEQUENCE {
    managedObjectClass          ObjectClass,
    managedOrSuperiorObjectInstance CHOICE {
        managedObjectInstance    ObjectInstance,
        superiorObjectInstance    [8] ObjectInstance } OPTIONAL,
    accessControl                [5] AccessControl OPTIONAL,
    referenceObjectInstance      [6] ObjectInstance OPTIONAL,
    attributeList                [7] IMPLICIT SET OF Attribute OPTIONAL,
    ...
}

CreateResult ::= SEQUENCE {
    managedObjectClass          ObjectClass OPTIONAL,
    managedObjectInstance      ObjectInstance OPTIONAL,    -- shall be returned if omitted
    from CreateArgument
    currentTime                [5] IMPLICIT GeneralizedTime OPTIONAL,
    attributeList              [6] IMPLICIT SET OF Attribute OPTIONAL,
    ...
}

DeleteArgument ::= SEQUENCE {
    COMPONENTS OF    BaseManagedObjectId,
    accessControl    [5] AccessControl OPTIONAL,
    synchronization [6] IMPLICIT CMISync DEFAULT bestEffort,
    scope            [7] Scope DEFAULT namedNumbers : baseObject,
    filter           CMISFilter DEFAULT and : {},
    ...
}

DeleteError ::= SEQUENCE {
    managedObjectClass          ObjectClass OPTIONAL,
    managedObjectInstance      ObjectInstance OPTIONAL,
    currentTime                [5] IMPLICIT GeneralizedTime OPTIONAL,
    deleteErrorInfo           [6] ENUMERATED {
        accessDenied (2),
        ... },
    ... }

DeleteResult ::= SEQUENCE {
    managedObjectClass          ObjectClass OPTIONAL,
    managedObjectInstance      ObjectInstance OPTIONAL,
    currentTime                [5] IMPLICIT GeneralizedTime OPTIONAL,
    ...
}

DistinguishedName ::= RDNSequence
EventReply ::= SEQUENCE {
    eventType    CMIP-EVENT.&id ({EventSet}),
    eventReplyInfo [8] CMIP-EVENT.&Value ({EventSet} {@eventType}) OPTIONAL
}

```

```

EventReportArgument ::= SEQUENCE {
    managedObjectClass      ObjectClass,
    managedObjectInstance   ObjectInstance,
    eventTime                [5] IMPLICIT GeneralizedTime OPTIONAL,
    eventType                CMIP-EVENT.&id ({EventSet}),
    eventInfo                [8] CMIP-EVENT.&Value ({EventSet} {@eventType}) OPTIONAL,
    ...
}

EventReportResult ::= SEQUENCE {
    managedObjectClass      ObjectClass OPTIONAL,
    managedObjectInstance   ObjectInstance OPTIONAL,
    currentTime             [5] IMPLICIT GeneralizedTime OPTIONAL,
    eventReply              EventReply OPTIONAL,
    ...
}

EventSet CMIP-EVENT ::= {...}

EventTypeId ::= CHOICE {
    globalForm [6] IMPLICIT OBJECT IDENTIFIER,
    localForm  [7] IMPLICIT INTEGER
}

-- This Recommendation / International Standard does not allocate any values for localForm.
-- Where this alternative is used, the permissible values for the integers and their meanings shall be defined
-- as part of the application context in which they are used

FilterItem ::= CHOICE {
    equality          [0] IMPLICIT Attribute,
    substrings       [1] IMPLICIT SEQUENCE OF CHOICE {
        initialString [0] IMPLICIT Attribute,
        anyString     [1] IMPLICIT Attribute,
        finalString   [2] IMPLICIT Attribute },
    greaterOrEqual   [2] IMPLICIT Attribute,-- asserted value 3 attribute value
    lessOrEqual      [3] IMPLICIT Attribute,-- asserted value £ attribute value
    present          [4] AttributeId,
    subsetOf         [5] IMPLICIT Attribute,-- asserted value is a subset of attribute value
    supersetOf       [6] IMPLICIT Attribute,-- asserted value is a superset of attribute value
    nonNullSetIntersection [7] IMPLICIT Attribute
}

GetArgument ::= SEQUENCE {
    COMPONENTS OF BaseManagedObjectId,
    accessControl [5] AccessControl OPTIONAL,
    synchronization [6] IMPLICIT CMISync DEFAULT bestEffort,
    scope [7] Scope DEFAULT namedNumbers : baseObject,
    filter CMISFilter DEFAULT and : {},
    attributeIdList [12] IMPLICIT SET OF AttributeId OPTIONAL,
    ...
}

GetInfoStatus ::= CHOICE {
    attributeIdError [0] IMPLICIT AttributeIdError,
    attribute [1] IMPLICIT Attribute
}

GetListError ::= SEQUENCE {
    managedObjectClass      ObjectClass OPTIONAL,
    managedObjectInstance   ObjectInstance OPTIONAL,
    currentTime             [5] IMPLICIT GeneralizedTime OPTIONAL,
    getInfoList             [6] IMPLICIT SET OF GetInfoStatus,
    ...
}

```



```

GetResult ::= SEQUENCE {
    managedObjectClass    ObjectClass OPTIONAL,
    managedObjectInstance ObjectInstance OPTIONAL,
    currentTime           [5] IMPLICIT GeneralizedTime OPTIONAL,
    attributeList          [6] IMPLICIT SET OF Attribute OPTIONAL,
    ...
}

InvalidArgumentValue ::= CHOICE {
    actionValue [0] IMPLICIT ActionInfo,
    eventValue  [1] IMPLICIT SEQUENCE {
        eventType CMIP-EVENT.&id ({EventSet}),
        eventInfo [8] CMIP-EVENT.&Value ({EventSet} {@.eventType}) OPTIONAL
    }
}

InvokeIDType ::= InvokeId (ALL EXCEPT absent : NULL)

LinkedReplyArgument ::= CHOICE {
    getResult      [0] IMPLICIT GetResult,
    getListError   [1] IMPLICIT GetListError,
    setResult      [2] IMPLICIT SetResult,
    setListError   [3] IMPLICIT SetListError,
    actionResult   [4] IMPLICIT ActionResult,
    processingFailure [5] IMPLICIT ProcessingFailure,
    deleteResult   [6] IMPLICIT DeleteResult,
    actionError     [7] IMPLICIT ActionError,
    deleteError    [8] IMPLICIT DeleteError
}

ModifyOperator ::= INTEGER {
    replace      (0),
    addValues    (1),
    removeValues (2),
    setToDefault (3)
}

NoSuchAction ::= SEQUENCE {
    managedObjectClass ObjectClass,
    actionType          ActionTypeId,
    ...
}

NoSuchArgument ::= CHOICE {
    actionId [0] IMPLICIT SEQUENCE {
        managedObjectClass ObjectClass OPTIONAL,
        actionType          ActionTypeId,
    },
    eventId  [1] IMPLICIT SEQUENCE {
        managedObjectClass ObjectClass OPTIONAL,
        eventType           EventTypeId
    }
}

NoSuchEventType ::= SEQUENCE {
    managedObjectClass ObjectClass,
    eventType          EventTypeId,
    ...
}

ObjectClass ::= CHOICE {
    globalForm [0] IMPLICIT OBJECT IDENTIFIER,
    localForm  [1] IMPLICIT INTEGER
}

-- This Recommendation / International Standard does not allocate any values for localForm.
-- Where this alternative is used, the permissible values for the integers and their meanings shall be defined
-- as part of the application context in which they are used

ObjectInstance ::= CHOICE {
    distinguishedName [2] IMPLICIT DistinguishedName,
    nonSpecificForm   [3] IMPLICIT OCTET STRING,
}

```

```

    localDistinguishedName      [4] IMPLICIT RDNSequence
  }
-- localDistinguishedName is that portion of the distinguished name that is necessary to unambiguously identify the
-- managed object within the context of communication between the open systems
ProcessingFailure ::= SEQUENCE {
    managedObjectClass      ObjectClass,
    managedObjectInstance   ObjectInstance OPTIONAL,
    specificErrorInfo       [5] SpecificErrorInfo,
    ...
}
RDNSequence ::= SEQUENCE OF RelativeDistinguishedName
RelativeDistinguishedName ::= SET OF AttributeValueAssertion
Scope ::= CHOICE {
    namedNumbers      INTEGER { baseObject      (0),
                                firstLevelOnly (1),
                                wholeSubtree   (2) },
    individualLevels  [1] IMPLICIT INTEGER, -- POSITIVE integer indicates the level to be selected
    baseToNthLevel   [2] IMPLICIT INTEGER } -- POSITIVE integer N indicates that the range of levels
-- with individualLevels and baseToNthLevel, a value of 0 has the same semantics as baseObject
-- with individualLevels, a value of 1 has the same semantics as firstLevelOnly
SetArgument ::= SEQUENCE {
    COMPONENTS OF
    accessControl      [5] AccessControl OPTIONAL,
    synchronization    [6] IMPLICIT CMISSync DEFAULT bestEffort,
    scope              [7] Scope DEFAULT namedNumbers : baseObject,
    filter              CMISFilter DEFAULT and : {},
    modificationList   [12] IMPLICIT SET OF SEQUENCE {
        modifyOperator [2] IMPLICIT ModifyOperator DEFAULT replace,
        attributeId     CMIP-ATTRIBUTE.&id ({AttributeSet}),
        attributeValue   CMIP-ATTRIBUTE.&Value ({AttributeSet} {@.attributeId})
    }
    OPTIONAL },
    ... }
SetInfoStatus ::= CHOICE {
    attributeError [0] IMPLICIT AttributeError,
    attribute      [1] IMPLICIT Attribute
}
SetListError ::= SEQUENCE {
    managedObjectClass      ObjectClass OPTIONAL,
    managedObjectInstance   ObjectInstance OPTIONAL,
    currentTime             [5] IMPLICIT GeneralizedTime OPTIONAL,
    setInfoList             [6] IMPLICIT SET OF SetInfoStatus,
    ...
}
SetResult ::= SEQUENCE {
    managedObjectClass      ObjectClass OPTIONAL,
    managedObjectInstance   ObjectInstance OPTIONAL,
    currentTime             [5] IMPLICIT GeneralizedTime OPTIONAL,
    attributeList           [6] IMPLICIT SET OF Attribute OPTIONAL,
    ...
}
SpecificErrorInfo ::= SEQUENCE {
    errorId      CMIP-SPECIFICERROR.&id ({SpecificErrorSet}),
    errorInfo    CMIP-SPECIFICERROR.&Value ({SpecificErrorSet} {@errorId})
}
SpecificErrorSet CMIP-SPECIFICERROR ::= {...}
-- the following type specifies the constraints to be applied when using ROSE to support CMIP
ROSEapdus ::= ROS({InvokeIDType}, {CMIP-Operations}, {CMIP-Confirmed-Operations})

```

END *-- End of CMIP syntax definitions*
"

18) *Apply the following changes to clause 7.5:*

Replace "Remote-Operations-APDUs.ROSEapdus" with "Remote-Operations-Generic-ROS-PDUs.ROS".

Replace "CCITT Rec. X.229 | ISO/IEC 9072-2" with "ITU-T Rec. X.880 | ISO/IEC 13712-1".

Replace "CCITT Rec. X.209 | ISO/IEC 8825" with "ITU-T Rec. X.690 | ISO/IEC 8825-1".

19) *Apply the following changes to clause 8.1:*

Replace "CCITT Rec. X.209 | ISO/IEC 8825" with "ITU-T Rec. X.690 | ISO/IEC 8825-1".

Replace "CCITT Rec. X.229 | ISO/IEC 9072-2" with "ITU-T Rec. X.880 | ISO/IEC 13712-1".

Replace item f) with the following:

 "f) support the ability of both the association-initiating and the association-responding application entities to invoke operations;"

20) *Replace Annex B with the following:*

"

Annex B

Expanded ASN.1 syntax

(This annex does not form an integral part of this Recommendation | International Standard)

This annex describes how the OPERATION and ERROR information objects of ITU-T Rec. X.880 | ISO/IEC 13712 are expanded into ASN.1 data types and subtypes.

If any inconsistencies exist between these definitions and the definitions in clause 7, then the definitions in clause 7 take precedence.

-- Common Management Information Protocol (CMIP)

CMIP-1 {joint-iso-itu-t ms(9) cmip(1) modules(0) protocol(3)}

DEFINITIONS ::= BEGIN

-- This ASN.1 specification has been checked for conformance with the ASN.1 standard by the OSS ASN.1 Tools

IMPORTS

ERROR, OPERATION

FROM Remote-Operations-Information-Objects

 {joint-iso-itu-t remote-operations(4) informationObjects(5) version1(0)}

ROS{ }, InvokeId, noInvokeId

FROM Remote-Operations-Generic-ROS-PDUs

 {joint-iso-itu-t remote-operations(4) generic-ROS-PDUs(6) version1(0)};

CMIP-Operations OPERATION ::= {

m-Action	
m-Action-Confirmed	
m-CancelGet	
m-Create	
m-Delete	
m-EventReport	
m-EventReport-Confirmed	
m-Get	
m-Linked-Reply	
m-Set	
m-Set-Confirmed	}

CMIP-Confirmed-Operations OPERATION ::= {

m-Action-Confirmed	
m-CancelGet	

```

m-Create          |
m-Delete          |
m-EventReport-Confirmed |
m-Get             |
m-Set-Confirmed   }

```

-- *INFORMATION OBJECT definitions*

```

CMIP-ACTION ::= CLASS {
    &id      ActionTypeId UNIQUE,
    &Value
    WITH SYNTAX      {TYPE      &Value
                      ID        &id }
CMIP-ATTRIBUTE ::= CLASS {
    &id      AttributeId UNIQUE,
    &Value
    WITH SYNTAX      {TYPE      &Value
                      ID        &id }
CMIP-AVA ::= CLASS {
    &id      OBJECT IDENTIFIER UNIQUE,
    &Value
    }
CMIP-EVENT ::= CLASS {
    &id      EventTypeId UNIQUE,
    &Value
    WITH SYNTAX      {TYPE      &Value
                      ID        &id }
CMIP-SPECIFICERROR ::= CLASS {
    &id      OBJECT IDENTIFIER UNIQUE,
    &Value
    WITH SYNTAX      {TYPE      &Value
                      ID        &id }

```

-- *the following type specifies the constraints to be applied when using ROSE to support CMIP*

ROSEapdus ::= ROS{**InvokeIDType**}, {**CMIP-Operations**}, {**CMIP-Confirmed-Operations**}}

-- *CMISE operations*

-- *The following part of the ASN.1 specification provides a definition of ROIVapdu and RORSapdu subtypes used by CMIP.*

-- *The subtypes of the ROIVapdu define the allowed values of the operation-value and argument defined by that*

-- *operation-value for all CMIP notifications and operations. The subtypes of the RORSapdu define the allowed*

-- *values of the operation-value and result defined by that operation-value for all CMIP notifications and operations.*

m-Action OPERATION.&operationCode ::= local : 6

```

ROIV-m-Action ::= ROSEapdus (WITH COMPONENTS {
    invoke (WITH COMPONENTS {
        invokeId  (InvokeIDtype),
        linkedId  ABSENT,
        opcode    (m-Action),
        argument  (ActionArgument) } )
    })

```

m-Action-Confirmed OPERATION.&operationCode ::= local : 7

```

ROIV-m-Action-Confirmed ::= ROSEapdus (WITH COMPONENTS {
    invoke (WITH COMPONENTS {
        invokeId  (InvokeIDtype),
        linkedId  ABSENT,
        opcode    (m-Action-Confirmed),
        argument  (ActionArgument) } )
    })

```

```

RORS-m-Action-Confirmed ::= ROSEapdus (WITH COMPONENTS {
    returnResult (WITH COMPONENTS {
        invokeId  (InvokeIDtype),

```

```

    result    (WITH COMPONENTS {
        opcode (m-Action-Confirmed),
        result  (ActionResult) } ) OPTIONAL } )
    -- required only if there is a single reply to the ROIV-m-Action-Confirmed ROSEapdu
    -- and data is to be returned in the ROSEapdu
    })
m-Cancel-Get OPERATION.&operationCode ::= local : 10
ROIV-m-Cancel-Get ::= ROSEapdus (WITH COMPONENTS {
    invoke (WITH COMPONENTS {
        invokeId  (InvokeIDtype),
        linkedId  ABSENT,
        opcode    (m-Cancel-Get),
        argument  (InvokeIDType) } )
    })
RORS-m-Cancel-Get ::= ROSEapdus (WITH COMPONENTS {
    returnResult (WITH COMPONENTS {
        invokeId  (InvokeIDtype) } )
    -- There is no result sequence for RORS-m-Cancel-Get
    })
m-Create OPERATION.&operationCode ::= local : 8
ROIV-m-Create ::= ROSEapdus (WITH COMPONENTS {
    invoke (WITH COMPONENTS {
        invokeId  (InvokeIDtype),
        linkedId  ABSENT,
        opcode    (m-Create),
        argument  (CreateArgument) } )
    })
RORS-m-Create ::= ROSEapdus (WITH COMPONENTS {
    returnResult (WITH COMPONENTS {
        invokeId  (InvokeIDtype),
        result    (WITH COMPONENTS {
            opcode    (m-Create),
            result    (CreateResult) } ) } )
    })
m-Delete OPERATION.&operationCode ::= local : 9
ROIV-m-Delete ::= ROSEapdus (WITH COMPONENTS {
    invoke (WITH COMPONENTS {
        invokeId  (InvokeIDtype),
        linkedId  ABSENT,
        opcode    (m-Delete),
        argument  (DeleteArgument) } )
    })
RORS-m-Delete ::= ROSEapdus (WITH COMPONENTS {
    returnResult (WITH COMPONENTS {
        invokeId  (InvokeIDtype),
        result    (WITH COMPONENTS {
            opcode    (m-Delete),
            result    (DeleteResult) } ) OPTIONAL } )
    -- required only if there is a single reply to the ROIV-m-DeleteROSEapdu
    -- and data is to be returned in the ROSEapdu
    })
m-EventReport OPERATION.&operationCode ::= local : 0
ROIV-m-EventReport ::= ROSEapdus (WITH COMPONENTS {
    invoke (WITH COMPONENTS {
        invokeId  (InvokeIDtype),
        linkedId  ABSENT,
        opcode    (m-EventReport),

```

```

        argument (EventReportArgument) } )
    })
m-EventReport-Confirmed OPERATION.&operationCode ::= local : 1
ROIV-m-EventReport-Confirmed ::= ROSEapdus (WITH COMPONENTS {
    invoke (WITH COMPONENTS {
        invokeId (InvokeIDtype),
        linkedId ABSENT,
        opcode (m-EventReport-Confirmed),
        argument (EventReportArgument) } )
    })
RORS-m-EventReport-Confirmed ::= ROSEapdus (WITH COMPONENTS {
    returnResult (WITH COMPONENTS {
        invokeId (InvokeIDtype),
        result (WITH COMPONENTS {
            opcode (m-EventReport-Confirmed),
            result (EventReportResult) } ) OPTIONAL } )
        -- required only if data is to be returned in the ROSEapdu
    })
m-Get OPERATION.&operationCode ::= local : 3
ROIV-m-Get ::= ROSEapdus (WITH COMPONENTS {
    invoke (WITH COMPONENTS {
        invokeId (InvokeIDtype),
        linkedId ABSENT,
        opcode (m-Get),
        argument (GetArgument) } )
    })
RORS-m-Get ::= ROSEapdus (WITH COMPONENTS {
    returnResult (WITH COMPONENTS {
        invokeId (InvokeIDtype),
        result (WITH COMPONENTS {
            opcode (m-Get),
            result (GetResult) } ) OPTIONAL } )
        -- required only if there is a single reply to the ROIV-m-Get ROSEapdus
    })
m-Linked-Reply OPERATION.&operationCode ::= local : 2
ROIV-m-Linked-Reply ::= ROSEapdus (WITH COMPONENTS {
    invoke (WITH COMPONENTS {
        invokeId (InvokeIDtype),
        linkedId PRESENT,
        opcode (m-Linked-Reply),
        argument (LinkedReplyArgument) } )
    })
-- This part of the ASN.1 specification provides a definition of ROIV-m-Linked-Reply subtypes used by CMIP.
-- The subtypes of the ROIV-m-Linked-Reply ROSEapdus define the allowed values of the argument defined by
-- the opcode for the specific CMIP linked reply operations.
ROIV-m-Linked-Reply-Action ::= ROIV-m-Linked-Reply (WITH COMPONENTS {
    invoke (WITH COMPONENTS {
        invokeId (InvokeIDtype),
        linkedId PRESENT,
        opcode (m-Linked-Reply),
        argument (LinkedReplyArgument (WITH COMPONENTS {
            invoke (WITH COMPONENTS {
                getResult ABSENT,
                getListError ABSENT,
                setResult ABSENT,
                setListError ABSENT,
                actionResult PRESENT,
                processingFailure PRESENT,

```

```

        deleteResult      ABSENT,
        actionError       PRESENT,
        deleteError       ABSENT } )
    ) )
} ) )
} ) )
ROIV-m-Linked-Reply-Delete ::= ROIV-m-Linked-Reply (WITH COMPONENTS {
    invoke (WITH COMPONENTS {
        invokeId (InvokeIDtype),
        linkedId PRESENT,
        opcode (m-Linked-Reply),
        argument (LinkedReplyArgument (WITH COMPONENTS {
            invoke (WITH COMPONENTS {
                getResult      ABSENT,
                getListError   ABSENT,
                setResult       ABSENT,
                setListError    ABSENT,
                actionResult    ABSENT,
                processingFailure PRESENT,
                deleteResult    PRESENT,
                actionError     ABSENT,
                deleteError     PRESENT } )
            ) )
        ) )
    ) )
} ) )
ROIV-m-Linked-Reply-Get ::= ROIV-m-Linked-Reply (WITH COMPONENTS {
    invoke (WITH COMPONENTS {
        invokeId (InvokeIDtype),
        linkedId PRESENT,
        opcode (m-Linked-Reply),
        argument (LinkedReplyArgument (WITH COMPONENTS {
            invoke (WITH COMPONENTS {
                getResult      PRESENT,
                getListError   PRESENT,
                setResult       ABSENT,
                setListError    ABSENT,
                actionResult    ABSENT,
                processingFailure PRESENT,
                deleteResult    ABSENT,
                actionError     ABSENT,
                deleteError     ABSENT } )
            ) )
        ) )
    ) )
} ) )
ROIV-m-Linked-Reply-Set ::= ROIV-m-Linked-Reply (WITH COMPONENTS {
    invoke (WITH COMPONENTS {
        invokeId (InvokeIDtype),
        linkedId PRESENT,
        opcode (m-Linked-Reply),
        argument (LinkedReplyArgument (WITH COMPONENTS {
            invoke (WITH COMPONENTS {
                getResult      ABSENT,
                getListError   ABSENT,
                setResult       PRESENT,
                setListError    PRESENT,
                actionResult    ABSENT,
                processingFailure PRESENT,
                deleteResult    ABSENT,
                actionError     ABSENT,
            ) )
        ) )
    ) )
} ) )

```

```

        deleteError      ABSENT } )
    } ) )
} ) ) )
m-Set OPERATION.&operationcode ::= local : 4
ROIV-m-Set ::= ROSEapdus (WITH COMPONENTS {
    invoke (WITH COMPONENTS {
        invokeId  (InvokeIDtype),
        linkedId  ABSENT,
        opcode    (m-Set),
        argument  (SetArgument) } )
    } )
m-Set-Confirmed OPERATION.&operationCode ::= local : 5
ROIV-m-Set-Confirmed ::= ROSEapdus (WITH COMPONENTS {
    invoke (WITH COMPONENTS {
        invokeId  (InvokeIDtype),
        linkedId  ABSENT,
        opcode    (m-Set-Confirmed),
        argument  (SetArgument) } )
    } )
RORS-m-Set-Confirmed ::= ROSEapdus (WITH COMPONENTS {
    returnResult (WITH COMPONENTS {
        invokeId  (InvokeIDtype),
        result    (WITH COMPONENTS {
            opcode (m-Set-Confirmed),
            result (SetResult) } ) OPTIONAL } )
        -- required only if there is a single reply to the ROIV-m-Set-Confirmed ROSEapdu
        -- and data is to be returned in the ROSEapdu
    } )
-- The following part of the ASN.1 specification provides a definition of ROERapdu subtypes used by CMIP.
-- The subtypes of the ROERapdu define the allowed values of the error value and parameter defined by that
-- error-value for all CMIP notifications and operations.
accessDenied ERROR&.errorCode ::= local : 2
ROER-accessDenied ::= ROSEapdus (WITH COMPONENTS {
    returnError (WITH COMPONENTS {
        invokeId  PRESENT,
        errcode   (accessDenied) } )
    } )
-- This ROERapdu may only be returned in response to the ROIV-m-Get, ROIV-m-Set-Confirmed,
-- ROIV-m-Action-Confirmed, ROIV-m-Create and ROIV-m-Delete ROIVapdus
classInstanceConflict ERROR&.errorCode ::= local : 19
ROER-classInstanceConflict ::= ROSEapdus (WITH COMPONENTS {
    returnError (WITH COMPONENTS {
        invokeId  PRESENT,
        errcode   (classInstanceConflict),
        parameter (INCLUDES BaseManagedObjectId) } )
    } )
-- This ROERapdu may only be returned in response to the ROIV-m-Get, ROIV-m-Set-Confirmed,
-- ROIV-m-Action-Confirmed, ROIV-m-Create and ROIV-m-Delete ROIVapdus
complexityLimitation ERROR&.errorCode ::= local : 20
ROER-complexityLimitation ::= ROSEapdus (WITH COMPONENTS {
    returnError (WITH COMPONENTS {
        invokeId  PRESENT,
        errcode   (complexityLimitation),
        parameter (INCLUDES ComplexityLimitation) OPTIONAL } )
    } )
-- This ROERapdu may only be returned in response to the ROIV-m-Get, ROIV-m-Set-Confirmed,
-- ROIV-m-Action-Confirmed and ROIV-m-Delete ROIVapdus
duplicateManagedObjectInstance ERROR&.errorCode ::= local : 11

```



```
ROER-duplicateManagedObjectInstance ::= ROSEapdus (WITH COMPONENTS {
    returnError (WITH COMPONENTS {
        invokeId    PRESENT,
        errcode      (duplicateManagedObjectInstance),
        parameter    (INCLUDES ObjectInstance) } )
-- This ROERapdu may only be returned in response to the ROIV-m-Create ROIVapdu
    } )
getListError ERROR&.errorCode ::= local : 7
ROER-getListError ::= ROSEapdus (WITH COMPONENTS {
    returnError (WITH COMPONENTS {
        invokeId    PRESENT,
        errcode      (getListError),
        parameter    (INCLUDES GetListError) } )
-- This ROERapdu may only be returned in response to the ROIV-m-Get ROIVapdu
    } )
invalidArgumentValue ERROR&.errorCode ::= local : 15
ROER-invalidArgumentValue ::= ROSEapdus (WITH COMPONENTS {
    returnError (WITH COMPONENTS {
        invokeId    PRESENT,
        errcode      (invalidArgumentValue),
        parameter    (INCLUDES InvalidArgumentValue) } )
-- This ROERapdu may only be returned in response to the ROIV-m-EventReport-Confirmed
-- and ROIV-m-Action-Confirmed ROIVapdus
    } )
invalidAttributeValue ERROR&.errorCode ::= local : 6
ROER-invalidAttributeValue ::= ROSEapdus (WITH COMPONENTS {
    returnError (WITH COMPONENTS {
        invokeId    PRESENT,
        errcode      (invalidAttributeValue),
        parameter    (INCLUDES Attribute) } )
-- This ROERapdu may only be returned in response to the ROIV-m-Create ROIVapdu
    } )
invalidFilter ERROR&.errorCode ::= local : 4
ROER-invalidFilter ::= ROSEapdus (WITH COMPONENTS {
    returnError (WITH COMPONENTS {
        invokeId    PRESENT,
        errcode      (invalidFilter),
        parameter    (INCLUDES CMISFilter) } )
-- This ROERapdu may only be returned in response to the ROIV-m-Get, ROIV-m-Set-Confirmed,
-- ROIV-m-Action-Confirmed and ROIV-m-Delete ROIVapdus
    } )
invalidObjectInstance ERROR&.errorCode ::= local : 17
ROER-invalidObjectInstance ::= ROSEapdus (WITH COMPONENTS {
    returnError (WITH COMPONENTS {
        invokeId    PRESENT,
        errcode      (invalidObjectInstance),
        parameter    (INCLUDES ObjectInstance) } )
-- This ROERapdu may only be returned in response to the ROIV-m-Create ROIVapdu
    } )
invalidScope ERROR&.errorCode ::= local : 16
ROER-invalidScope ::= ROSEapdus (WITH COMPONENTS {
    returnError (WITH COMPONENTS {
        invokeId    PRESENT,
        errcode      (invalidScope),
        parameter    (INCLUDES Scope) } )
-- This ROERapdu may only be returned in response to the ROIV-m-Get, ROIV-m-Set-Confirmed,
-- ROIV-m-Action-Confirmed and ROIV-m-Delete ROIVapdus
    } )
```

```
missingAttributeValue ERROR&.errorCode ::= local : 18
ROER-missingAttributeValue ::= ROSEapdus (WITH COMPONENTS {
    returnError (WITH COMPONENTS {
        invokeId    PRESENT,
        errcode      (missingAttributeValue),
        parameter    (INCLUDES SET OF AttributeId) } )
-- This ROERapdu may only be returned in response to the ROIV-m-Create ROIVapdu
    })
mistypedOperation ERROR&.errorCode ::= local : 21
ROER-mistypedOperation ::= ROSEapdus (WITH COMPONENTS {
    returnError (WITH COMPONENTS {
        invokeId    PRESENT,
        errcode      (mistypedOperation) } )
-- This ROERapdu may only be returned in response to the ROIV-m-Cancel-Get ROIVapdu
    })
noSuchAction ERROR&.errorCode ::= local : 9
ROER-noSuchAction ::= ROSEapdus (WITH COMPONENTS {
    returnError (WITH COMPONENTS {
        invokeId    PRESENT,
        errcode      (noSuchAction),
        parameter    (INCLUDES NoSuchAction) } )
-- This ROERapdu may only be returned in response to the ROIV-m-Action-Confirmed ROIVapdu
    })
noSuchArgument ERROR&.errorCode ::= local : 14
ROER-noSuchArgument ::= ROSEapdus (WITH COMPONENTS {
    returnError (WITH COMPONENTS {
        invokeId    PRESENT,
        errcode      (noSuchArgument),
        parameter    (INCLUDES NoSuchArgument) } )
-- This ROERapdu may only be returned in response to the ROIV-m-EventReport-Confirmed and
-- ROIV-m-Action-Confirmed ROIVapdus
    })
noSuchAttribute ERROR&.errorCode ::= local : 5
ROER-noSuchAttribute ::= ROSEapdus (WITH COMPONENTS {
    returnError (WITH COMPONENTS {
        invokeId    PRESENT,
        errcode      (noSuchAttribute),
        parameter    (INCLUDES AttributeId) } )
-- This ROERapdu may only be returned in response to the ROIV-m-Create ROIVapdu
    })
noSuchEventType ERROR&.errorCode ::= local : 13
ROER-noSuchEventType ::= ROSEapdus (WITH COMPONENTS {
    returnError (WITH COMPONENTS {
        invokeId    PRESENT,
        errcode      (noSuchEventType),
        parameter    (INCLUDES NoSuchEventType) } )
-- This ROERapdu may only be returned in response to the ROIV-m-EventReport-Confirmed ROIVapdu
    })
noSuchInvokeId ERROR&.errorCode ::= local : 22
ROER-noSuchInvokeId ::= ROSEapdus (WITH COMPONENTS {
    returnError (WITH COMPONENTS {
        invokeId    PRESENT,
        errcode      (noSuchInvokeId),
        parameter    (INCLUDES InvokeIDType) } )
-- This ROERapdu may only be returned in response to the ROIV-m-Cancel-Get ROIVapdu
    })
noSuchObjectClass ERROR&.errorCode ::= local : 0
ROER-noSuchObjectClass ::= ROSEapdus (WITH COMPONENTS {
    returnError (WITH COMPONENTS {
```

```
        invokeId  PRESENT,
        errcode   (noSuchObjectClass),
        parameter (INCLUDES ObjectClass) } )
-- This ROERapdu may only be returned in response to the ROIV-m-EventReport-Confirmed, ROIV-m-Get,
-- ROIV-m-Set-Confirmed, ROIV-m-Action-Confirmed, ROIV-m-Create, and ROIV-m-Delete ROIVapdus
    } )
noSuchObjectInstance ERROR&.errorCode ::= local : 1
ROER-noSuchObjectInstance ::= ROSEapdus (WITH COMPONENTS {
    returnError (WITH COMPONENTS {
        invokeId  PRESENT,
        errcode   (noSuchObjectInstance),
        parameter (INCLUDES ObjectInstance) } )
-- This ROERapdu may only be returned in response to the ROIV-m-EventReport-Confirmed, ROIV-m-Get,
-- ROIV-m-Set-Confirmed, ROIV-m-Action-Confirmed, ROIV-m-Create, and ROIV-m-Delete ROIVapdus
    } )
noSuchReferenceObject ERROR&.errorCode ::= local : 12
ROER-noSuchReferenceObject ::= ROSEapdus (WITH COMPONENTS {
    returnError (WITH COMPONENTS {
        invokeId  PRESENT,
        errcode   (noSuchReferenceObject),
        parameter (INCLUDES ObjectInstance) } )
-- This ROERapdu may only be returned in response to the ROIV-m-Create ROIVapdu
    } )
operationCancelled ERROR&.errorCode ::= local : 23
ROER-operationCancelled ::= ROSEapdus (WITH COMPONENTS {
    returnError (WITH COMPONENTS {
        invokeId  PRESENT,
        errcode   (operationCancelled) } )
-- This ROERapdu may only be returned in response to the ROIV-m-Get ROIVapdu
    } )
processingFailure ERROR&.errorCode ::= local : 10
ROER-processingFailure ::= ROSEapdus (WITH COMPONENTS {
    returnError (WITH COMPONENTS {
        invokeId  PRESENT,
        errcode   (processingFailure),
        parameter (INCLUDES ProcessingFailure) OPTIONAL } )
-- This ROERapdu may only be returned in response to the ROIV-m-EventReport-Confirmed, ROIV-m-Get,
-- ROIV-m-Set-Confirmed, ROIV-m-Action-Confirmed, ROIV-m-Create, and ROIV-m-Delete ROIVapdus
    } )
setListError ERROR&.errorCode ::= local : 8
ROER-setListError ::= ROSEapdus (WITH COMPONENTS {
    returnError (WITH COMPONENTS {
        invokeId  PRESENT,
        errcode   (setListError),
        parameter (INCLUDES SetListError) } )
-- This ROERapdu may only be returned in response to the ROIV-m-Set-Confirmed ROIVapdu
    } )
syncNotSupported ERROR&.errorCode ::= local : 3
ROER-syncNotSupported ::= ROSEapdus (WITH COMPONENTS {
    returnError (WITH COMPONENTS {
        invokeId  PRESENT,
        errcode   (syncNotSupported),
        parameter (INCLUDES CMISync) } )
-- This ROERapdu may only be returned in response to the ROIV-m-Get, ROIV-m-Set-Confirmed,
-- ROIV-m-Action-Confirmed and ROIV-m-Delete ROIVapdus
    } )
```

-- To complete the abstract syntax specification provided in this annex, the definitions of the supporting types in 7.4
-- are incorporated by reference

END -- of CMIP syntax definitions

"

21) Remove Annexes C and D

3.5 Changes to CCITT Recommendation X.712 (1992) | ISO/IEC 9696-2 (1993)

3.5.1 Technical Corrigendum 1 to CCITT X.712 | ISO/IEC 9596-2 (defect report 001)

INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION – COMMON MANAGEMENT INFORMATION PROTOCOL: PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT (PICS) PROFORMA TECHNICAL CORRIGENDUM 1

Annex A, subclause A.5.5

In Table A.98, Index A.98.3.1.1, replace "o" in Sts column with "m".

In the same table, Index A.98.3.2.1, replace "o" in Sts column with "m".

3.5.2 Technical Corrigendum 2 to CCITT X.712 | ISO/IEC 9596-2 (defect report 002)

INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION — COMMON MANAGEMENT INFORMATION PROTOCOL: PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT (PICS) PROFORMA TECHNICAL CORRIGENDUM 2

Annex A, subclause A.1.2

Apply the following change:

Insert the following paragraph before the paragraph starting "The following requirements are commonly used throughout the PICS proforma":

"In Tables A.8, A.10, A.11 (Receiver Sts column), A.30, A.32, A.34, A.36, A.38, A.40, A.42, A.44, A.46, A.48, A.50, A.52, A.54, A.56, A.58, A.60, A.62, A.64, A.66, A.68, A.70, A.72, A.74, A.76, A.78, A.80, A.82, A.84, A.86, A.88, A.90, A.92, A.94, A.96, A.98, A.100, A.102, A.104, A.106, A.108, A.110, A.112, A.114, A.116, A.118, A.120, B.2, B.4, B.6 and B.8, the value of 'm' in the status (Sts) column indicates that there is a minimum requirement for the implementation to receive the parameter. The TVR column shall be used to state whether the implementation provides support for more than the minimum requirement."

3.5.3 *Technical Corrigendum 3 to CCITT X.712 | ISO/IEC 9596-2 (defect report 002)

**INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION —
COMMON MANAGEMENT INFORMATION PROTOCOL: PROTOCOL
IMPLEMENTATION CONFORMANCE STATEMENT (PICS) PROFORMA
TECHNICAL CORRIGENDUM 3**

1) Subclause A.5.5

In Table A.91 index A.91.3, replace CHOICE with SET OF CHOICE.

In Table A.92 index A.92.3, replace CHOICE with SET OF CHOICE.

3.6 Changes to CCITT Recommendation X.720 (1992) | ISO/IEC 10165-1 : 1993

3.6.1 Technical Corrigendum 1 to CCITT X.720 | ISO/IEC 10165-1 (defect reports 001, 002, 003)

**INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION –
STRUCTURE OF MANAGEMENT INFORMATION:
MANAGEMENT INFORMATION MODEL
TECHNICAL CORRIGENDUM 1**

Subclause 5.3.3.2

Replace the scope sentence with the following:

"This operation applies to attributes encapsulated in managed objects whose class definitions permit the get attribute value operation on the attribute."

Subclause 5.3.3.3

Replace the scope sentence with the following:

"This operation applies to attributes encapsulated in managed objects whose class definitions permit the replace attribute value operation on the attribute."

Subclause 5.3.3.4

Replace the scope sentence with the following:

"This operation applies to attributes encapsulated in managed objects whose class definitions permit the replace-with-default value operation on the attribute."

Subclause 5.3.3.5

Replace the scope sentence with the following:

"This operation applies to attributes encapsulated in managed objects whose class definitions permit the add member operation on the attribute."

Subclause 5.3.3.6

Replace the scope sentence with the following:

"This operation applies to attributes encapsulated in managed objects whose class definitions permit the remove member operation on the attribute."

Subclause 6.3.2.1

In the text after the "local form:" bullet, replace:

"For OSI systems management the context for the local form is the system managed object and the local form name for the system managed object is the empty sequence. For OSI systems management the local form can always be used. However, the local form does not provide globally-unique identification."

with the following:

"The system managed object represents the system providing the functionality of the agent. For OSI systems management the context for local form is that system managed object. The local form for that system managed object is the empty sequence. For OSI systems management, local form can always be used for managed objects named in the context of that system managed object. For managed objects not named relative to that system managed object, the use of global form is required. The local form does not provide globally unique identification."

3.7 Changes to CCITT Recommendation X.721 (1992) | ISO/IEC 10165-2 : 1992

3.7.1 Technical Corrigendum 1 to CCITT X.721 | ISO/IEC 10165-2 (defect report 001)

**INFORMATION TECHNOLOGY – OPEN SYSTEMS
INTERCONNECTION – STRUCTURE OF MANAGEMENT INFORMATION:
DEFINITION OF MANAGEMENT INFORMATION
TECHNICAL CORRIGENDUM 1**

Subclause 10.7.4.3

Delete the following after EQUALITY:

", SET-COMPARISON, SET-INTERSECTION".

3.7.2 Technical Corrigendum 2 to CCITT X.721 | ISO/IEC 10165-2 (defect reports 2 thru 11)

**INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION –
STRUCTURE OF MANAGEMENT INFORMATION:
DEFINITION OF MANAGEMENT INFORMATION
TECHNICAL CORRIGENDUM 2**

1) Subclause 6.1

Apply the following changes:

Replace "{smi2Package 1}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 1}".

Replace "{smi2Package 2}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 2}".

Replace "{smi2Package 3}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 3}".

Replace "{smi2Package 4}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 4}".

Replace "{smi2Package 5}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 5}".

Replace "{smi2Package 6}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 6}".

Replace "{smi2Package 7}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 7}".

Replace "{smi2Package 8}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 8}".

Replace "{smi2MObjectClass 1}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) managedObjectClass(3) 1}".

2) Subclause 6.2

Apply the following change:

Replace "{smi2MObjectClass 2}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) managedObjectClass(3) 2}".

3) Subclause 6.3

Apply the following change:

Replace "{smi2MObjectClass 3}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) managedObjectClass(3) 3}".

4) Subclause 6.4

Apply the following changes:

Replace "{smi2Package 9}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 9}".

Replace "{smi2Package 10}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 10}".

Replace "{smi2MObjectClass 4}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) managedObjectClass(3) 4}".

5) Subclause 6.5

Apply the following changes:

Replace "{smi2Package 11}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 11}".

Replace "{smi2MObjectClass 5}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) managedObjectClass(3) 5}".

6) Subclause 6.6

Apply the following changes:

Replace "{smi2Package 12}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 12}".

Replace "{smi2Package 13}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 13}".

Replace "{smi2MObjectClass 6}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) managedObjectClass(3) 6}".

7) Subclause 6.7

Apply the following change:

Replace "{smi2MObjectClass 7}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) managedObjectClass(3) 7}".

8) Subclause 6.8

Apply the following change:

Replace "{smi2MObjectClass 8}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) managedObjectClass(3) 8}".

9) Subclause 6.9

Apply the following change:

Replace "{smi2MObjectClass 9}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) managedObjectClass(3) 9}".

10) Subclause 6.10

Apply the following change:

Replace "{smi2MObjectClass 10}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) managedObjectClass(3) 10}".

11) Subclause 6.11

Apply the following change:

Replace "{smi2MObjectClass 11}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) managedObjectClass(3) 11}".

12) Subclause 6.12

Apply the following change:

Replace "{smi2MObjectClass 12}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) managedObjectClass(3) 12}".

13) Subclause 6.13

Apply the following changes:

Replace "{smi2Package 14}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 14}".

Replace "{smi2Package 15}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 15}".

Replace "{smi2MObjectClass 13}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) managedObjectClass(3) 13}".

14) Subclause 6.14

Apply the following changes:

Replace "{smi2Package 16}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 16}".

Replace "{smi2Package 17}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 17}".

Replace "{smi2MObjectClass 14}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) managedObjectClass(3) 14}".

15) Subclause 7.1

Apply the following change:

Replace "{smi2NameBinding 1}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) nameBinding(6) 1}".

16) Subclause 7.2

Apply the following change:

Replace "{smi2NameBinding 2}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) nameBinding(6) 2}".

17) Subclause 7.3

Apply the following change:

Replace "{smi2NameBinding 3}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) nameBinding(6) 3}".

18) Subclause 8.1

Apply the following change:

Replace "{smi2Package 18}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 18}".

19) Subclause 8.2

Apply the following change:

Replace "{smi2Package 19}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 19}".

20) Subclause 8.3

Apply the following change:

Replace "{smi2Package 20}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 20}".

21) Subclause 8.4

Apply the following change:

Replace "{smi2Package 21}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 21}".

22) Subclause 8.5

Apply the following change:

Replace "{smi2Package 22}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 22}".

23) Subclause 8.6

Apply the following change:

Replace "{smi2Package 23}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 23}".

24) Subclause 8.7

Apply the following change:

Replace "{smi2Package 24}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 24}".

25) Subclause 8.8

Add the following after "dailyScheduling PACKAGE":

"BEHAVIOUR dailySchedulingBehaviour;".

Replace "{smi2Package 25}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 25}".

Add the following at the end of 8.8:

"dailySchedulingBehaviour BEHAVIOUR

DEFINED AS !Unless otherwise specified in a managed object behaviour definition, the values of the intervalStart and intervalEnd components of IntervalsOfDay are interpreted as local time.!"

26) Subclause 8.9

Apply the following change:

Replace "{smi2Package 26}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 26}".

27) Subclause 8.10

Apply the following change:

Replace "{smi2Package 27}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 27}".

28) Subclause 8.11

Apply the following change:

Replace "{smi2Package 28}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 28}".

29) Subclause 8.12

Add the following after "weeklyScheduling PACKAGE":

BEHAVIOUR weeklySchedulingBehaviour;

Replace "{smi2Package 29}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) package(4) 29}".

Add the following at the end of 8.12:

weeklySchedulingBehaviour **BEHAVIOUR**

DEFINED AS!Unless otherwise specified in a managed object behaviour definition, the values of the intervalStart and intervalEnd components of IntervalsOfDay component of WeekMask, and the daysOfWeek component of WeekMask are interpreted as local time.!

30) Subclause 10.1.1

Apply the following change:

Replace "{smi2AttributeID 1}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 1}".

31) Subclause 10.1.2

Apply the following change:

Replace "{smi2AttributeID 2}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 2}".

32) Subclause 10.1.3

Apply the following change:

Replace "{smi2AttributeID 3}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 3}".

33) Subclause 10.1.4

Apply the following change:

Replace "{smi2AttributeID 4}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 4}".

34) Subclause 10.1.5

Apply the following change:

Replace "{smi2AttributeID 5}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 5}".

35) Subclause 10.7.1.1

Apply the following change:

Replace "{smi2AttributeID 6}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 6}".

36) Subclause 10.7.1.2

Apply the following change:

Replace "{smi2AttributeID 7}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 7}".

37) Subclause 10.7.1.3

Apply the following change:

Replace "{smi2AttributeID 8}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 8}".

38) Subclause 10.7.1.4

Apply the following change:

Replace "{smi2AttributeID 9}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 9}".

39) Subclause 10.7.1.5

Apply the following change:

Replace "{smi2AttributeID 10}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 10}".

40) Subclause 10.7.1.6

Apply the following change:

Replace "{smi2AttributeID 11}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 11}".

41) Subclause 10.7.1.7

Apply the following change:

Replace "{smi2AttributeID 12}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 12}".

42) Subclause 10.7.1.8

Apply the following change:

Replace "{smi2AttributeID 13}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 13}".

43) Subclause 10.7.1.9

Apply the following change:

Replace "{smi2AttributeID 14}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 14}".

44) Subclause 10.7.1.10

Apply the following change:

Replace "{smi2AttributeID 15}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 15}".

45) Subclause 10.7.1.11

Apply the following change:

Replace "{smi2AttributeID 16}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 16}".

46) Subclause 10.7.1.12

Apply the following change:

Replace "{smi2AttributeID 17}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 17}".

47) Subclause 10.7.1.13

Apply the following change:

Replace "{smi2AttributeID 18}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 18}".

48) Subclause 10.7.1.14

Apply the following change:

Replace "{smi2AttributeID 19}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 19}".

49) Subclause 10.7.1.15

Apply the following change:

Replace "{smi2AttributeID 20}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 20}".

50) Subclause 10.7.1.16

Apply the following change:

Replace "{smi2AttributeID 21}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 21}".

51) Subclause 10.7.1.17

Apply the following change:

Replace "{smi2AttributeID 22}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 22}".

52) Subclause 10.7.1.18

Apply the following change:

Replace "{smi2AttributeID 23}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 23}".

53) Subclause 10.7.1.19

Apply the following change:

Replace "{smi2AttributeID 24}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 24}".

54) Subclause 10.7.1.20

Apply the following change:

Replace "{smi2AttributeID 25}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 25}".

55) Subclause 10.7.1.21

Apply the following change:

Replace "{smi2AttributeID 26}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 26}".

56) Subclause 10.7.1.22

Apply the following change:

Replace "{smi2AttributeID 27}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 27}".

57) Subclause 10.7.1.23

Apply the following change:

Replace "{smi2AttributeID 28}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 28}".

58) Subclause 10.7.1.24

Apply the following change:

Replace "{smi2AttributeID 29}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 29}".

59) Subclause 10.7.1.25

Apply the following change:

Replace "{smi2AttributeID 30}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 30}".

60) Subclause 10.7.2.1

Apply the following change:

Replace "{smi2AttributeID 31}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 31}".

61) Subclause 10.7.2.2

Apply the following change:

Replace "{smi2AttributeID 32}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 32}".

62) Subclause 10.7.2.3

Apply the following change:

Replace "{smi2AttributeID 33}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 33}".

63) Subclause 10.7.2.4

Apply the following change:

Replace "{smi2AttributeID 34}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 34}".

64) Subclause 10.7.2.5

Apply the following change:

Replace "{smi2AttributeID 35}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 35}".

65) Subclause 10.7.2.6

Apply the following change:

Replace "{smi2AttributeID 36}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 36}".

66) Subclause 10.7.2.7

Apply the following change:

Replace "{smi2AttributeID 37}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 37}".

67) Subclause 10.7.2.8

Apply the following change:

Replace "{smi2AttributeID 38}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 38}".

68) Subclause 10.7.2.9

Apply the following change:

Replace "{smi2AttributeID 39}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 39}".

69) Subclause 10.7.2.10

Apply the following change:

Replace "{smi2AttributeGroup 1}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attributeGroup(8) 1}".

70) Subclause 10.7.3.1

Apply the following change:

Replace "{smi2AttributeID 40}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 40}".

71) Subclause 10.7.3.2

Apply the following change:

Replace "{smi2AttributeID 41}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 41}".

72) Subclause 10.7.3.3

Apply the following change:

Replace "{smi2AttributeID 42}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 42}".

73) Subclause 10.7.3.4

Apply the following change:

Replace "{smi2AttributeID 43}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 43}".

74) Subclause 10.7.3.5

Apply the following change:

Replace "{smi2AttributeID 44}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 44}".

75) Subclause 10.7.3.6

Apply the following change:

Replace "{smi2AttributeID 45}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 45}".

76) Subclause 10.7.3.7

Apply the following change:

Replace "{smi2AttributeID 46}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 46}".

77) Subclause 10.7.3.8

Apply the following change:

Replace "{smi2AttributeGroup 2}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attributeGroup(8) 2}".

78) Subclause 10.7.3.9

Apply the following change:

Replace "{smi2AttributeID 47}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 47}".

79) Subclause 10.7.3.10

Apply the following change:

Replace "{smi2AttributeID 48}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 48}".

80) Subclause 10.7.4.1

Apply the following change:

Replace "{smi2AttributeID 49}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 49}".

81) Subclause 10.7.4.2

Apply the following change:

Replace "{smi2AttributeID 50}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 50}".

82) Subclause 10.7.4.3

Apply the following change:

Replace "{smi2AttributeID 51}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 51}".

83) Subclause 10.7.4.4

Apply the following change:

Replace "{smi2AttributeID 52}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 52}".

84) Subclause 10.7.4.5

Apply the following change:

Replace "{smi2AttributeID 53}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 53}".

85) Subclause 10.7.4.6

Apply the following change:

Replace "{smi2AttributeID 54}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 54}".

86) Subclause 10.7.4.7

Apply the following change:

Replace "{smi2AttributeID 55}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 55}".

87) Subclause 10.7.4.8

Apply the following change:

Replace "{smi2AttributeID 56}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 56}".

88) Subclause 10.7.4.9

Apply the following change:

Replace "{smi2AttributeID 57}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 57}".

89) Subclause 10.7.4.10

Apply the following change:

Replace "{smi2AttributeID 58}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 58}".

90) Subclause 10.7.4.11

Apply the following change:

Replace "{smi2AttributeID 59}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 59}".

91) Subclause 10.7.4.12

Apply the following change:

Replace "{smi2AttributeID 60}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 60}".

92) Subclause 10.7.4.13

Apply the following change:

Replace "{smi2AttributeID 61}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 61}".

93) Subclause 10.7.4.14

Apply the following change:

Replace "{smi2AttributeID 62}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 62}".

94) Subclause 10.7.4.15

Apply the following change:

Replace "{smi2AttributeID 63}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 63}".

95) Subclause 10.7.4.16

Apply the following change:

Replace "{smi2AttributeID 64}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 64}".

96) Subclause 10.7.4.17

Apply the following change:

Replace "{smi2AttributeID 65}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 65}".

97) Subclause 10.7.4.18

Apply the following change:

Replace "{smi2AttributeID 66}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 66}".

98) Subclause 10.7.4.19

Apply the following change:

Replace "{smi2AttributeID 67}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 67}".

99) Subclause 10.7.4.20

Apply the following changes:

Replace "Weekly Scheduling" with "Duration".

Replace "{smi2AttributeID 68}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 68}".

100) Subclause 10.7.4.21

Apply the following changes:

Replace "Weekly Scheduling" with "Duration".

Replace "{smi2AttributeID 69}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 69}".

101) Subclause 10.7.4.22

Apply the following change:

Replace "{smi2AttributeID 70}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 70}".

102) Subclause 10.7.4.23

Apply the following change:

Replace "{smi2AttributeID 71}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 71}".

103) Subclause 12

Apply the following change:

Replace "{smi2Parameter 1}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) parameter(5) 1}".

104) Subclause 13.1

Apply the following change:

Replace "{smi2Notification 1}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) notification(10) 1}".

105) Subclause 13.2

Apply the following change:

Replace "{smi2Notification 2}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) notification(10) 2}".

106) Subclause 13.3

Apply the following change:

Replace "{smi2Notification 3}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) notification(10) 3}".

107) Subclause 13.4

Apply the following change:

Replace "{smi2Notification 4}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) notification(10) 4}".

108) Subclause 13.5

Apply the following change:

Replace "{smi2Notification 5}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) notification(10) 5}".

109) Subclause 13.6

Apply the following change:

Replace "{smi2Notification 6}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) notification(10) 6}".

110) Subclause 13.7

Apply the following change:

Replace "{smi2Notification 7}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) notification(10) 7}".

111) Subclause 13.8

Apply the following change:

Replace "{smi2Notification 8}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) notification(10) 8}".

112) Subclause 13.9

Apply the following change:

Replace "{smi2Notification 9}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) notification(10) 9}".

113) Subclause 13.10

Apply the following change:

Replace "{smi2Notification 10}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) notification(10) 10}".

114) Subclause 13.11

Apply the following change:

Replace "{smi2Notification 11}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) notification(10) 11}".

115) Subclause 13.12

Apply the following change:

Replace "{smi2Notification 12}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) notification(10) 12}".

116) Subclause 13.13

Apply the following change:

Replace "{smi2Notification 13}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) notification(10) 13}".

117) Subclause 13.14

Apply the following change:

Replace "{smi2Notification 14}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) notification(10) 14}".

118) Subclause 13.15

Apply the following change:

Replace "{smi2Notification 15}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) notification(10) 15}".

119) Subclause 14.2

In the definition for IntervalsOfDay, in page 43 (of CCITT Rec. X.721 | ISO/IEC 10165-2), add comments replacing

**IntervalsOfDay ::= SET OF SEQUENCE{
 intervalStartTime24,
 intervalEnd Time24}**

with

**IntervalsOfDay ::= SET OF SEQUENCE{
 intervalStartTime24, -- start at the beginning of this minute
 intervalEnd Time24} -- stop at the end of this minute**

In the definition for PrioritisedObject, in page 43 (of CCITT Rec. X.721 | ISO/IEC 10165-2), replace

priority INTEGER {lowest(0), highest(127)}

with

priority INTEGER {highest(0), lowest(127)}

Add labels for the choice in the definition for SpecificIdentifierPrioritisedObject in page 44 (of CCITT Rec. X.721 | ISO/IEC 10165-2), replacing

**SpecificIdentifier ::= CHOICE { OBJECT IDENTIFIER,
 INTEGER}**

with

**SpecificIdentifier ::= CHOICE { oi OBJECT IDENTIFIER,
 int INTEGER }**

120) Subclause 14.3

In the imports clause, in page 45 (of CCITT Rec. X.721 / ISO/IEC 10165-2), replace

**FROM Attribute-ASN1Module
ObjectClass,AttributeId,ObjectInstance FROM CMIP-1 {joint-iso-ccitt ms(9) cmip(1) version1 (1)
protocol(3)} ;**

with

**FROM Attribute-ASN1Module
ObjectClass,AttributeId,ObjectInstance FROM CMIP-1 {joint-iso-ccitt ms(9) cmip(1) modules(0)
protocol(3)};**

and also add the following after the definition of AlarmInfo:

-- backUpObject attribute backedUpStatus backUpObject backUpObject attribute
-- (except in log record component component in log record

--
-- ObjectInstance T ObjectInstance ObjectInstance
-- NULL F < absent > < absent >
-- < absent > < absent > < absent > < absent >

121) Annex A, Subclause A.1.1

Apply the following change:

Replace "{smi2AttributeID 72}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 72}".

122) Subclause A.1.2

Apply the following change:

Replace "{smi2AttributeID 73}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 73}".

123) Subclause A.1.3

Apply the following change:

Replace "{smi2AttributeID 74}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 74}".

124) Subclause A.1.4

Apply the following change:

Replace "{smi2AttributeID 75}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 75}".

125) Subclause A.1.5

Apply the following change:

Replace "{smi2AttributeID 76}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 76}".

126) Subclause A.1.6

Apply the following change:

Replace "{smi2AttributeID 77}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 77}".

127) Subclause A.1.7

Apply the following change:

Replace "{smi2AttributeID 78}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 78}".

128) Subclause A.1.8

Apply the following change:

Replace "{smi2AttributeID 79}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 79}".

129) Subclause A.1.9

Apply the following change:

Replace "{smi2AttributeID 80}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 80}".

130) Subclause A.1.10

Apply the following change:

Replace "{smi2AttributeID 81}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 81}".

131) Subclause A.1.11

Apply the following change:

Replace "{smi2AttributeID 82}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 82}".

132) Subclause A.1.12

Apply the following change:

Replace "{smi2AttributeID 83}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 83}".

133) Subclause A.1.13

Apply the following change:

Replace "{smi2AttributeID 84}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 84}".

134) Subclause A.1.14

Apply the following change:

Replace "{smi2AttributeID 85}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 85}".

135) Subclause A.1.15

Apply the following change:

Replace "{smi2AttributeID 86}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 86}".

136) Subclause A.1.16

Apply the following change:

Replace "{smi2AttributeID 87}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 87}".

137) Subclause A.1.17

Apply the following change:

Replace "{smi2AttributeID 88}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 88}".

138) Subclause A.2.1

Apply the following change:

Replace "{smi2AttributeID 89}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 89}".

139) Subclause A.2.2

Apply the following change:

Replace "{smi2AttributeID 90}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 90}".

140) Subclause A.2.3

Apply the following change:

Replace "{smi2AttributeID 91}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 91}".

141) Subclause A.2.4

Apply the following change:

Replace "{smi2AttributeID 92}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 92}".

142) Subclause A.2.5

Apply the following change:

Replace "{smi2AttributeID 93}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 93}".

143) Subclause A.2.6

Apply the following change:

Replace "{smi2AttributeID 94}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 94}".

144) Subclause A.2.7

Apply the following change:

Replace "{smi2AttributeID 95}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 95}".

145) Subclause A.2.8

Apply the following change:

Replace "{smi2AttributeID 96}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 96}".

146) Subclause A.2.9

Apply the following change:

Replace "{smi2AttributeID 97}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 97}".

147) Subclause A.2.10

Apply the following change:

Replace "{smi2AttributeID 98}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 98}".

148) Subclause A.2.11

Apply the following change:

Replace "{smi2AttributeID 99}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 99}".

149) Subclause A.2.12

Apply the following change:

Replace "{smi2AttributeID 100}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 100}".

150) Subclause A.2.13

Apply the following change:

Replace "{smi2AttributeID 101}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 101}".

151) Subclause A.2.14

Apply the following change:

Replace "{smi2AttributeID 102}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 102}".

152) Subclause A.2.15

Apply the following change:

Replace "{smi2AttributeID 103}" with "{joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7) 103}".

3.7.3 *Technical Corrigendum 3 to CCITT X.721 | ISO/IEC 10165-2 (NMF Defect Report)

**INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION —
STRUCTURE OF MANAGEMENT INFORMATION:
DEFINITION OF MANAGEMENT INFORMATION
TECHNICAL CORRIGENDUM 3**

1) Subclause 6.13

In the definition of system MANAGED OBJECT CLASS template, add missing comma after:
operationalState GET

2) Subclause 7.3

In the definition of logRecord NAME BINDING template,

replace only-if-no-contained-objects;

with ONLY-IF-NO-CONTAINED-OBJECTS;

3) Subclause 10.1.1

In the definition of discriminatorId ATTRIBUTE template,

replace MATCHES FOR Equality, Substrings, ORDERING;

with MATCHES FOR EQUALITY, SUBSTRINGS, ORDERING;

4) Subclause 14.2

Before IMPORTS FROM InformationFramework add the following ASN.1 comment Note:

-- NOTE – This Recommendation / International Standard imports DistinguishedName from
-- CCITT Rec. X.501 (1988) / ISO/IEC 9594-2:1990. The specification for this syntax can now be
-- found in an informative annex of ITU-T Rec. X.711 (1997) / ISO/IEC 9596-1:1998.

In IMPORTS of AE-title FROM ACSE-1

replace {joint-iso-ccitt association-control(2) abstract-syntax(1) apdus(0) version(1)};

with {joint-iso-ccitt association-control(2) modules(0) apdus(0) version1(1)};

**3.7.4 *Draft Technical Corrigendum 4 to CCITT X.721 | ISO/IEC 10165-2 resulting from
ASN.1 1997 Alignment Defect (For approval at February 2000 SG 4 Plenary)**

**INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION —
STRUCTURE OF MANAGEMENT INFORMATION:
DEFINITION OF MANAGEMENT INFORMATION
DRAFT TECHNICAL CORRIGENDUM 4**

1) *Insert the following references into clause 2.1:*

"

- ITU-T Recommendation X.680 (1997) | ISO/IEC 8824-1:1998, *Information technology – Abstract Syntax Notation One (ASN.1): Specification of Basic Notation.*
- ITU-T Recommendation X.710 (1997) | ISO/IEC 9595:1998, *Information technology – Open Systems Interconnection – Common management information service.*
- ITU-T Recommendation X.711 (1997) | ISO/IEC 9596-1:1998, *Information technology – Open Systems Interconnection – Common management information protocol: Specification.*

"

2) *Replace clause 2.2 with the following:*

"2.2 Paired Recommendations | International Standards equivalent in technical content

- CCITT Recommendation X.200 (1988), *Reference Model of Open Systems Interconnection for CCITT applications.*
ISO/IEC 7498:1984, *Information processing systems – Open Systems Interconnection – Basic Reference Model.*

"

3) *Apply the following changes to clause 14.2:*

In the IMPORTS from CMIP-1, insert the following before CMISFilter:

"CMIP-ATTRIBUTE, AttributeSet, DistinguishedName,"

Remove the following IMPORTS statement:

--Note - This Recommendation | International Standard imports DistinguishedName from
-- CCITT Rec. X.501 (1988) | ISO/IEC 9594-2:1990. The specification for this syntax can now be
-- found in an informative annex of ITU-T Rec. X.711 (1997) | ISO/IEC 9596-1:1997.
**DistinguishedName FROM InformationFramework {joint-iso-ccitt ds(5) modules(1)
informationFramework(1) }**"

Remove the following comment:

-- Note that the syntax of AE-title to be used is from CCITT Rec. X.227|ISO 8650 corrigendum
and not "ANY".

Insert the following after the definition of smi2AttributeGroup:

```
"DMI-TYPE-IDENTIFIER ::= CLASS {
    &id    OBJECT IDENTIFIER UNIQUE,
    &Value }
WITH SYNTAX {
    TYPE &Value
    ID    &id }
"
```

Replace the production for AttributeValueChangeDefinition with the following ASN.1 production

```
"AttributeValueChangeDefinition ::= SET OF SEQUENCE {
    attributeId          CMIP-ATTRIBUTE&.id ({AttributeSet}),
    oldAttributeValue    [1] CMIP-ATTRIBUTE&.Value ({AttributeSet} {@.attributeId})
OPTIONAL,
    newAttributeValue    [2] CMIP-ATTRIBUTE&.Value ({AttributeSet} {@.attributeId}) }
"
```

Replace the production for ManagementExtension with the following ASN.1 production

```
"DMI-EXTENSION ::= DMI-TYPE-IDENTIFIER
ManagementExtension ::= SEQUENCE {
    identifier    DMI-EXTENSION&.id ({ManagementExtensionSet}),
    significance  [1] BOOLEAN DEFAULT FALSE,
    information    [2] DMI-EXTENSION&.Value ({ManagementExtensionSet} {@.identifier}) }
ManagementExtensionSet DMI-EXTENSION ::= {...}
"
```

Replace the production for ServiceUser with the following ASN.1 production

```
"DMI-SERVICEUSER ::= DMI-TYPE-IDENTIFIER
ServiceUser ::= SEQUENCE {
    identifier DMI-SERVICEUSER&.id ({ServiceUserSet}),
    details    DMI-SERVICEUSER&.Value ({ServiceUserSet} {@.identifier}) }
ServiceUserSet DMI-SERVICEUSER ::= {...}
"
```

Replace the production for SupportedFeatures with the following ASN.1 production

```
"DMI-SUPPORTEDFEATURES ::= DMI-TYPE-IDENTIFIER
SupportedFeatures ::= SEQUENCE {
    featureIdentifier    DMI-SUPPORTEDFEATURES&.id ({SupportedFeaturesSet}),
    featureInfo          DMI-SUPPORTEDFEATURES&.Value ({SupportedFeaturesSet}
{@.featureIdentifier}) }
SupportedFeaturesSet DMI-SUPPORTEDFEATURES ::= {...}
"
```

4) *Remove Annex G*

3.8 Changes to CCITT Recommendation X.722 (1992) | ISO/IEC 10165-4 : 1992

NOTE - Amendment 1 to X.722, published as H1 in earlier versions of this guide, was removed in this version of the X.700 implementor's guide, since only Technical Corrigenda are reproduced in an implementor's guide.

3.8.1 Technical Corrigendum 1 to CCITT X.722 | ISO/IEC 10165-4

INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION — GUIDELINES FOR THE DEFINITION OF MANAGED OBJECTS

TECHNICAL CORRIGENDUM 1

1) Subclause 6.4.5

Add the following at the end of the current paragraph:

"A managed object identifies its actual class (see 7.4.3) by the value of its managed object class attribute."

2) Subclause 7.4

Add the following immediately after 7.4.2 as a new subclause:

"7.4.3 Actual class

A managed object class definition consists of the MANAGED OBJECT CLASS template (see 8.3) registered with the object identifier value for that class together with the set of templates referenced by that template and all templates referenced by templates in the set.

A managed object identifies its actual class by the value of its managed object class attribute which is the object identifier value used to register its MANAGED OBJECT CLASS template. Each managed object:

- supports all of the characteristics defined in its actual class definition in accord with the packages that are present;
- supports only operations that are defined in its actual class definition for packages that are present; and
- emits only notifications when a behaviour defined to trigger that notification in the actual class definition applies for packages that are present.

The absence of a GDMO construct for a characteristic in a managed object class definition specifically excludes that characteristic from that class definition. A subclass may add an excluded construct by explicit definition. Each subclass has its own registered object identifier value. For example, if REPLACE is not specified for a single-valued attribute, that attribute in instances of that class shall be regarded as read only; a subclass definition may extend this by adding the REPLACE construct to specify that the attribute can be replaced for instances of the subclass and instances that are compatible with the subclass."

3) Subclause 8.3.3.1

Add the following to 8.3.3.1 a) before "NOTE 2":

"When behaviour is extended the stated or implied pre-conditions may only be weakened (the required pre-conditions shall remain the same or become fewer), the stated or implied post-conditions may only be strengthened (the same post-conditions shall be satisfied and additional post-conditions may be satisfied), and the stated or implied invariants remain unchanged but more invariants may be added. (Refer to 5.2.2.6 of CCITT Rec. X.720 | ISO/IEC 10165-1 of the Management Information Model.)"

4) Subclause 8.3.3.3

Add the following to the end of this subclause, as a new paragraph:

"Where there are specific conditions that preclude instantiation of a conditional package, these should be specified in a BEHAVIOUR template. The BEHAVIOUR template used for this may be in the conditional package itself or in a mandatory package of the class. If such specifications are present in textual behaviour definitions, it is recommended that the paragraph containing the specification be introduced with "<package-label> PRESENT ONLY IF:" as a textual convention."

5) Subclause 8.5.1.1.1

In 8.5.1.1.1 replace "9.5.3" with "8.5.3.1".

6) Index

Change these index entries:

"BEHAVIOUR 25-26, 30-32, 34-35, 37-40

REPLACE 14, 26-27"

**3.8.2 *Draft Technical Corrigendum 4 to CCITT X.722 | ISO/IEC 10165-4 resulting from
ASN.1 1997 Alignment Defect (For approval at February 2000 SG 4 Plenary)**

**INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION —
STRUCTURE OF MANAGEMENT INFORMATION:
GUIDELINES FOR THE DEFINITION OF MANAGED OBJECTS**

DRAFT TECHNICAL CORRIGENDUM 2

1) Apply the following changes into clause 2.1:

Replace

"ITU-T Rec. X.680 (1994) | ISO/IEC 8824-1 : 1994, *Information technology - Abstract Syntax Notation One (ASN.1) - Specification of Basic Notation.*

ITU-T Rec. X.681 (1994) | ISO/IEC 8824-2 : 1994, *Information technology - Abstract Syntax Notation One (ASN.1) - Information Object Specification.*

ITU-T Rec. X.682 (1994) | ISO/IEC 8824-3 : 1994, *Information technology - Abstract Syntax Notation One (ASN.1) - Constraint Specification.*

ITU-T Rec. X.683 (1994) | ISO/IEC 8824-4 : 1994, *Information technology - Abstract Syntax Notation One (ASN.1) - Parameterization of ASN.1 Specifications.*

ITU-T Rec. X.690 (1994) | ISO/IEC 8825-1 : 1994, *Information technology - ASN.1 Encoding Rules - Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER).*

ITU-T Rec. X.691 (1994) | ISO/IEC 8825-2 : 1994, *Information technology - ASN.1 Encoding Rules - Packed Encoding Rules (PER)."*

with

"– ITU-T Recommendation X.680 (1997) | ISO/IEC 8824-1:1998, *Information technology – Abstract Syntax Notation One (ASN.1): Specification of Basic Notation.*

- ITU-T Recommendation X.710 (1997) | ISO/IEC 9595:1998, *Information technology – Open Systems Interconnection – Common management information service.*
- ITU-T Recommendation X.711 (1997) | ISO/IEC 9596-1:1998, *Information technology – Open Systems Interconnection – Common management information protocol: Specification."*

2) *Apply the following changes into clause 2.2:*

Remove the following paired references:

- "– CCITT Recommendation X.208 (1988), *Specification of abstract syntax notation one (ASN.1).*
ISO/IEC 8824 : 1990, *Information technology – Open Systems Interconnection – Specification of Abstract Syntax Notation One (ASN.1).*
- CCITT Recommendation X.710 (1991), *Common Management Information Service Definition for CCITT Applications.*
ISO/IEC 9595 : 1990, *Information technology – Open Systems Interconnection – Common management information service definition.*
- CCITT Recommendation X.711 (1991), *Common Management Information Protocol Specification for CCITT Applications.*
ISO/IEC 9596-1 : 1991, *Information technology – Open Systems Interconnection – Common management information protocol – Part 1: Specification."*

3) *Apply the following change to clause 3.7:*

Replace "CCITT Rec. X.208 | ISO/IEC 8824" with "ITU-T Rec. X.680 | ISO/IEC 8824-1".

4) *Insert the following before clause 3.8:*

3.8 ASN.1 information object class definitions

This Recommendation | International Standard makes use of the following terms defined in ITU-T Rec. X.681 | ISO/IEC 8824-3:

- a) information object class;
- b) value set field;
- c) variable-type.

5) *Apply the following changes to clause 6.4:*

Replace all occurrences of "CCITT Rec. X.208 | ISO/IEC 8824" with "ITU-T Rec. X.680 | ISO/IEC 8824-1".

6) *Apply the following changes to clause 8.2 f):*

Replace both occurrences of "CCITT Rec. X.208 | ISO/IEC 8824" with "ITU-T Rec. X.680 | ISO/IEC 8824-1".

7) *Apply the following change to clause 8.5.1:*

Replace "The type specified in a Parameter template is used to fill in an ANY DEFINED BY x construct in a management PDU, where x is a field in the PDU that carries the object identifier assigned to the parameter."

With "The type specified in a Parameter template defines the type of the variable-type value set field in an information object class, as defined in ITU-T Rec. X.681 | ISO/IEC 8824-3. This field is carried in a management PDU when that PDU carries the object identifier value assigned to that template in the context specified in that template."

8) *Apply the following change to clause 8.5.1.1.1:*

Replace "The context is unambiguously identified by the management PDU if and only if the ANY DEFINED BY construct appears in that PDU exactly once."

with "The context is unambiguously identified by the management PDU if and only if the PDU contains exactly one variable-type value set field."

9) *Apply the following change to clause 9:*

Replace the following (including the footnote):

"NOTE – ISO/IEC JTC 1/SC 21 rules dictate a periodic review for renewal of the ASN.1:1990 International Standards every one (1) year¹. National Bodies are asked to consider the above when reviewing the ASN.1:1990 standards. This ensures that the ASN.1:1990 standards are retained as long as needed."

with "NOTE – ASN.1:1994 is used to mean the language specified by the 1994 or later versions of ITU-T Rec. X.680 | ISO/IEC 8824-1 and ASN.1:1990 means the language specified by CCITT Rec. X.208 | ISO/IEC 8824 which is now obsolete but previously was identified as "CCITT Recommendation X.208 (1988), *Specification of Abstract Syntax Notation One (ASN.1)*" or "ISO/IEC 8824:1990, *Information technology – Open Systems Interconnection – Specification of Abstract Syntax Notation One (ASN.1)*"."

10) *Apply the following change to clause A.3:*

Replace the production for SpecificErrorInfo with the following ASN.1 production

```
"SpecificErrorInfo ::= SEQUENCE {  
    errorId      CMIP-SPECIFICERROR&.id ({SpecificErrorSet}),  
    errorInfo    CMIP-SPECIFICERROR&.Value ({SpecificErrorSet} {@.errorId}) }  
"
```

11) *Apply the following change to clause B.3.3:*

Replace "An example of this can be found in B.6.1 and B.6."

with "An example of this can be found in B.6.1 and B.6.5."

¹ ISO/IEC JTC 1/SC 21 (SC21) reaffirmed the continuation of availability of the ASN.1:1990 standards for reasons of conformance and interpretability (in SC21 N 9001 rev). SC21 requested its WGs to continue to maintain these standards. An SC21 resolution to continue maintenance will be conducted at each SC21 meeting (currently, once a year).

12) *Apply the following change to clause B.6.1:*

Replace the following:

"Any

ASN.1 allows a special type ANY which can contain any other ASN.1 type at all. Such a type is not allowed within Z and it would be difficult to extend it to include one. However given any known set of types it is possible to define a Z free type which can include any of those other types. An alternative strategy is to define ANY as a given set for typechecking purposes. This is satisfactory as long as nothing else is done with it. The type *AttributeValues* usually replaces ANY. This is defined below."

with:

"Open Types

ASN.1 allows open types which can contain any other ASN.1 type at all. Such a type is not allowed within Z and it would be difficult to extend Z to include open types. However given any known set of types it is possible to define a Z free type which can include any of those other types. An alternative strategy is to define ANY as a given set for typechecking purposes. This is satisfactory as long as nothing else is done with it. The type *AttributeValues* usually replaces ANY. This is defined below."

13) *Apply the following change to clause B.6.5:*

Replace "As mentioned above, it is difficult to model ASN.1 type ANY in Z."

with "As mentioned above, it is difficult to model ASN.1 open types in Z."

3.9 Changes to CCITT Recommendation X.723 (1992) | ISO/IEC 10165-5 : 1993

3.9.1 *Technical Corrigendum 1 to CCITT X.723 | ISO/IEC 10165-5 (NMF Defect Report)

INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION — STRUCTURE OF MANAGEMENT INFORMATION: GENERIC MANAGEMENT INFORMATION TECHNICAL CORRIGENDUM 1

1) Clause 13

Before IMPORTS FROM InformationFramework, add the following ASN.1 comment Note:

-- NOTE – This Recommendation | International Standard imports *RelativeDistinguishedName* from
-- CCITT Rec. X.501 (1988) | ISO/IEC 9594-2:1990. The specification for this syntax can now be
-- found in an informative annex of ITU-T Rec. X.711 (1997) | ISO/IEC 9596-1:1998.

**3.9.2 *Draft Technical Corrigendum 2 to CCITT X.723 | ISO/IEC 10165-5 resulting from
ASN.1 1997 Alignment Defect (For approval at February 2000 SG 4 Plenary)**

**INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION —
STRUCTURE OF MANAGEMENT INFORMATION:
GENERIC MANAGEMENT INFORMATION
DRAFT TECHNICAL CORRIGENDUM 2**

1) *Apply the following change into clause 13:*

Replace

-- Note - This Recommendation | International Standard imports DistinguishedName from
-- CCITT Rec. X.501 (1988) | ISO/IEC 9594-2:1990. The specification for this syntax can now be
-- found in an informative annex of ITU-T Rec. X.711 (1997) | ISO/IEC 9596-1:1997.

RelativeDistinguishedName

FROM InformationFramework {joint-iso-ccitt(2) ds(5) modules(1) informationFramework(1)}"

with

"RelativeDistinguishedName

FROM CMIP-1 {joint-iso-ccitt(2) ms(9) cmip(1) modules(0) protocol(3)}"

3.10 Changes to CCITT Recommendation X.730 (1992) | ISO/IEC 10164-1 : 1993

**3.10.1 Technical Corrigendum 1 - Amd.1 to CCITT X.730 | ISO/IEC 10164-1 (defect
report 003)**

**INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION –
SYSTEMS MANAGEMENT: OBJECT MANAGEMENT FUNCTION**

AMENDMENT 1

Implementation conformance statement proformas

TECHNICAL CORRIGENDUM 1

1) Annex A

In Table A.6 – "PICS Support Summary", first row referencing "CCITT Rec. X.730 | ISO/IEC 10164-1 Annex E, SM Application Context" change the status from "m" to "o" and add the following note for the corresponding row of this table:

"NOTE - The supplier of implementation shall indicate the application contexts supported."

2) Subclause A.1.3

Add the following sentence after the line "– Not applicable or out of scope" and immediately before "NOTES":

"The value of 'm' in the Status column for the receiving of parameters, of tables of type MCS in Annex A and the PICS in Annex E indicates that there is a minimum requirement for the implementation to be able to receive the parameter. The Additional information column shall be used to state whether the implementation provides support for more than the minimum requirement."

3.11 Changes to CCITT Recommendation X.731 (1992) | ISO/IEC 10164-2 : 1993

3.11.1 Technical Corrigendum 1 to CCITT X.731 | ISO/IEC 10164-2 (defect 001)

INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION – SYSTEMS MANAGEMENT: STATE MANAGEMENT FUNCTION

TECHNICAL CORRIGENDUM 1

1) Apply the following changes to 8.1.2.3:

For the "in test" item, replace the second sentence with the following:

"If the control status attribute is present and has the value reserved for test, then normal users are precluded from using the resource and the administrative state is locked."

For the "off line" item, replace the last sentence with the following:

"The operational state is enabled or disabled."

2) Apply the following change to 8.1.2.5:

Replace Table 1 with the following:

Table 1 – Standby status conditions

Standby status	Hot standby	Cold standby	Providing service
operational state	enabled	enabled or disabled ^{a)}	enabled
administrative state	unlocked	unlocked or locked	unlocked
procedural status ^{b)}	–	not initialized or initialization required	–
Availability status	Required Value: off line Prohibited values: failed, power off, off duty, dependency, not installed	Required Value: off line Prohibited values: none	Required Value: none Prohibited values: failed, power off, off line, off duty, dependency, not installed
^{a)} If the procedural status attributes are supported and the value is "initialization required", the operational state is "disabled". ^{b)} The symbol "–" indicates that the value of the attribute is an empty set.			

3.11.2 This change equates to: Technical Corrigendum 1 - Amendment 1 to CCITT X.731 | ISO/IEC 10164-2 Amendment 1 (resulting from defect report 10164-1/003)

**INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION –
SYSTEMS MANAGEMENT: STATE MANAGEMENT FUNCTION**

AMENDMENT 1

Implementation conformance statement proformas

TECHNICAL CORRIGENDUM 1

1) Annex A

In Table A.6 – "PICS Support Summary", first row referencing "CCITT Rec. X.730 | ISO/IEC 10164-1 Annex E, SM Application Context" change the status from "m" to "o" and add the following note for the corresponding row of this table:

"NOTE - The supplier of implementation shall indicate the application contexts supported."

2) Subclause A.1.3

Add the following sentence after the line "– Not applicable or out of scope", immediately before "NOTES":

"The value of 'm' in the Status column for the receiving of parameters, of tables of type MCS in Annex A indicates that there is a minimum requirement for the implementation to be able to receive the parameter. The Additional information column shall be used to state whether the implementation provides support for more than the minimum requirement."

3.12 Changes to CCITT Recommendation X.732 (1992) | ISO/IEC 10164-3 : 1993

3.12.1 Technical Corrigendum 1 - Amd.1 to CCITT X.732 | ISO/IEC 10164-2 (defect report 3)

**INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION –
SYSTEMS MANAGEMENT: ATTRIBUTES FOR REPRESENTING RELATIONSHIPS**

AMENDMENT 1

Implementation conformance statement proformas

TECHNICAL CORRIGENDUM 1

1) Annex A

In Table A.6 – "PICS Support Summary", first row referencing "CCITT Rec. X.730 | ISO/IEC 10164-1, Annex E, SM Application Context" change the status from "m" to "o" and add the following note for the corresponding row of this table:

"NOTE - The supplier of implementation shall indicate the application contexts supported."

2) Subclause A.1.3

Add the following sentence after the line "– Not applicable or out of scope", immediately before "NOTES":

"The value of 'm' in the Status column for the receiving of parameters, of tables of type MCS in Annex A indicates that there is a minimum requirement for the implementation to be able to receive the parameter. The Additional information column shall be used to state whether the implementation provides support for more than the minimum requirement."

3.13 Changes to CCITT Recommendation X.733 (1992) | ISO/IEC 10164-4 : 1992

3.13.1 Technical Corrigendum 1 to X.733 | ISO/IEC 10164-4 : 1992 (defect report 001)

INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION – SYSTEMS MANAGEMENT: ALARM REPORTING FUNCTION

TECHNICAL CORRIGENDUM 1

Subclause 8.1.2.12

Delete the sentence "The following note applies to CCITT applications only."

3.13.2 *Approved DTC 2 to X.733 | ISO/IEC 10164-4:1992 (defect report 002) (approved at March 1999 SG 4 Plenary)

INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION – SYSTEMS MANAGEMENT: ALARM REPORTING FUNCTION

TECHNICAL CORRIGENDUM 2

Clause 8.1.2.3

Replace paragraph 2 with the following:

- cleared: The Cleared severity level indicates the clearing of one or more previously reported alarms. The alarms to be cleared are indicated by the managed object, Event type, Probable cause, Specific problems (if present) and Correlated notifications parameters as follows:
 - a) If the Correlated notifications and Specific problem parameters are not present or empty, all previous alarms with the same managed object, Probable cause and Event type parameters are cleared irrespective of whether a Notification identifier or Specific problem parameter was present in the alarms to be cleared (i.e., can clear alarms without looking at Notification identifier or Specific problem parameters).
 - b) If the Specific problems parameter is present and not empty and the Correlated notifications is not present or empty, then only previous alarms that have an exact match on managed object, Probable cause, Event type, and have a matching set or subset of Specific problems will be cleared.
 - c) If the Correlated notifications parameter is present and not empty, those alarms listed in this parameter are cleared irrespective of the values for the managed object, Probable cause, Event type and Specific problems parameters. In addition, all alarms which match managed object, are also cleared as specified in b) above, or as in a) ignoring the presence of the Correlated notifications.
-

3.13.3 This change equates to: Technical Corrigendum 1 - Amendment 1 to CCITT X.733 | ISO/IEC 10164-3 Amendment 1 (resulting from defect report 10164-1/003)

**INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION –
SYSTEMS MANAGEMENT: ALARM REPORTING FUNCTION**

AMENDMENT 1

Implementation conformance statement proformas

TECHNICAL CORRIGENDUM 1

1) Annex A

In Table A.6 – "PICS Support Summary", first row referencing "CCITT Rec. X.730 | ISO/IEC 10164-1, Annex E, SM Application Context" change the status from "m" to "o" and add the following note for the corresponding row of this table:

"NOTE - The supplier of implementation shall indicate the application contexts supported."

2) Subclause A.1.3

Add the following sentence after the line "– Not applicable or out of scope", immediately before "NOTES":

"The value of 'm' in the Status column for the receiving of parameters, of tables of type MCS in Annex A indicates that there is a minimum requirement for the implementation to be able to receive the parameter. The Additional information column shall be used to state whether the implementation provides support for more than the minimum requirement."

3.14 Changes to CCITT Recommendation X.734 (1992) | ISO/IEC 10164-5 : 1993

3.14.1 Technical Corrigendum 1 to CCITT Rec. X.734 | ISO/IEC 10164-5: 1992 (defect report 001)

**INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION –
SYSTEMS MANAGEMENT: EVENT REPORT MANAGEMENT FUNCTIONS**

TECHNICAL CORRIGENDUM 1

Subclause 3.7

Add the following in alphabetical order and renumber the rest of the clause.

3.7.4 event report: a general term for the system management PDUs used to convey the information related to notifications.

**3.14.2 *Approved DTC 2 to X.734 | ISO/IEC 10164-5:1992 (defect report 002)
(approved at March 1999 SG 4 Plenary)**

**INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION –
SYSTEMS MANAGEMENT: EVENT REPORT MANAGEMENT FUNCTIONS**

TECHNICAL CORRIGENDUM 2

Clause 8.1.1.1

Replace the paragraph "Changes to values of attributes other than administrative state, operational state, and if present, availability status shall be reported using the attribute value change notification." (Note this is the ninth paragraph and not the fourth) with the following.

"When changes to attribute values are to be reported, the attribute value change notification shall be used."

Clause 8.1.1.3.2

Add to the end - A change in the discriminatorConstruct attribute results in an attribute value change notification.

Clause 8.1.1.5.3

Add to the end - A change in the intervalsofDay attribute results in an attribute value change notification.

Clause 8.1.1.5.4

Add to the end - A change in the weekMask attribute results in an attribute value change notification.

Clause 8.1.1.5.5

Add to the end - A change in the schedulerName attribute results in an attribute value change notification.

Clause 8.1.2.1

Add to the end - A change in the destination attribute results in an attribute value change notification.

Clause 8.1.2.2.1

Add to the end - A change in the backupDestinationList attribute results in an attribute value change notification.

Clause 8.1.2.2.2

Add to the end - A change in the activeDestination attribute results in an attribute value change notification.

3.14.3 Technical Corrigendum 1 - Amd.1 to CCITT X.734 | ISO/IEC 10164-5 (defect report 003)

**INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION –
SYSTEMS MANAGEMENT: EVENT REPORT MANAGEMENT FUNCTION**

AMENDMENT 1

Implementation conformance statement proformas

TECHNICAL CORRIGENDUM 1

1) Annex A

In Table A.6 – "PICS Support Summary", first row referencing "CCITT Rec. X.730 | ISO/IEC 10164-1, Annex E, SM application context", change the status from "m" to "o" and add the following note for the corresponding row of this table:

"NOTE – The supplier of implementation shall indicate the application contexts supported."

2) Subclause A.1.3

Add the following sentence after the line "– Not applicable or out of scope", immediately before "NOTES":

"The value of 'm' in the Status column for the receiving of parameters, of tables of type MCS in Annex A indicates that there is a minimum requirement for the implementation to be able to receive the parameter. The Additional information column shall be used to state whether the implementation provides support for more than the minimum requirement."

3.15 Changes to CCITT Recommendation X.735 (1992) | ISO/IEC 10164-6 : 1993

3.15.1 Technical Corrigendum 1 - Amd.1 to CCITT X.735 | ISO/IEC 10164-6 (defect report 003)

**INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION –
SYSTEMS MANAGEMENT: LOG CONTROL FUNCTION**

AMENDMENT 1

Implementation conformance statement proformas

TECHNICAL CORRIGENDUM 1

1) Annex A

In Table A.6 – "PICS Support Summary", first row referencing, "CCITT Rec. X.730 | ISO/IEC 10164-1, Annex E, SM Application Context", change the status from "m" to "o" and add the following note for the corresponding row of this table:

"NOTE – The supplier of implementation shall indicate the application contexts supported."

2) Subclause A.1.3

Add the following sentence after the line "– Not applicable or out of scope", and immediately before "NOTES":

"The value of 'm' in the Status column for the receiving of parameters, of tables of type MCS in Annex A indicates that there is a minimum requirement for the implementation to be able to receive the parameter. The Additional information column shall be used to state whether the implementation provides support for more than the minimum requirement."

3.16 Changes to CCITT Recommendation X.736 (1992) | ISO/IEC 10164-7 : 1992

3.16.1 Technical Corrigendum 1 - Amd.1 to CCITT X.736 | ISO/IEC 10164-7 (defect 003)

INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION – SYSTEMS MANAGEMENT: SECURITY ALARM REPORTING FUNCTION

AMENDMENT 1

Implementation conformance statement proformas

TECHNICAL CORRIGENDUM 1

1) Annex A

In Table A.6 – "PICS Support Summary", first row referencing "CCITT Rec. X.730 | ISO/IEC 10164-1, Annex E, SM Application Context", change the status from "m" to "o" and add the following note for the corresponding row of this table:

"NOTE – The supplier of implementation shall indicate the application contexts supported."

2) Subclause A.1.3

Add the following sentence after the line "– Not applicable or out of scope", and immediately before "NOTES":

"The value of 'm' in the Status column for the receiving of parameters, of tables of type MCS in Annex A indicates that there is a minimum requirement for the implementation to be able to receive the parameter. The Additional information column shall be used to state whether the implementation provides support for more than the minimum requirement."

3.17 Changes to CCITT Recommendation X.737 (1992) | ISO/IEC 10164-14 : 1993

3.17.1 *Technical Corrigendum 1 to CCITT X.737 | ISO/IEC 10164-14 (NMF defect report)

INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION — SYSTEMS MANAGEMENT: CONFIDENCE AND DIAGNOSTIC TEST CATEGORIES

TECHNICAL CORRIGENDUM 1

1) Subclause A.2.1

Replace connectionTestResultPackage PACKAGE NOTIFICATIONS

"Rec. X.745 (1993) | ISO/IEC 10164-12:1994":testResultNotification connectionControlledResultsParam;;
PRESENT IF !Unsolicited reporting is supported.!!;

with connectionTestResultPackage PRESENT IF !Unsolicited reporting is supported.!!;

Replace REGISTERED AS {part14ObjectClass ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) managedObjectClass(3) 1};

2) Subclause A.2.2

Replace connectivityTestResultPackage PACKAGE NOTIFICATIONS

"Rec. X.745 (1993) | ISO/IEC 10164-12:1994":testResultNotification connectivityControlledResultsParam;;
PRESENT IF !Unsolicited reporting is supported.!!;

with connectivityTestResultPackage PRESENT IF !Unsolicited reporting is supported.!!;

Replace REGISTERED AS {part14ObjectClass ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) managedObjectClass(3) 2};

3) Subclause A.2.3

Replace "Rec. X.745 (1993) | ISO/IEC 10164-12:1994":timeoutPeriodPkg PRESENT IF

with timeoutPeriodPkg PRESENT IF

Replace dataIntegrityTestResultPackage PACKAGE NOTIFICATIONS

"Rec. X.745 (1993) | ISO/IEC 10164-12:1994":testResultNotification dataIntegrityControlledResultsParam;;
PRESENT IF !Unsolicited reporting is supported.!,

with dataIntegrityTestResultPackage PRESENT IF !Unsolicited reporting is supported.!,

Replace REGISTERED AS {part14ObjectClass ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) managedObjectClass(3) 3};

4) Subclause A.2.4

Replace loopbackTestResultPackage PACKAGE NOTIFICATIONS

"Rec. X.745 (1993) | ISO/IEC 10164-12:1994":testResultNotification loopbackControlledResultsParam;;
PRESENT IF !Unsolicited reporting is supported.!,

with loopbackTestResultPackage PRESENT IF !Unsolicited reporting is supported.!,

Replace REGISTERED AS {part14ObjectClass ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) managedObjectClass(3) 4};

5) Subclause A.2.5

Replace "Rec. X.721 (1992) | ISO/IEC 10165-2:1992":actualTestTimePackage,

with "Rec. X.745 (1993) | ISO/IEC 10164-12:1994":actualTestTimePackage,

Replace protocolIntegrityTestResultPackage PACKAGE NOTIFICATIONS

"Rec. X.745 (1993) | ISO/IEC 10164-12:1994":testResultNotification protocolIntegrityControlledResultsParam;;
PRESENT IF !Unsolicited reporting is supported.!,

with protocolIntegrityTestResultPackage PRESENT IF !Unsolicited reporting is supported.!,

Replace REGISTERED AS {part14ObjectClass ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) managedObjectClass(3) 5};

6) Subclause A.2.6

Replace "Rec. X.745 (1993) | ISO/IEC 10164-12:1994":testResultNotification
resourceBoundaryControlledResultsParam;;

with "Rec. X.745 (1993) | ISO/IEC 10164-12:1994":testResultNotification
resourceBoundaryControlledResultsParam;;,

Replace REGISTERED AS {part14ObjectClass ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) managedObjectClass(3) 6};

7) Subclause A.2.7

Replace ATTRIBUTES resourceSelfTestResults;;

with ATTRIBUTES resourceSelfTestResults;;;

Replace resourceSelfTestResultPackage PACKAGE NOTIFICATIONS

"Rec. X.745 (1993) | ISO/IEC 10164-12:1994":testResultNotification resourceSelfControlledResultsParam;;
PRESENT IF !Unsolicited reporting is supported.!,

with resourceSelfTestResultPackage PRESENT IF !Unsolicited reporting is supported.!,

Replace REGISTERED AS {part14ObjectClass ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) managedObjectClass(3) 7};

8) Subclause A.2.8

Replace ;;; *with* ;;;

Replace testInfrastructureTestResultPackage PACKAGE NOTIFICATIONS

"Rec. X.745 (1993) | ISO/IEC 10164-12:1994":testResultNotification testInfrastructureControlledResultsParam;;
PRESENT IF !Unsolicited reporting is supported.!,

with testInfrastructureTestResultPackage PRESENT IF !Unsolicited reporting is supported.!,

Replace REGISTERED AS {part14ObjectClass ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) managedObjectClass(3) 8};

9) Subclause A.3

Insert the following before connectivityThresholdPkg:

connectionTestResultPackage PACKAGE NOTIFICATIONS

"Rec. X.745 (1993) | ISO/IEC 10164-12:1994":testResultNotification connectionControlledResultsParam;

REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) package(4) 1};

connectivityTestResultPackage PACKAGE NOTIFICATIONS

"Rec. X.745 (1993) | ISO/IEC 10164-12:1994":testResultNotification connectivityControlledResultsParam;

REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) package(4) 2};

In connectivityThresholdPkg

replace REGISTERED AS {part14Package ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) package(4) 3};

In DataIntegrityResultsPkg

replace DataIntegrityResultsPkg

with dataIntegrityResultsPkg

replace REGISTERED AS {part14Package ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) package(4) 4};

Insert the following before dataIntegrityThresholdPkg:

dataIntegrityTestResultPackage PACKAGE NOTIFICATIONS

"Rec. X.745 (1993) | ISO/IEC 10164-12:1994":testResultNotification dataIntegrityControlledResultsParam;

REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) package(4) 5};"

In dataIntegrityThresholdPkg

replace dataIntegrityResultsBehaviour

with dataIntegrityThresholdBehaviour

replace REGISTERED AS {part14Package ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) package(4) 6};

In dataUnitsPkg

replace REGISTERED AS {part14Package ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) package(4) 7};

In loopbackResultsPkg

replace ATTRIBUTES loopbackResults GET;

with ATTRIBUTES loopbackResultGET;

replace REGISTERED AS {part14Package ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) package(4) 8};

Insert the following before loopbackThresholdPkg:

loopbackTestResultPackage PACKAGE NOTIFICATIONS

"Rec. X.745 (1993) | ISO/IEC 10164-12:1994":testResultNotification loopbackControlledResultsParam;
REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) package(4) 9};

In loopbackThresholdPkg

replace REGISTERED AS {part14Package 6};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) package(4) 10};

In loopbackTimeoutPkg

replace Rec. X.745 (1993) | ISO/IEC 10164-12:1994:testResultNotification loopbackTxDelayParam

with "Rec. X.745 (1993) | ISO/IEC 10164-12:1994":testResultNotification loopbackTxDelayParam;"

replace REGISTERED AS {part14Package ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) package(4) 11};

In pDUREceptionPackage

replace REGISTERED AS {part14Package ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) package(4) 12};

In protocolIntegrityResultsPackage

Remove BEHAVIOUR protocolIntegrityResultsBehaviour;

replace REGISTERED AS {part14Package ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) package(4) 13};

Insert the following before resultIntervalPkg:

protocolIntegrityTestResultPackage PACKAGE NOTIFICATIONS

"Rec. X.745 (1993) | ISO/IEC 10164-12:1994":testResultNotification protocolIntegrityControlledResultsParam;
REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) package(4) 14};

resourceSelfTestResultPackage PACKAGE NOTIFICATIONS

"Rec. X.745 (1993) | ISO/IEC 10164-12:1994":testResultNotification resourceSelfTestControlledResultsParam;
REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) package(4) 15};

In resultIntervalPkg

replace REGISTERED AS {part14Package ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) package(4) 16};

In stateTransitionTimeInternalPkg

replace REGISTERED AS {part14Package ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) package(4) 17};

In testConditionsPkg

replace REGISTERED AS {part14Package ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) package(4) 18};

Insert the following before timeoutPeriodPkg:

testInfrastructureTestResultPackage PACKAGE NOTIFICATIONS

**"Rec. X.745 (1993) | ISO/IEC 10164-12:1994":testResultNotification testInfrastructureControlledResultsParam;
REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) package(4) 19};**

In timeoutPeriodPkg

replace timeoutPeriod

with "Rec. X.745 (1993) | ISO/IEC 10164-12:1994":timeoutPeriod

replace REGISTERED AS {part14Package ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) package(4) 20};

In waitingIntervalPackage

remove BEHAVIOUR waitingIntervalBehaviour;

replace REGISTERED AS {part14Package ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) package(4) 21};

10) Subclause A.4

Replace REGISTERED AS {part14NameBinding 1};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) nameBinding(6) 1};

11) Subclause A.5.1

Replace TestCategories-ASN1Module.ConnectionTestResults;

with connectionTestResults;

12) Subclause A.5.2

Replace TestCategories-ASN.1Module.ConnectionTestInfo;

with TestCategories-ASN1Module.ConnectionTestInfo;

Replace connectionTestInfoParamBehaviour;

with connectionTestInfoParamBehaviour BEHAVIOUR

Replace;;; *with*;;

REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) parameter(5) 1};

13) Subclause A.5.3

Remove BEHAVIOUR connectionUncontrolledResultsParamBehaviour;

Replace REGISTERED AS {part14Parameter ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) parameter(5) 2};

14) Subclause A.5.4

Replace connectivityResultsParamBehaviour

with connectivityResultsParamBehaviour BEHAVIOUR

15) Subclause A.5.5

Replace connectivityUncontrolledResultsParamBehaviour;

with connectivityUncontrolledResultsParamBehaviour BEHAVIOUR

Replace;;; *with* ;,.

Replace REGISTERED AS {part14Parameter ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) parameter(5) 3};

16) Subclause A.5.6

Remove BEHAVIOUR connectivityTestInfoParamBehaviour;

Replace REGISTERED AS {part14Parameter ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) parameter(5) 4};

17) Subclause A.5.7

Remove BEHAVIOUR dataIntegrityControlledResultsParamBehaviour;

18) Subclause A.5.8

Remove BEHAVIOUR dataIntegrityUncontrolledResultsParamBehaviour;

Replace REGISTERED AS {part14Parameter ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) parameter(5) 5};

19) Subclause A.5.9

Remove BEHAVIOUR dataIntegrityTestInfoParamBehaviour;

Replace REGISTERED AS {part14Parameter ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) parameter(5) 6};

20) Subclause A.5.10

Replace TestCategories-ASN1Module.LoopbackTestResults;

with loopbackResult;

Remove BEHAVIOUR loopbackControlledResultsParamBehaviour;

21) Subclause A.5.11

Replace TestCategories-ASN1Module.LoopbackTestResults;

with TestCategories-ASN1Module.LoopbackTestResult;

Remove BEHAVIOUR loopbackUncontrolledResultsParamBehaviour;

Replace REGISTERED AS {part14Parameter ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) parameter(5) 7};

22) Subclause A.5.12

Remove BEHAVIOUR loopbackTestInfoParamBehaviour;

Replace REGISTERED AS {part14Parameter ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) parameter(5) 8};

23) Subclause A.5

Insert the following before A.5.13 and renumber subsequent subclauses:

A.5.13 Loopback transmission delay

loopbackTxDelayParam PARAMETER

CONTEXT EVENT-INFO;

WITH SYNTAX TestCategories-ASN1Module.LoopbackTxDelayInfo;

REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) parameter(5) 9};

24) Subclause A.5.13

Replace TestCategories-ASN1Module.ProtocolIntegrityTestResults;

with protocolIntegrityResults;

Remove BEHAVIOUR protocolIntegrityControlledResultsParamBehaviour;

25) Subclause A.5.14

Remove BEHAVIOUR protocolIntegrityUncontrolledResultsParamBehaviour;

Replace REGISTERED AS {part14Parameter ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) parameter(5) 10};

26) Subclause A.5.15

Remove BEHAVIOUR protocolIntegrityTestInfoParamBehaviour;

Replace REGISTERED AS {part14Parameter ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) parameter(5) 11};

27) Subclause A.5.16

Replace TestCategories-ASN1Module.ResourceBoundaryTestResults;

with resourceBoundaryTestResults;

28) Subclause A.5.17

Replace REGISTERED AS {part14Parameter ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) parameter(5) 12};

29) Subclause A.5.18

Replace resourceSelfTestInfoParamBehaviour;

with resourceSelfTestInfoParamBehaviour BEHAVIOUR

Replace REGISTERED AS {part14Parameter ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) parameter(5) 13};

30) New subclauses A.5.19 and A.5.20

Insert the following before A.6:

A.5.19 Resource self test controlled results

resourceSelfTestControlledResultsParam PARAMETER
CONTEXT EVENT-INFO; WITH SYNTAX TestCategories-
ASN1Module.ResourceSelfTestResults; REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) parameter(5) 14};

A.5.20 Test infrastructure controlled results

testInfrastructureControlledResultsParam PARAMETER
CONTEXT EVENT-INFO; WITH SYNTAX TestCategories-
ASN1Module.TestInfrastructureTestResults; REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) parameter(5) 15};

31) Subclause A.6.1

Replace REGISTERED AS {part14Attribute ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) attribute(7) 1};

32) Subclause A.6.2

Replace REGISTERED AS {part14Attribute ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) attribute(7) 2};

33) Subclause A.6.3

Replace REGISTERED AS {part14Attribute ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) attribute(7) 3};

34) Subclause A.6.4

Replace REGISTERED AS {part14Attribute ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) attribute(7) 4};

35) Subclause A.6.5

Replace REGISTERED AS {part14Attribute ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) attribute(7) 5};

36) Subclause A.6.6

Replace REGISTERED AS {part14Attribute ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) attribute(7) 6};

37) Subclause A.6.7

Replace REGISTERED AS {part14Attribute ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) attribute(7) 7};

38) Subclause A.6.8

Replace REGISTERED AS {part14Attribute ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) attribute(7) 8};

39) Subclause A.6.9

Replace REGISTERED AS {part14Attribute ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) attribute(7) 9};

40) Subclause A.6.10

Replace loopbackResults ATTRIBUTE

with loopbackResult ATTRIBUTE

Replace TestCategories-ASN1Module.loopbackTestResults;

with TestCategories-ASN1Module.LoopbackTestResult;

Replace REGISTERED AS {part14Attribute ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) attribute(7) 10};

41) Subclause A.6.11

Replace ??????;

with TestCategories-ASN1Module.Timespec;

Replace REGISTERED AS {part14Attribute ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) attribute(7) 11};

42) Subclause A.6.12

Replace REGISTERED AS {part14Attribute ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) attribute(7) 12};

43) Subclause A.6.13

Append a second semi-colon to the end of the DEFINED AS clause.

Replace REGISTERED AS {part14Attribute ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) attribute(7) 13};

44) Subclause A.6.14

Replace REGISTERED AS {part14Attribute ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) attribute(7) 14};

45) Subclause A.6.15

Replace REGISTERED AS {part14Attribute ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) attribute(7) 15};

46) Subclause A.6.16

Append a second semi-colon to the end of the DEFINED AS clause.

Replace REGISTERED AS {part14Attribute ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) attribute(7) 16};

47) Subclause A.6.17

Replace REGISTERED AS {part14Attribute ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) attribute(7) 17};

48) Subclause A.6.18

Replace REGISTERED AS {part14Attribute ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) attribute(7) 18};

49) Subclause A.6.19

Replace REGISTERED AS {part14Attribute ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) attribute(7) 19};

50) Subclause A.6.20

Append a second semi-colon to the end of the DEFINED AS clause.

Replace REGISTERED AS {part14Attribute ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) attribute(7) 20};

51) Subclause A.6.21

Replace stateTransitionTimeInterval

with stateTransitionTimeInterval

Replace TestCategories-ASN1Module.StateTransitionTimeInterval;

with TestCategories-ASN1Module.StateTransitionTimeInterval;

Replace REGISTERED AS {part14Attribute ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) attribute(7) 21};

52) Subclause A.6.22

Replace TestCategories-ASN1Module.TestConditions

with TestCategories-ASN1Module.TestConditions;

Replace REGISTERED AS {part14Attribute ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) attribute(7) 22};

53) Subclause A.6.23

Replace REGISTERED AS {part14Attribute ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) attribute(7) 23};

54) Subclause A.6.24

Replace REGISTERED AS {part14Attribute ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) attribute(7) 24};

55) Subclause A.6.25

Replace REGISTERED AS {part14Attribute ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) attribute(7) 25};

56) Subclause A.6.26

Replace REGISTERED AS {part14Attribute ??};

with REGISTERED AS {joint-iso-itu-t ms(9) function(2) part14(14) attribute(7) 26};

57) Subclause A.7

Replace DEFINITION IMPLICIT TAGS

with DEFINITIONS IMPLICIT TAGS

In IMPORTS FROM CMIP-1

replace {joint-iso-ccitt ms(9) cmip(1) modules0(0) protocol(3) }

with {joint-iso-ccitt ms(9) cmip(1) modules(0) protocol(3) }

Remove the following:

part14ObjectClass OBJECT IDENTIFIER ::= {joint-iso-ccitt ms(9) function(2) part14(14) managedObjectClass(3)}

part14Package OBJECT IDENTIFIER ::= {joint-iso-ccitt ms(9) function(2) part14(14) package(4)}

part14Parameter OBJECT IDENTIFIER ::= {joint-iso-ccitt ms(9) function(2) part14(14) parameter(5)}

part14NameBinding OBJECT IDENTIFIER ::= {joint-iso-ccitt ms(9) function(2) part14(14) nameBinding(6)}

part14Attribute OBJECT IDENTIFIER ::= {joint-iso-ccitt ms(9) function(2) part14(14) attribute(7)}

In ConnectionTestInfo

replace [0] TestPattern OPTIONAL,

with [0] EXPLICIT TestPattern OPTIONAL,

replace [2] TestDuration OPTIONAL,

with [2] EXPLICIT TestDuration OPTIONAL,

replace [3] TimeSpec

with [3] Timespec

In ConnectionTestResults

replace [0] TestPattern OPTIONAL,

with [0] EXPLICIT TestPattern OPTIONAL,

replace [1] Real

with [1] REAL

In ConnectivityTestInfo

replace [0] CHOICE {

with [0] EXPLICIT CHOICE {

In ConnectivityTestResults

replace [0] TimeSpec,

with [0] Timespec,

replace [2] TestThreshold,

with [2] EXPLICIT TestThreshold,

In DataCategory

replace ---...}

with ---...--}

In DataIntegrityTestInfo

replace SEQUENCE OF { dataUnits DataUnits }

with SEQUENCE OF DataUnits

In DataIntegrityTestResults

replace [5] TestThreshold

with [5] EXPLICIT TestThreshold

Replace the production for DataRate with the following:

DataRate ::= CHOICE {
 real REAL,
 oi OBJECT IDENTIFIER }

In DataType

replace OBJECT IDENTIFIER }

with OBJECT IDENTIFIER }

In DataUnits

replace [0] DataType,

with [0] EXPLICIT DataType,

replace [4] DataRate OPTIONAL

with [4] EXPLICIT DataRate OPTIONAL

Before ErrorRatioReportType insert the following:

EndConnectionTestResults ::= ConnectionTestResults

In ErrorUnitThreshold

replace [0] UnitType,

with [0] UnitsType,

In IntegerDataType

replace ---...}

with ---...--}

Replace the production for LoopbackTestInfo with the following:

LoopbackTestInfo ::= SEQUENCE {
 loopbackData TestPatternSequence OPTIONAL,
 testStartTime GeneralizedTime OPTIONAL,
 testIntervalTime [1] Timespec OPTIONAL,
 reportingIntervalTime [2] Timespec OPTIONAL,
 loopbackType OBJECT IDENTIFIER OPTIONAL,
 loopbackTimeout [3] Timespec OPTIONAL,
 loopbackErrorThreshold LoopbackError OPTIONAL }

Replace the production for LoopbackTestResult with the following:

LoopbackFailInfo ::= INTEGER {
 errorRatioThresholdExceeded (0),
 loopbackTimeoutExceeded (1) }
LoopbackTestResult ::= SEQUENCE {
 passed SEQUENCE {
 loopbackDataReceived TestPatternSequence,
 loopbackErrorReceived LoopbackError },
 fail LoopbackFailInfo,
 timeout [1] NULL, -- test timeout period exceeded
 prematureTermination [2] NULL,
 inconclusive [3] NULL }
LoopbackTxDelayInfo ::= NULL

In Pattern Type

replace Pattern Type

with PatternType

Before ResourceBoundaryTestInfo insert the following:

RawData ::= OCTET STRING

In ResourceSelfTestInfo

replace iteration [1] INTEGER

with iteration [1] INTEGER,

In ResourceSelfTestResults

replace SEQUENCE {

with nonIntermediate SEQUENCE {

Before ResultInterval insert the following:

ResponseTimeout ::= TimeoutPeriod

Replace the production for TestConditions with the following:

TestConditions ::= SEQUENCE {
 first INTEGER {
 testIfBusy (0),
 rejectIfBusy (1),
 waitIfBusy (2) },
 second INTEGER {
 customerOverrideTest (0),
 noCustomerOverrideTest (1) } OPTIONAL }

In TestDuration

replace size INTEGER

with size INTEGER,

replace dataRate dataRate OPTIONAL

with dataRate DataRate OPTIONAL }}

Before TestPatternSequence *insert the following:*

TestInfrastructureTestResults ::= NULL

In TestPatternSequence

replace SEQUENCE OF { TestSignal }

with SEQUENCE OF TestPattern

In TestThreshold

replace [2] UnitErrorThreshold

with [2] ErrorUnitThreshold

In UnitType,

replace UnitType

with UnitsType

**3.17.2 *Draft Technical Corrigendum 2 to CCITT X.737 | ISO/IEC 10164-14 resulting from
ASN.1 1997 Alignment Defect (For approval at February 2000 SG 4 Plenary)**

**INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION —
SYSTEMS MANAGEMENT:
CONFIDENCE AND DIAGNOSTIC TEST CATEGORIES
DRAFT TECHNICAL CORRIGENDUM 2**

1) *Insert the following references into clause 2.1:*

"

- ITU-T Recommendation X.680 (1997) | ISO/IEC 8824-1:1998, *Information technology – Abstract Syntax Notation One (ASN.1): Specification of Basic Notation.*
- ITU-T Recommendation X.681 (1994) | ISO/IEC 8824-2:1995, *Information technology – Abstract Syntax Notation One (ASN.1): Information object specification.*
- ITU-T Recommendation X.690 (1997) | ISO/IEC 8825-1:1998, *Information technology – ASN.1 Encoding Rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER).*
- ITU-T Recommendation X.691 (1997) | ISO/IEC 8825-2:1998, *Information technology – ASN.1 Encoding Rules: Specification of Packed Encoding Rules (PER).*
- ITU-T Recommendation X.710 (1997) | ISO/IEC 9595:1998, *Information technology – Open Systems Interconnection – Common management information service.*

"

2) Apply the following change to clause 2.2:

Remove the following paired references:

- "
- CCITT Recommendation X.208 (1988), *Specification of Abstract Syntax Notation One (ASN.1)*.
ISO/IEC 8824:1990, *Information technology – Open Systems Interconnection – Specification of Abstract Syntax Notation One (ASN.1)*.
- "
- "
- 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*.
- "

3) Apply the following change to clause 13.1:

Replace "CCITT Rec. X.209 | ISO/IEC 8825" with "ITU-T Rec. X.690 | ISO/IEC 8825-1".

4) Apply the following changes to clause A.7:

In the IMPORTS from CMIP-1, insert the following before AttributeId:

"CMIP-ATTRIBUTE, AttributeSet, "

In the IMPORTS from Attribute-ASN1Module, insert the following before ManagementExtension:

"DMI-TYPE-IDENTIFIER, "

In DataCategory, replace:

"packets (3)
--...--}"

with:

"packets (3),
... }"

In IntegerDataType, replace:

"pn20 (5)
--...--}"

with:

"pn20 (5),
... }"

Replace the production for InternalResourceTestResults with the following ASN.1 production

"CDTC-TEST-RESULTS ::= DMI-TYPE-IDENTIFIER

InternalResourceTestResults ::= SEQUENCE {

functionTested CDTC-TEST-RESULTS&.id ({InternalResourceSet}),

testResult CDTC-TEST-RESULTS&.Value ({InternalResourceSet} {@.functionTested})

}

InternalResourceSet CDTC-TEST-RESULTS ::= {...}

"

Replace the production for Parameter with the following ASN.1 production

"Parameter ::= SEQUENCE {

attributeType CMIP-ATTRIBUTE&.id ({AttributeSet}),

value CMIP-ATTRIBUTE&.Value ({AttributeSet} {@.attributeType}) }

"

Replace the production for SequenceOfEvents with the following ASN.1 production

"CDTC-SIGNAL-TYPE ::= DMI-TYPE-IDENTIFIER

```
SequenceOfEvents ::= SEQUENCE {  
    eventId      INTEGER,  
    signalType   CDTC-SIGNAL-TYPE&.id ({SignalTypeSet}),  
    signalValue  CDTC-SIGNAL-TYPE&.Value ({SignalTypeSet} {@.signalType}),  
    signalDirection SignalDirection,  
    mORTs       MORTs,  
    associatedObjects AssociatedObjects,  
    waitDuration WaitDuration }  
SignalTypeSet CDTC-SIGNAL-TYPE ::= {...}  
"
```

Replace the production for SignalReceived with the following ASN.1 production

```
"SignalReceived ::= SET OF SEQUENCE {  
    signalType   CDTC-SIGNAL-TYPE&.id ({SignalTypeSet}),  
    signalValue  CDTC-SIGNAL-TYPE&.Value ({SignalTypeSet} {@.signalType})  
    mORTs       MORTs,  
    associatedObjects AssociatedObjects }  
"
```

3.18 Changes to CCITT Recommendation X.738 (1992) | ISO/IEC 10164-13 : 1993

3.18.1 *Technical Corrigendum 1 to CCITT X.738 | ISO/IEC 10164-13 (NMF defect report)

INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION — SYSTEMS MANAGEMENT: SUMMARIZATION FUNCTION

TECHNICAL CORRIGENDUM 1

1) Subclause A.1

In meanScanner

replace DERIVED FROMensembleStatisticScanner

with DERIVED FROM ensembleStatisticScanner

In meanVarianceScanner

replace meanVarianceScannerMANAGED OBJECT CLASS

with meanVarianceScanner MANAGED OBJECT CLASS

replace DERIVED FROMmeanScanner

with DERIVED FROM meanScanner

In minMaxScanner

replace minMaxScannerMANAGED OBJECT CLASS

with minMaxScanner MANAGED OBJECT CLASS

replace DERIVED FROMensembleStatisticScanner

with DERIVED FROM ensembleStatisticScanner

In percentileScanner

replace percentileScannerMANAGED OBJECT CLASS

with percentileScanner MANAGED OBJECT CLASS

replace DERIVED FROMensembleStatisticScanner

with DERIVED FROM ensembleStatisticScanner

In simpleScanner

replace simpleScannerMANAGED OBJECT CLASS

with simpleScanner MANAGED OBJECT CLASS

replace DERIVED FROMhomogeneousScanner

with DERIVED FROM homogeneousScanner

2) Subclause A.4

In beginTimeOffset

replace SYNTAXSummarizationASN1Productions.TimePeriod

with SYNTAX SummarizationASN1Productions.TimePeriod

In bufferedObservationIdList

replace bufferedObservationIdListATTRIBUTE

with bufferedObservationIdList ATTRIBUTE

In observationIdList

replace observationIdListATTRIBUTE

with observationIdList ATTRIBUTE

In scanAttributeIdList

replace scanAttributeIdListATTRIBUTE

with scanAttributeIdList ATTRIBUTE

3) Subclause A.8

In scanActionError

replace CONTEXTSPECIFIC-ERROR;

with CONTEXT SPECIFIC-ERROR;

4) Subclause A.9

In DynamicSimpleScanArgument

replace CHOICE {

with scopeOrListChoice CHOICE {

Replace scanningFilterDefault CMISFilter ::= and { }

with scanningFilterDefault CMISFilter ::= and : { }

3.18.2 *Draft Technical Corrigendum 2 to CCITT X.738 | ISO/IEC 10164-13 resulting from ASN.1 1997 Alignment Defect (For approval at February 2000 SG 4 Plenary)

**INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION —
SYSTEMS MANAGEMENT: SUMMARIZATION FUNCTION**

DRAFT TECHNICAL CORRIGENDUM 2

1) *Insert the following references into clause 2.1:*

"

- ITU-T Recommendation X.680 (1997) | ISO/IEC 8824-1:1998, *Information technology – Abstract Syntax Notation One (ASN.1): Specification of Basic Notation*.
- ITU-T Recommendation X.681 (1994) | ISO/IEC 8824-2:1995, *Information technology – Abstract Syntax Notation One (ASN.1): Information object specification*.
- ITU-T Recommendation X.690 (1997) | ISO/IEC 8825-1:1998, *Information technology – ASN.1 Encoding Rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER)*.
- ITU-T Recommendation X.691 (1997) | ISO/IEC 8825-2:1998, *Information technology – ASN.1 Encoding Rules: Specification of Packed Encoding Rules (PER)*.
- ITU-T Recommendation X.710 (1997) | ISO/IEC 9595:1998, *Information technology – Open Systems Interconnection – Common management information service*.

"

2) *Apply the following change to clause 2.2:*

Remove the following paired references:

"

- CCITT Recommendation X.209 (1988), *Specification of Basic Encoding Rules for abstract syntax n*.
ISO/IEC 8825:1990, *Information technology – Open Systems Interconnection – Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1)*.

"

"

- 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*.

"

3) *Apply the following change to clause 13.1.1:*

Replace "CCITT Rec. X.209 | ISO/IEC 8825" with "ITU-T Rec. X.690 | ISO/IEC 8825-1".

4) *Apply the following change to clause 13.2.1:*

Replace "CCITT Rec. X.209 | ISO/IEC 8825" with "ITU-T Rec. X.690 | ISO/IEC 8825-1".

5) *Apply the following changes to clause A.9:*

In the IMPORTS from CMIP-1, insert the following before AttributeId:

"CMIP-ATTRIBUTE, AttributeSet, "

Replace the production for AttributeMeasure with the following ASN.1 production

```
"AttributeMeasure ::= SEQUENCE {  
    attributeId    CMIP-ATTRIBUTE&.id ({AttributeSet}),  
    attributeValue CMIP-ATTRIBUTE&.Value ({AttributeSet} {@.attributeId}) OPTIONAL,  
    -- not present implies missing data  
    timeStamp     [3] TimePeriod OPTIONAL  
    -- time offset forward from scan initiation time in report.  
    -- Required of timeStampReportMode attribute is present with value = 2  
    suspectFlag   BOOLEAN DEFAULT FALSE }  
"
```

3.19 Changes to CCITT Recommendation X.739 (1992) | ISO/IEC 10164-11 : 1993

3.19.1 *Technical Corrigendum 1 to CCITT X.739 | ISO/IEC 10164-11 (NMF defect report)

INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION — SYSTEMS MANAGEMENT: METRIC OBJECTS AND ATTRIBUTES

TECHNICAL CORRIGENDUM 1

1) Subclause A.2

In derivedGaugeTimestampPackage

replace derivedGaugeTimestamp GET

with derivedGaugeTimeStamp GET

2) Subclause A.3

In observedAttributeId

replace WITH ATTRIBUTE SYNTAX CMIP-1.AttributeId;

with WITH ATTRIBUTE SYNTAX MetricModule.AttributeId;

In observedObjectInstance

replace WITH ATTRIBUTE SYNTAX CMIP-1.ObjectInstance;

with WITH ATTRIBUTE SYNTAX MetricModule.ObjectInstance;

3) Subclause A.5

In IMPORTS insert the following before ObservedValue:

AttributeId, ObjectInstance

FROM CMIP-1 {joint-iso-itu-t ms(9) cmip(1) modules(0) protocol(3)}

In resourceRequestRate

replace ::= { moaSpecificProblems 1 }

with ::= oi: { moaSpecificProblems 1 }

In resourceUtilization

replace ::= { moaSpecificProblems 2 }

with ::= oi: { moaSpecificProblems 2 }

In rejectionRate

replace ::= { moaSpecificProblems 3 }

with ::= oi: { moaSpecificProblems 3 }

3.20 Changes to CCITT Recommendation X.740 (1992) | ISO/IEC 10164-8 : 1993

3.20.1 Technical Corrigendum 1 to CCITT X.740 | ISO/IEC 10164-8 (defect report 001)

INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION — SECURITY AUDIT TRAIL FUNCTION

TECHNICAL CORRIGENDUM 1

NOTE - This Technical Corrigendum (TC) is the complete Implementation Conformance Statement Proformas for this Recommendation | International Standard. Due to the size of the TC and the need to copy the content for completion by profile specifiers and other parties the text is not included in this Implementor's Guide. The TC is available as a separate publication - refer to ITU | ISO/IEC publications.

3.20.2 Technical Corrigendum 2 to X.740 | ISO/IEC 10164-8 (defects 10164-1/003, 10164-8/003)

INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION – SYSTEMS MANAGEMENT: SECURITY AUDIT TRAIL FUNCTION

TECHNICAL CORRIGENDUM 2

1) Subclause A.5

Apply the following change:

Replace

"...asn1Module(2) 1}"

with

"...asn1Module(2) 1};".

2) Annex B

In Table B.6 – "PICS Support Summary", of CCITT Rec. X.740/Corr.1 | ISO/IEC 10164-8/Corr.1, first row referencing "CCITT Rec. X.730 | ISO/IEC 10164-1 Annex E, SM Application Context", change the status from "m" to "o" and add the following note for the corresponding row of this table:

"NOTE - The supplier of implementation shall indicate the application contexts supported."

3) Subclause B.1.3

Add the following sentence after the line "– Not applicable or out of scope" and immediately before "NOTES":

"The value of 'm' in the Status column for the receiving of parameters, of tables of type MCS in Annex B indicates that there is a minimum requirement for the implementation to be able to receive the parameter. The Additional information column shall be used to state whether the implementation provides support for more than the minimum requirement."

3.20.3 *Technical Corrigendum 3 to CCITT X.740 | ISO/IEC 10164-8 (NMF defect report)

INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION — SYSTEMS MANAGEMENT: SECURITY AUDIT TRAIL REPORTING FUNCTION TECHNICAL CORRIGENDUM 3

1) Subclause A.1

Add the following after the line DEFINITIONS ::= BEGIN
IMPORTS

ServiceReportCause FROM SecurityAuditTrail-ASN1Module
{joint-iso-ccitt ms(9) function(2) part8(8) asn1Module(2) 2};

2) Subclause A.4.1

Replace the AND ATTRIBUTE IDS content with the following:

serviceReportCause serviceReportCause,
notificationIdentifier "CCITT Rec. X.721 (1992) | ISO/IEC 10165-2 : 1992":notificationIdentifier,
correlatedNotifications "CCITT Rec. X.721 (1992) | ISO/IEC 10165-2 : 1992":correlatedNotifications,
additionalText "CCITT Rec. X.721 (1992) | ISO/IEC 10165-2 : 1992":additionalText,
additionalInformation "CCITT Rec. X.721 (1992) | ISO/IEC 10165-2 : 1992":additionalInformation;

3) Subclause A.4.2

Replace the AND ATTRIBUTE IDS content with the following:

notificationIdentifier "CCITT Rec. X.721 (1992) | ISO/IEC 10165-2 : 1992":notificationIdentifier,
correlatedNotifications "CCITT Rec. X.721 (1992) | ISO/IEC 10165-2 : 1992":correlatedNotifications,
additionalText "CCITT Rec. X.721 (1992) | ISO/IEC 10165-2 : 1992":additionalText,
additionalInformation "CCITT Rec. X.721 (1992) | ISO/IEC 10165-2 : 1992":additionalInformation;

3.21 Changes to ITU-T Recommendation X.741 (1995) | ISO/IEC 10164-9 : 1996

2.21.1 Technical Corrigendum 1 to ITU-T X.741 | ISO/IEC 10164-9 (defect report 10164-1/003)

INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION – SYSTEMS MANAGEMENT: OBJECTS AND ATTRIBUTES FOR ACCESS CONTROL TECHNICAL CORRIGENDUM 1

1) Annex B

In Table B.6 – "PICS Support Summary", first row referencing "CCITT Rec. X.730 | ISO/IEC 10164-1, Annex E, SM Application Context", change the status from "m" to "o" and add the following note for the corresponding row of this table:

"NOTE – The supplier of implementation shall indicate the application contexts supported."

2) Subclause B.1.3

Add the following sentence after the line "– Not applicable or out of scope" and immediately before "NOTES":

"The value of 'm' in the Status column for the receiving of parameters, of tables of type MCS in Annex B indicates that there is a minimum requirement for the implementation to be able to receive the parameter. The Additional information column shall be used to state whether the implementation provides support for more than the minimum requirement."

3.21.2 *This change equates to: Technical Corrigendum 2 to CCITT X.741 | ISO/IEC 10164-9 (resulting from NMF defect report)

**INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION —
SYSTEMS MANAGEMENT: OBJECTS AND ATTRIBUTES
FOR ACCESS CONTROL**

TECHNICAL CORRIGENDUM 2

1) Subclause A.2.3

Replace AccessControl-ASN1Module.denyAccess with AccessControl-ASN1Module.deny

Remove the PRESENT IF (formatted in White and hence not visible on the paper copy) from the CONDITIONAL PACKAGE specifications for duration, dailyScheduling, weeklyScheduling and externalScheduler

In the authenticationContextPackage replace

**REGISTERED AS { joint-iso-ccitt(2) ms(9) function(2) part9(9) package(4) (2) }; with
REGISTERED AS { joint-iso-ccitt(2) ms(9) function(2) part9(9) package(4) authenticationContextPackage(2) };**

2) Subclause A.2.4

At end of accessControlNotificationEmitterPkg replace ;;; with ;;;;

3) Subclause A.2.5

In the operationsListPackage ATTRIBUTES operationsList

replace ADD-REMOVE;; with ADD-REMOVE;

In the operationsListPackage REGISTERED AS

replace (15)} with (15)};

In the operationsListPackage PRESENT IF

replace object ! with object!;

4) Subclause A.2.11

Replace DERIVED FROM top with DERIVED FROM "CCITT Rec. X.721 | ISO/IEC 10165-2:1992":top

5) Subclause A.2.14

Remove the tab character between CHARAC and TERIZED

6) Subclause A.4.1

Replace AccessControlDefinitions with AccessControl-ASN1Module

7) Subclause A.5.1

Replace AccessControlDefinitions with AccessControl-ASN1Module

8) Subclause A.5.2

Replace AccessControlDefinitions with AccessControl-ASN1Module

9) Subclause A.5.3

Replace AccessControlDefinitions with AccessControl-ASN1Module

10) Subclause A.5.4

Replace AccessControlDefinitions with AccessControl-ASN1Module

Replace PARAMETERS invalidAccesscontrolFilter with PARAMETERS invalidAccessControlFilter

11) Subclause A.5.6

Replace AccessControlDefinitions with AccessControl-ASN1Module

12) Subclause A.5.7

Replace AccessControlDefinitions with AccessControl-ASN1Module

13) Subclause A.5.8

Replace AccessControlDefinitions with AccessControl-ASN1Module

14) Subclause A.5.9

Replace AccessControlDefinitions with AccessControl-ASN1Module

15) Subclause A.5.10

Replace AccessControlDefinitions with AccessControl-ASN1Module

16) Subclause A.5.11

Replace AccessControlDefinitions with AccessControl-ASN1Module

17) Subclause A.5.12

Replace AccessControlDefinitions with AccessControl-ASN1Module

18) Subclause A.5.14

Replace AccessControlDefinitions with AccessControl-ASN1Module

19) Subclause A.5.17

Replace AccessControlDefinitions with AccessControl-ASN1Module

20) Subclause A.5.18

Replace AccessControlDefinitions with AccessControl-ASN1Module

Replace EQUALITY SET-COMPARISON with EQUALITY, SET-COMPARISON

21) Subclause A.5.20

Replace AccessControlDefinitions with AccessControl-ASN1Module

22) Subclause A.5.21

Replace AccessControlDefinitions with AccessControl-ASN1Module

23) Subclause A.5.22

Replace AccessControlDefinitions with AccessControl-ASN1Module

24) Subclause A.5.24

Replace AccessControlDefinitions with AccessControl-ASN1Module

25) Subclause A.5.25

Replace AccessControlDefinitions with AccessControl-ASN1Module

26) Subclause A.5.26

Replace AccessControlDefinitions with AccessControl-ASN1Module

27) Subclause A.6

In the first line:

replace AccessControlDefinitions { joint-iso-ccitt ms(9) function(2) part9(9) asn1Module(2) 1 }

with AccessControl-ASN1Module { joint-iso-ccitt ms(9) function(2) part9(9) asn1Module(2) 2 }

Before the IMPORTS for DistinguishedName add the following ASN.1 comment Note:

*-- NOTE – This Recommendation / International Standard imports DistinguishedName from
-- CCITT Rec. X.501 (1988) / ISO/IEC 9594-2:1990. The specification for this syntax can now be
-- found in an informative annex of ITU-T Rec. X.711 (1997) / ISO/IEC 9596-1:1997.*

Remove the following:

FunctionalUnitPackage

FROM SMASE-A-ASSOCIATE-Information { joint-iso-ccitt ms(9) smo(0) negotiationAbstractSyntax(1) version1(1) }

Replace the IMPORTS for AETitle with the following:

AE-title

FROM ACSE-1 { joint-iso-itu-t(2) association-control(2) modules(0) apdus(0) version1(1) }

In InitiatorName replace InitiatorName CHOICE with InitiatorName ::= CHOICE

In InitiatorName replace [4] IMPLICIT AETitle with [4] AE-title

In CapabilityIdentitiesList replace IMPLICIT OBJECT IDENTIFIER with OBJECT IDENTIFIER

In DenialResponse remove EnforcementAction

In Deny replace Deny with deny

*In InvalidAccessControlFilter remove the { (formatted in White and hence not visible on the paper copy)
before filter*

**3.21.3 *Draft Technical Corrigendum 3 to CCITT X.741 | ISO/IEC 10164-9 resulting from
ASN.1 1997 Alignment Defect (For approval at February 2000 SG 4 Plenary)**

**INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION —
SYSTEMS MANAGEMENT:
OBJECTS AND ATTRIBUTES FOR ACCESS CONTROL
DRAFT TECHNICAL CORRIGENDUM 3**

1) *Insert the following references into clause 2.1:*

"

- ITU-T Recommendation X.680 (1997) | ISO/IEC 8824-1:1998, *Information technology – Abstract Syntax Notation One (ASN.1): Specification of Basic Notation.*
- ITU-T Recommendation X.681 (1994) | ISO/IEC 8824-2:1995, *Information technology – Abstract Syntax Notation One (ASN.1): Information object specification.*
- ITU-T Recommendation X.690 (1997) | ISO/IEC 8825-1:1998, *Information technology – ASN.1 Encoding Rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER).*
- ITU-T Recommendation X.691 (1997) | ISO/IEC 8825-2:1998, *Information technology – ASN.1 Encoding Rules: Specification of Packed Encoding Rules (PER).*
- ITU-T Recommendation X.710 (1997) | ISO/IEC 9595:1998, *Information technology – Open Systems Interconnection – Common management information service.*
- ITU-T Recommendation X.711 (1997) | ISO/IEC 9596-1:1998, *Information technology – Open Systems Interconnection – Common management information protocol: Specification.*

"

2) *Apply the following change to clause 2.2:*

Remove the following paired references:

"

- CCITT Recommendation X.208 (1988), *Specification of Abstract Syntax Notation One (ASN.1).*

ISO/IEC 8824:1990, *Information technology – Open Systems Interconnection – Specification of Abstract Syntax Notation One (ASN.1).*

"

"

- CCITT Recommendation X.209 (1988), *Specification of Basic Encoding Rules for abstract syntax n.*

ISO/IEC 8825:1990, *Information technology – Open Systems Interconnection – Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1).*

"

"

- 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.*

"

"
– CCITT Recommendation X.711 (1991), *Common management information protocol specification for CCITT applications*.
ISO/IEC 9596-1:1991, *Information technology – Open Systems Interconnection – Common management information protocol specification*.
"

3) Apply the following change to clause 13.1:

Replace "CCITT Rec. X.209 | ISO/IEC 8825" with "ITU-T Rec. X.690 | ISO/IEC 8825-1".

4) Apply the following changes to clause A.6:

In the IMPORTS from CMIP-1, insert the following before ObjectClass:

"DistinguishedName, "

Remove the following IMPORTS statement:

"DistinguishedName

FROM InformationFramework { joint-iso-ccitt ds(5) modules(1) informationFramework(1) }"

In the IMPORTS from Attribute-ASN1Module, insert the following before DiscriminatorConstruct:

"DMI-TYPE-IDENTIFIER, "

Replace the production for Proxy with the following ASN.1 production

"AC-PROXY ::= DMI-TYPE-IDENTIFIER

Proxy ::= SEQUENCE {

proxyId [0] IMPLICIT AC-PROXY&.id ({ProxySet}),

proxyValue [1] AC-PROXY&.Value ({ProxySet} {@.proxyId}) }

ProxySet AC-PROXY ::= {...}

"

Replace the production for AuthenticationContext with the following ASN.1 production

"AC-AUTH-CONTEXT ::= DMI-TYPE-IDENTIFIER

AuthenticationContext ::= SEQUENCE {

authenticationPolicyId [0] IMPLICIT AC-AUTH-CONTEXT&.id ({AuthenticationContextSet}),

requirements [1] AC-AUTH-CONTEXT&.Value ({AuthenticationContextSet} {@.authenticationPolicyId}) }

AuthenticationContextSet AC-AUTH-CONTEXT ::= {...}

"

Replace the production for CapabilityIdentitiesList with the following ASN.1 production

"AC-CAP-IDENTITY ::= DMI-TYPE-IDENTIFIER

CapabilityIdentitiesList ::= SET OF CHOICE {

knownForm [0] SEQUENCE {

initiatorName InitiatorName,

sdaList SdaList OPTIONAL },

unknownForm [1] SEQUENCE {

identifier AC-CAP-IDENTITY&.id ({CapabilityIdentitiesSet}),

value AC-CAP-IDENTITY&.Value ({CapabilityIdentitiesSet} {@.identifier}) }

}

CapabilityIdentitiesSet AC-CAP-IDENTITY ::= {...}

"

3.22 Changes to CCITT Recommendation X.742 (1992) | ISO/IEC 10164-10 : 1993

3.22.1 *Technical Corrigendum 1 to CCITT X.742 | ISO/IEC 10164-10 (NMF defect report)

INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION — SYSTEMS MANAGEMENT: USAGE METERING FUNCTION FOR ACCOUNTING PURPOSES TECHNICAL CORRIGENDUM 1

1) Subclause A.4

In meteringResumed

replace dataObjectsreferenceList

with dataObjectsReferenceList

In meteringStarted

replace dataObjectsreferenceList

with dataObjectsReferenceList

In meteringSuspended

replace dataObjectsreferenceList

with dataObjectsReferenceList

2) Subclause A.9

On line 2

replace DEFINITIONS

with DEFINITIONS ::=

In IMPORTS FROM CMIP-1

replace { joint-iso-ccitt ms(9) cmip(1) version1(1) protocol(3) }

with { joint-iso-itu-t ms(9) cmip(1) modules(0) protocol(3) }

In IMPORTS FROM UsageMeteringDataInfo

replace { joint-iso-ccitt ms(9) function(2) part(10) asn1Modules(2) 2 }

with { joint-iso-ccitt ms(9) function(2) part10(10) asn1Modules(2) 2 }

In UsageMeteringDataInfo

replace EXPORTS UsageInfo

with EXPORTS UsageInfo;

At the end of UsageMeteringDataInfo module insert the following:

END

**3.22.2 *Draft Technical Corrigendum 2 to CCITT X.742 | ISO/IEC 10164-10 resulting from
ASN.1 1997 Alignment Defect (For approval at February 2000 SG 4 Plenary)**

**INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION —
SYSTEMS MANAGEMENT:
USAGE METERING FUNCTION
DRAFT TECHNICAL CORRIGENDUM 2**

1) *Insert the following references into clause 2.1:*

"

- ITU-T Recommendation X.680 (1997) | ISO/IEC 8824-1:1998, *Information technology – Abstract Syntax Notation One (ASN.1): Specification of Basic Notation.*
- ITU-T Recommendation X.681 (1994) | ISO/IEC 8824-2:1995, *Information technology – Abstract Syntax Notation One (ASN.1): Information object specification.*
- ITU-T Recommendation X.690 (1997) | ISO/IEC 8825-1:1998, *Information technology – ASN.1 Encoding Rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER).*
- ITU-T Recommendation X.691 (1997) | ISO/IEC 8825-2:1998, *Information technology – ASN.1 Encoding Rules: Specification of Packed Encoding Rules (PER).*
- ITU-T Recommendation X.710 (1997) | ISO/IEC 9595:1998, *Information technology – Open Systems Interconnection – Common management information service.*

"

2) *Apply the following change to clause 2.2:*

Remove the following paired references:

"

- CCITT Recommendation X.208 (1988), *Specification of Abstract Syntax Notation One (ASN.1).*
ISO/IEC 8824:1990, *Information technology – Open Systems Interconnection – Specification of Abstract Syntax Notation One (ASN.1).*

"

"

- CCITT Recommendation X.209 (1988), *Specification of Basic Encoding Rules for abstract syntax n.*
ISO/IEC 8825:1990, *Information technology – Open Systems Interconnection – Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1).*

"

"

- 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.*

"

"
– CCITT Recommendation X.711 (1991), *Common management information protocol specification for CCITT applications*.
ISO/IEC 9596-1:1991, *Information technology – Open Systems Interconnection – Common management information protocol specification*.
"

3) Apply the following change to clause 13.1:

Replace "CCITT Rec. X.209 | ISO/IEC 8825" with "ITU-T Rec. X.690 | ISO/IEC 8825-1".

4) Apply the following changes to clause A.9 *UsageMeteringFunction* abstract syntax:

In the IMPORTS from Attribute-ASN1Module, insert the following before ControlStatus:

"DMI-TYPE-IDENTIFIER, "

Replace the production for AuditInfo with the following ASN.1 production

"UMF-AUDIT ::= DMI-TYPE-IDENTIFIER

AuditInfo ::= SEQUENCE {
 service UMF-AUDIT&.id ({AuditInfoSet}),
 auditDetails UMF-AUDIT&.Value ({AuditInfoSet} {@.service}) }
AuditInfoSet UMF-AUDIT ::= {...}
"

Replace the production for ServiceSpecificId with the following ASN.1 production

"UMF-SERVICE ::= DMI-TYPE-IDENTIFIER

ServiceSpecificId ::= SEQUENCE {
 service UMF-SERVICE&.id ({ServiceSpecificSet}),
 serviceSpecificId UMF-SERVICE&.Value ({ServiceSpecificSet} {@.service}) }
ServiceSpecificSet UMF-SERVICE ::= {...}
"

5) Apply the following changes to clause A.9 *UsageMeteringDataInfo* abstract syntax:

Insert the before EXPORTS:

"IMPORTS
 DMI-TYPE-IDENTIFIER FROM Attribute-ASN1Module
 { joint-iso-ccitt ms(9) smi(3) part2(2) asn1Module(2) 1 };"

Replace the production for UsageInfo with the following ASN.1 production

"UMF-USAGE ::= DMI-TYPE-IDENTIFIER

UsageInfo ::= SEQUENCE {
 serviceType UMF-USAGE&.id ({UsageInfoSet}),
 usageData UMF-USAGE&.Value ({UsageInfoSet} {@.serviceType}) }
UsageInfoSet UMF-USAGE ::= {...}
"

Remove "ServiceType ::= OBJECT IDENTIFIER".

3.23 Changes to CCITT Recommendation X.744 (1992) | ISO/IEC 10164-18 : 1993

3.23.1 *Technical Corrigendum 1 to CCITT X.744 | ISO/IEC 10164-18 (NMF defect report)

INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION — SYSTEMS MANAGEMENT: SOFTWARE MANAGEMENT FUNCTION

TECHNICAL CORRIGENDUM 1

1) Subclause A.1.4

In softwareDistributor MANAGED OBJECT CLASS template,

replace " Rec. X.721 | ISO/IEC 10165-2 : 1992":stateChange ;;;

with "Rec. X.721 | ISO/IEC 10165-2 : 1992":stateChange ;;;

2) Subclause A.2.8

In informationBackupPackage PACKAGE template,

replace REGISTERED AS {softwareManagement package(4) informationBackupPackage(7)};

with REGISTERED AS {softwareManagement package(4) informationBackupPackage(8)};

3) Subclause A.8

In IMPORTS FROM ACSE-1,

replace {joint-iso-ccitt association-control(2) abstract-syntax(1) apdu(0) version(1)};

with {joint-iso-ccitt association-control(2) modules(0) apdus(0) version1(1)};

3.23.2 *Draft Technical Corrigendum 2 to CCITT X.744 | ISO/IEC 10164-18 resulting from ASN.1 1997 Alignment Defect (For approval at February 2000 SG 4 Plenary)

INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION — SYSTEMS MANAGEMENT:

SOFTWARE MANAGEMENT FUNCTION

DRAFT TECHNICAL CORRIGENDUM 2

1) Insert the following references into clause 2.1:

"

– ITU-T Recommendation X.680 (1997) | ISO/IEC 8824-1:1998, Information technology – Abstract Syntax Notation One (ASN.1): Specification of Basic Notation.

– ITU-T Recommendation X.681 (1994) | ISO/IEC 8824-2:1995, Information technology – Abstract Syntax Notation One (ASN.1): Information object specification.

– ITU-T Recommendation X.690 (1997) | ISO/IEC 8825-1:1998, Information technology – ASN.1 Encoding Rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER).

– ITU-T Recommendation X.691 (1997) | ISO/IEC 8825-2:1998, Information technology – ASN.1 Encoding Rules: Specification of Packed Encoding Rules (PER).

– ITU-T Recommendation X.710 (1997) | ISO/IEC 9595:1998, Information technology – Open Systems Interconnection – Common management information service.

"

2) *Apply the following change to clause 2.2:*

Remove the following paired references:

"

- CCITT Recommendation X.208 (1988), *Specification of Abstract Syntax Notation One (ASN.1)*.

ISO/IEC 8824:1990, *Information technology – Open Systems Interconnection – Specification of Abstract Syntax Notation One (ASN.1)*.

"

"

- CCITT Recommendation X.209 (1988), *Specification of Basic Encoding Rules for abstract syntax n*.

ISO/IEC 8825:1990, *Information technology – Open Systems Interconnection – Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1)*.

"

"

- 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*.

"

"

- CCITT Recommendation X.711 (1991), *Common management information protocol specification for CCITT applications*.

ISO/IEC 9596-1:1991, *Information technology – Open Systems Interconnection – Common management information protocol specification*.

"

3) *Apply the following change to clause 8.5.1:*

Replace the production for ManagementExtension with the following ASN.1 production

```
"ManagementExtension ::= SEQUENCE {  
    identifier    DMI-EXTENSION&.id ({ManagementExtensionSet}),  
    significance [1] BOOLEAN DEFAULT FALSE,  
    information   [2] DMI-EXTENSION&.Value ({ManagementExtensionSet} {@.identifier}) }  
"
```

4) *Apply the following change to clause 13.1:*

Replace "CCITT Rec. X.209 | ISO/IEC 8825" with "ITU-T Rec. X.690 | ISO/IEC 8825-1".

5) *Apply the following changes to clause A.8:*

In the IMPORTS from Attribute-ASN1Module, insert the following before Destination:

"DMI-TYPE-IDENTIFIER, "

Replace the production for TransferInfo with the following ASN.1 production

"SWMF-TRANSFER ::= DMI-TYPE-IDENTIFIER

```
TransferInfo ::= SEQUENCE {  
    transferProtocol          SWMF-TRANSFER&.id ({TransferInfoSet}),
```

```
        protocolSpecificInfo      SWMF-TRANSFER&.Value ({TransferInfoSet} {@.transferProtocol})
    }
    TransferInfoSet SWMF-TRANSFER ::= {...}
"
```

Remove "TransferProtocol ::= OBJECT IDENTIFIER".

3.24 Changes to CCITT Recommendation X.745 (1993) | ISO/IEC 10164-12 : 1994

3.24.1 Technical Corrigendum 1 to CCITT X.745 | ISO/IEC 10164-12 (various defect reports)

INFORMATION TECHNOLOGY - OPEN SYSTEMS INTERCONNECTION - SYSTEMS MANAGEMENT: TEST MANAGEMENT FUNCTION

TECHNICAL CORRIGENDUM 1

1) Subclause A.1.3

Immediately after the subclause heading, add:

-- *This Recommendation / International Standard does not define a name binding for this class.*

-- *Such name bindings are deemed to be implementation specific.*

2) Subclause A.2

Within the requestedWindowPackage template, replace:

DERIVED RULES

by:

DERIVATION RULE

3) Subclause A.3.9

In the third line, replace:

MATCHES FOR SET-COMPARISON, SET-INTERSECTION;

by:

MATCHES FOR EQUALITY;

4) Subclause A.4

In the TestRequestControlledAction template for the type reference of the REPLY SYNTAX, replace:

TestRequestControlledResult

by:

TestRequestControlledResponse

5) Subclause A.7

a) *In the fourteenth line after **OperationalState**, insert:*

SimpleNameType

b) *In the eleventh line replace*

version (1)

by:

module (0)

6) Subclause A.7.1

- a) *After the production beginning **SupportedUncontrolledTests**, insert:*
TestActionPerformerId ::= SimpleNameType
- b) *After **defaultActualStartTime**, add the following line:*
defaultActualStopTime ActualStopTime ::= unknown NULL

7) Subclause A.7.2

- a) *In the **ToBeTestedMORTs** production, replace:*
mORTsFilter CMISFilter DEFAULT "and:{ }"

by:
mORTsFilter CMISFilter DEFAULT and:{ }
- b) *Within the **TestState** production, replace:*
controlStatus ControlStatus OPTIONAL,
availabilityStatus AvailabilityStatus OPTIONAL

by:
controlStatus [2] ControlStatus OPTIONAL,
availabilityStatus [3] AvailabilityStatus OPTIONAL

3.24.2 *Technical Corrigendum 2 to CCITT X.745 | ISO/IEC 10164-12 (NMF defect report)

**INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION —
SYSTEMS MANAGEMENT: TEST MANAGEMENT FUNCTION
TECHNICAL CORRIGENDUM 2**

1) Subclause A.1.4

Replace **monitoredAttributesPackage PRESENT IF**

with **"Rec. X.721 | ISO/IEC 10165-2:1992":monitoredAttributesPackage PRESENT IF**

Replace **proposedRepairActionsPackage PRESENT IF**

with **"Rec. X.721 | ISO/IEC 10165-2:1992":proposedRepairActionsPackage PRESENT IF**

2) Subclause A.2

In requestedWindowPackage change:

**endTime DEFAULT VALUE Test-ASN1Module.defaultEndTime GET-REPLACE
 REPLACE-WITH-DEFAULT;**

to:

**endTime REPLACE-WITH-DEFAULT DEFAULT VALUE Test-ASN1Module.defaultEndTime
 GET-REPLACE;**

3) Subclause A.3.11

Replace **"WITH ATTRIBUTE SYNTAX Test-ASN1Module.TestObjectId"**

with **"WITH ATTRIBUTE SYNTAX Test-ASN1Module.TestObjectId;"**

4) Subclause A.5

In testResultNotification

replace "correlatedNotifications"

with "correlatedNotifications"

5) Subclause A.6

In mORTNotAvailable

replace BEHAVIOUR mORTNotAvailable BEHAVIOUR

with BEHAVIOUR mORTNotAvailableBehaviour BEHAVIOUR

6) Subclause A.7

Before IMPORTS FROM InformationFramework add the following ASN.1 comment Note:

- NOTE – This Recommendation / International Standard imports DistinguishedName from*
- CCITT Rec. X.501 (1988) / ISO/IEC 9594-2:1990. The specification for this syntax can now be*
- found in an informative annex of ITU-T Rec. X.711 (1997) / ISO/IEC 9596-1:1998.*

7) Subclause A.7.2

Insert the following before ToBeTestedMORTs:

TestCategoryInformation ::= AdditionalInformation

In ToBeTestedMORTs

replace base [30] SObjectInstance

with base ObjectInstance

(Note that the "[30 S" is formatted in White and hence not visible on the paper copy)

replace Scope DEFAULT baseObject

with Scope DEFAULT namedNumbers:baseObject

**3.24.3 *Draft Technical Corrigendum 3 to CCITT X.745 | ISO/IEC 10164-12 resulting from
ASN.1 1997 Alignment Defect (For approval at February 2000 SG 4 Plenary)**

**INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION —
SYSTEMS MANAGEMENT:
TEST MANAGEMENT FUNCTION**

DRAFT TECHNICAL CORRIGENDUM 3

1) Insert the following references into clause 2.1:

"

- ITU-T Recommendation X.680 (1997) | ISO/IEC 8824-1:1998, Information technology –
Abstract Syntax Notation One (ASN.1): Specification of Basic Notation.*
- ITU-T Recommendation X.681 (1994) | ISO/IEC 8824-2:1995, Information technology –
Abstract Syntax Notation One (ASN.1): Information object specification.*

- ITU-T Recommendation X.690 (1997) | ISO/IEC 8825-1:1998, *Information technology – ASN.1 Encoding Rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER)*.
- ITU-T Recommendation X.691 (1997) | ISO/IEC 8825-2:1998, *Information technology – ASN.1 Encoding Rules: Specification of Packed Encoding Rules (PER)*.
- ITU-T Recommendation X.710 (1997) | ISO/IEC 9595:1998, *Information technology – Open Systems Interconnection – Common management information service*.

"

2) Apply the following change to clause 2.2:

Remove the following paired references:

"

- CCITT Recommendation X.208 (1988), *Specification of Abstract Syntax Notation One (ASN.1)*.
ISO/IEC 8824:1990, *Information technology – Open Systems Interconnection – Specification of Abstract Syntax Notation One (ASN.1)*.

"

"

- CCITT Recommendation X.209 (1988), *Specification of Basic Encoding Rules for abstract syntax n*.
ISO/IEC 8825:1990, *Information technology – Open Systems Interconnection – Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1)*.

"

"

- 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*.

"

3) Apply the following change to clause 13.1.1:

Replace "CCITT Rec. X.209 | ISO/IEC 8825" with "ITU-T Rec. X.690 | ISO/IEC 8825-1".

4) Apply the following change to clause 13.2.1:

Replace "CCITT Rec. X.209 | ISO/IEC 8825" with "ITU-T Rec. X.690 | ISO/IEC 8825-1".

5) Apply the following changes to clause A.7:

Remove the following IMPORTS statement:

-- Note - This Recommendation | International Standard imports DistinguishedName from
-- CCITT Rec. X.501 (1988) | ISO/IEC 9594-2:1990. The specification for this syntax can now be
-- found in an informative annex of ITU-T Rec. X.711 (1997) | ISO/IEC 9596-1:1997.

DistinguishedName
FROM InformationFramework
{ joint-iso-ccitt ds(5) modules(1) informationFramework(1) }"

CMISFilter, Attribute, AttributeId, ObjectInstance, Scope
FROM CMIP-1
{ joint-iso-ccitt ms(9) cmip(1) version1(1) protocol(3) }

In the IMPORTS from CMIP-1, insert the following before ObjectInstance:
"DistinguishedName, "

In the IMPORTS from Attribute-ASN1Module, insert the following before StopTime:
"DMI-TYPE-IDENTIFIER, "

Replace the production for AssociatedObjects with the following ASN.1 production

"TMF-OBJECT ::= DMI-TYPE-IDENTIFIER

AssociatedObjects ::= SET OF SEQUENCE {
 associatedObject ObjectInstance,
 associatedObjectInfo SEQUENCE {
 associatedObjectInfoId TMF-OBJECT&.id ({AssociatedObjectSet}),
 associatedObjectInform TMF-OBJECT&.Value ({AssociatedObjectSet})
 {@.associatedObjectInfoId} OPTIONAL }
}
AssociatedObjectSet TMF-OBJECT ::= {...}
"

3.25 Changes to CCITT Recommendation X.746 (1992) | ISO/IEC 10164-15 : 1993

3.25.1 *Technical Corrigenda 1 to CCITT X.746 | ISO/IEC 10164-15 (NMF defect report)

NOTE - Changes were made from the approved DTC and the published Technical Corrigenda for alignment with the existing normative text in X.746.

INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION — SYSTEMS MANAGEMENT: SCHEDULING FUNCTION TECHNICAL CORRIGENDUM 1

1) Subclause A.1.5

Replace "Rec. X.738 | ISO/IEC 10164-13":periodSynchronizationPackage

with "Rec. X.739 (1993) | ISO/IEC 10164-11:1994":periodSynchronizationPackage

2) Subclause A.1.10

Insert BEHAVIOUR *before* operationResultRecordBehaviour

3) Subclause A.3.1

Remove the ADD-REMOVE; *from the* sequenceOfDays *attribute.*

4) Subclause A.3.2

Remove the ADD-REMOVE; *from the* sequenceOfMonths *attribute.*

5) Subclause A.3.3

Remove the ADD-REMOVE; *from the* sequenceOfWeeks *attribute.*

6) Subclause A.3.4

In timePeriod *remove* ADD-REMOVE *and add* REPLACE *so that the operations supported are* GET-REPLACE

7) Subclause A.3.5

Replace resynchronizeModeBehaviour

with resynchronizeModePackageBehaviour

8) Subclause A.3.9

Replace operationResult

with operationResultNotification

9) Subclause A.4.1

Replace

BEHAVIOUR externalSchedulerNameBehaviour BEHAVIOUR
DEFINED AS "See 8.4.1.1";;
WITH ATTRIBUTE SYNTAX
Schedule-ASN1Module.ExternalSchedulerName;
MATCHES FOR EQUALITY;

with

WITH ATTRIBUTE SYNTAX
Schedule-ASN1Module.ExternalSchedulerName;
MATCHES FOR EQUALITY;
BEHAVIOUR externalSchedulerNameBehaviour BEHAVIOUR
DEFINED AS "See 8.4.1.1";;

10) Subclause A.4.2

Replace

BEHAVIOUR onDutyBehaviour BEHAVIOUR
DEFINED AS "See 8.4.1.2";;
WITH ATTRIBUTE SYNTAX
Schedule-ASN1Module.OnDuty;
MATCHES FOR EQUALITY;

with

WITH ATTRIBUTE SYNTAX
Schedule-ASN1Module.OnDuty;
MATCHES FOR EQUALITY;
BEHAVIOUR onDutyBehaviour BEHAVIOUR
DEFINED AS "See 8.4.1.2";;

11) Subclause A.4.11

Replace

BEHAVIOUR operationResultBehaviour BEHAVIOUR
DEFINED AS "See 8.3.11.2";;
WITH ATTRIBUTE SYNTAX
Schedule-ASN1Module.OperationResult;
MATCHES FOR EQUALITY;

with

WITH ATTRIBUTE SYNTAX
Schedule-ASN1Module.OperationResult;
MATCHES FOR EQUALITY;
BEHAVIOUR operationResultBehaviour BEHAVIOUR
DEFINED AS "See 8.3.11.2";;

12) Subclause A.5.1

Replace the notification template in this subclause with the following:

operationResultNotification NOTIFICATION

BEHAVIOUR operationResultNotificationBehaviour BEHAVIOUR

DEFINED AS "See 8.3.11.2";;

**WITH INFORMATION SYNTAX Schedule-ASN1Module.OperationResult;
REGISTERED AS {schedNotif 1};**

13) Subclause A.6

In IMPORTS insert ObjectClass, before ObjectInstance,

In IMPORTS

replace GetListResult,

with GetListError,

In CMIP-1

replace {joint-CCITT-iso ms(9) cmip(1) modules(0) protocol(3)}

with {joint-iso-itu-t ms(9) cmip(1) modules(0) protocol(3)}

In Attribute-ASN1Module

replace {joint-CCITT-iso ms(9) smi(3) part2(2) asn1Module(2) 1}

with {joint-iso-ccitt ms(9) smi(3) part2(2) asn1Module(2) 1}

Replace the IMPORTS for TimePeriod with the following:

TimePeriod FROM MetricModule

{joint-iso-ccitt ms(9) function(2) part11(11) asn1Module(2) 0};

Replace the production for defaultDaysOfMonth with the following:

**defaultDaysOfMonth DaysOfMonth ::= {
daysFromFirst '11111111111111111111111111111111'B,
daysFromLast '11111111111111111111111111111111'B}**

In defaultSequenceOfDays

replace {defaultIntervalsOfDayWps}

with {intervalsOfDayWps:defaultIntervalsOfDayWps}

In defaultSequenceOfMonths

replace SequenceOfMonths ::= {{

with SequenceOfMonths ::= {{{

replace intervalsOfDayWps defaultIntervalsOfDayWps}}

with timesOfDayWps intervalsOfDayWps:defaultIntervalsOfDayWps }}}}

In defaultTimePeriod

replace TimePeriod ::= second 0

with TimePeriod ::= seconds: 0

In defaultWeekMaskWps

replace intervalsOfDayWps defaultIntervalsOfDayWps}}

with **timesOfDayWps** **intervalsOfDayWps:defaultIntervalsOfDayWps }}**

In DaysOfMonth

```
replace daysFromFirst BITSTRING (SIZE (31)) DEFAULT {'B},
```

with **daysFromFirst BIT STRING (SIZE (31))**

```
replace daysFromLast  BITSTRING (SIZE (31)) DEFAULT {"B"}
```

with **daysFromLast** [1] **BIT STRING (SIZE (31))**

In ModificationList

```
replace -- absent for setToDefault}
```

with `-- absent for setToDefault --` }

In Operation Specifications

```
replace get [2] IMPLICIT GetArgument}}
```

with `get [2] IMPLICIT GetArgument}}`

In **OperationResult**

```
replace [1] IMPLICIT SetListError,
```

with [3] **IMPLICIT** SetListError,

In **CommonError**

replace **errorId** **Remote-Operation-Notation.ERROR,**

with **errorId** CHOICE { localvalue INTEGER,
 globalvalue OBJECT IDENTIFIER},

Replace the `SequenceOfDays` production with the following:

SequenceOfDays ::= SEQUENCE OF TimesOfDayWps

Replace the TimesOfDay production with the following:

```

TimesOfDayWps ::= CHOICE {
    intervalsOfDayWps [0] IMPLICIT IntervalsOfDayWps,
    triggerTimes [1] IMPLICIT TriggerTimes}

```

3.25.2 *Draft Technical Corrigendum 2 to CCITT X.746 | ISO/IEC 10164-15 resulting from ASN.1 1997 Alignment Defect (For approval at February 2000 SG 4 Plenary)

INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION — SYSTEMS MANAGEMENT: SCHEDULING FUNCTION

DRAFT TECHNICAL CORRIGENDUM 2

1) *Insert the following references into clause 2.1:*

11

- ITU-T Recommendation X.680 (1997) | ISO/IEC 8824-1:1998, *Information technology – Abstract Syntax Notation One (ASN.1): Specification of Basic Notation*.
- ITU-T Recommendation X.681 (1994) | ISO/IEC 8824-2:1995, *Information technology – Abstract Syntax Notation One (ASN.1): Information object specification*.

- ITU-T Recommendation X.690 (1997) | ISO/IEC 8825-1:1998, *Information technology – ASN.1 Encoding Rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER)*.
- ITU-T Recommendation X.691 (1997) | ISO/IEC 8825-2:1998, *Information technology – ASN.1 Encoding Rules: Specification of Packed Encoding Rules (PER)*.
- ITU-T Recommendation X.710 (1997) | ISO/IEC 9595:1998, *Information technology – Open Systems Interconnection – Common management information service*.

"

2) *Apply the following change to clause 2.2:*

Remove the following paired references:

"

- CCITT Recommendation X.208 (1988), *Specification of Abstract Syntax Notation One (ASN.1)*.

ISO/IEC 8824:1990, *Information technology – Open Systems Interconnection – Specification of Abstract Syntax Notation One (ASN.1)*.

"

"

- CCITT Recommendation X.209 (1988), *Specification of Basic Encoding Rules for abstract syntax n*.

ISO/IEC 8825:1990, *Information technology – Open Systems Interconnection – Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1)*.

"

"

- 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*.

"

"

- CCITT Recommendation X.711 (1991), *Common management information protocol specification for CCITT applications*.

ISO/IEC 9596-1:1991, *Information technology – Open Systems Interconnection – Common management information protocol specification*.

"

3) *Apply the following change to clause 13.1:*

Replace "CCITT Rec. X.209 | ISO/IEC 8825" with "ITU-T Rec. X.690 | ISO/IEC 8825-1".

4) *Apply the following changes to clause A.6:*

In the IMPORTS from CMIP-1, insert the following before Attribute:

"CMIP-ATTRIBUTE, AttributeSet, "

In the IMPORTS from Attribute-ASN1Module, insert the following before SimpleNameType:
"DMI-TYPE-IDENTIFIER, "

Replace the production for ModificationList with the following ASN.1 production

```
"ModificationList ::= SET OF SEQUENCE{
    modifyOperator      [2] IMPLICIT ModifyOperator DEFAULT replace,
    attributeId         CMIP-ATTRIBUTE&.id ({AttributeSet}),
    attributeValue      CMIP-ATTRIBUTE&.Value ({AttributeSet} {@.attributeId}) OPTIONAL
    -- absent for setToDefault -- }
"
```

Replace the production for CommonError with the following ASN.1 production

```
"SCHED-ERROR ::= CLASS {
    &id      ErrorId UNIQUE,
    &Value
}
CommonError ::= SEQUENCE{
    managedObjectClass      ObjectClass,
    managedObjectInstance  ObjectInstance,
    errorId                 SCHED-ERROR&.id ({CommonErrorSet}),
    errorValue              SCHED-ERROR&.Value ({CommonErrorSet}) {@.errorId}
OPTIONAL }
CommonErrorSet SCHED-ERROR ::= {...}
ErrorId ::= CHOICE {
    localValue      INTEGER,
    globalValue     OBJECT IDENTIFIER}
"
```

**3.25.3 *Draft Technical Corrigendum 2 to CCITT X.750 | ISO/IEC 10164-?? resulting from
ASN.1 1997 Alignment Defect (For approval at February 2000 SG 4 Plenary)**

**INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION —
SYSTEMS MANAGEMENT:
MANAGEMENT KNOWLEDGE MANAGEMENT FUNCTION
DRAFT TECHNICAL CORRIGENDUM 1**

1) *Insert the following references into clause 2.1:*

"

- ITU-T Recommendation X.710 (1997) | ISO/IEC 9595:1998, *Information technology – Open Systems Interconnection – Common management information service.*
- ITU-T Recommendation X.711 (1997) | ISO/IEC 9596-1:1998, *Information technology – Open Systems Interconnection – Common management information protocol: Specification.*

"

2) *Apply the following change to clause 2.2:*

Remove the following paired references:

"

- CCITT Recommendation X.208 (1988), *Specification of Abstract Syntax Notation One (ASN.1).*
- ISO/IEC 8824:1990, *Information technology – Open Systems Interconnection – Specification of Abstract Syntax Notation One (ASN.1).*

"

- "
- CCITT Recommendation X.209 (1988), *Specification of Basic Encoding Rules for abstract syntax n*.
- ISO/IEC 8825:1990, *Information technology – Open Systems Interconnection – Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1)*.
- "
- "
- 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*.
- "
- "
- CCITT Recommendation X.711 (1991), *Common management information protocol specification for CCITT applications*.
- ISO/IEC 9596-1:1991, *Information technology – Open Systems Interconnection – Common management information protocol specification*.
- "

3) Apply the following change to clause 13.1:

Replace "CCITT Rec. X.209 | ISO/IEC 8825" with "ITU-T Rec. X.690 | ISO/IEC 8825-1".

4) Apply the following changes to clause A.2.4:

Remove the following IMPORTS statement:

"RelativeDistinguishedName

FROM InformationFramework {joint-iso-ccitt(2) ds(5) modules(1) informationFramework(1)}"

- Note - This Recommendation | International Standard imports
- RelativeDistinguishedName from CCITT Rec. X.501 (1988) | ISO/IEC 9594-2:1990.
- The specification for this syntax can now be found in an informative
- annex of ITU-T Rec. X.711 (1997) | ISO/IEC 9596-1:1997.

In the IMPORTS from CMIP-1, insert the following before Scope:

"RelativeDistinguishedName, "

In the IMPORTS from Attribute-ASN1Module, insert the following before NameBinding:

"DMI-TYPE-IDENTIFIER, "

Remove "GdmoAttributeId ::= OBJECT IDENTIFIER".

Replace the production for ImplementedValues with the following ASN.1 production

"MKMF-VALUES ::= DMI-TYPE-IDENTIFIER

ImplementedValues ::= SET OF SEQUENCE {

attributeId MKMF-VALUES&.id ({ImplementedValuesSet}),

defaultValue [1] EXPLICIT MKMF-VALUES&.Value ({ImplementedValuesSet} {@.attributeId})

OPTIONAL,

initialValue [2] EXPLICIT MKMF-VALUES&.Value ({ImplementedValuesSet} {@.attributeId})

OPTIONAL,

minValue [3] EXPLICIT MKMF-VALUES&.Value ({ImplementedValuesSet} {@.attributeId})

OPTIONAL,

maxValue [4] EXPLICIT MKMF-VALUES&.Value ({ImplementedValuesSet} {@.attributeId})

OPTIONAL

}

ImplementedValuesSet MKMF-VALUES ::= {...}
"

3.26 Changes to CCITT Recommendation X.751 (1992) | ISO/IEC 10164-17 : 1993

3.26.1 *Technical Corrigendum 1 to CCITT X.751 | ISO/IEC 10164-17 (NMF defect report)

INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION — SYSTEMS MANAGEMENT: CHANGEOVER FUNCTION

TECHNICAL CORRIGENDUM 1

1) Subclause A.1

Replace DEFINED AS "See 8.2.1.1." *with* DEFINED AS "See 8.2.1.1.";;

2) Subclause A.2

In primary-backedUpObject

replace DERIVED FROM top;

with DERIVED FROM "Rec. X.721 (1992) | ISO/IEC 10165-2:1992": top;

replace "Rec. X.721 (1992) | ISO/IEC 10165-2:1992": operationalState GET;;

with "Rec. X.721 (1992) | ISO/IEC 10165-2:1992": operationalState GET;;;

In secondary-backUpObject

replace DERIVED FROM top;

with DERIVED FROM "Rec. X.721 (1992) | ISO/IEC 10165-2:1992": top;

replace "Rec. X.721 (1992) | ISO/IEC 10165-2:1992": standbyStatus GET;;

with "Rec. X.721 (1992) | ISO/IEC 10165-2:1992": standbyStatus GET;;;

replace CONDITIONAL PACKAGE

with CONDITIONAL PACKAGES

In changeOverControlObject

replace DERIVED FROM top;

with DERIVED FROM "Rec. X.721 (1992) | ISO/IEC 10165-2:1992": top;

replace CHARACTERIZED BY changeOverControlObjectPackage PACKAGE

with CHARACTERIZED BY changeOverActionPackage,
changeoverControlObjectPackage PACKAGE

replace primaryObject GET;;

with primaryObject GET;;;

remove changeOverActionPackage;

replace CONDITIONAL PACKAGE

with CONDITIONAL PACKAGES

In backUpObjectAttributePackage

replace "The primary-backed-up object does not have the backedUpObject attribute.";

with "The primary-backed-up object does not have the backedUpObject attribute";

3) Subclause A.3

In backedUpObjectAttributePackage

replace "Rec. X.721 (1992) | ISO/IEC 10165-2:1992": backedUpObject GET,

with "Rec. X.721 (1992) | ISO/IEC 10165-2:1992": backedUpObject GET;

In backUpObjectAttributePackage

replace "Rec. X.721 (1992) | ISO/IEC 10165-2:1992": backUpObject GET,

with "Rec. X.721 (1992) | ISO/IEC 10165-2:1992": backUpObject GET;

replace REGISTERED AS {changeOverFunctionPackage 2};

with REGISTERED AS {part17Package 2};

4) Subclause A.4

Replace WITH ATTRIBUTE SYNTAX ChangeOverASN1Productions.PrimaryObject

with WITH ATTRIBUTE SYNTAX ChangeOverASN1Productions.PrimaryObject;

Replace MATCHES FOR EQUALITY

with MATCHES FOR EQUALITY;

Replace REGISTERED AS {part17Attribute 1}

with REGISTERED AS {part17Attribute 1};

5) Subclause A.5

In changeOver

replace WITH RESULT SYNTAX

with WITH REPLY SYNTAX

In changeBack

replace DEFINED AS "See 8.6.2.1.";

with DEFINED AS "See 8.6.2.1.";

6) Annex B

In CMIP-1

replace {joint-iso-ccitt ms(9) cmip(1) version(1) protocol(3)};

with {joint-iso-itu-t ms(9) cmip(1) modules(0) protocol(3)};

Replace the production for BackUpInfo with the following:

BackUpInfo ::= SEQUENCE{
 backedUpObjectSpecified [0] OptionalObject DEFAULT noObject:NULL,
 backUpObjectSpecified [1] OptionalObject DEFAULT noObject:NULL,
 backedUpObjectExisting [2] OptionalObject DEFAULT noObject:NULL,
 backUpObjectExisting [3] OptionalObject DEFAULT noObject:NULL}

Replace the production for BackUpObject with the following:

BackUpObject ::= OptionalObject

Replace the production for ChangeBackInfo with the following:

ChangeBackInfo ::= SEQUENCE{
 backedUpObject [0] ObjectInstance,
 backUpObject [1] OptionalObject DEFAULT noObject:NULL,
 backedUpObjectChanges [2] IMPLICIT ExpectedAttributeList OPTIONAL,
 backUpObjectChanges [3] IMPLICIT ExpectedAttributeList OPTIONAL}

Replace the production for ChangeOverInfo with the following:

ChangeOverInfo ::= SEQUENCE{
 primary [0] ObjectInstance,
 secondary [1] OptionalObject DEFAULT noObject:NULL,
 primaryChanges [2] IMPLICIT ExpectedAttributeList OPTIONAL,
 secondaryChanges [3] IMPLICIT ExpectedAttributeList OPTIONAL}

In the production for ExpectedAttributeList

replace modifyOperator [0] IMPLICIT ModifyOperator DEFAULT replace,

with modifyOperator [2] IMPLICIT ModifyOperator DEFAULT replace,

Replace the production for NoSuchRelationship with the following:

NoSuchRelationship ::= SEQUENCE{
 relationshipClass OBJECT IDENTIFIER,
 relationshipBinding OBJECT IDENTIFIER OPTIONAL,
 relationshipInstance [0] RelationshipInstance OPTIONAL}

3.26.2 *Draft Technical Corrigendum 2 to CCITT X.751 | ISO/IEC 10164-17 resulting from ASN.1 1997 Alignment Defect (For approval at February 2000 SG 4 Plenary)

INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION — SYSTEMS MANAGEMENT: CHANGEOVER FUNCTION DRAFT TECHNICAL CORRIGENDUM 2

1) *Insert the following references into clause 2.1:*

"

- ITU-T Recommendation X.680 (1997) | ISO/IEC 8824-1:1998, *Information technology – Abstract Syntax Notation One (ASN.1): Specification of Basic Notation*.
- ITU-T Recommendation X.681 (1994) | ISO/IEC 8824-2:1995, *Information technology – Abstract Syntax Notation One (ASN.1): Information object specification*.
- ITU-T Recommendation X.690 (1997) | ISO/IEC 8825-1:1998, *Information technology – ASN.1 Encoding Rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER)*.
- ITU-T Recommendation X.691 (1997) | ISO/IEC 8825-2:1998, *Information technology – ASN.1 Encoding Rules: Specification of Packed Encoding Rules (PER)*.
- ITU-T Recommendation X.710 (1997) | ISO/IEC 9595:1998, *Information technology – Open Systems Interconnection – Common management information service*.

"

2) Apply the following change to clause 2.2:

Remove the following paired references:

- "
- CCITT Recommendation X.209 (1988), *Specification of Basic Encoding Rules for abstract syntax n*.
ISO/IEC 8825:1990, *Information technology – Open Systems Interconnection – Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1)*.
- "
- "
- 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*.
- "

3) Apply the following change to clause 13.1:

Replace "CCITT Rec. X.209 | ISO/IEC 8825" with "ITU-T Rec. X.690 | ISO/IEC 8825-1".

4) Apply the following changes to Annex B:

In the IMPORTS from CMIP-1, insert the following before ObjectInstance:

"CMIP-ATTRIBUTE, AttributeSet, "

In the IMPORTS from CMIP-1, remove "AttributeId, ".

Replace the production for ExpectedAttributeList with the following ASN.1 production

"ExpectedAttributeList ::= SET OF SEQUENCE {
 modifyOperator [0] IMPLICIT ModifyOperator DEFAULT replace,
 attributeId CMIP-ATTRIBUTE&.id ({AttributeSet}),
 attributeValue CMIP-ATTRIBUTE&.Value ({AttributeSet} {@.attributeId}) OPTIONAL }
"

3.27 Changes to CCITT Recommendation X.790 (not Collaborative)

3.27.1 *Approved DTC 1 to CCITT X.790 (approved at March 1999 SG 4 Plenary)

INFORMATION TECHNOLOGY — OPEN SYSTEMS INTERCONNECTION — SYSTEMS MANAGEMENT: TROUBLE REPORTING FUNCTION

DRAFT TECHNICAL CORRIGENDA 1

S1 This change equates to changes needed for solution for defect X790/001

Add a conditional package with a commitment time attribute to the repairActivity
MANAGED OBJECT class definition as follows:

repairCommitmentTime PACKAGE
 ATTRIBUTES
 commitmentTime GET;
 REGISTERD AS {X790Package 107};
PRESENT IF "An instance supports it."

Extend CommitmentTime attribute as follows:

estimatedClearTime [2]**GeneralizedTime**

S2 This change equates to changes needed for solution for defect X790/004

Apply the following change to A.6.1:

On pages 95 and 96 in the module X790ASN1Module {itu-t(0) recommendation(0) x(24) x790(790) informationModel(0) asn1module(2)}, replace the production

```
"TroubleFound::=CHOICE{
number INTEGER{
-- Integer values are to be registered in the
-- standard. Administrations may restrict
-- the values to be used.
pending (0),
cameClear (1),
centralOffice (2),
switchTrouble (3),
customerProvidedEquipment (4),
facility (5),
centralOfficeFacility (6),
iCFacility (7),
interexchangeCarrier (8),
information (9),
nonplanClassified (10),
nonplanClassifiedIC (11),
nonplanClassifiedEA (12),
noTroubleFound (13),
station (14),
stationProductData (15),
stationProductTerminal (16),
stationProductVideo (17),
stationProductVoice (18),
stationWiring (19),
otherStationEquipment (20),
foundOKStation (21),
servingBureau (22),
testOK (23),
publicServicesCoinSet (24),
customerOperatingInstructions (25),
testedOKVerifiedOK (26),
coFacilityTestedFoundOK (27),
outsideFacilityTestedFoundOK (28),
referredOutToOtherDept (29),
protectiveConnectingArrang (30),
cpeCustomerResponsibility (31),
preService (32),
preServiceIC (33),
preServiceEA (34),
serviceNode (35),
data (36),
customerReferredToVendor (37),
exchangeAccess (38),
international (39),
```

otherProvidedAccess (40),
 existingReport (41),
 cancelExclude (42),
 paBX (43),
 outsideWire (44),
 outsideTerminals (45),
 outsidePlantEquipment (46),
 outsidePlantFiberOptic (47),
 ousidePlantOther (48),
 coEquipmentOther (49),
 coEquipmentFrames (50),
 coConcentrator (51),
 receiverOffHook (52),
 cpeAuthorized (53),
 cpeTelcoMaintained (54),
 independentCompany (55),
 cpeCalledNumber (56),
 assigningProvisioning (57),
 interServiceCenter (58),
 referredOut (59),
 network (60)
 ..
 },
 identifier OBJECT IDENTIFIER
 ...
 }"

with the following production

"TroubleFound::=CHOICE{
 number INTEGER{
 -- Integer values are to be registered in the
 -- standard. Administrations may restrict
 -- the values to be used.
 pending (0),
 cameClear (1),
 centralOffice (2),
 switchTrouble (3),
 customerProvidedEquipment (4),
 facility (5),
 centralOfficeFacility (6),
 iCfacility (7),
 interexchangeCarrier (8),
 information (9),
 nonplanClassified (10),
 nonplanClassifiedIC (11),
 nonplanClassifiedEA (12),
 noTroubleFound (13),
 station (14),
 stationProductData (15),
 stationProductTerminal (16),
 stationProductVideo (17),
 stationProductVoice (18),
 stationWiring (19),
 otherStationEquipment (20),
 foundOKStation (21),
 servingBureau (22),

```

testOK (23),
publicServicesCoinSet (24),
customerOperatingInstructions (25),
testedOKVerifiedOK (26),
coFacilityTestedFoundOK (27),
outsideFacilityTestedFoundOK (28),
referredOutToOtherDept (29),
protectiveConnectingArrang (30),
cpeCustomerResponsibility (31),
preService (32),
preServiceIC (33),
preServiceEA (34),
serviceNode (35),
data (36),
customerReferredToVendor (37),
exchangeAccess (38),
international (39),
otherProvidedAccess (40),
existingReport (41),
cancelExclude (42),
paBX (43),
outsideWire (44),
outsideTerminals (45),
outsidePlantEquipment (46),
outsidePlantFiberOptic (47),
outsidePlantOther (48),
coEquipmentOther (49),
coEquipmentFrames (50),
coConcentrator (51),
receiverOffHook (52),
cpeAuthorized (53),
cpeTelcoMaintained (54),
independentCompany (55),
cpeCalledNumber (56),
assigningProvisioning (57),
interServiceCenter (58),
referredOut (59),
network (60)
...
},
identifier OBJECT IDENTIFIER,
noTroubleFoundValue NULL -- used when Trouble Found not relevant
...
}"

```

S3 This change equates to changes needed for solution for defect X790/005

Apply the following change to A.6.1:

On page 96, in the module X790ASN1Module {itu-t(0) recommendation(0) x(24) x790(790) informationModel(0) asn1module(2)}, replace the production

```

"TroubleLocation::=CHOICE{
locationAddress [0] LocationAddress,
locationPtr [1] ObjectInstance
...
}"

```

with the following:

```
"TroubleLocation::=CHOICE{  
locationAddress          [0] LocationAddress,  
locationPtr              [1] ObjectInstance,  
noTroubleLocationValue  [2] NULL --used when Trouble Location not relevant  
...  
}"
```

S4 This change equates to changes needed for solution for defect X790/006

Accommodated by S5.

S5 This change equates to changes needed for solution for defects X790/007 and X790/013

This proposes a final solution, different from previously agreed Version 5 fixes S4 and S5 to this defect.

The approach that will result in the minimum change to class definitions, and little or no change in interoperability:

- a) Leave both attributeValueChange packages alone. Do not delete the trAttributeValueChangePkg in A.1.4.
- b) Do not change the class definition of providerTroubleReport; that is, leave it with both of these packages as mandatory.
- c) Remove the trObjectCreationDeletionPkg template defined in Section A.1.4. Add a comment to the providerTroubleReport class that the trObjectCreationDeletionPkg is defined in A.1.9, inline to the troubleReport class.

So change the gdmo text to the following:

A.1.4 providerTroubleReport

```
providerTroubleReport MANAGED OBJECT CLASS  
DERIVED FROM troubleReport;  
CHARACTERIZED BY  
providerTroubleReportPkg,  
trAttributeValueChangePkg,  
trObjectCreationDeletionPkg;  
-- trObjectCreationDeletionPkg is defined in A.1.9,  
-- inline to the troubleReport class  
...  
REGISTERED AS {x790ObjectClass 4};  
  
trAttributeValueChangePkg PACKAGE  
NOTIFICATIONS  
"Rec. X.721 | ISO/IEC 10165-2 : 1992":attributeValueChange;  
REGISTERED AS {x790Package 14};  
  
-- Systems Management Implementors Guide version 4 April 1996  
-- S5 X790/007 delete definition of the  
-- PACKAGE trObjectCreationDeletionPkg  
--trObjectCreationDeletionPkg PACKAGE  
-- NOTIFICATIONS
```

```
-- "Rec. X.721 | ISO/IEC 10165-2 : 1992":objectCreation,  
-- "Rec. X.721 | ISO/IEC 10165-2 : 1992":objectDeletion;  
--REGISTERED AS {x790Package 15};
```

A.1.9 troubleReport

```
troubleReport MANAGED OBJECT CLASS  
DERIVED FROM "Rec. X.721|ISO/IEC 10165-2 : 1992":top;  
CHARACTERIZED BY troubleReportPkg PACKAGE  
...  
CONDITIONAL PACKAGES  
...  
x790AttributeValueChangePkg PACKAGE  
NOTIFICATIONS  
"Rec. X.721|ISO/IEC 10165-2 : 1992":attributeValueChange;  
REGISTERED AS {x790Package 97};  
PRESENT IF "an instance supports it.",  
  
trObjectCreationDeletionPkg PACKAGE  
NOTIFICATIONS  
"Rec. X.721|ISO/IEC 10165-2 : 1992":objectCreation,  
"Rec. X.721|ISO/IEC 10165-2 : 1992":objectDeletion;  
REGISTERED AS {x790Package 98};  
PRESENT IF "an instance supports it.",  
...  
REGISTERED AS {x790ObjectClass 9};
```

S6 This change equates to changes needed for solution for defect X790/008

1) Apply the following changes to A.1.7:

1.1) On page 63, in the definition of the MANAGED OBJECT CLASS telecommunicationsTroubleReport, replace the definition of the CONDITIONAL PACKAGE:

trCancelRequestedByManagerPkg

with the following:

```
" trCancelRequestedByManagerPkg PACKAGE  
ATTRIBUTES  
cancelRequestedByManager  
INITIAL VALUE X790ASN1Module.troubleReportCancelRequestedByManagerInitial  
GET-REPLACE troubleReportChangeDenied canNotClose;  
REGISTERED AS {x790Package 30};  
PRESENT IF "an instance supports it.""
```

1.2) On page 64, in the definition of the MANAGED OBJECT CLASS telecommunicationsTroubleReport, replace the definition of the CONDITIONAL PACKAGE:

trCloseOutVerificationPkg

with the following:

```
" trCloseOutVerificationPkg PACKAGE  
ATTRIBUTES
```

```
closeOutVerification
INITIAL VALUE X790ASN1Module.closeOutVerificationCloseOutVerificationInitial
GET-REPLACE cannotVerifyOrDenyAtThisTime;
REGISTERED AS {x790Package 31};
PRESENT IF "an instance supports it."
```

2) Apply the following change to A.1.9:

On page 70, in the definition of the MANAGED OBJECT CLASS troubleReport, replace the definition of the CONDITIONAL PACKAGE:

```
trActivityDurationPkg
```

with the following:

```
" trActivityDurationPkg PACKAGE
BEHAVIOUR activityDurationBehaviour BEHAVIOUR
DEFINED AS "Modifications to activityDuration are required only in the service provider to service
provider interface. The CMIS error "access denied" may be issued in response to attempts to modify this
attribute on any other interface.";
ATTRIBUTES
    activityDuration
INITIAL VALUE X790ASN1Module.activityDurationactivityDurationInitial
GET ADD;
REGISTERED AS {x790Package 86};
PRESENT IF "an instance supports it."
```

3) Apply the following changes to A.6.1:

On page 89

Replace the production

```
"repairActivityListRepair ActivityListInitial RepairActivityList::={{ "000000000000.0", "" }}
```

in the module

```
X790ASN1Module {itu-t(0)recommendation(0)x(24)x790(790) informationModel(0)asn1module(2)}
```

with the following production

```
"repairActivityListRepairActivityListInitial RepairActivityList::={{}} } --EMPTY SEQUENCE
```

Add the production

```
activityDurationactivityDurationInitial ActivityDuration::={ {} } --EMPTY SEQUENCE
```

to the module

```
X790ASN1Module {itu-t(0)recommendation(0)x(24)x790(790) informationModel(0)asn1module(2)}
```

Replace the production

```
"closeOutVerificationCloseOutVerificationDefault CloseOutVerification::=noAction"
```

in the module

```
X790ASN1Module {itu-t(0)recommendation(0)x(24)x790(790) informationModel(0)asn1module(2)}
```


with the following production

"closeOutVerificationCloseOutVerificationInitial CloseOutVerification::noAction"

Replace the production

"troubleReportCancelRequestedByManagerDefault BOOLEAN::=FALSE"

in the module

X790ASN1Module {itu-t(0)recommendation(0)x(24)x790(790) informationModel(0)asn1module(2)}

with the following production

"troubleReportCancelRequestedByManagerInitial BOOLEAN::=FALSE"

S7 This change equates to changes needed for solution for defect X790/009

1) Apply the following change to A.1.8:

On page 68, in the definition of the MANAGED OBJECT CLASS troubleReport, replace the name of the ATTRIBUTE

managedObjectInstance

with the following:

""Rec. X.721:1992":managedObjectInstance"

2) Apply the following change to A.1.9:

On page 70, in the definition of the MANAGED OBJECT CLASS troubleReport, replace the name of the ATTRIBUTE

managedObjectInstance

with the following:

""Rec. X.721:1992":managedObjectInstance"

3) On page 80 delete the title and contents of the clause A.2.63 and replace them by:

"A.2.63 This clause is not used"

4) Apply the following change to A.6.1:

On page 92 in the module

X790ASN1Module {itu-t(0)recommendation(0)x(24)x790(790)informationModel(0)asn1module(2)}

Delete the production

"ManagedObjectInstance::=ObjectInstance"

S8 This change equates to changes needed for solution for defect X790/11

In the state diagram:

- 1) Delete Create and Reject arrows associated with the Queued state and the Delete arrow associated with the Closed state.
- 2) In 7.1.3.1 Queued, replace both paragraphs by the text:

A request to the agent to create a trouble report is queued in this state and the trouble resolution process has not yet been initiated. The trouble report becomes formally instantiated in the agent system when the agent has accepted the request and at that time the trouble report is given the "Open/active" state. Hence rejection of the request can take place in the "Queued" state without a trouble report being created for the request in the agent system.

Since the create request to the agent may contain submission of a manager initiated trouble report it is possible that the manager may subsequently request a cancellation of the trouble report while the request is in the queued state, i.e. before the agent has decided whether to accept or reject the request. The agent on receiving such a cancellation will attempt to close the trouble report.

S9 This change equates to changes needed for solution for defect X790/14

In section A.2.85 Service Id

Change "serviceId" to "serviceID".

S10 This change equates to changes needed for solution for defect X790/15

In A.2.106 Tsp priority

Replace incorrect

... WITH ATTRIBUTE SYNTAX X790ASN1Module.tspPriority;
with:

... WITH ATTRIBUTE SYNTAX X790ASN1Module.TspPriority;

S11 This change equates to changes needed for solution for defect X790/16

Replace incorrect

WITH ATTRIBUTE SYNTAX X790ASN1Module.typeText;

With:

WITH ATTRIBUTE SYNTAX X790ASN1Module.TypeText;

S12 This change equates to changes needed for solution for defect X790/17

In A5 remove line break in document string

**SUBORDINATE OBJECT CLASS "Rec. X.721|ISO/IEC 10165-2 : 1992":
eventForwardingDiscriminator;**

to read:

**SUBORDINATE OBJECT CLASS "Rec. X.721|ISO/IEC 10165-2 :
1992":eventForwardingDiscriminator;**

S13 This change equates to changes needed for solution for defect X790/18

In A.6 Abstract syntax, replace

AttributeId, ObjectClass, ObjectInstance, GraphicString64
FROM CMIP-1 {joint-iso-itu-t(2) ms(9) cmip(1) modules(0) protocol(3)}

With:

AttributeId, ObjectClass, ObjectInstance
FROM CMIP-1 {joint-iso-itu-t(2) ms(9) cmip(1) modules(0) protocol(3)}

And after GraphicString128 Add:

GraphicString64::=GraphicStringBase(SIZE(0..64))

S14 This change equates to changes needed for solution for defect X790/19

In A.6 Abstract syntax add the following statements

SuspectObjectList
FROM
Q821-ASN1Module {ccitt(0) recommendation(0) q(17) q821(821)
asn1Module(2) q821ASN1Module(0) }

S15 This change equates to changes needed for solution for defect X790/20

In A.6 Abstract syntax replace

ObjectList, AlarmStatus, CurrentProblemList, SupportedByObjectList
FROM ASN1DefinedTypesModule {itu-t recommendation m(13) gnm(3100)}

With:

ObjectList, AlarmStatus, CurrentProblemList
FROM ASN1DefinedTypesModule {itu-t recommendation m(13) gnm(3100)}

S16 This change equates to changes needed for solution for defect X790/21

In A.6 Abstract syntax remove Extensibility marker ... from end of BIT STRING in the following type definitions:

ActivityType
ContactType

S17 This change equates to changes needed for solution for defect X790/22

In A.6 Abstract syntax remove Extensibility marker ... from the end of INTEGER in the following type definitions:

ActivityCode : number
CanNotClose
InitiatingMode
OrgLevel
PerceivedTroubleSeverity : number
TroubleFound : number
TroubleReportState
TroubleReportStatus : number
TroubleType : number
WeekMask : daysOfWeek

S18 This change equates to changes needed for solution for defect X790/23

In A.6 Abstract syntax insert comma (,) before Extensibility marker ... in the following type definitions:

ActivityCode : identifier
ActivityDuration
ActivityInfo
AgentContactObjectPtr
AlternateManagerContactObjectPtr
AuthorizationList
CallBackInfoList
ChangeDeniedReason
CloseOutVerification
CommitmentTime
ContactFunction
EscalationList
FallBackReporting
HandOffPersonPtr
LocationAddress
MaintenanceOrgContactPtr
MaintenanceOrgContactTime
ManagerContactObjectPtr
ManagerSearchKey
ManagerSearchKeyList
NameType
Name(twice)
OutageDuration
PerceivedTroubleSeverity : identifier
PersonReach
PreferredPriority
PremisesAddress
RelatedObject
RepairActivityList
RepeatReport
RequestState
ResponsiblePersonPtr
RestoredTime
ServiceLocationList
ServiceType
SimpleNameRange
StopTime
TroubleDetectionTime
TroubleFound : identifier
TroubleHistoryInfo
TroubleLocation
TroubleProgressInfo
TroubleReportAlreadyExists
TroubleReportChangeDenied
TroubleReportStatus : identifier
TroubleType : identifier
SuspectObject
TimeInterval
WeekMask

S19 This change equates to changes needed for solution for defect X790/24

In A.6 Abstract syntax add identifiers to the following types:

```
AgentContactObjectPtr ::= CHOICE{
noContact NULL,
contact ObjectInstance,
...
}

AlternateManagerContactObjectPtr ::= CHOICE{
noContact NULL,
contact ObjectInstance,
...
}

FallbackReporting ::= CHOICE{
null NULL,
reporting GraphicString,
...
}

HandOffPersonPtr ::= CHOICE{
null NULL,
person ObjectInstance,
...
}

HandOffTime ::= CHOICE{
null NULL,
time GeneralizedTime,
...
}

LocationAddress ::= SEQUENCE{
name PremisesName,
address PremisesAddress,
...
}

MaintenanceOrgContactPtr ::= CHOICE{
null NULL,
contact ObjectInstance,
...
}

MaintenanceOrgContactTime ::= CHOICE{
null NULL,
contact GeneralizedTime,
...
}

ManagerContactObjectPtr ::= CHOICE{
null NULL,
contact ObjectInstance,
...
}

ManagerSearchKey ::= CHOICE{
searchString ManagerSearchString,
objectInstance ObjectInstance,
...
}

ManagerSearchKeyList ::= SET OF CHOICE{
searchString ManagerSearchString,
```

```
objectInstance ObjectInstance,
...
}
OutageDuration::=CHOICE{
null NULL,
time TimeInterval,
...
}
RelatedObject::=CHOICE{
noObject NULL,
object ObjectInstance,
...
}
ResponsiblePersonPtr::=CHOICE{
null NULL,
objectInstance ObjectInstance,
...
}
RestoredTime::=CHOICE{
null NULL,
time GeneralizedTime,
...
}
ServiceLocationList::=SET OF SEQUENCE{
name PremisesName,
address PremisesAddress,
...
}
ServiceType::=CHOICE{
int INTEGER,
string PrintableString,
oid OBJECT IDENTIFIER,
...
}
SimpleNameRange ::= CHOICE{
number INTEGER,
string GraphicString64,
...
}
StopTime::=CHOICE{ specific GeneralizedTime, continual NULL,
...
}
TroubleDetectionTime::=CHOICE{
null NULL,
time GeneralizedTime,
...
}
```

S20 This change equates to changes needed for solution for defect X790/25

In A.6 Abstract syntax modify CommitmentTime type (as extended by Systems Management Implementors Guide version 4 April 1996 S1) to:

```
CommitmentTime::=CHOICE{
onsiteTime [0] GeneralizedTime,
```

clearedTime [1] GeneralizedTime,
...,
estimatedClearTime [2] GeneralizedTime,
...

S21 This change equates to changes needed for solution for defect X790/26

In A.6 Abstract syntax remove definition

SuspectObjectList TelephoneNumber::=SET OF SuspectObject
and Add definition

TelephoneNumberList ::=SET SIZE(0..64) OF TelephoneNumber

S22 This change equates to changes needed for solution for defect X790/27

In A.6 Abstract syntax replace troubleType circuitDead (622), with:

circuitDeadNoActivity (622),

S23 This change equates to changes needed for solution for defect X790/28

In A.6 Abstract syntax remove extensibility marker from:

WeekMask intervalsOfDay

S24 This change equates to changes needed for solution for defect X790/33

In A.5 Name bindings

Add a Namebinding of PTR to an Account object as it is currently missing. X.790 GDMO modified. Change TR, TTR object definitions to include their subclasses for this.

S25 This change equates to changes needed for solution for defect X790/35

In A.1.6 Abstract syntax

Complete reference is to be used consistently for each occurrence of the reference to X.721.

S26 This change equates to changes needed for solution for defect X790/42

In A.6 Abstract Syntax, pp. 92 of X.790, in the escalationList, extending the requestState to include the following:

denied [3]

4 Appendix A: Systems Management Defect Report Register

The defects reported to date are listed below. The status of each is indicated according to the classification outlined below:

O Open

- Discussion still open within the Defect Resolution Committee
- No solution included in this version of Implementor's Guide

A Agreed

- Proposed solution agreed by the Defect Editor's Committee
- Pending approval of amendment (if appropriate) by ISO/IEC JTC 1/SC 21

C Complete

- Amendment approved by ISO/IEC JTC 1/SC 21 (if appropriate)
- Final resolution reflected in this version of Implementor's Guide

P Published

- change included in published version

R Rejected

- as a defect (may be misinterpretation, request for extension or have already been corrected in subsequent version of text)

W Withdrawn

- Defect report withdrawn by source.

4.1 ITU-T Recommendation X.701 (1997) | ISO/IEC 10040 :1998

Status	Defect Number 10040	Source	Guide Entry	Other reference	Subject Matter

4.2 ITU-T Recommendation X.710 (1997) | ISO/IEC 9595 :1998

Status	Defect Number 9595/	Source	Guide Entry	Other reference	Subject Matter

4.3 ITU-T Recommendation X.711 (1997) | ISO/IEC 9596-1 :1998

Status	Defect Number 9596-1/	Source	Guide Entry	Other reference	Subject Matter
	1	editor			change "<=" to ">"

4.4 CCITT Recommendation X.712 (1992) | ISO/IEC 9596-2 :1993

Status	Defect Number 9696-1/	Source	Guide Entry	Other reference	Subject Matter
C	001	USA	E1	CCITT Rec. X.712 (1992)/Corr.1 (1996) ISO/IEC 10040 : 1992/Corr.1 : 1996	ROER noSuchArgument receiving Tables A98.3.1 & A98.3.2 should be "m"
*A	002	Berlin meeting Dec. 94	E2	CCITT Rec. X.712 (1992)/Corr.2 (1996) ISO/IEC 9596-2 : 1993/Corr.2 : 1996	Semantic meaning of the "m" in the Status columns of ICS can lead to different interpretations of what is required in implementations
	NMF		DTC 3		Alignment with CMIP

4.5 CCITT Recommendation X.720 (1992) | ISO/IEC 10165-1 :1993

Status	Defect Number 10165-1/	Source	Guide Entry	Other reference	Subject Matter
C	001	USA	F1	ISO/IEC 10165-1 : 1993 Corr.1 : 1993	Local name form
C	002	USA	F1	ISO/IEC 10165-1 : 1993 Corr.1 : 1993	Local and global name form
C	003	CAN	F1	ISO/IEC 10165-1 : 1993 Corr. 1 : 1993	Set valued attributes
A	004	SMI Group		SC 21 WG 4 1769	"attribute groups" omitted in definition

4.6 CCITT Recommendation X.721 (1992) | ISO/IEC 10165-2 :1992

Status	Defect Number 10165-2/	Source	Guide Entry	Other reference	Subject Matter
C	001	Editor	G1	ISO/IEC 10165-2 : 1992 Corr.1 : 1993	Incorrect matches for clause
*A	002	US Nat Body	G2	SC 21 7953 Draft TC	Use local time for Time24 type
*A	003	US Nat Body	G2	SC 21 WG 4 1741	Prioritized Object syntax reverses sense of priority
*A	004	US Nat Body	G2	SC 21 WG 4 1742	REGISTERED AS construct
*A	005	US Nat Body	G2	SC 21 WG 4 1743	Inconsistency of backUpObject
*A	006	US Nat Body	G2	SC 21 WG 4 1744	CMIP reference is incorrect
*A	007	Japan	G2	SC 21 WG 4 1751	Editing error for "Weekly Scheduling" to be replaced by "Duration"
*A	008	Japan	G2	SC 21 WG 4 1752	Value of time 24 - potential ambiguity over the meaning of start and end time in intervalsOfDay
*A	009	USA	G2	-	DMI needs ICS for management information not defined in other standards
*R	010	WG 4	-	-	Destination attribute in the efdPackage modification needs to be able to cater for multiple AEs
*A	011	project editor	G2	-	Syntax for SpecificIdentifier contains a choice but does not specify labels for the choice alternatives
	NMF		DTC 3		

4.7 CCITT Recommendation X.722 (1992) | ISO/IEC 10165-4 :1992

Status	Defect Number 10165-4/	Source	Guide Entry	Other reference	Subject Matter
Note	001	USA	H1	SC 21 7948	Create request individual attributes
*A	002	Berlin meeting Dec. 1994	H2	CCITT Rec. X.722 (1992) Draft Corr.1 (1996) ISO/IEC 10165-4 : 1992 Draft Corr.1 : 1996	Superclass limitation on the "presence of" characteristics in subclasses.

NOTE - Published as an Amendment.

4.8 CCITT Recommendation X.723 (1992) | ISO/IEC 10165-5 :1992

Status	Defect Number 10165-4/	Source	Guide Entry	Other reference	Subject Matter
	NMF		DTC 1		

4.9 CCITT Recommendation X.730 (1992) | ISO/IEC 10164-1 :1993

Status	Defect Number 10164-1/	Source	Guide Entry	Other reference	Subject Matter
Note 1	001	UK		SC 21 WG 4 1429R	Initiation - event forwarding discriminator
Note 2	002	UK (BSI)		SC 21 WG 4 1738	Typing error
*A	003	X.750 ballot meeting	I1	CCITT Rec. X.730 (1992) Amendment 1 - Corr.1 (1996) ISO/IEC 10164-1: 1993 Amendment 1/Corr.1: 1996	meaning of "m" in status column. See also 9596-2/002

NOTE 1 - Closed - progressing as an Amendment.

NOTE 2 - Closed covered by Amendment 1.

4.10 CCITT Recommendation X.731 (1992) | ISO/IEC 10164-2 :1993

Status	Defect Number 10164-2/	Source	Guide Entry	Other reference	Subject Matter
A	001	Italy	J1	SC 21 7737 Draft TC	Clarification of "in test" definition
C	002	Italy	J2	CCITT Rec. X.731 (1992)/Corr.1 (-) ISO/IEC 10164-2 : 1993/Corr.1	Table needs clarification
Note	003	UK		SC 21 WG 4 N1739	Error in clause reference and Table 4
R	004	US Nat Body		SC 21 WG 4 1745	Contradiction of elements
R	005	US Nat Body		SC 21 WG 4 1746	'on line' ambiguous availability status attribute ambiguous
*A	see subject matter		J3	CCITT Rec. X.731 (1992) Amendment 1 - Corr.1 (1996) ISO/IEC 10164-2: 1993 Amendment 1/ Corr.1: 1996	meaning of "m" in status column. See 10164-1/003

NOTE - Closed covered by Amendment 1.

4.11 CCITT Recommendation X.732 (1992) | ISO/IEC 10164-3 :1993

Status	Defect Number 10164-3/	Source	Guide Entry	Other reference	Subject Matter
Note	001	UK (BSI)		SC 21 WG 4 1740	Typing error
*A	see subject matter		K1	CCITT Rec. X.732 (1992) Amendment 1 - Corr.1 (1996) ISO/IEC 10164-3: 1993 Amendment 1/Corr.1: 1996	meaning of "m" in status column. See 10164-1/003

NOTE - Closed covered by Amendment 1.

4.12 CCITT Recommendation X.733 (1992) | ISO/IEC 10164-4 :1992

Status	Defect Number 10164-4/	Source	Guide Entry	Other reference	Subject Matter
A	001	WG 4	L1	SC 21 7115 Draft TC note	object identifiers may also be used in ISO applications
A	002	TS/ SG 11 (JISC)	L2	SC 21 7778 Draft TC	Ambiguity in the semantics associated with alarms (originated from TS SG 11).
O	003	Editors Group		SC 21 7954 Draft TC	MAPDU not properly defined
O	004	UK		SC 21 WG 4 1731	MAPDU interpretation according to role
*A	see subject matter		L3	CCITT Rec. X.733 (1992) Amendment 1 - Corr.1 (1996) ISO/IEC 10164-4: 1992 Amendment 1/Corr.1: 1996	meaning of "m" in status column. See 10164-1/003

NOTE - This will, if approved, result in a change in X.721/ISO 10165-2.

4.13 CCITT Recommendation X.734 (1992) | ISO/IEC 10164-5 :1993

Status	Defect Number 10164-5/	Source	Guide Entry	Other reference	Subject Matter
C	001	Canada	M1	ISO/IEC 10164-5 : 1992 Corr.1: 1993	Lack of event report definition
A	002	USA	M2	SC 21 7779 Draft TC	Ambiguity in the statement associated with attribute value change notification.
O	003	USA	-	SC 21 WG 4 N2036	Ambiguity about the relationship between the existence of EFDs and the existence of associations over which event reports are forwarded.
O	004	USA	-	SC 21 WG 4 N2037	Implementation aspects concerning the proposition that a managing system may receive a number of identical copies of an event report

Status	Defect Number 10164-5/	Source	Guide Entry	Other reference	Subject Matter
*A	see subject matter		M3	CCITT Rec. X.734 (1992) Amendment 1 - Corr.1 (1996) ISO/IEC 10164-5: 1993 Amendment 1/Corr.1: 1996	meaning of "m" in status column. See 10164-1/003

4.14 CCITT Recommendation X.735 (1992) | ISO/IEC 10164-6 :1993

Status	Defect Number 10164-6/	Source	Guide Entry	Other reference	Subject Matter
O	001	Japan		SC 21 WG 4 1753	scheduling behaviour is not clear
O	002	Japan		SC 21 WG 4 1754	in wrap mode record which is not the oldest may be deleted
*A	see subject matter		N1	CCITT Rec. X.735 (1992) Amendment 1 - Corr.1 (1996) ISO/IEC 10164-6: 1993 Amendment 1/Corr.1: 1996	meaning of "m" in status column. See 10164-1/003

4.15 CCITT Recommendation X.736 (1992) | ISO/IEC 10164-7 :1992

Status	Defect Number 10164-6/	Source	Guide Entry	Other reference	Subject Matter
*A	see subject matter		O1	CCITT Rec. X.736 (1992) Amendment 1 - Corr.1 (1996) ISO/IEC 10164-7: 1992 Amendment 1/Corr.1: 1996	meaning of "m" in status column. See 10164-1/003

4.16 CCITT Recommendation X.740 (1992) | ISO/IEC 10164-8 :1993

Status	Defect Number 10164-8/	Source	Guide Entry	Other reference	Subject Matter
*C	001	Project editor	P1 note	ITU-T Rec. X.740 (1992)/Corr.1 (1995) ISO/IEC 10164-8 : 1993/Corr.1: 1995 note	non conformance to X.724 - revision of ICS
C	002	Sweden	P1	ITU-T Rec. X.740 (1992)/Corr.1 (1995) ISO/IEC 10164-8 : 1993/Corr.1: 1995 note	non conformance to ISO 8824
*A	003	Project Editor	P2	CCITT Rec. X.740 (1992) - Corr.2 (1996) ISO/IEC 10164-8: 1992/Corr.2: 1996	Non conformance to CCITT Rec. X.208 ISO/IEC 8824, which states a semicolon is required at the end of the IMPORTS statement.
*A	see subject matter		P2	CCITT Rec. X.740 (1992) - Corr.2 (1996) ISO/IEC 10164-8: 1992/Corr.2: 1996	meaning of "m" in status column. See 10164-1/003

NOTE - This Technical Corrigendum (TC) contains the ICS. Status to be published. Due to the size of this TC it is not included in this document.

4.17 ITU-T Recommendation X.741 (1995) | ISO/IEC 10164-9 :1996

Status	Defect Number 10164-8/	Source	Guide Entry	Other reference	Subject Matter
*A	see subject matter		Q1	ITU Rec. X.741 Corr.1 (1996) ISO/IEC 10164-8: Corr.1: 1996	meaning of "m" in status column. See 10164-1/003

4.18 CCITT Recommendation X.745 (1993) | ISO/IEC 10164-12 :1994

Status	Defect Number 10164-12/	Source	Guide Entry	Other reference	Subject Matter
P	001	USA	-	SC 21 WG 4 N1861	SupportedUncontrolledTests attribute should not appear in testActionPerformerPackage
O	002	USA	-	SC 21 WG 4 N1862	The "related test" and its implications are not well defined
*P	003	USA	-	SC 21 WG 4 N1863	All test performers must be able to handle test conductors use of "globalRef" - effectively test performers need to support all components of test session ID
P	004	USA	-	SC 21 WG 4 N1864	Test execution description should say "never started or ceased prematurely"
P	005	USA	-	SC 21 WG 4 N1865	"TestRequestUncontrolledResponse" should be "TestRequestUncontrolledResult"
P	006	USA	-	SC 21 WG 4 N1866	Object identifier arcs do not conform to guidelines stated in GDMO
P	007	USA	-	SC 21 WG 4 N1867	Extraneous (syntactically incorrect) commas in several packages in clause A.2
*A note	008	ITU Rapporteur	R1	SC 21 N8278 SC 21 WG 4 N1909	Specify: "MATCHES FOR EQUALITY" in testActionPerformerId attribute, also "SimpleNameType" for ASN.1
*A note	009	USA	R1	SC 21 N8278 SC 21 WG 4 N2031	Comments as to X.745 ISO/IEC 10164-12 not containing name bindings
*A note	010	USA	R1	SC 21 N8278 SC 21 WG 4 N2032	Change ASN.1 of TestObjectId to derive from "SimpleNameType"
*A	011	USA	R1	SC 21 N2033	Import ASN.1 from Version 2 of CMIP
*A note	012	USA	R1	SC 21 N2034	Need ASN.1 for "defaultActualStopTime"
*A note	013	USA	R1	SC 21 WG 4 N2035	Should have "DERIVATION RULE" in the requestedWindowPackage template

Status	Defect Number 10164-12/	Source	Guide Entry	Other reference	Subject Matter
*A note	014	USA	R1	SC 21 WG 4 N1991	ASN.1 tags necessary in the TestState production
*A note	015	USA	R1	SC 21 WG 41992	Extraneous double quotes in the ToBeTestedMORTs ASN.1 production
*A note	016	USA	R1	SC 21 WG 4 N2173	Change "TestRequestControlledResponse" to "TestRequestControlledResult" in clause A.7.2

NOTE - This defect report is subject to completion of ballot in ISO/IEC. Ballot completion expected after April 1996 Study Group 7 meeting.

4.19 ITU-T Recommendation X.790 (1995)

Status	Defect Number X.790/	Source	Guide Entry	Other reference	Subject Matter
C	001	UK	S1	EURESCOM P406	Not a defect but an enhancement to Repair Activity Object
R	002	UK		EURESCOM P406	Not a defect but an enhancement to TelecommunicationsTrouble Report object
O	003	UK		EURESCOM P406	Extending type of attribute troubleType is pending further information to assess impact on existing US implementations
C	004	UK	S2	EURESCOM P406	Allow a null value for the attribute troubleFound for providerTroubleReport object
C	005	UK	S3	EURESCOM P406	A null value required for the attribute troubleLocation providerTroubleReport object for
C	006	UK	S4	EURESCOM P406	Definition of trAttributeValueChangePackage was duplicated
C	007	UK	S5	EURESCOM P406	Definition of trAttributeValueChangePackage was duplicated

C	008	Q13/7	S6	EURESCOM P406	Attribute values at object creation time.
C	009	Japan	S7		Clash of definition for [x790AttributeID63], 'managedObjectInstance', with [smi2AttributeID61]
	10-43		S8 - S26		Defects Resolved at Oct 97 SG 4 meeting

NMF Forum Defect Reports

The NMF submitted a group of Defect reports, with changes required to correct editorial errors in ASN.1 and GDMO templates required to allow successful compilation.

These are listed as NMF defect in this guide. The specific TCs which resulted from the NMF Defect Report are:

X.751 TECHNICAL CORRIGENDA 1
X.746 TECHNICAL CORRIGENDA 1
X.745 TECHNICAL CORRIGENDA 2
X.744 TECHNICAL CORRIGENDA 1
X.742 TECHNICAL CORRIGENDA 1
X.741 TECHNICAL CORRIGENDA 2
X.740 TECHNICAL CORRIGENDA 3
X.739 TECHNICAL CORRIGENDA 1
X.738 TECHNICAL CORRIGENDA 1
X.737 TECHNICAL CORRIGENDA 1
X.723 TECHNICAL CORRIGENDA 1
X.721 TECHNICAL CORRIGENDA 3
X.712 TECHNICAL CORRIGENDA 3

CORRIGENDA to use and cite ASN.1 1997 in X.700-series Recommendations

x711 corrigenda 2
x721 corrigenda 4
x722 corrigenda 2
x723 corrigenda 2
x737 corrigenda 2
x738 corrigenda 2
x741 corrigenda 3

x742 corrigenda 2
x744 corrigenda 2
x745 corrigenda 3
x746 corrigenda 2
x750 corrigenda 1
x751 corrigenda 2

5 Appendix B: ISO/IEC Approved Technical Corrigenda

The status of publication of collaborative and non-collaborative X.700-series Recommendations, amendments, and technical corrigenda may be found in the most recent version of the SG 7 publication "Status of the X-series Recommendations", available on the ITU-T SG 7 website.

6 Appendix C: Systems Management Defect Report Form

DEFECT REPORT FORM

1	Defect Report Number:	<i>Recommendation code/numeric</i>
2	Source: <i>country, member, etc.</i>	
3	Addressed to:	<i>Defect editors group reference</i>
4	ITU-T SG 4:	<i>administrative body reference</i>
5	Date circulated by: administrative body:	<i>date</i>
6	Deadline for response from editor:	<i>date</i>
7	Defect Report Concerning:	<i>Recommendation \ International Standard number and publication date</i>
8	Qualifier:	<i>e.g. error, omission, clarification required</i>
9	Reference in document:	<i>clause number</i>
10	Nature of defect:	<i>complete, concise explanation of the perceived problem</i>
11	Solution proposed by source:	<i>optional</i>
12	Editors response:	<i>any material proposed for processing as an erratum to, an amendment to or a commentary on the final Recommendation \ International Standard text. This will be attached separately to this report.</i>