



INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

X.711

Corrigendum 2
(02/2000)

SERIES X: DATA NETWORKS AND OPEN SYSTEM
COMMUNICATIONS

OSI management – Management Communication Service
and Protocol

Information technology – Open Systems
Interconnection – Common management
information protocol: Specification

**Technical Corrigendum 2: Revision to include
ASN.1: 1997**

ITU-T Recommendation X.711 (1997) – Corrigendum 2
(Formerly CCITT Recommendation)

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INTERNATIONAL STANDARD ISO/IEC 9596-1

ITU-T RECOMMENDATION X.711

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

TECHNICAL CORRIGENDUM 2

Revision to include ASN.1: 1997

Summary

ITU-T Rec. X.711 | ISO/IEC 9596-1 specifies:

- procedures for the transmission of management information between application entities;
- the abstract syntax of the Common Management Information Protocol (CMIP) and the associated encoding rules to be applied;
- procedure for the correct interpretation of protocol control information;
- the conformance requirements to be met by implementation of this Recommendation | International Standard.

This technical corrigendum revises the text to include ASN.1:1997 in clauses 2.1, 2.2 and 3.3.

Source

Corrigendum 2 to ITU-T Recommendation X.711 was prepared by ITU-T Study Group 4 (1997-2000) and approved on 4 February 2000. An identical text is also published as Technical Corrigendum 2 to ISO/IEC 9596-1.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Conference (WTSC), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSC Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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INTERNATIONAL STANDARD

ITU-T RECOMMENDATION

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

TECHNICAL CORRIGENDUM 2

Revision to include ASN.1: 1997

1) Subclause 2.1

Insert the following references into this subclause:

- ITU-T Recommendation X.680 (1997) | ISO/IEC 8824-1:1998, *Information technology – Abstract Syntax Notation One (ASN.1): Specification of basic notation.*
- ITU-T Recommendation X.681 (1997) | ISO/IEC 8824-2:1998, *Information technology – Abstract Syntax Notation One (ASN.1): Information object specification.*
- ITU-T Recommendation X.682 (1997) | ISO/IEC 8824-3:1998, *Information technology – Abstract Syntax Notation One (ASN.1): Constraint 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 13712-2:1995, *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) Subclause 2.2

Replace subclause 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) Subclause 3.3

Replace subclause 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) Subclause 5.2

Replace the first paragraph 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) Subclause 5.2.2

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

6) Subclause 6.2.1

Replace CCITT Rec. X.229 and 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) Subclause 6.4.3

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

8) Subclause 6.4.4

Replace linked-ID with linkedId (occurs twice).

9) Subclause 6.5.3

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

10) Subclause 6.5.4

Replace linked-ID with linkedId (occurs twice).

11) Subclause 6.6.3

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

12) Subclause 6.6.4

Replace linked-ID with linkedId (occurs twice).

13) Subclause 6.8.3

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

14) Subclause 6.8.4

Replace linked-ID with linkedId (occurs twice).

15) Subclause 7.1

Replace the first paragraph with the following:

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

16) Subclause 7.2

Replace Linked-ID with linkedId in Table 4.

Remove the last line of Table 4.

17) Subclause 7.4

Replace 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	
	}