International Telegraph and Telephone
Consultative Committee
(CCITT)
Period 1989-1992

COM VII-178-E
October 1991
Original: English

Question: 24/VII

STUDY GROUP VII - CONTRIBUTION 178

SOURCE: EDITOR (MR. N. TRICKEY)

TITLE : DRAFT RECOMMENDATION X.172: "INFORMATION TECHNOLOGY - OPEN SYSTEM INTERCONNECTION - COMMON MANAGEMENT INFORMATION PROTOCOL: PROTOCOL IMPLEMENTATION CONFORMANCE STATMENT (PICS) PRO FORMA"

CONTENTS

		Page
1	Scope	2
2	Normative references	2
2.1	Identical CCITT Recommendations | International Standards	2
2.2	Paired CCITT Recommendations | International Standards equivalent in technical content	2
2.3	Additional references	4
3	Definitions	4
3.1	Conformance testing methodology definitions	4
3.2	Systems management overview definitions	4
4	Abbreviations	4
5	Conformance	4

Annexes

A	(normative) PICS proforma	6
B	(normative) PICS proforma for protocol version 1	67

Information technology — Open Systems Interconnection — Common management information protocol: Protocol implementation conformance statement (PICS) proforma

1 Scope

This Recommendation | International Standard provides the Protocol Implementation Conformance Statement (PICS) proforma for the detailed expression of the conformance requirements of CCITT Rec. X.711 | ISO/IEC 9596-1. This PICS proforma is in compliance with the relevant requirements and in accordance with the relevant guidance, given in CCITT Rec. X.291 | ISO/IEC 9646-2.

Annex A of this Recommendation | International Standard contains the PICS proforma for version 2 of CMIP. Annex B of this Recommendation | International Standard contains version 1 of the tables of the kernel functional unit that were amended by version 2. All other tables of the kernel functional unit are the same for both versions 1 and 2 of CMIP.

2 Normative references

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

2.1 Identical CCITT Recommendations | International Standards

— CCITT Recommendation X.701 (1992) | ISO/IEC 10040 : 1992, *Information technology - Open Systems Interconnection - Systems Management Overview.*

2.2 Paired CCITT Recommendations | International Standards equivalent in technical content

— CCITT Recommendation X.219 (1988), Remote operations: Model, notation and service definition.

ISO/IEC 9072-1 : 1989, *Information processing systems - Text Communication - Remote Operations - Part 1: Model, notation and service definition.*

— CCITT Recommendation X.225 (1988), Session protocol specification for Open Systems Interconnection for CCITT applications.

ISO 8327 : 1987, *Information processing systems - Open Systems Interconnection - Basic connection oriented session protocol specification.*

— CCITT Recommendation X.226 (1988), Presentation protocol specification for Open Systems Interconnection for CCITT applications.

ISO 8823 : 1987, *Information processing systems - Open Systems Interconnection - Connection oriented presentation protocol specification.*

— CCITT Recommendation X.227 (1988), Association control protocol specification for Open Systems Interconnection for CCITT applications.

ISO 8650 : 1987, *Information processing systems - Open Systems Interconnection - Protocol specification for the Association Control Service Element.*

— CCITT RecommendationX.229 (1988), Remote operations: Protocol specification.

ISO/IEC 9072-2 : 1989, *Information processing systems - Text Communication - Remote Operations - Part 2: Protocol Specification.*

— 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.*

— CCITT Recommendation X.290 (1991), OSI conformance testing methodology and framework for protocol Recommendations for CCITT applications - General concepts.

ISO/IEC 9646-1 : 1991, *Information technology - OSI conformance testing methodology and framework - Part 1: General concepts.*

— CCITT Recommendation X.291 (1991), OSI conformance testing methodology and framework for protocol Recommendations for CCITT applications - Abstract test suite specification, Rec. X.291.

ISO/IEC 9646-2 : 1991, *Information technology - OSI conformance testing methodology and framework - Part 2: Abstract test suite specification.*

2.3 Additional references

— ISO/IEC 9596 : 1990, *Information technology - Open Systems Interconnection - Common management information protocol specification.*

3 Definitions

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

3.1 Conformance testing methodology definitions

This Recommendation | International Standard makes use of the following terms defined in CCITT Rec. X.290 | ISO/IEC 9646-1.

a) PICS proforma;

b) protocol implementation conformance statement (PICS);

c) system conformance statement.

3.2 Systems management overview definitions

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

a) dependent conformance;

b) general conformance.

4 Abbreviations

ACSE Association Control Service Element

APDU application protocol data unit

CMIP Common Management Information Protocol

CMIS Common Management Information Services

CMISE Common Management Information Service Element

PDU protocol data unit

PICS protocol implementation conformance statement

ROSE Remote Operations Service Element

5 Conformance

A PICS proforma which conforms to this Recommendation | International Standard shall be textually identical to Annex A, differing only in pagination and page headers. A PICS which conforms to this Recommendation | International Standard shall

— describe an implementation which conforms to either the dependent conformance class or the general conformance class of CCITT Rec. X.711 | ISO/IEC 9596-1;

— be a conforming PICS proforma which has been completed in accordance with the instructions for completion given in clause 1 of Annex A;

— state the class to which conformance is claimed;

— include the information necessary to uniquely identify both the supplier and the implementation.

The supplier of a protocol implementation which is claimed to conform to CCITT Rec. X.711 | ISO/IEC 9596-1 shall complete a copy of the PICS proforma provided in Annex A as part of the conformance requirements, shall complete a copy of the PICS proforma provided in Annex B if the implementation claims support for version 1 of CMIP, and shall provide the information necessary to identify both the supplier and the implementation.

NOTE — Version 1 of CMIP is specified in ISO/IEC 9596, now superceded by ISO/IEC 9596-1. There is no CCITT equivalent of ISO/IEC 9596.

Annex A

(This annex does form an integral part of this Recommendation | International Standard)

PICS proforma[1)]

A.1 Instructions for completing the PICS proforma

A.1.1 Purpose and structure

The purpose of this PICS proforma is to provide a mechanism whereby a supplier of an implementation of CCITT Rec. X.711 | ISO/IEC 9596-1 may provide information in a standard form. The PICS proforma is subdivided into clauses for the following categories of information

— implementation details;

— protocol details;

— overall conformance claim;

— implementation capabilities.

A.1.2 Symbols, abbreviations and terms

The PICS proforma contained in this Annex is comprised of information in a tabular form in accordance with the guidelines presented in CCITT Rec. X.291 | ISO/IEC 9646-2. The following abbreviations are used

ADB ANY DEFINED BY

DepSts Dependent status

GenSts General status

Spt Support

Sts Status

TVR Type(s), value(s) and range(s)

The following common notations, defined in CCITT Rec. X.291 | ISO/IEC 9646-2 are used for the status (Sts) column

c conditional

cN (N is an integer) for mutually exclusive or selectable conditions from a set

m mandatory

o optional

x prohibited

— not applicable

---

1) Users of this Recommendation | International Standard may freely reproduce the PICS proforma in this Annex so that it can be used for its intended purpose, and may further publish the completed PICS.

The following requirements are commonly used throughout the PICS proforma

— c1 support of at least one is required;

— c2 support is required if the multiple selection functional unit is supported;

— c3 support is required if the filter functional unit is supported;

— c4 support is required if the multiple object selection or multiple reply functional units are supported;

— c5 support is required if the cancel get functional unit is supported;

— c6 parameter is present only if a result is generated;

— c7 support of at least 1 of the elements of the CHOICE is required.

The following common notations, defined in CCITT Rec. X.291 | ISO/IEC 9646-2 are used for the support (Spt) column

Err the item is treated as a protocol error

Ig the item is ignored (i.e processed syntactically but not semantically)

N not implemented

Y implemented

— not applicable

The parameter names in the tables within this Recommendation | International Standard correspond with those specified in the abstract syntax of CCITT Rec. X.711 | ISO/IEC 9596-1.

A.1.3 Scoping rules

In the Status column of the tables in this Recommendation | International Standard, a mandatory element contained within an optional constructor parameter is mandatory only if the option is taken.

A.1.4 Instructions for completing the PICS

The supplier of the implementation shall enter an explicit statement in each of the boxes provided using the notation described in clause A.1.2. Specific instruction is provided in the text which preceeds each table.

A.2 Identification of the implementation

A.2.1 Date of statement

The supplier of the implementation shall enter the date of this statement in the box below. Use the format DD-MM-YYYY.

Date of statement

A.2.2 Identification of the implementation

The supplier of the implementation shall enter information necessary to uniquely identify the implementation and the system(s) in which it may reside, in the box below.

A.2.3 Contact

The supplier of the implementation shall provide information on whom to contact if there are any queries concerning the content of the PICS, in the box below.

A.2.4 Conformance class

The supplier of the implementation shall state the class to which conformance is claimed , in the box below.

Which class of conformance is claimed?

A.2.5 Relationship with the system conformance statement

The supplier of the implementation shall provide information which describes the relationship between the PICS and the system conformance statement for the system, in the box below. If a claim to the dependent conformance class is made, the system conformance statement shall identify the PICS for each of the standardised uses of CMIS to which conformance is claimed.

A.3 Identification of the protocol

The supplier of the implementation shall enter the title, reference number and date of the publication of the Recommendation | International Standard to which conformance is claimed, in the box below.

Recommendation | International Standard to which conformance is claimed

The supplier of the implementation shall specify support of versions of CMIP, in the box below.

Which version(s) of the CMIP protocol are supported?

The supplier of the implementation shall enter the name of each abstract syntax for CCITT Rec. X.711 | ISO/IEC 9596-1 to which conformance is claimed, and the corresponding transfer syntax name(s) in the box below.

Abstract syntax name	Transfer syntax name(s)

A.3.1 Defect report numbers and amendments implemented

The supplier of the implementation shall enter the reference numbers of implemented defect reports or corresponding amendment documents which modify the specification to CCITT Rec. X.711 | ISO/IEC 9596-1, in the box below.

A.3.2 Addenda implemented

The supplier of the implementation shall state the titles and reference numbers of implemented addenda to CCITT Rec. X.711 | ISO/IEC 9596-1, in the box below.

A.4 Global statement of conformance

The supplier of the implementation shall state whether or not all mandatory capabilities are implemented for CCITT Rec. X.711 | ISO/IEC 9596-1.

Are all mandatory capabilities implemented?

NOTE — Answering NO to this question indicates non-conformance to the protocol standard. Non-supported mandatory capabilities are listed in the PICS below, explaining why the status of the implementation is abnormal.

Capability not implemented	Reason

A.5 Capabilities

A.5.1 Initiator/Responder capability

The supplier of the implementation shall state the capability for initiating and responding to an association request which specifies the use of CMISE, in the box below.

	Association initiator		Association responder	
	Sts	Spt	Sts	Spt
Does the implementation support association initialisation?	c1		c1	

The supplier of the implementation shall state the capability for releasing an association, in the box below.

	Release initiator		Release responder	
	Sts	Spt	Sts	Spt
Does the implementation support association release for an association initiated by the imementation?	c1		c1	
for an association not initiated by the implementation?	c1		c1	

The supplier of the implementation shall state whether or not the CMIPUserInfo and CMIPAbortInfo parameters specified by CCITT Rec. X.711 | ISO/IEC 9596-1 are supported. The supplier shall state the capability for sending and receiving each parameter and the type, value(s) and range(s), in the boxes below.

Table A.1 — CMIPUserInfo parameter support (in AARQapdu)

		Sender			Receiver		
Index	Parameter name	Sts	Spt	TVR	Sts	Spt	TVR
A.1.1	CMIPUserInfo	m		—	m		—
A.1.1.1	protocolVersion	m			m		
A.1.1.2	functionalUnits	c8			m		
A.1.1.3	accessControl	o			m		
A.1.1.4	userInfo	o			m		

c8: if A.4.2 or A.4.3 or A.4.4 or A.4.5 or A.4.6 then m else o.

Table A.2 — CMIPUserInfo parameter support (in AAREapdu)

		Sender			Receiver		
Index	Parameter name	Sts	Spt	TVR	Sts	Spt	TVR
A.2.1	CMIPUserInfo	m		—	m		—
A.2.1.1	protocolVersion	m			m		
A.2.1.2	functionalUnits	c8			m		
A.2.1.3	accessControl	o			m		
A.2.1.4	userInfo	o			m		

c8: if A.4.2 or A.4.3 or A.4.4 or A.4.5 or A.4.6 then m else o.

Table A.3 — CMIPAbortInfo parameter support

		Sender			Receiver		
Index	Parameter name	Sts	Spt	TVR	Sts	Spt	TVR
A.3.1	CMIPAbortInfo	m		—	m		—
A.3.1.1	abortSource	m			m		
A.3.1.2	userInfo	o			m		

A.5.2 Major capabilities

The supplier of the implementation shall state whether or not the functional units specified by CCITT Rec. X.711 | ISO/IEC 9596-1 are supported, in the box below.

Table A.4 — Functional unit support

Index	Functional unit	Sts	Spt
A.4.1	Kernel	m	
A.4.2	Multiple object selection	o	
A.4.3	Filter	o	
A.4.4	Multiple reply	c9	
A.4.5	Extended service	o	
A.4.6	Cancel get	o	

c9: if A.4.2 then m else o.

A.5.3 Protocol parameters

A.5.3.1 System wide parameters

System wide parameters have a single specification applicable for all APDUs in which they occur and the corresponding tables in which they occur contain references to the following declarations.

The supplier of the implementation shall state whether or not the following parameters specified by CCITT Rec. X.711 | ISO/IEC 9596-1 are supported and their type, value(s) and range(s), in the boxes below. The supplier shall indicate the status of support for sending and receiving each parameter.

Table A.5 — Scope parameter support

				Sender			Receiver		
Index	Parameter name	Syntax	Value	Sts	Spt	TVR	Sts	Spt	TVR
A.5	Scope	CHOICE	—	c2			c2		
A.5.1		INTEGER	0 to 2	c1			m		
A.5.2	individualLevels	INTEGER	—	c1			m		
A.5.3	baseToNthLevel	INTEGER	—	c1			m		

Table A.6 — FilterItem parameter support (sending)

Index	Parameter name	Syntax	Sts	Spt	TVR
A.6	FilterItem	CHOICE	c3		—
A.6.1	equality	SEQUENCE	c1		
A.6.1.1	attributeId	CHOICE	m		—
A.6.1.1.1		OBJECT IDENTIFIER	c7		
A.6.1.1.2		INTEGER	c7		
A.6.1.2	attributeValue	ADB attributeId	m		
A.6.2	substrings	SEQUENCE OF CHOICE	c1		
A.6.2.1	initialString	SEQUENCE	m		
A.6.2.1.1	attributeId	CHOICE	m		—
A.6.2.1.1.1		OBJECT IDENTIFIER	c7		
A.6.2.1.1.2		INTEGER	c7		
A.6.2.1.2	string	ADB attributeId	m		
A.6.2.2	anyString	SEQUENCE	m		
A.6.2.2.1	attributeId	CHOICE	m		—
A.6.2.2.1.1		OBJECT IDENTIFIER	c7		
A.6.2.2.1.2		INTEGER	c7		
A.6.2.2.2	string	ADB attributeId	m		
A.6.2.3	finalString	SEQUENCE	m		
A.6.2.3.1	attributeId	CHOICE	m		—
A.6.2.3.1.1		OBJECT IDENTIFIER	c7		
A.6.2.3.1.2		INTEGER	c7		
A.6.2.3.2	string	ADB attributeId	m		
A.6.3	greaterOrEqual	SEQUENCE	c1		
A.6.3.1	attributeId	CHOICE	m		—
A.6.3.1.1		OBJECT IDENTIFIER	c7		
A.6.3.1.2		INTEGER	c7		
A.6.3.2	attributeValue	ADB attributeId	m		

Table A.6 — FilterItem parameter support (sending) (continued)

Index	Parameter name	Syntax	Sts	Spt	TVR
A.6.4	lessOrEqual	SEQUENCE	c1		
A.6.4.1	attributeId	CHOICE	m		—
A.6.4.1.1		OBJECT IDENTIFIER	c7		
A.6.4.1.2		INTEGER	c7		
A.6.4.2	attributeValue	ADB attributeId	m		
A.6.5	present	CHOICE	m		—
A.6.5.1		OBJECT IDENTIFIER	c7		
A.6.5.2		INTEGER	c7		
A.6.6	subsetOf	SEQUENCE	m		
A.6.6.1	attributeId	CHOICE	m		—
A.6.6.1.1		OBJECT IDENTIFIER	c7		
A.6.6.1.2		INTEGER	c7		
A.6.6.2	attributeValue	ADB attributeId	m		
A.6.7	supersetOf	SEQUENCE	c1		
A.6.7.1	attributeId	CHOICE	m		—
A.6.7.1.1		OBJECT IDENTIFIER	c7		
A.6.7.1.2		INTEGER	c7		
A.6.7.2	attributeValue	ADB attributeId	m		
A.6.8	nonNullSetIntersection	SEQUENCE	c1		
A.6.8.1	attributeId	CHOICE	m		—
A.6.8.1.1		OBJECT IDENTIFIER	c7		
A.6.8.1.2		INTEGER	c7		
A.6.8.2	attributeValue	ADB attributeId	m		

Table A.7 — FilterItem parameter support (receiving)

Index	Parameter name	Syntax	Sts	Spt	TVR
A.6	FilterItem	CHOICE	c3		—
A.7.1	equality	SEQUENCE	m		
A.7.1.1	attributeId	CHOICE	m		—
A.7.1.1.1		OBJECT IDENTIFIER	m		
A.7.1.1.2		INTEGER	m		
A.7.1.2	attributeValue	ADB attributeId	m		
A.7.2	substrings	SEQUENCE OF CHOICE	m		
A.7.2.1	initialString	SEQUENCE	m		
A.7.2.1.1	attributeId	CHOICE	m		—
A.7.2.1.1.1		OBJECT IDENTIFIER	m		
A.7.2.1.1.2		INTEGER	m		

Table A.7 — FilterItem parameter support (receiving) (continued)

Index	Parameter name	Syntax	Sts	Spt	TVR
A.7.2.1.2	string	ADB attributeId	m		
A.7.2.2	anyString	SEQUENCE	m		
A.7.2.2.1	attributeId	CHOICE	m		—
A.7.2.2.1.1		OBJECT IDENTIFIER	m		
A.7.2.2.1.2		INTEGER	m		
A.7.2.2.2	string	ADB attributeId	m		
A.7.2.3	finalString	SEQUENCE	m		
A.7.2.3.1	attributeId	CHOICE	m		—
A.7.2.3.1.1		OBJECT IDENTIFIER	m		
A.7.2.3.1.2		INTEGER	m		
A.7.2.3.2	string	ADB attributeId	m		
A.7.3	greaterOrEqual	SEQUENCE	m		
A.7.3.1	attributeId	CHOICE	m		—
A.7.3.1.1		OBJECT IDENTIFIER	m		
A.7.3.1.2		INTEGER	m		
A.7.3.2	attributeValue	ADB attributeId	m		
A.7.4	lessOrEqual	SEQUENCE	m		
A.7.4.1	attributeId	CHOICE	m		—
A.7.4.1.1		OBJECT IDENTIFIER	m		
A.7.4.1.2		INTEGER	m		
A.7.4.2	attributeValue	ADB attributeId	m		
A.7.5	present	CHOICE	m		—
A.7.5.1		OBJECT IDENTIFIER	m		
A.7.5.2		INTEGER	m		
A.7.6	subsetOf	SEQUENCE	m		
A.7.6.1	attributeId	CHOICE	m		—
A.7.6.1.1		OBJECT IDENTIFIER	m		
A.7.6.1.2		INTEGER	m		
A.7.6.2	attributeValue	ADB attributeId	m		
A.7.7	supersetOf	SEQUENCE	m		
A.7.7.1	attributeId	CHOICE	m		—
A.7.7.1.1		OBJECT IDENTIFIER	m		
A.7.7.1.2		INTEGER	m		
A.7.7.2	attributeValue	ADB attributeId	m		
A.7.8	nonNullSetIntersection	SEQUENCE	m		
A.7.8.1	attributeId	CHOICE	m		—
A.7.8.1.1		OBJECT IDENTIFIER	m		
A.7.8.1.2		INTEGER	m		
A.7.8.2	attributeValue	ADB attributeId	m		

Table A.8 — CMISFilter parameter support

			Sender			Receiver		
Index	Parameter name	Syntax	Sts	Spt	Max no of FilterItems	Sts	Spt	Max no of FilterItems
A.8	CMISFilter	CHOICE	c3		—	c3		—
A.8.1	item	FilterItem	m		—	m		—
A.8.2	and	SET OF CMISFilter	m			m		
A.8.3	or	SET OF CMISFilter	m			m		
A.8.4	not	CMISFilter	m			m		

Table A.9 — CMISFilter complexity limitations

Index	Complexity limitation	Sender	Receiver
A.9.1	Maximum nesting depth of CMISFilter expressions that may occur in an 'AND' (ref A.8.2)		
A.9.2	Maximum nesting depth of CMISFilter expressions that may occur in an 'OR' (ref A.8.3)		
A.9.3	Maximum number of FilterItem parameters in a CMISFilter parameter		

A.5.3.2 Common parameters

Common parameters may have a specification applicable for many APDUs in which they occur. If the supplier of the implementation provides details of the support of any parameter in the tables below, then an index reference to these details may be supplied in the TVR column of any table in clause A.5.5 instead of repeating the information. The reference should be specified in the form "[see Table A.10.x]". If the implementation supports a common specification for both the sending and receiving of any parameter, then it is recommended that Table A.10 be used for this purpose; otherwise the specification shall be inserted in the appropriate table(s) in A.5.5.

For example, if an implementation supports a single specification for the invokeID parameter, then the supplier may provide the details in Table A.10 and for each subsequent instance of the requirement to specify support for the parameter, insert a reference to the common specification as "[see Table A.10.1]".

The supplier of the implementation may state the type(s), value(s) and range(s) whether of any of the following parameters specified by CCITT Rec. X.711 | ISO/IEC 9596-1, in the boxes below.

Table A.10 — Common parameter support

Index	Parameter name	Syntax	Spt	TVR
A.10.1	invokeID	INTEGER		
A.10.2	linked-ID	INTEGER		
A.10.3	baseManagedObjectClass	CHOICE	—	—
A.10.3.1		OBJECT IDENTIFIER		
A.10.3.2		INTEGER		
A.10.4	baseManagedObjectInstance	CHOICE	—	—
A.10.4.1		DistinguishedName		

Table A.10 — Common parameter support (continued)

Index	Parameter name	Syntax	Spt	TVR
A.10.4.2		OCTET STRING		
A.10.4.3		RDNSequence		
A.10.5	accessControl	EXTERNAL		
A.10.6	synchronization	ENUMERATED		
A.10.7	managedObjectClass	CHOICE	—	—
A.10.7.1		OBJECT IDENTIFIER		
A.10.7.2		INTEGER		
A.10.8	managedObjectInstance	CHOICE	—	—
A.10.8.1		DistinguishedName		
A.10.8.2		OCTET STRING		
A.10.8.3		RDNSequence		
A.10.9	currentTime	GeneralizedTime		
A.10.10	actionType	CHOICE	—	—
A.10.10.1		OBJECT IDENTIFIER		
A.10.10.2		INTEGER		
A.10.11	attributeId	CHOICE	—	—
A.10.11.2		INTEGER		
A.10.12	eventType	CHOICE	—	—
A.10.12.1		OBJECT IDENTIFIER		
A.10.12.2		INTEGER		

A.5.3.3 Other parameters

Some parameters only occur in a limited number of APDUs. Declaration of the support for these parameters shall be specified in the tables in which they occur.

A.5.4 Protocol data units

The supplier of the implementation shall state whether or not the protocol data units specified by CCITT Rec. X.711 | ISO/IEC 9596-1 are supported, in the boxes below. If the implementation claims support for the dependent conformance class, the supplier shall indicate the the protocol data units in the DepSts column that are required by the standardised use of CMIS. The supplier shall indicate the status of support for sending and receiving each PDU.

Table A.11 — Protocol data unit support for kernel functional unit

		Sender			Receiver		
Index	Protocol data unit	GenSts	DepSts	Spt	GenSts	DepSts	Spt
A.11.1	ROIV-m-Action	m			m		
A.11.2	ROIV-m-Action-Confirmed	m			m		
A.11.3	ROIV-m-Create	m			m		
A.11.4	ROIV-m-Delete	m			m		
A.11.5	ROIV-m-EventReport	m			m		
A.11.6	ROIV-m-EventReport-Confirmed	m			m		
A.11.7	ROIV-m-Get	m			m		
A.11.8	ROIV-m-Set	m			m		
A.11.9	ROIV-m-Set-Confirmed	m			m		
A.11.10	RORS-m-Action-Confirmed	m			m		
A.11.11	RORS-m-Create	m			m		
A.11.12	RORS-m-Delete	m			m		
A.11.13	RORS-m-EventReport-Confirmed	m			m		
A.11.14	RORS-m-Get	m			m		
A.11.15	RORS-m-Set-Confirmed	m			m		
A.11.16	ROER-accessDenied	m			m		
A.11.17	ROER-classInstanceConflict	m			m		
A.11.18	ROER-complexityLimitation	m			m		
A.11.19	ROER-duplicateManagedObjectInstance	m			m		
A.11.20	ROER-getListError	m			m		
A.11.21	ROER-invalidArgumentValue	m			m		
A.11.22	ROER-invalidAttributeValue	m			m		
A.11.23	ROER-invalidObjectInstance	m			m		
A.11.24	ROER-missingAttributeValue	m			m		
A.11.25	ROER-noSuchAction	m			m		
A.11.26	ROER-noSuchArgument	m			m		
A.11.27	ROER-noSuchAttribute	m			m		
A.11.28	ROER-noSuchEventType	m			m		
A.11.29	ROER-noSuchObjectClass	m			m		
A.11.31	ROER-noSuchReferenceObject	m			m		
A.11.32	ROER-processingFailure	m			m		
A.11.33	ROER-setListError	m			m		
A.11.34	RORJapdu	m			m		

Table A.12 — Protocol data unit support for multiple object selection functional unit

		Sender			Receiver		
Index	Protocol data unit	GenSts	DepSts	Spt	GenSts	DepSts	Spt
A.12.1	ROIV-m-LinkedReply-Delete	m			m		
A.12.2	ROIV-m-LinkedReply-Get	m			m		
A.12.3	ROIV-m-LinkedReply-Set	m			m		
A.12.4	ROER-invalidScope	m			m		
A.12.5	ROER-syncNotSupported	m			m		

Table A.13 — Protocol data unit support for filter functional unit

		Sender		Receiver	
Index	Protocol data unit	Sts	Spt	Sts	Spt
A.13.1	ROER-invalidFilter	m		m	

Table A.14 — Protocol data unit support for multiple reply functional unit

		Sender		Receiver	
Index	Protocol data unit	Sts	Spt	Sts	Spt
A.14.1	ROIV-m-LinkedReply-Action	m		m	

Table A.15 — Protocol data unit support for cancel get functional unit

		Sender		Receiver	
Index	Protocol data unit	Sts	Spt	Sts	Spt
A.15.1	ROIV-m-Cancel-Get	m		m	
A.15.2	RORS-m-Cancel-Get	m		m	
A.15.3	ROER-noSuchInvokeId	m		m	
A.15.4	ROER-mistypedOperation	m		m	
A.15.5	ROER-operationCancelled	m		m	

A.5.5 PDU parameters

The supplier of the implementation shall state whether or not each parameter for each of the protocol data units specified by CCITT Rec. X.711 | ISO/IEC 9596-1 are supported. The supplier shall indicate the type, value(s) and range(s) of each parameter. The supplier shall indicate the status of support for sending and receiving each parameter in each PDU.

Table A.16 — ROIV-m-Action (sending)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.16.1	invokeID	m	INTEGER	—		
A.16.2	linked-ID	x	INTEGER	—		
A.16.3	operation-value	m	INTEGER	6		
A.16.4	ActionArgument	m	SEQUENCE	—		—
A.16.4.1	baseManagedObjectClass	m	CHOICE	—		—
A.16.4.1.1		c7	OBJECT IDENTIFIER	—		
A.16.4.1.2		c7	INTEGER	—		
A.16.4.2	baseManagedObjectInstance	m	CHOICE	—		—
A.16.4.2.1		c7	DistinguishedName	—		
A.16.4.2.2		c7	OCTET STRING	—		
A.16.4.2.3		c7	RDNSequence	—		
A.16.4.3	accessControl	o	EXTERNAL	—		
A.16.4.4	synchronization	c2	ENUMERATED	0 to 1		
A.16.4.5	scope	c2	Scope	—		[see Table A.5]
A.16.4.6	filter	c3	CMISFilter	—		[see Table A.8]
A.16.4.7	ActionInfo	m	SEQUENCE	—		—
A.16.4.7.1	actionType	m	CHOICE	—		—
A.16.4.7.1.1		c7	OBJECT IDENTIFIER	—		
A.16.4.7.1.2		c7	INTEGER	—		
A.16.4.7.2	actionInfoArg	o	ADB actionType	—		

Table A.17 — ROIV-m-Action (receiving)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.17.1	invokeID	m	INTEGER	—		
A.17.2	linked-ID	x	INTEGER	—		
A.17.3	operation-value	m	INTEGER	6		
A.17.4	ActionArgument	m	SEQUENCE	—		—
A.17.4.1	baseManagedObjectClass	m	CHOICE	—		—
A.17.4.1.1		m	OBJECT IDENTIFIER	—		
A.17.4.1.2		m	INTEGER	—		
A.17.4.2	baseManagedObjectInstance	m	CHOICE	—		—
A.17.4.2.1		m	DistinguishedName	—		
A.17.4.2.2		m	OCTET STRING	—		

Table A.17 — ROIV-m-Action (receiving) (continued)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.17.4.2.3		m	RDNSequence	—		
A.17.4.3	accessControl	m	EXTERNAL	—		
A.17.4.4	synchronization	c2	ENUMERATED	0 to 1		
A.17.4.5	scope	c2	Scope	—		[see Table A.5]
A.17.4.6	filter	c3	CMISFilter	—		[see Table A.8]
A.17.4.7	ActionInfo	m	SEQUENCE	—		—
A.17.4.7.1	actionType	m	CHOICE	—		—
A.17.4.7.1.1		m	OBJECT IDENTIFIER	—		
A.17.4.7.1.2		m	INTEGER	—		
A.17.4.7.2	actionInfoArg	m	ADB actionType	—		

Table A.18 — ROIV-m-Action-Confirmed (sending)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.18.1	invokeID	m	INTEGER	—		
A.18.2	linkedID	x	INTEGER	—		
A.18.3	operation-value	m	INTEGER	7		
A.18.4	ActionArgument	m	SEQUENCE	—		—
A.18.4.1	baseManagedObjectClass	m	CHOICE	—		—
A.18.4.1.1		c7	OBJECT IDENTIFIER	—		
A.18.4.1.2		c7	INTEGER	—		
A.18.4.2	baseManagedObjectInstance	m	CHOICE	—		—
A.18.4.2.1		c7	DistinguishedName	—		
A.18.4.2.2		c7	OCTET STRING	—		
A.18.4.2.3		c7	RDNSequence	—		
A.18.4.3	accessControl	o	EXTERNAL	—		
A.18.4.4	synchronization	c2	ENUMERATED	0 to 1		
A.18.4.5	scope	c2	Scope	—		[see Table A.5]
A.18.4.6	filter	c3	CMISFilter	—		[see Table A.8]
A.18.4.7	ActionInfo	m	SEQUENCE	—		—
A.18.4.7.1	actionType	m	CHOICE	—		—
A.18.4.7.1.1		c7	OBJECT IDENTIFIER	—		
A.18.4.7.1.2		c7	INTEGER	—		
A.18.4.7.2	actionInfoArg	o	ADB actionType	—		

Table A.19 — ROIV-m-Action-Confirmed (receiving)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.19.1	invokeID	m	INTEGER	—		
A.19.2	linkedID	x	INTEGER	—		
A.19.3	operation-value	m	INTEGER	7		
A.19.4	ActionArgument	m	SEQUENCE	—		—
A.19.4.1	baseManagedObjectClass	m	CHOICE	—		—
A.19.4.1.1		m	OBJECT IDENTIFIER	—		
A.19.4.1.2		m	INTEGER	—		
A.19.4.2	baseManagedObjectInstance	m	CHOICE	—		—
A.19.4.2.1		m	DistinguishedName	—		
A.19.4.2.2		m	OCTET STRING	—		
A.19.4.2.3		m	RDNSequence	—		
A.19.4.3	accessControl	m	EXTERNAL	—		
A.19.4.4	synchronization	c2	ENUMERATED	0 to 1		
A.19.4.5	scope	c2	Scope	—		[see Table A.5]
A.19.4.6	filter	c3	CMISFilter	—		[see Table A.8]
A.19.4.7	ActionInfo	m	SEQUENCE	—		—
A.19.4.7.1	actionType	m	CHOICE	—		—
A.19.4.7.1.1		m	OBJECT IDENTIFIER	—		
A.19.4.7.1.2		m	INTEGER	—		
A.19.4.7.2	actionInfoArg	m	ADB actionType	—		

Table A.20 — ROIV-m-Cancel-Get (sending)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.20.1	invokeID	m	INTEGER	—		
A.20.2	linked-ID	x	INTEGER	—		
A.20.3	operation-value	m	INTEGER	10		
A.20.4	getInvokeId	m	INTEGER	—		

Table A.21 — ROIV-m-Cancel-Get (receiving)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.21.1	invokeID	m	INTEGER	—		
A.21.2	linked-ID	x	INTEGER	—		
A.21.3	operation-value	m	INTEGER	10		
A.21.4	getInvokeId	m	INTEGER	—		

Table A.22 — ROIV-m-Create (sending)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.22.1	invokeID	m	INTEGER	—		
A.22.2	linked-ID	x	INTEGER	—		
A.22.3	operation-value	m	INTEGER	8		
A.22.4	CreateArgument	m	SEQUENCE	—		—
A.22.4.1	managedObjectClass	m	CHOICE	—		—
A.22.4.1.1		c7	OBJECT IDENTIFIER	—		
A.22.4.1.2		c7	INTEGER	—		
A.22.4.2		o	CHOICE	—		—
A.22.4.2.1	managedObjectInstance	m	CHOICE	—		—
A.22.4.2.1.1		c7	DistinguishedName	—		
A.22.4.2.1.2		c7	OCTET STRING	—		
A.22.4.2.1.3		c7	RDNSequence	—		
A.22.4.2.2	superiorObjectInstance	m	CHOICE	—		—
A.22.4.2.2.1		c7	DistinguishedName	—		
A.22.4.2.2.2		c7	OCTET STRING	—		
A.22.4.2.2.3		c7	RDNSequence	—		
A.22.4.3	accessControl	o	EXTERNAL	—		
A.22.4.4	referenceObjectInstance	o	CHOICE	—		—
A.22.4.4.1		c7	DistinguishedName	—		
A.22.4.4.2		c7	OCTET STRING	—		
A.22.4.4.3		c7	RDNSequence	—		
A.22.4.5	attributeList	o	SET OF SEQUENCE	—		—
A.22.4.5.1	attributeId	m	CHOICE	—		—
A.22.4.5.1.1		c7	OBJECT IDENTIFIER	—		
A.22.4.5.1.2		c7	INTEGER	—		
A.22.4.5.2	attributeValue	m	ADB attributeId	—		

Table A.23 — ROIV-m-Create (receiving)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.23.1	invokeID	m	INTEGER	—		
A.23.2	linked-ID	x	INTEGER	—		
A.23.3	operation-value	m	INTEGER	8		
A.23.4	CreateArgument	m	SEQUENCE	—		—
A.23.4.1	managedObjectClass	m	CHOICE	—		—
A.23.4.1.1		m	OBJECT IDENTIFIER	—		
A.23.4.1.2		m	INTEGER	—		

Table A.23 — ROIV-m-Create (receiving) (continued)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.23.4.2		m	CHOICE	—		—
A.23.4.2.1	managedObjectInstance	m	CHOICE	—		—
A.23.4.2.1.1		m	DistinguishedName	—		
A.23.4.2.1.2		m	OCTET STRING	—		
A.23.4.2.1.3		m	RDNSequence	—		
A.23.4.2.2	superiorObjectInstance	m	CHOICE	—		—
A.23.4.2.2.1		m	DistinguishedName	—		
A.23.4.2.2.2		m	OCTET STRING	—		
A.23.4.2.2.3		m	RDNSequence	—		
A.23.4.3	accessControl	m	EXTERNAL	—		
A.23.4.4	referenceObjectInstance	m	CHOICE	—		—
A.23.4.4.1		m	DistinguishedName	—		
A.23.4.4.2		m	OCTET STRING	—		
A.23.4.4.3		m	RDNSequence	—		
A.23.4.5	attributeList	m	SET OF SEQUENCE	—		—
A.23.4.5.1	attributeId	m	CHOICE	—		—
A.23.4.5.1.1		m	OBJECT IDENTIFIER	—		
A.23.4.5.1.2		m	INTEGER	—		
A.23.4.5.2	attributeValue	m	ADB attributeId	—		

Table A.24 — ROIV-m-Delete (sending)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.24.1	invokeID	m	INTEGER	—		
A.24.2	linked-ID	x	INTEGER	—		
A.24.3	operation-value	m	INTEGER	9		
A.24.4	DeleteArgument	m	SEQUENCE	—		—
A.24.4.1	baseManagedObjectClass	m	CHOICE	—		—
A.24.4.1.1		c7	OBJECT IDENTIFIER	—		
A.24.4.1.2		c7	INTEGER	—		
A.24.4.2	baseManagedObjectInstance	m	CHOICE	—		—
A.24.4.2.1		c7	DistinguishedName	—		
A.24.4.2.2		c7	OCTET STRING	—		
A.24.4.2.3		c7	RDNSequence	—		
A.24.4.3	accessControl	o	EXTERNAL	—		
A.24.4.4	synchronization	c2	ENUMERATED	0 to 1		
A.24.4.5	scope	c2	Scope	—		[see Table A.5]
A.24.4.6	filter	c3	CMISFilter	—		[see Table A.8]

Table A.25 — ROIV-m-Delete (receiving)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.25.1	invokeID	m	INTEGER	—		
A.25.2	linked-ID	x	INTEGER	—		
A.25.3	operation-value	m	INTEGER	9		
A.25.4	DeleteArgument	m	SEQUENCE	—		—
A.25.4.1	baseManagedObjectClass	m	CHOICE	—		—
A.25.4.1.1		m	OBJECT IDENTIFIER	—		
A.25.4.1.2		m	INTEGER	—		
A.25.4.2	baseManagedObjectInstance	m	CHOICE	—		—
A.25.4.2.1		m	DistinguishedName	—		
A.25.4.2.2		m	OCTET STRING	—		
A.25.4.2.3		m	RDNSequence	—		
A.25.4.3	accessControl	m	EXTERNAL	—		
A.25.4.4	synchronization	c2	ENUMERATED	0 to 1		
A.25.4.5	scope	c2	Scope	—		[see Table A.5]
A.25.4.6	filter	c3	CMISFilter	—		[see Table A.8]

Table A.26 — ROIV-m-EventReport (sending)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.26.1	invokeID	m	INTEGER	—		
A.26.2	linked-ID	x	INTEGER	—		
A.26.3	operation-value	m	INTEGER	0		
A.26.4	EventReportArgument	m	SEQUENCE	—		—
A.26.4.1	managedObjectClass	m	CHOICE	—		—
A.26.4.1.1		c7	OBJECT IDENTIFIER	—		
A.26.4.1.2		c7	INTEGER	—		
A.26.4.2	managedObjectInstance	m	CHOICE	—		—
A.26.4.2.1		c7	DistinguishedName	—		
A.26.4.2.2		c7	OCTET STRING	—		
A.26.4.2.3		c7	RDNSequence	—		
A.26.4.3	eventTime	o	GeneralizedTime	—		
A.26.4.4	eventType	m	CHOICE	—		—
A.26.4.4.1		c7	OBJECT IDENTIFIER	—		
A.26.4.4.2		c7	INTEGER	—		
A.26.4.5	eventInfo	o	ADB eventType	—		

Table A.27 — ROIV-m-EventReport (receiving)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.27.1	invokeID	m	INTEGER	—		
A.27.2	linked-ID	x	INTEGER	—		
A.27.3	operation-value	m	INTEGER	0		
A.27.4	EventReportArgument	m	SEQUENCE	—		—
A.27.4.1	managedObjectClass	m	CHOICE	—		—
A.27.4.1.1		m	OBJECT IDENTIFIER	—		
A.27.4.1.2		m	INTEGER	—		
A.27.4.2	managedObjectInstance	m	CHOICE	—		—
A.27.4.2.1		m	DistinguishedName	—		
A.27.4.2.2		m	OCTET STRING	—		
A.27.4.2.3		m	RDNSequence	—		
A.27.4.4	eventType	m	CHOICE	—		—
A.27.4.4.1		m	OBJECT IDENTIFIER	—		
A.27.4.4.2		m	INTEGER	—		
A.27.4.5	eventInfo	m	ADB eventType	—		

Table A.28 — ROIV-m-EventReport-Confirmed (sending)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.28.1	invokeID	m	INTEGER	—		
A.28.2	linked-ID	x	INTEGER	—		
A.28.3	operation-value	m	INTEGER	1		
A.28.4	EventReportArgument	m	SEQUENCE	—		—
A.28.4.1	managedObjectClass	m	CHOICE	—		—
A.28.4.1.1		c7	OBJECT IDENTIFIER	—		
A.28.4.1.2		c7	INTEGER	—		
A.28.4.2	managedObjectInstance	m	CHOICE	—		—
A.28.4.2.1		c7	DistinguishedName	—		
A.28.4.2.2		c7	OCTET STRING	—		
A.28.4.2.3		c7	RDNSequence	—		
A.28.4.3	eventTime	o	GeneralizedTime	—		
A.28.4.4	eventType	m	CHOICE	—		—
A.28.4.4.1		c7	OBJECT IDENTIFIER	—		
A.28.4.4.2		c7	INTEGER	—		
A.28.4.5	eventInfo	o	ADB eventType	—		

Table A.29 — ROIV-m-EventReport-Confirmed (receiving)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.29.1	invokeID	m	INTEGER	—		
A.29.2	linked-ID	x	INTEGER	—		
A.29.3	operation-value	m	INTEGER	1		
A.29.4	EventReportArgument	m	SEQUENCE	—		—
A.29.4.1	managedObjectClass	m	CHOICE	—		—
A.29.4.1.1		m	OBJECT IDENTIFIER	—		
A.29.4.1.2		m	INTEGER	—		
A.29.4.2	managedObjectInstance	m	CHOICE	—		—
A.29.4.2.1		m	DistinguishedName	—		
A.29.4.2.2		m	OCTET STRING	—		
A.29.4.2.3		m	RDNSequence	—		
A.29.4.3	eventTime	m	GeneralizedTime	—		
A.29.4.4	eventType	m	CHOICE	—		—
A.29.4.4.1		m	OBJECT IDENTIFIER	—		
A.29.4.4.2		m	INTEGER	—		
A.29.4.5	eventInfo	m	ADB eventType	—		

Table A.30 — ROIV-m-Get (sending)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.30.1	invokeID	m	INTEGER	—		
A.30.2	linked-ID	x	INTEGER	—		
A.30.3	operation-value	m	INTEGER	3		
A.30.4	GetArgument	m	SEQUENCE	—		—
A.30.4.1	baseManagedObjectClass	m	CHOICE	—		—
A.30.4.1.1		c7	OBJECT IDENTIFIER	—		
A.30.4.1.2		c7	INTEGER	—		
A.30.4.2	baseManagedObjectInstance	m	CHOICE	—		—
A.30.4.2.1		c7	DistinguishedName	—		
A.30.4.2.2		c7	OCTET STRING	—		

Table A.30 — ROIV-m-Get (sending) (continued)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.30.4.2.3		c7	RDNSequence	—		
A.30.4.3	accessControl	o	EXTERNAL	—		
A.30.4.4	synchronization	c2	ENUMERATED	0 to 1		
A.30.4.5	scope	c2	Scope	—		[see Table A.5]
A.30.4.6	filter	c3	CMISFilter	—		[see Table A.8]
A.30.4.7	AttributeIdList	o	SET OF SEQUENCE	—		—
A.30.4.7.1	attributeId	m	CHOICE	—		—
A.30.4.7.1.1		c7	OBJECT IDENTIFIER	—		
A.30.4.7.1.2		c7	INTEGER	—		

Table A.31 — ROIV-m-Get (receiving)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.31.1	invokeID	m	INTEGER	—		
A.31.2	linked-ID	x	INTEGER	—		
A.31.3	operation-value	m	INTEGER	3		
A.31.4	GetArgument	m	SEQUENCE	—		—
A.31.4.1	baseManagedObjectClass	m	CHOICE	—		—
A.31.4.1.1		m	OBJECT IDENTIFIER	—		
A.31.4.1.2		m	INTEGER	—		
A.31.4.2	baseManagedObjectInstance	m	CHOICE	—		—
A.31.4.2.1		m	DistinguishedName	—		
A.31.4.2.2		m	OCTET STRING	—		
A.31.4.2.3		m	RDNSequence	—		
A.31.4.3	accessControl	m	EXTERNAL	—		
A.31.4.4	synchronization	c2	ENUMERATED	0 to 1		
A.31.4.5	scope	c2	Scope	—		[see Table A.5]
A.31.4.6	filter	c3	CMISFilter	—		[see Table A.8]
A.31.4.7	AttributeIdList	m	SET OF SEQUENCE	—		—
A.31.4.7.1	attributeId	m	CHOICE	—		—
A.31.4.7.1.1		m	OBJECT IDENTIFIER	—		
A.31.4.7.1.2		m	INTEGER	—		

Table A.32 — ROIV-m-LinkedReply-Action (sending)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.32.1	invokeID	m	INTEGER	—		
A.32.2	linked-ID	m	INTEGER	—		
A.32.3	operation-value	m	INTEGER	2		
A.32.4	LinkedReplyArgument	m	CHOICE	—		—
A.32.4.1	ActionResult	m	SEQUENCE	—		—
A.32.4.1.1	managedObjectClass	m	CHOICE	—		—
A.32.4.1.1.1		c7	OBJECT IDENTIFIER	—		
A.32.4.1.1.2		c7	INTEGER	—		
A.32.4.1.2	managedObjectInstance	m	CHOICE	—		—
A.32.4.1.2.1		c7	DistinguishedName	—		
A.32.4.1.2.2		c7	OCTET STRING	—		
A.32.4.1.2.3		c7	RDNSequence	—		
A.32.4.1.3	currentTime	o	GeneralizedTime	—		
A.32.4.1.4	ActionReply	o	SEQUENCE	—		—
A.32.4.1.4.1	actionType	m	CHOICE	—		—
A.32.4.1.4.1.1		c7	OBJECT IDENTIFIER	—		
A.32.4.1.4.1.2		c7	INTEGER	—		
A.32.4.1.4.2	actionReplyInfo	m	ADB actionType	—		
A.32.4.2	ProcessingFailure	m	SEQUENCE	—		—
A.32.4.2.1	managedObjectClass	m	CHOICE	—		—
A.32.4.2.1.1		c7	OBJECT IDENTIFIER	—		
A.32.4.2.1.2		c7	INTEGER	—		
A.32.4.2.2	managedObjectInstance	m	CHOICE	—		—
A.32.4.2.2.1		c7	DistinguishedName	—		
A.32.4.2.2.2		c7	OCTET STRING	—		
A.32.4.2.2.3		c7	RDNSequence	—		
A.32.4.2.3	SpecificErrorInfo	m	SEQUENCE	—		—
A.32.4.2.3.1	errorId	m	OBJECT IDENTIFIER	—		
A.32.4.2.3.2	errorInfo	m	ADB errorId	—		

Table A.32 — ROIV-m-LinkedReply-Action (sending) (continued)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.32.4.3	ActionError	m	SEQUENCE	—		—
A.32.4.3.1	managedObjectClass	m	CHOICE	—		—
A.32.4.3.1.1		c7	OBJECT IDENTIFIER	—		
A.32.4.3.1.2		c7	INTEGER	—		
A.32.4.3.2	managedObjectInstance	m	CHOICE	—		—
A.32.4.3.2.1		c7	DistinguishedName	—		
A.32.4.3.2.2		c7	OCTET STRING	—		
A.32.4.3.2.3		c7	RDNSequence	—		
A.32.4.3.3	currentTime	o	GeneralizedTime	—		
A.32.4.3.4	actionErrorInfo	m	SEQUENCE	—		—
A.32.4.3.4.1	errorStatus	m	ENUMERATED	2,9,14,15		
A.32.4.3.4.2	errorInfo	m	CHOICE	—		—
A.32.4.3.4.2.1	actionType	m	CHOICE	—		—
A.32.4.3.4.2.1.1		c7	OBJECT IDENTIFIER	—		
A.32.4.3.4.2.1.2		c7	INTEGER	—		
A.32.4.3.4.2.2	actionArgument	m	SEQUENCE	—		—
A.32.4.3.4.2.2.1	managedObjectClass	m	CHOICE	—		—
A.32.4.3.4.2.2.1.1		c7	OBJECT IDENTIFIER	—		
A.32.4.3.4.2.2.1.2		c7	INTEGER	—		
A.32.4.3.4.2.2.2	actionType	m	CHOICE	—		—
A.32.4.3.4.2.2.2.1		c7	OBJECT IDENTIFIER	—		
A.32.4.3.4.2.2.2.2		c7	INTEGER	—		
A.32.4.3.4.2.3.1	actionType	m	CHOICE	—		—
A.32.4.3.4.2.3.1.1		c7	OBJECT IDENTIFIER	—		
A.32.4.3.4.2.3.1.1		c7	INTEGER	—		
A.32.4.3.4.2.3.2	actionInfoArg	o	ADB actionType	—		

Table A.33 — ROIV-m-LinkedReply-Action (receiving)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.33.1	invokeID	m	INTEGER	—		
A.33.2	linked-ID	m	INTEGER	—		
A.33.3	operation-value	m	INTEGER	2		
A.33.4	LinkedReplyArgument	m	CHOICE	—		—
A.33.4.1	ActionResult	m	SEQUENCE	—		—
A.33.4.1.1	managedObjectClass	m	CHOICE	—		—
A.33.4.1.1.1		m	OBJECT IDENTIFIER	—		
A.33.4.1.1.2		m	INTEGER	—		
A.33.4.1.2	managedObjectInstance	m	CHOICE	—		—
A.33.4.1.2.1		m	DistinguishedName	—		
A.33.4.1.2.2		m	OCTET STRING	—		
A.33.4.1.2.3		m	RDNSequence	—		
A.33.4.1.3	currentTime	m	GeneralizedTime	—		
A.33.4.1.4	ActionReply	m	SEQUENCE	—		—
A.33.4.1.4.1	actionType	m	CHOICE	—		—
A.33.4.1.4.1.1		m	OBJECT IDENTIFIER	—		
A.33.4.1.4.1.2		m	INTEGER	—		
A.33.4.1.4.2	actionReplyInfo	m	ADB actionType	—		
A.33.4.2	ProcessingFailure	m	SEQUENCE	—		—
A.33.4.2.1	managedObjectClass	m	CHOICE	—		—
A.33.4.2.1.1		m	OBJECT IDENTIFIER	—		
A.33.4.2.1.2		m	INTEGER	—		
A.33.4.2.2	managedObjectInstance	m	CHOICE	—		—
A.33.4.2.2.1		m	DistinguishedName	—		
A.33.4.2.2.2		m	OCTET STRING	—		
A.33.4.2.2.3		m	RDNSequence	—		
A.33.4.2.3	SpecificErrorInfo	m	SEQUENCE	—		—
A.33.4.2.3.1	errorId	m	OBJECT IDENTIFIER	—		
A.33.4.2.3.2	errorInfo	m	ADB errorId	—		
A.33.4.3	ActionError	m	SEQUENCE	—		—
A.33.4.3.1	managedObjectClass	m	CHOICE	—		—
A.33.4.3.1.1		m	OBJECT IDENTIFIER	—		
A.33.4.3.1.2		m	INTEGER	—		
A.33.4.3.2	managedObjectInstance	m	CHOICE	—		—

Table A.33 — ROIV-m-LinkedReply-Action (receiving) (continued)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.33.4.3.2.1		m	DistinguishedName	—		
A.33.4.3.2.2		m	OCTET STRING	—		
A.33.4.3.2.3		m	RDNSequence	—		
A.33.4.3.3	currentTime	m	GeneralizedTime	—		
A.33.4.3.4	actionErrorInfo	m	SEQUENCE	—		—
A.33.4.3.4.1	errorStatus	m	ENUMERATED	2,9,14,15		
A.33.4.3.4.2	errorInfo	m	CHOICE	—		—
A.33.4.3.4.2.1	actionType	m	CHOICE	—		—
A.33.4.3.4.2.1.1		m	OBJECT IDENTIFIER	—		
A.33.4.3.4.2.1.2		m	INTEGER	—		
A.33.4.3.4.2.2.1	managedObjectClass	m	CHOICE	—		—
A.33.4.3.4.2.2.1.1		m	OBJECT IDENTIFIER	—		
A.33.4.3.4.2.2.1.2		m	INTEGER	—		
A.33.4.3.4.2.2.2	actionType	m	CHOICE	—		—
A.33.4.3.4.2.2.2.1		m	OBJECT IDENTIFIER	—		
A.33.4.3.4.2.2.2.2		m	INTEGER	—		
A.33.4.3.4.2.3	argumentValue	m	SEQUENCE	—		—
A.33.4.3.4.2.3.1	actionType	m	CHOICE	—		—
A.33.4.3.4.2.3.1.1		m	OBJECT IDENTIFIER	—		
A.33.4.3.4.2.3.1.1		m	INTEGER	—		
A.33.4.3.4.2.3.2	actionInfoArg	m	ADB actionType	—		

Table A.34 — ROIV-m-LinkedReply-Delete (sending)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.34.1	invokeID	m	INTEGER	—		
A.34.2	linked-ID	m	INTEGER	—		
A.34.3	operation-value	m	INTEGER	2		
A.34.4	LinkedReplyArgument	m	CHOICE	—		—
A.34.4.1	ProcessingFailure	m	SEQUENCE	—		—
A.34.4.1.1	managedObjectClass	m	CHOICE	—		—
A.34.4.1.1.1		c7	OBJECT IDENTIFIER	—		
A.34.4.1.1.2		c7	INTEGER	—		
A.34.4.1.2	managedObjectInstance	m	CHOICE	—		—
A.34.4.1.2.1		c7	DistinguishedName	—		
A.34.4.1.2.2		c7	OCTET STRING	—		
A.34.4.1.2.3		c7	RDNSequence	—		

Table A.34 — ROIV-m-LinkedReply-Delete (sending) (continued)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.34.4.1.3	SpecificErrorInfo	m	SEQUENCE	—		
A.34.4.1.3.1	errorId	m	OBJECT IDENTIFIER	—		
A.34.4.1.3.2	errorInfo	m	ADB errorId	—		
A.34.4.2	DeleteResult	m	SEQUENCE	—		—
A.34.4.2.1	managedObjectClass	m	CHOICE	—		—
A.34.4.2.1.1		c7	OBJECT IDENTIFIER	—		
A.34.4.2.1.2		c7	INTEGER	—		
A.34.4.2.2	managedObjectInstance	m	CHOICE	—		—
A.34.4.2.2.1		c7	DistinguishedName	—		
A.34.4.2.2.2		c7	OCTET STRING	—		
A.34.4.2.2.3		c7	RDNSequence	—		
A.34.4.2.3	currentTime	o	GeneralizedTime	—		—
A.34.4.3	DeleteError	m	SEQUENCE	—		—
A.34.4.3.1	managedObjectClass	m	CHOICE	—		—
A.34.4.3.1.1		c7	OBJECT IDENTIFIER	—		
A.34.4.3.1.2		c7	INTEGER	—		
A.34.4.3.2	managedObjectInstance	m	CHOICE	—		—
A.34.4.3.2.1		c7	DistinguishedName	—		
A.34.4.3.2.2		c7	OCTET STRING	—		
A.34.4.3.2.3		c7	RDNSequence	—		
A.34.4.3.3	currentTime	o	GeneralizedTime	—		
A.34.4.3.4	deleteErrorInfo	m	ENUMERATED	2		—

Table A.35 — ROIV-m-LinkedReply-Delete (receiving)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.35.1	invokeID	m	INTEGER	—		
A.35.2	linked-ID	m	INTEGER	—		
A.35.3	operation-value	m	INTEGER	2		
A.35.4	LinkedReplyArgument	m	CHOICE	—		—
A.35.4.1	ProcessingFailure	m	SEQUENCE	—		—
A.35.4.1.1	managedObjectClass	m	CHOICE	—		—
A.35.4.1.1.1		m	OBJECT IDENTIFIER	—		
A.35.4.1.1.2		m	INTEGER	—		
A.35.4.1.2	managedObjectInstance	m	CHOICE	—		—
A.35.4.1.2.1		m	DistinguishedName	—		
A.35.4.1.2.2		m	OCTET STRING	—		
A.35.4.1.2.3		m	RDNSequence	—		
A.35.4.1.3	SpecificErrorInfo	m	SEQUENCE	—		
A.35.4.1.3.1	errorId	m	OBJECT IDENTIFIER	—		
A.35.4.1.3.2	errorInfo	m	ADB errorId	—		
A.35.4.2	DeleteResult	m	SEQUENCE	—		—
A.35.4.2.1	managedObjectClass	m	CHOICE	—		—
A.35.4.2.1.1		m	OBJECT IDENTIFIER	—		
A.35.4.2.1.2		m	INTEGER	—		
A.35.4.2.2	managedObjectInstance	m	CHOICE	—		—
A.35.4.2.2.1		m	DistinguishedName	—		
A.35.4.2.2.2		m	OCTET STRING	—		
A.35.4.2.2.3		m	RDNSequence	—		
A.35.4.2.3	currentTime	m	GeneralizedTime	—		—
A.35.4.3	DeleteError	m	SEQUENCE	—		—
A.35.4.3.1	managedObjectClass	m	CHOICE	—		—
A.35.4.3.1.1		m	OBJECT IDENTIFIER	—		
A.35.4.3.1.2		m	INTEGER	—		
A.35.4.3.2	managedObjectInstance	m	CHOICE	—		—
A.35.4.3.2.1		m	DistinguishedName	—		
A.35.4.3.2.2		m	OCTET STRING	—		
A.35.4.3.2.3		m	RDNSequence	—		
A.35.4.3.3	currentTime	m	GeneralizedTime	—		
A.35.4.3.4	deleteErrorInfo	m	ENUMERATED	2		—

Table A.36 — ROIV-m-LinkedReply-Get (sending)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.36.1	invokeID	m	INTEGER	—		
A.36.2	linked-ID	m	INTEGER	—		
A.36.3	operation-value	m	INTEGER	2		
A.36.4	LinkedReplyArgument	m	CHOICE	—		—
A.36.4.1	GetResult	m	SEQUENCE	—		—
A.36.4.1.1	managedObjectClass	m	CHOICE	—		—
A.36.4.1.1.1		c7	OBJECT IDENTIFIER	—		
A.36.4.1.1.2		c7	INTEGER	—		
A.36.4.1.2	managedObjectInstance	m	CHOICE	—		—
A.36.4.1.2.1		c7	DistinguishedName	—		
A.36.4.1.2.2		c7	OCTET STRING	—		
A.36.4.1.2.3		c7	RDNSequence	—		
A.36.4.1.3	currentTime	o	GeneralizedTime	—		
A.36.4.1.4	attributeList	m	SET OF SEQUENCE	—		—
A.36.4.1.4.1	attributeId	m	CHOICE	—		—
A.36.4.1.4.1.1		c7	OBJECT IDENTIFIER	—		
A.36.4.1.4.1.2		c7	INTEGER	—		
A.36.4.1.4.2	attributeValue	m	ADB attributeId	—		
A.36.4.2	GetListError	m	SEQUENCE	—		—
A.36.4.2.1	managedObjectClass	m	CHOICE	—		—
A.36.4.2.1.1		c7	OBJECT IDENTIFIER	—		
A.36.4.2.1.2		c7	INTEGER	—		
A.36.4.2.2	managedObjectInstance	m	CHOICE	—		—
A.36.4.2.2.1		c7	DistinguishedName	—		
A.36.4.2.2.2		c7	OCTET STRING	—		
A.36.4.2.2.3		c7	RDNSequence	—		
A.36.4.2.3	currentTime	o	GeneralizedTime	—		
A.36.4.2.4	getInfoList	m	SET OF CHOICE	—		—
A.36.4.2.4.1	AttributeIdError	m	SEQUENCE	—		—
A.36.4.2.4.1.1	errorStatus	m	ENUMERATED	2,5		
A.36.4.2.4.1.2	attributeId	m	CHOICE	—		—
A.36.4.2.4.1.2.1		c7	OBJECT IDENTIFIER	—		
A.36.4.2.4.1.2.2		c7	INTEGER	—		
A.36.4.2.4.2	Attribute	m	SEQUENCE	—		—
A.36.4.2.4.2.1	attributeId	m	CHOICE	—		—
A.36.4.2.4.2.1.1		c7	OBJECT IDENTIFIER	—		

Table A.36 — ROIV-m-LinkedReply-Get (sending) (continued)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.36.4.2.4.2.1.2		c7	INTEGER	—		
A.36.4.2.4.2.2	attributeValue	m	ADB attributeId	—		—
A.36.4.3	ProcessingFailure	m	SEQUENCE	—		—
A.36.4.3.1	managedObjectClass	m	CHOICE	—		—
A.36.4.3.1.1		c7	OBJECT IDENTIFIER	—		
A.36.4.3.1.2		c7	INTEGER	—		
A.36.4.3.2	managedObjectInstance	m	CHOICE	—		—
A.36.4.3.2.1		c7	DistinguishedName	—		
A.36.4.3.2.2		c7	OCTET STRING	—		
A.36.4.3.2.3		c7	RDNSequence	—		
A.36.4.3.3	SpecificErrorInfo	m	SEQUENCE	—		—
A.36.4.3.3.1	errorId	m	OBJECT IDENTIFIER	—		
A.36.4.3.3.2	errorInfo	m	ADB errorId	—		

Table A.37 — ROIV-m-LinkedReply-Get (receiving)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.37.1	invokeID	m	INTEGER	—		
A.37.2	linked-ID	m	INTEGER	—		
A.37.3	operation-value	m	INTEGER	2		
A.37.4	LinkedReplyArgument	m	CHOICE	—		—
A.37.4.1	GetResult	m	SEQUENCE	—		—
A.37.4.1.1	managedObjectClass	m	CHOICE	—		—
A.37.4.1.1.1		m	OBJECT IDENTIFIER	—		
A.37.4.1.1.2		m	INTEGER	—		
A.37.4.1.2	managedObjectInstance	m	CHOICE	—		—
A.37.4.1.2.1		m	DistinguishedName	—		
A.37.4.1.2.2		m	OCTET STRING	—		
A.37.4.1.2.3		m	RDNSequence	—		
A.37.4.1.3	currentTime	m	GeneralizedTime	—		
A.37.4.1.4	attributeList	m	SET OF SEQUENCE	—		—
A.37.4.1.4.1	attributeId	m	CHOICE	—		—
A.37.4.1.4.1.1		m	OBJECT IDENTIFIER	—		

Table A.37 — ROIV-m-LinkedReply-Get (receiving) (continued)

Index	Parameter name	Sts	Syntax	Value	Spt	TVR
A.37.4.1.4.1.2		m	INTEGER	—		
A.37.4.1.4.2	attributeValue	m	ADB attributeId	—		
A.37.4.2	GetListError	m	SEQUENCE	—		—
A.37.4.2.1	managedObjectClass	m	CHOICE	—		—
A.37.4.2.1.1		m	OBJECT IDENTIFIER	—		
A.37.4.2.1.2		m	INTEGER	—		
A.37.4.2.2	managedObjectInstance	m	CHOICE	—		—
A.37.4.2.2.1		m	DistinguishedName	—		
A.37.4.2.2.2		m	OCTET STRING	—		
A.37.4.2.2.3		m	RDNSequence	—		
A.37.4.2.3	currentTime	m	GeneralizedTime	—		
A.37.4.2.4	getInfoList	m	SET OF CHOICE	—		—
A.37.4.2.4.1	AttributeIdError	m	SEQUENCE	—		—
A.37.4.2.4.1.1	errorStatus	m	ENUMERATED	2,5		
A.37.4.2.4.1.2	attributeId	m	CHOICE	—		—
A.37.4.2.4.1.2.1		m	OBJECT IDENTIFIER	—		
A.37.4.2.4.1.2.2		m	INTEGER	—		
A.37.4.2.4.2	Attribute	m	SEQUENCE	—		—
A.37.4.2.4.2.1	attributeId	m	CHOICE	—		—
A.37.4.2.4.2.1.1		m	OBJECT IDENTIFIER	—		
A.37.4.2.4.2.1.2		m	INTEGER	—		
A.37.4.2.4.2.2	attributeValue	m	ADB attributeId	—		—
A.37.4.3	ProcessingFailure	m	SEQUENCE	—		—
A.37.4.3.1	managedObjectClass	m	CHOICE	—		—
A.37.4.3.1.1		m	OBJECT IDENTIFIER	—		
A.37.4.3.1.2		m	INTEGER	—		
A.37.4.3.2	managedObjectInstance	m	CHOICE	—		—
A.37.4.3.2.1		m	DistinguishedName	—		
A.37.4.3.2.2		m	OCTET STRING	—		
A.37.4.3.2.3		m	RDNSequence	—		
A.37.4.3.3	SpecificErrorInfo	m	SEQUENCE	—		—
A.37.4.3.3.1	errorId	m	OBJECT IDENTIFIER	—		
A.37.4.3.3.2	errorInfo	m	ADB errorId	—		