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Protocol Implementation Conformance Statement (PICS) for Isode Release 10.2

for the

Directory Access Protocol (DAP) 1993 Edition

Based on draft ISP Proforma Version 0.51

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Forward

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development on International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, government and non-governmental, in liason with ISO and IEC, also take part in the work.

In the field of information technology ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75% of the national bodies casting a vote.

This International Standard defines a Protocol Implementation Conformance Statement (PICS) for the 1993 edition of the ITU-T X.500 recommendations for the Directory Access Protocol (DAP).

Introduction

This Recommendation has been produced to facilitate the interconnection of information processing systems to provide directory services. The set of all such systems, together with the directory information which they hold, can be viewed as an integrated whole, called the ***Directory.*** The information held by the Directory, collectively known as the Directory Information Base (DIB), is typically used to facilitate communication between, with or about objects such as application entities, people, terminals and distribution lists.

The Directory plays a significant role in Open Systems Interconnection, whose aim is to allow, with a minimum of technical agreement outside of the interconnection standards themselves, the interconnection of information processing systems:

- from different manufacturers;
- under different management;
- of different levels of complexity; and
- of different ages.

To evaluate conformance of a particular implementation, it is necessary to have a statement of which capabilities and options have been implemented for a given OSI protocol. Such statement is called a Protocol Implementation Conformance Statement (PICS).

Annex A of this Recommendation specifies the PICS proforma for the Directory Access Protocol as defined in ISO/IEC 9594 : 1993(E) standard.

Information Technology - Open Systems Interconnection Protocol Implementation Conformance Statement (PICS) Proforma for the Directory Access Protocol 1993 Edition

1 Scope

This Documentation provides the PICS proforma for the Directory Access Protocol (DAP) specified in the ISO/IEC 9594 : 1993(E) standard. This PICS Proforma is in compliance with the relevant requirements, and in accordance with the relevant guidance for PICS Proforma, given in ISO/IEC 9646-7.

The supplier of a DAP implementation that is claimed to conform to ISO/IEC 9594 (1993 E) standard is required to complete a copy of the PICS proforma provided in Annex A and is required to provide the information necessary to identify both the supplier and the implementation.

The scope of this Documentation is the specification of the conformance statements for a Directory User Agent (DUA) and a Directory System Agent (DSA).

2 Normative References

The following Recommendations and International Standards contain provisions which, through reference in this text, constitute provisions of this Recommendation | International Standard part. 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 Telecommunications Standardization Bureau of the ITU maintains a list of currently valid ITU-T Recommendations.

ITU-T Recommendation X.501 (1993) | ISO/IEC 9594-2:1993, *Information Technology -- Open Systems Interconnection -- The Directory: Models.*
ITU-T Recommendation X.511 (1993) | ISO/IEC 9594-3:1993, *Information Technology -- Open Systems Interconnection -- The Directory: Abstract Service Definition.*
ITU-T Recommendation X.518 (1993) | ISO/IEC 9594-4:1993, *Information Technology -- Open Systems Interconnection -- The Directory: Procedures for Distributed Operations.*
ITU-T Recommendation X.519 (1993) | ISO/IEC 9594-5:1993, *Information Technology -- Open Systems Interconnection -- The Directory: Protocol Specifications.*
ITU-T Recommendation X.520 (1993) | ISO/IEC 9594-6:1993, *Information Technology -- Open Systems Interconnection -- The Directory: Selected Attribute Types.*
ITU-T Recommendation X.521 (1993) | ISO/IEC 9594-7:1993, *Information Technology -- Open Systems Interconnection -- The Directory: Selected Object Classes.*
ITU-T Recommendation X.509 (1993) | ISO/IEC 9594-8:1993, *Information Technology -- Open Systems Interconnection -- The Directory: Authentication Framework.*
ITU-T Recommendation X.525 (1993) | ISO/IEC 9594-9:1993, *Information Technology -- Open Systems Interconnection -- The Directory: Replication.*
ISO/IEC 9646-1:1994, *Information Technology -- Open Systems Interconnection -- Conformance testing methodology and framework - Part 1: General Concepts.*
ISO/IEC DIS 9646-7:1994, *Information Technology -- Open Systems Interconnection -- Conformance testing methodology and framework - Part 7: Implementation conformance statements -- Requirements and guidance on ICS and ICS proformas.*

3 Definitions

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

3.1 Directory definitions

This Recommendation uses terms defined in ISO/IEC 9594 (1993) standards.

3.2 Conformance definitions

The following terms defined in ISO/IEC 9646:

a) Protocol Implementation Conformance Statement (PICS);

b) PICS Proforma;

c) conformance;

d) mandatory requirement;

e) optional requirement;

f) conditional requirement.

3.3 Basic directory conformance definitions

The following terms are defined in this Recommendation | International Standard:

a) centralized DSA: a DSA that is not capable of holding knowledge information about other DSAs. Such a DSA is not capable of returning referrals.

b) cooperating DSA: a DSA that is capable of holding knowledge references. Such a DSA is capable of returning referrals, and may also be a chaining DSA.

c) chaining DSA: a cooperating DSA that is capable of invoking chained operations, functioning as a DSP invoker. A chaining DSA is also a cooperating DSA.

4 Abbreviations

For the purposes of this Protocol Implementation Conformance Statement, the following abbreviations apply.

ACI	Access Control Information
DAP	Directory Access Protocol
DISP	Directory Information Shadowing Protocol
DOP	Directory Operational Binding Management Protocol
DSA	Directory System Agent
DSP	Directory System Protocol
DUA	Directory User Agent
NSSR	Non-Specific Subordinate Reference
NSAP	Network Service Access Point
PICS	Protocol Implementation Conformance Statement
RDN	Relative Distinguished Name
ROSE	Remote Operations Service Element

5 Conventions

With minor exceptions this Directory Specification has been prepared according to the "Presentation of ITU-TS/ISO/IEC common text" guidelines in the Guide for ITU-TS and ISO/IEC JTC 1 Cooperation, March 1993.

The term "Directory Specification" (as in ‘this Directory Specification’) shall be taken to mean ITU-T Rec. X.500 ISO/IEC 9594-1.

This Directory Specification uses the term "1988 edition systems" to refer to systems conforming to the previous (1988) edition of the Directory Specifications, i.e., the 1988 edition of the series of CCITT X.500 Recommendations and the ISO/IEC 9594:1990 edition. Systems conforming to the current Directory Specifications are referred to as "1993 edition systems".

6 Conformance

A conforming PICS proforma shall be technically equivalent to ISO/IEC 9594 (1993 E) and shall preserve the numbering and ordering of the items in ISO/IEC 9594 (1993 E).

A PICS which conforms to this Documentation shall:

a) describe an implementation which conforms to ISO/IEC 9594 (1993 E);

b) be a conforming PICS proforma, which has been completed in accordance with the instructions for completion given in clause A.4;

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

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ANNEX A

Directory Access Protocol -
Protocol Implementation Conformance Statement (PICS) Proforma

A.1 *Identification of the implementation*

A.1.1 *Identification of PICS*

Item No.	Question	Response
1	Date of Statement (DD/MM/YY)	08/01/2004
2	PICS Serial Number	0.51
3	System Conformance Statement Cross Reference	—

A.1.2 *Identification of the implementation and/or system*

Item No.	Question	Response
1	Implementation Name	Isode X.500(93) Directory Server
2	Version Number	R10.2v0
3	Machine Name	Sun Microsystems SPARCstation series
4	Machine Version Number	UltraSparc
5	Operating System Name	Solaris
6	Operating System Version No.	8
7	Special Configuration	Note 1 — Cooperating, Chaining, First-level DSA
8	Other information	

Note 1 - Please enter one or more of the following:

- DUA for connection to centralized DSAs;
- DUA for connection to cooperating DSAs;
- Centralized DSAs;
- Cooperating DSAs;
- First-level DSAs;

A.1.3 ***Identification of the system supplier and/or test laboratory client***

Item No.	Question	Response
1	Organization Name	Isode Limited
2	Contact Name(s)	Steve Kille
3	Address	5 Castle Business Village, 36 Station Road, Hampton, England TW12 2BX, United Kingdom
4	Telephone Number	+44 20 8783 0203
5	Telex Number	N/A
6	Fax Number	+44 20 8783 9292
7	E-Mail Address	steve.kille@isode.com
8	Other information	http://www.isode.com/

A.2 ***Identification of the protocol***

Item No.	Question	Response
1	Title, Reference, No., publication date of the protocol standard	X.518 (1993E) | ISO/IEC 9594-4
2	Protocol Version Number	1
3	Implemented Addenda	none
4	Implementor's Guide Version Number	8.0
5	Implemented Defect Reports (Reference No.)	none

A.3 *Global statement of conformance*

If the supplied implementation is a DSA implementation, A.3.1 is required to be answered by the supplier.
If the supplied implementation is a DUA implementation, A.3.2 is required to be answered by the supplier.

Answering "No" to A.3.1.1 or A.3.2.1 indicates non-conformance to the protocol specification. Non supported mandatory capabilities are to be identified in the PICS, with an explanation of why the implementation is non-conformant. Such information shall be provided in section A.7 "Other Information".

A.3.1 *DSA Implementation and/or system*

Item No.	Question		Status	Support	Predicate Name
1	Are all mandatory general capabilities for the DSA implemented?		m	N	
2	Are all mandatory First-level DSA requirements (ISO/IEC 9594-4) implemented?		c0	Y	
3	Are minimum knowledge requirements (ISO/IEC 9594-2) implemented?		m	Y	
4	Other Supported Reference(s)	Cross Reference	o	Y	
		Non-Specific Subordinate Reference	o	N	
		Immediate Superior Reference	o	N	
5	Supported Security Level(s)	none	o.1	Y	
		simple	o.1	Y	Simple-DSA
		strong	o.1	Y	Strong-DSA
		external	i	N	
6	Is asynchronous (ROSE class 2) mode of operation supported?		m	Y	
7	Does the DSA follow the rules of extensibility as defined in section 7.3 of ISO/IEC 9594-5?		m	Y	
8	Is the alias mechanism implemented?		m	Y	
9	Does the DSA support the directoryAccessAC application-context?		m	Y	
10	Supported Access Controls	Simplified Access Control	o	Y	SAC-DSA
		Basic Access control	o	Y	BAC-DSA
		Other	i	N	
11	Is the DSA capable of supporting collective attributes?		o	Y	Coll-Attr
12	Is the DSA capable of supporting hierarchical attributes (Subtypes)?		o	Y	Hier-Attr
13	Is the DSA capable of supporting auxiliary object classes?		o	Y	
14	Is the DSA capable of supporting the subschema for its portion of the DIT?		o	Y	

o.1 The DSA must support at least one security level.

c0: If the special configuration in item A.1.2/7 is First-level DSA then m else i

A.3.2 *DUA Implementation and/or system*

DSA implementation only.

A.4 *Instruction for completing the PICS Proforma*

A.4.1 *Definition of support*

A capability is said to be supported if the Implementation Under Test (IUT) is able:

- to generate the corresponding operation parameters (either automatically or because the end user requires that capability explicitly);
- to interpret, handle and when required make available to the end user the corresponding error or result.

A protocol element is said to be supported for a sending implementation if it is able to generate it under some circumstances (either automatically or because the end user requires relevant services explicitly).

A protocol element is said to be supported for a receiving implementation if it is correctly interpreted and handled and also, when appropriate, made available to the end user.

An object class is said to be supported if the IUT is able to construct entries of that object class. Support of an object class also requires support of the object identifier(s) of its superclass(es) of that object class.

An attribute type is said to be supported by a DUA implementation if the DUA supports those aspects of the attribute syntax which are pertinent to encoding, decoding or both of the attribute.

An attribute type is said to be supported by a DSA implementation if the DSA supports a subset or all aspects of the attribute syntax of the attribute and stores the attribute value(s) where appropriate.

A.4.2 *Status column*

This column indicates the level of support required for conformance to the ISO/IEC standard.
The values are as follows:

m	mandatory support is required;
o	optional support is permitted for conformance to the standard. If implemented it must conform to the specifications and restrictions contained in the standard. These restrictions may affect the optionality of other items;
c	the item is conditional (support of the capability is subject to a predicate);
c: m	the item is mandatory if the predicate is true, optional otherwise;
-	the item is not applicable;
i	the item is outside the scope of this PICS.

In the PICS proforma tables, every leading item marked 'm' shall be supported by the IUT. Sub-items marked 'm' shall be supported if the corresponding leading item is supported by the IUT.

The Status (DUA) indicates that the implementation under the IUT is a DUA and the Status (DSA) indicates that the implementation under the IUT is a DSA.

A.4.3 *Support column*

This column shall be completed by the supplier or implementor, when either a [ ] or a ( ), to indicate the level of implementation of each item. The proforma has designed such that values required in [ ] are:

Y yes the item has been implemented;
N no, the item has not been implemented;
- the item is not applicable;

All entries within the PICS proforma shall be made in ink. Alterations to such entries shall be made by crossing out, not erasing nor making the original entry illegible, and writing the new entry alongside. All such alterations to records shall be initialized by the staff making them.

A.4.4 Note column

This column indicates the following:

notexx - refers to Note xx;
d(xx) - a default value xx within ( ) is defined in the Standard. When absent in the PDU, both sender and receiver shall interpret it as having the default value specified in the standard.

A.4.5 Predicate column

The item number contained in the predicate column, if any, means that the status in the "Status" column applies only when the PICS states that one or more features identified by the item is supported.

A.4.6 Item reference numbers

Each line within the PICS proforma which requires implementation details to be entered is number at the left hand edge of the line. This numbering is included as a mean of uniquely identifying all possible implementation details within the PICS proforma. This referencing is used both inside the PICS proforma, and for references from other test specification documents.

The means of referencing individual responses is done by the following sequence:

- a reference to the smallest enclosing the relevant item;
- a solidus character, '/';
- the reference number of the row in which the response appears;
- if, and only if, more than one response occurs in the row identified by the reference number, then each possible entry is implicitly labeled a, b, c, etc. from left to right, and this letter is appended to the sequence.

An example of the use of this notation would be A.5.3.1.1/2, which refers to the support for credentials in a DirectoryBind protocol data unit.

A.5 *Capabilities and options*

This part of the PICS proforma identifies the supported application context, the PDUs and operations. Finally, the operation arguments and PDU parameters are identified.

A.5.1 *Supported application context*

The only application context supported by this PICS proforma is Directory Access application context.

A.5.2 *Operations and extensibility*

A.5.2.1 *Operations*

Ref. X.511

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate Name	Note	Support (DSA)
1	DirectoryBind	m	m	Bind		Y
2	DirectoryUnbind	m	m	Unbind		Y
3	Read	o	m	Read		Y
4	Compare	o	m	Compare		Y
5	Abandon	o	m	Abandon	Note 2	Y
6	List	o	m	List		Y
7	Search	o	m	Search		Y
8	AddEntry	o	m	AddEntry		Y
9	RemoveEntry	o	m	RemoveEntry		Y
10	ModifyEntry	o	m	ModifyEntry		Y
11	ModifyDN	o	m	ModifyDN		Y

Note 2 - The Abandon operation can only be supported if the asynchronous mode (ROSE class 2) of operation is supported in Items A.3.1/6 or A.3.2/4 for DSA and DUA respectively.

A.5.2.2 *Extensibility*

This table defines a number of extensions which are available in the 1993 edition of the Directory. The supplier of the implementation shall indicate in the following table, which extensions for which conformance is claimed.

Ref. X.511, clause 7.3.1

Item No.	Extension	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	subentries	o	o			-	Y
2	copyShallDo	o	o			-	Y
3	attributeSizeLimit	o	o			-	N
4	extraAttributes	o	o			-	Y
5	modifyRightsRequest	o	o			-	Y
6	pagedResultsRequest	o	o			-	Y
7	matchValuesOnly	o	o			-	Y
8	extendedFilter	o	o			-	N
9	targetSystem	o	o			-	N
10	useAliasOnUpdate	o	o			-	Y
11	newSuperior	o	o			-	N

A.5.3 *Protocol elements*

A.5.3.1 *DirectoryBind Elements* Ref. X.511, clause 8.1

A.5.3.1.1 *Directory Bind Arguments* Ref. X.511, clause 8.1.2

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	DirectoryBindArg	m	m			-	Y
2	credentials	c1	c1			-	Y
3	simple	c: m	c: m	Simple-DUA, Simple-DSA		-	Y
4	name	m	m			-	Y
5	validity	c: m	c: m	A.5.3.1.1/8		-	N
6	password	o	o			-	Y
7	unprotected	o.3	o.3			-	Y
8	protected	o.3	o.3			-	N
9	strong	c: m	c: m	Strong-DUA, Strong-DSA		-	Y
10	certification-path	o	o		Note 3	-	Y
11	bind-token SIGNED	m	m			-	Y
12	algorithm	m	m			-	Y
13	name	m	m			-	Y
14	time	m	m			-	Y
15	random	m	m			-	Y
16	name	o	o			-	N
17	externalProcedure	i	i			-	N
18	versions	m	m		d(v1)	-	Y

c1: If [Simple-DSA or Simple-DUA or Strong-DUA or Strong-DSA] then support of this feature is m else support is o.

o.3: The password, for the DUA and DSA, may be unprotected and/or protected as described in clause 5 of ISO/IEC 9594-8.

Note 3: Reference Table A.5.3.23.

A.5.3.1.2 ***Directory Bind Result*** Ref. X.511, clause 8.1.3

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	DirectoryBindResult	m	m			-	Y
2	credentials	c1	c1			-	Y
3	simple	c: m	c: m	Simple-DUA, Simple-DSA		-	Y
4	name	m	m			-	Y
5	validity	c: m	c: m	A.5.3.1.2/8		-	N
6	password	o	o			-	Y
7	unprotected	o.3	o.3			-	Y
8	protected	o.3	o.3			-	N
9	strong	c: m	c: m	Strong-DUA, Strong-DSA		-	Y
10	certification-path	o	o		Note 3	-	Y
11	bind-token SIGNED	m	m			-	Y
12	algorithm	m	m			-	Y
13	name	m	m			-	Y
14	time	m	m			-	Y
15	random	m	m			-	Y
16	name	o	o			-	N
17	externalProcedure	i	i			-	N
18	versions	m	m		d(v1)	-	Y

c1: If [Simple-DUA or Simple-DSA or Strong-DUA or Strong-DSA] then support of this feature is m else support is o.

o.3: The password, for the DUA and DSA, may be unprotected and/or protected as described in clause 5 of ISO/IEC 9594-8.

Note 3: Reference Table A.5.3.23.

A.5.3.1.3 ***Directory Bind Error*** Ref. X.511, clause 8.1.4

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	DirectoryBindError	m	m			-	Y
2	versions	m	m		d(v1)	-	Y
3	ServiceError	m	m			-	Y
4	SecurityError	m	m			-	Y

A.5.3.2 ***Directory Unbind Elements*** Ref. X.511, clause 8.2

DirectoryUnbind has no arguments (see Section 8.2 of ISO/IEC 9594-3)

A.5.3.3 ***Read Elements*** Ref. X.511, clause 9.1

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	read	c: m	c: m	Read		-	Y
2	ReadArgument	m	m			-	Y
3	SIGNED ReadArgument	o	o			-	N
4	object	m	m			-	Y
5	selection	m	m		d({})	-	Y
6	modifyRightsRequest	c: m	c: m	A.5.2.2/5	d(false)	-	Y
7	CommonArguments	o	m			-	Y
8	ReadResult	m	m			-	Y
9	SIGNED ReadResult	o	o			-	N
10	entry	m	m			-	Y
11	modifyRights	c: m	c: m	A.5.3.3/6		-	Y
12	CommonResults	m	m			-	Y

A.5.3.4 ***Compare Elements*** Ref. X.511, clause 9.2

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	compare	c: m	c: m	Compare		-	Y
2	CompareArgument	m	m			-	Y
3	SIGNED CompareArgument	o	o			-	N
4	object	m	m			-	Y
5	purported	m	m			-	Y
6	CommonArguments	o	m			-	Y
7	CompareResult	m	m			-	Y
8	SIGNED CompareResult	o	o			-	N
9	name	m	m			-	Y
10	matched	m	m			-	Y
11	fromEntry	m	m		d(true)	-	Y
12	matchedSubtype	m	c: m	Hier-Attr		-	Y
13	CommonResults	m	m			-	Y

A.5.3.5 ***Abandon Elements*** Ref. X.511, clause 9.3

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predictate	Note	Support (DUA)	Support (DSA)
1	abandon	c: m	c: m	Abandon		-	Y
2	AbandonArgument	m	m			-	Y
3	invokeID	m	m			-	Y
4	AbandonResult	m	m			-	Y

A.5.3.6 ***List Elements*** Ref. X.511 , clause 10.1

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	list	c: m	c: m	List		-	Y
2	ListArgument	m	m			-	Y
3	SIGNED ListArgument	o	o			-	N
4	object	m	m			-	Y
5	pagedResults	c: m	c: m	A.5.2.2/6		-	N
6	CommonArguments	o	m			-	Y
7	ListResult	m	m			-	Y
8	SIGNED ListResult	o	o			-	N
9	listInfo	m	m			-	Y
10	name	o	m			-	Y
11	subordinates	m	m			-	Y
12	rdn	m	m			-	Y
13	aliasEntry	m	m		d(false)	-	Y
14	fromEntry	m	m		d(true)	-	Y
15	PartialOutcomeQualifier	o	m			-	Y
16	limitProblem	o	o			-	Y
17	unexplored	c2	c2			-	Y
18	unavailableCriticalExt	m	m		d(false)	-	Y
19	unknownErrors	o	o			-	N
20	queryReference	c: m	c: m	A.5.3.6/5		-	N
21	CommonResults	m	m			-	Y
22	uncorrelatedListInfo	c2	c2			-	Y

c2: If item A.1.2/7 indicates that the DSA is a "Cooperating" DSA or that the DUA connects to "Cooperating" DSAs then support of this feature is m else support is o.

A.5.3.7 ***Search Elements*** Ref. X.511, clause 10.2

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	search	c: m	c: m	Search		-	Y
2	SearchArgument	m	m			-	Y
3	SIGNED SearchArgument	o	o			-	N
4	baseObject	m	m			-	Y
5	subset	m	m		d(0)	-	Y
6	filter	o	m		d(and{})	-	Y
7	searchAlias	m	m		d(true)	-	Y
8	selection	o	m		d({})	-	Y
9	pagedResults	c: m	c: m	A.5.2.2/6		-	Y
10	matchedValuesOnly	c: m	c: m	A.5.2.2/7	d(false)	-	N
11	extendedFilter	c: m	c: m	A.5.2.2/8		-	N
12	CommonArguments	o	m			-	Y
13	SearchResult	m	m			-	Y
14	SIGNED SearchResult	o	o			-	N
15	searchInfo	m	m			-	Y
16	name	o	m			-	Y
17	entries	m	m			-	Y
18	PartialOutcomeQualifier	o	m			-	Y
19	limitProblem	o	o			-	Y
20	unexplored	c2	c2			-	Y
21	unavailableCriticalExt	m	m		d(false)	-	Y
22	unknownErrors	o	o			-	N
23	queryReference	c: m	c: m	A.5.3.7/9		-	N
24	CommonResults	m	m			-	Y
25	uncorrelatedSearchInfo	c2	c2			-	Y

c2: If item A.1.2/7 is indicates that the DSA is a "Cooperating" DSA or that the DUA connects to "Cooperating" DSAs then support of this feature is m else support is o.

A.5.3.8 ***Add Entry Elements*** Ref. X.511, clause 11.1

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	addEntry	c: m	c: m	AddEntry		-	Y
2	AddEntryArgument	m	m			-	Y
3	SIGNED AddEntryArgument	o	o			-	N
4	object	m	m			-	Y
5	entry	m	m			-	Y
6	targetSystem	c: m	c: m	A.5.2.2/9		-	N
7	CommonArguments	o	m			-	Y
8	AddEntryResult	m	m			-	Y

A.5.3.9 ***Remove Entry Elements*** Ref. X.511, clause 11.2

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	removeEntry	c: m	c: m	RemoveEntry		-	Y
2	RemoveEntryArgument	m	m			-	Y
3	SIGNED RemoveEntryArgument	o	o			-	N
4	object	m	m			-	Y
5	CommonArguments	o	m			-	Y
6	RemoveEntryResult	m	m		NULL	-	Y

A.5.3.10 ***Modify Entry Elements*** Ref. X.511, clause 11.3

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	modifyEntry	c: m	c: m	ModifyEntry		-	Y
2	ModifyEntryArgument	m	m			-	Y
3	SIGNED ModifyEntryArgument	o	o			-	N
4	object	m	m			-	Y
5	changes	m	m			-	Y
6	addAttribute	m	m			-	Y
7	removeAttribute	m	m			-	Y
8	addValues	m	m			-	Y
9	removeValues	m	m			-	Y
10	CommonArguments	o	m			-	Y
11	ModifyEntryResult	m	m			-	Y

A.5.3.11 ***ModifyDN Elements*** Ref. X.511, clause 11.4

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	modifyDN	c: m	c: m	ModifyDN	**Note 4 & 5**	-	Y
2	ModifyDNArgument	m	m			-	Y
3	SIGNED ModifyDNArgument	o	o			-	N
4	object	m	m			-	Y
5	newRDN	m	m			-	Y
6	deleteOldRDN	m	m		d(false)	-	Y
7	newSuperior	c: m	c: m	A.5.2.2/11		-	N
8	CommonArguments	o	m			-	Y
9	ModifyDNResult	m	m			-	Y

Note 4 : 1988-edition systems may use the operation only to change the Relative Distinguished Name of a leaf entry.

Note 5: R10.2 provides 1988 equivalent functionality for modifying leaf nodes only.

A.5.3.12 ***Errors and Parameters*** Ref. X.511, clause 12

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	Abandoned	c: m	m	Abandon		-	Y
2	AbandonFailed	c: m	m	Abandon		-	Y
3	problem	m	m			-	Y
4	operation	m	m			-	Y
5	AttributeError	c3	m			-	Y
6	object	m	m			-	Y
7	problems	m	m			-	Y
8	problem	m	m			-	Y
9	type	m	m			-	Y
10	value	m	m			-	Y
11	NameError	c4	m			-	Y
12	problem	m	m			-	Y
13	matched	m	m			-	Y
14	Referral	c4	m			-	Y
15	candidate	m	m			-	Y
16	SecurityError	c4	m			-	Y
17	problem	m	m			-	Y
18	ServiceError	c4	m			-	Y
19	problem	m	m			-	Y
20	UpdateError	c5	m			-	Y
21	problem	m	m			-	Y

c3: If at least one of the following operations are supported then support of this feature is m; Read, Compare, Search, AddEntry, ModifyEntry, else support is o.

c4: If at least one of the following operations are supported then support of this feature is m; Read, Compare, List, Search, AddEntry, RemoveEntry, ModifyEntry, ModifyDN else support is o.

c5: If at least one of the following operations are supported then support of this feature is m; AddEntry, RemoveEntry, ModifyEntry, ModifyDN, else support is o.

A.5.3.13 ***Common Arguments Elements*** Ref. X.511, clause 7.3

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	ServiceControls	o	m		d({})	-	Y
2	SecurityParameters	o	c: m	Strong-DSA		-	Y
3	requestor	o	o		Note 5	-	Y
4	OperationProgress	o	m			-	Y
5	nameResolutionPhase	o	m		d(notStarted)	-	Y
6	nextRDNToBeResolved	o	m			-	Y
7	aliasedRDNs	o	o		Note 6	-	Y
8	criticalExtensions	m	m			-	Y
9	referenceType	o	m			-	Y
10	entryOnly	o	m		d(true)	-	Y
11	exclusions	o	m			-	Y
12	nameResolveOnMaster	o	m		d(false)	-	Y

Note 5: This parameter may be ignored unless the request is signed.
Note 6: This parameter is provided for compatibility with the 1988 edition of the Directory. DUAs (and DSAs) implemented according to later editions shall always omit this parameter.

A.5.3.14 ***Common Results Elements*** Ref. X.511, clause 7.4

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	SecurityParameters	c6	c7			-	N
2	performer	m	m			-	Y
3	aliasedDereferenced	m	m		d(false)	-	Y

c6 : if [Strong-DUA] then m else o.
c7: if [Strong-DSA] then m else o.

A.5.3.15 ***Service Controls*** Ref. X.511, clause 7.5

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	ServiceControls	c: m	m	A.5.3.13/1		-	Y
2	options	o	m		d({})	-	Y
3	priority	o	m		d(medium)	-	Y
4	timeLimit	o	m			-	Y
5	sizeLimit	o	m			-	Y
6	scopeOfReferral	o	c2			-	Y
7	attributeSizeLimit	c: m	c: m	A.5.2.2/3		-	N

c2: If item A.1.2/7 indicates that the DSA is a "Cooperating" DSA or that the DUA connects to "Cooperating" DSAs then support of this feature is m else support is o

A.5.3.16 ***Entry Information Selection*** Ref. X.511, clause 7.6

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	EntryInformationSelection	o	m			-	Y
2	attributes	o	m		d(allUserAttributes)	-	Y
3	allUserAttributes	o	m			-	Y
4	select	o	m			-	Y
5	infoTypes	o	m		d(attributeTypesAnd Values)	-	Y
6	attributeTypesOnly	o	m			-	Y
7	AttributeTypesAndValues	o	m			-	Y
8	extraAttributes	o	m			-	Y
9	allOperationalAttributes	o	m			-	Y
10	select	o	m			-	Y

A.5.3.17 ***Entry Information*** Ref. X.511, clause 7.7

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	EntryInformation	m	m			-	Y
2	name	m	m			-	Y
3	fromEntry	m	m		d(true)	-	Y
4	Information	m	m			-	Y
5	AttributeType	m	m			-	Y
6	Attribute	m	m			-	Y
7	incompleteEntry	m	m		d(false)	-	Y

A.5.3.18 ***Filter Elements*** Ref. X.511, clause 7.8

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	item	o	m			-	Y
2	and	o	m			-	Y
3	or	o	m			-	Y
4	not	o	m			-	Y

A.5.3.19 ***Filter Item Elements*** Ref. X.511, clause 7.8.2

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	equality	o	m			-	Y
2	substrings	o	m			-	Y
3	type	o	m			-	Y
4	strings	o	m			-	Y
5	intial	o	m			-	Y
6	any	o	m			-	Y
7	final	o	m			-	Y
8	greaterOrEqual	o	m			-	Y
9	lessOrEqual	o	m			-	Y
10	present	o	m			-	Y
11	approximateMatch	o	m			-	Y
12	extensibleMatch	o	m			-	N
13	matchingRule	o	m			-	N
14	type	o	m			-	N
15	matchValue	o	m			-	N
16	dnAttributes	o	m		d(false)	-	N

A.5.3.20 ***Paged Results*** Ref. X.511, clause 7.9

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	PagedResultsRequest	c: m	c: m	A.5.2.2/6		-	Y
2	newRequest	o	o			-	Y
.3	pageSize	o	o			-	Y
4	sortkeys	o	o			-	N
5	type	o	o			-	N
6	orderingRule	o	o			-	N
7	reverse	o	o		d(false)	-	N
8	unmerged	o	o		d(false)	-	Y
9	queryReference	o	o			-	Y

A.5.3.21 ***Continuation Reference*** Ref. X.518, clause 10.10

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	ContinuationReference	c2	c2			-	Y
2	targetObject	o	m			-	Y
3	alaisedRDNs	o	m			-	Y
4	operationProgress	o	m			-	Y
5	nameResolutionPhase	o	m			-	Y
6	nextRDNToBeResolved	o	m			-	Y
7	rdnsResolved	o	m			-	Y
8	referenceType	o	m			-	Y
9	accessPoints	o	m			-	Y
10	MasterOrShadowAccessPoint	o	m			-	Y
11	category	o	m			-	Y
12	AccessPoint	o	m			-	Y
13	ae-title	m	m			-	Y
14	address	m	m			-	Y
15	pSelector	m	m			-	Y
16	sSelector	m	m			-	Y
17	tSelector	m	m			-	Y
18	nSelector	m	m			-	Y
19	protocolInformation	o	o			-	N
20	entryOnly	m	m		d(false)	-	Y
21	exclusions	o	m			-	Y
22	returnToDUA	m	m		d(false)	-	Y
23	nameResolveOnMaster	m	m		d(false)	-	Y

c2: If item A.1.2/7 is indicates that the DSA is a "Cooperating" DSA or that the DUA connects to "Cooperating" DSAs then support of this feature is m else support is o.

A.5.3.22 ***Security Parameters*** Ref. X.511, clause 7.10

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	certification-path	c8	c8		Note 3	-	Y
2	name	o	o			-	Y
3	time	c8	m			-	N
4	random	c8	m			-	N
5	target	o	o			-	N

c8: If the argument or result is to be signed then support of this parameter is m else support is o.

Note 3: Reference Table A.5.3.23.

A.5.3.23 ***CertificationPath*** Ref. X.509, clause 8

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	CertificationPath	c9	c9			-	Y
2	Certificate	m	m			-	Y
3	version	m	m		d(v1)	-	Y
4	serialNumber	m	m			-	Y
5	signature	m	m			-	Y
6	issuer	m	m			-	Y
7	validity	m	m			-	Y
8	subject	m	m			-	Y
9	subjectPublicKeyInfo	m	m			-	Y
10	issuerUniqueIdentifier	o	o		Note 7	-	N
11	subjectUniqueIdentifier	o	o		Note 7	-	N
12	CertificatePair	o	o			-	Y
13	forward	o	o			-	Y
14	reverse	o	o			-	N

c9 : If [A.5.3.1.1/10 or A.5.3.1.2/10 or A.5.3.22/1] then support is m else support is o.

Note 7: If present, version must be v2.

A.5.3.24 *Access Control* Ref X.501, clause 16

A.5.3.24.1 *Access Control Information* Ref. X.501, clause16.4

Item No.		Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	ACIItem	c10	c16			-	Y
2	identificationTag	m	m			-	Y
3	precedence	m	m			-	Y
4	authenticationLevel	m	m			-	Y
5	basicLevels	m	m			-	Y
6	level	m	m			-	Y
7	localQualifier	o	o			-	N
8	other	i	i			-	N
9	itemOrUserFirst	m	m			-	Y
10	itemFirst	m	m			-	Y
11	protectedItems	m	m			-	Y
12	itemPermissions	m	m			-	Y
13	precedence	o	o		d(A.5.3.24.1/3)	-	Y
14	userClasses	m	m			-	Y
15	grantsAndDenials	m	m			-	Y
16	userFirst	m	m			-	Y
17	userClasses	m	m			-	Y
18	userPermissions	m	m			-	Y
19	precedence	o	o		d(A.5.3.24.1/3)	-	Y
20	protectedItems	m	m			-	Y
21	grantsAndDenials	m	m			-	Y

c10: If [SAC-DUA or BAC-DUA] then m else i.
c16: If [SAC-DSA or BAC-DSA] then m else i.

A.5.3.24.2 ***Protected Items*** Ref. X.501, clause 16.4.2.4a

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	ProtectedItems	c: m	c: m	A.5.3.24.1/11 or A.5.3.24.1/20		-	Y
2	entry	o	o			-	Y
3	allUserAttributesTypes	o	o			-	Y
4	attributeType	o	o			-	Y
5	allAttributeValues	o	o			-	Y
6	allUserAttributeTypes&Values	o	o			-	Y
7	attributeValue	o	o			-	Y
8	selfValue	o	o			-	Y

A.5.3.24.3 ***UserClasses*** Ref. X.501, clause 16.4.2.4b

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	UserClasses	c: m	c: m	A.5.3.24.1/14 or A.5.3.24.1/17		-	Y
2	allUsers	o	o			-	Y
3	thisEntry	o	o			-	Y
4	name	o	o			-	Y
5	userGroup	o	o			-	Y
6	subtree	o	o			-	Y

A.5.3.25 ***Subtrees*** Ref. X.501, clause11.3

Item No.	Protocol Element	Status (DUA)	Status (DSA)	Predicate	Note	Support (DUA)	Support (DSA)
1	SubtreeSpecification	c: m	c: m	A.5.2.2/1		-	Y
2	base	m	m		d({})	-	Y
3	ChopSpecification	o	o			-	Y
4	specificExclusions	m	m			-	Y
5	chopBefore	m	m			-	Y
6	chopAfter	o	o			-	Y
7	minimum	m	m		d(0)	-	Y
8	maximum	o	o			-	Y
9	specificationFilter	o	o			-	N
10	item	m	m			-	N
11	and	m	m			-	N
12	or	m	m			-	N
13	not	m	m			-	N

A.6 *Directory schema*

A.6.1 *Supported object classes* Ref. X.521

A.6.1.1 *Standard Object Classes*

The supplier of the DSA implementation shall indicate, in the table below, the selected object classes defined in ISO/IEC 9594-7 for which conformance is claimed. The supplier of the DUA implementation need not complete the following table:

Item No.	Object class	Status	Note	Support
1	top	m		Y
2	alias	m		Y
3	country	o		Y
4	locality	o		Y
5	organization	o		Y
6	organizational Unit	o		Y
7	person	o		Y
8	organizationalPerson	o		Y
9	organizationalRole	o		Y
10	groupOfNames	o		Y
11	groupOfUniqueNames	o		Y
12	residentialPerson	o		Y
13	applicationProcess	o		Y
14	applicationEntity	o		Y
15	dSA	o		Y
16	device	o		Y
17	strongAuthenticationUser	o		Y
18	certificationAuthority	o		Y

A.6.1.2 *Other Supported object classes*

The supplier of the DSA implementation is required to list any other object classes provided for which conformance is claimed in the following table:

Index	Supported object classes
	COSINE and RFC 1274 object classes MHS defined object classes MHS-DS defined object classes

A.6.2 *Supported attribute types* Ref. X.520

Item No.	Attribute Type	Upperbound	Status	Note	Support
0	DirectoryString		o		Y
1	teletexString		o		Y
2	printableString		o		Y
3	universalString		o		Y

A.6.2.1 *Standard Attribute Types*

The supplier of the implementation shall indicate, in the following table, the selected attribute types defined in ISO/IEC 9594-6 for which conformance is claimed:

Item No.	Attribute Type	Upperbound	Status	Note	Support
0	objectClass		m		Y
1	aliasedEntryName		o		Y
2	knowledgeInformation		o		Y
3	name	64	o		Y
4	commonName	64	c11		Y
5	surName	64	o		Y
6	givenName		o		Y
7	initials		o		Y
8	generationQualifier		o		Y
9	uniqueIdentifier		o		Y
10	dnQualifier		o		Y
11	serialNumber	64	o		Y
12	countryName		o	size = 2	Y
13	localityName	128	o		Y
14	stateOrProvinceName	128	o		Y
15	streetAddress	128	o		Y
16	houseIdentifier	64	o		Y
17	organizationName	64	o		Y
18	organizationalUnitName	64	o		Y
19	title	64	o		Y
20	description	1024	o		Y
21	searchGuide		o		Y
22	enhancedSearchGuide		o		Y

23	businessCategory	128	o		Y
24	postalAddress	6(lines) x 30(chs)	o		Y
25	postalCode	40	o		Y
26	postOfficeBox	40	o		Y
27	physicalDeliveryOfficeName	128	o		Y
28	telephoneNumber	32	o		Y
29	telexNumber	14, 4, 8	o		Y
30	teletexTerminalIdentifier	1024	o		Y
31	fasimileTelephoneNumber	32	o		Y
32	X.121 Address	15	o		Y
33	internationalISDNNumber	16	o		Y
34	registeredAddress	6(lines) x 30(chs)	o		Y
35	destinationIndicator	128	o		Y
36	preferredDeliveryMethod		o		Y
37	presentationAddress		o		Y
38	supportedApplicationContext		o		Y
39	protocolInformation		o		Y
40	distinguishedName		o		Y
41	member		o		Y
42	uniqueMember		o		Y
43	owner		o		Y
44	roleOccupent		o		Y
45	seeAlso		o		Y
46	userPassword	128	c12		Y
47	userCertificate		c7		Y
48	cACertificate		c7		Y
49	authorityRevocationList		o		Y
50	certificateRevocationList		o		Y
51	crossCertificatePair		o		Y

c7: If [Strong-DSA] then support is m else support is o.
c11: If support for subentries [A.5.2.2/1] is claimed then this attribute is m else o.
c12: If support for password [A.5.3.1.1/6 or A.5.3.1.2/6] is claimed then this attribute is m else o.

A.6.2.2 *Collective Standard Attribute Types*

The supplier of the implementation shall indicate, in the following table, the selected collective attribute types defined in ISO/IEC 9594-6 for which conformance is claimed:

Item No.	Attribute Types	Upperbound	Status	Note	Support
1	collectiveLocalityName	128	o		Y
2	collectiveStateOrProvinceName	128	o		Y
3	collectiveStreetAddress	128	o		Y
4	collectiveOrganizationName	64	o		Y
5	collectiveOrganizationalUnitName	64	o		Y
6	collectivePostalAddress	6(lines) x 30(chs)	o		Y
7	collectivePostalCode	40	o		Y
8	collectivePostOfficeBox	40	o		Y
9	collecivePhysicalDelivery OfficeName	128	o		Y
10	collectiveTelephoneNumber	32	o		Y
11	collectiveTelexNumber	14,4,8	o		Y
12	collectiveTeletexTerminalIdentifier	1024	o		Y
13	collectiveFacsmileTelephoneNumber	32	o		Y
14	collectiveInternationalISDNNumber	16	o		Y

A.6.2.3 *Other Supported Attribute Types*

The supplier of the DSA implementation is required to list any other object classes provided for which conformance is claimed in the folowing table:

Index	Attribute types
	COSINE and RFC 1274 attributes

A.6.3 *Supported matching rules* Ref. X.520

The supplier of the implementation shall indicate, in the following table, the matching rules defined in ISO/IEC 9594-6 for which support is claimed:

Item No.	Matching Rule	Status	Note	Support
1	caseIgnoreMatch	o		Y
2	caseIgnoreOrderingMatch	o		N
3	caseIgnoreSubstringMatch	o		Y
4	SubstringAssertion	o		Y
5	caseExactMatch	o		Y
6	caseExactSubstringMatch	o		Y
7	numericStringMatch	o		Y
8	numericStringOrderingMatch	o		N
9	numericStringSubstringMatch	o		Y
10	caseIgnoreListMatch	o		Y
11	caseIgnoreListSubstringsMatch	o		N
12	booleanMatch	o		Y
13	integerMatch	o		Y
14	integerOrderingMatch	o		N
15	bitStringMatch	o		Y
16	octetStringMatch	o		Y
17	octetStringOrderingMatch	o		N
18	octetStringSubStringsMatch	o		Y
19	octetSubStringAssertion	o		Y
20	telephoneNumberMatch	o		Y
21	presentationAddressMatch	o		Y
22	uniqueMember	o		N
23	protocolInformationMatch	o		N
24	uTCTimeMatch	o		Y
25	uTCTimeOrderingMatch	o		N
26	genreralizedTimeMatch	o		Y
27	generalizedTimeOrderingMatch	o		Y
28	integerFirstComponentMatch	o		N
29	objectIdentifierFirstComponentMatch	o		N
30	directoryStringFirstComponentMatch	o		N
31	wordMatch	o		N
32	keywordMatch	o		N

A.6.4 *Information Framework* Ref. X.501, clause 13

The supplier of the implementation shall indicate, in the following table, the object class, attributes , and matching rules defined in ISO/IEC 9594-2, Information Framework for which support is claimed.

A.6.4.1 *Information Framework Object Classes*

Item No.	Object class	Status	Predictae	Note	Support
1	subentry	c: m	A.5.2.2/ 1		Y
2	accessControlSubentry	c13			Y
3	collectiveAttributeSubentry	c14			Y

c13: if [A.5.2.2/1 and [SAC-DSA or BAC-DSA]] then m else n/a.
c14: if [A.5.2.2/1 and Coll-Attr] then m else n/a.

A.6.4.2 *Information Framework Attributes*

Item No.	Attribute	Status	Predicate	Note	Support
1	createTimestamp	o			Y
2	modifyTimestamp	o			Y
3	creatorsName	o			Y
4	modifiersName	o			Y
5	administrativeRole	c15			Y
6	subtreeSpecification	c: m	A.5.2.2/ 1		Y
7	collectiveExclusions	o			Y

c15: if [SAC-DSA or BAC-DSA or Coll-Attr] then m else o.

A.6.4.3 *Information Framework Matching Rules*

Item No.	Matching rule	Status	Predicate	Note	Support
1	objectIdentifierMatch	o			Y
2	distinguishedNameMatch	o			Y

A.6.5 *Subschema Administration* Ref. X.501, clause 14

If the supplied implementation supports the subschema for its portion of the DSA claimed in item A/3.1/15 then A.6.5.1, A.6.5.2 and A.6.5.3 is required to be answered by the supplier.

A.6.5.1 *Subschema Adminstration Object Classes*

Item No.	Object class	Status	Predicate	Note	Support
1	subschema	m			Y

A.6.5.2 *Subschema Administration Attributes*

Item No.	Attribute	Status	Predicate	Note	Support
1	dITStructureRules	m			N
2	dITContentRules	m			N
3	matchingRules	m			N
4	atttribueTypes	m			Y
5	objectClasses	m			Y
6	nameForms	m			N
7	matchingRuleUse	m			N
8	structuralObjectClass	m			N
9	governingStructureRule	m			N

A.6.5.3 *Subschema Administration Matching Rules*

None.

A.6.6 *Access Control* Ref. X.501, clause16

A.6.6.1 *Access Control Object Classes*

None.

A.6.6.2 *Access Control Attributes*

Item No.	Attribute	Status	Predicate	Note	Support
1	accessControlScheme	m			Y
2	prescriptiveACI	c: m	SAC-DSA or BAC-DSA		Y
3	entryACI	c: m	BAC-DSA		Y
4	subentryACI	c: m	SAC-DSA or BAC-DSA		Y

A.6.6.3 Access Control Matching Rules

None.

A.6.7. *DSA Operational attributes* Ref. X.501, clause 20.2

A.6.7.1 *DSA Operational Attribute Object Classes*

None.

A.6.7.2 *DSAOperational Attributes*

Item No.	Attribute Types	Status	Predicate	Note	Support
1	dseType	m			Y
2	myAccessPoint	m			Y
3	superiorKnowledge	c: m	A.3.1/3		Y
4	specificKnowledge	c: m	A.3.1/3		Y
5	nonSpecificKnowledge	c: m	A.3.1/4b		N
6	supplierKnowledge	c: m	A.3.1/3		Y
7	consumerKnowledge	c: m	A.3.1/3		Y
8	secondaryShadows	o			N

A.6.7.3 *DSA Operational Matching Rules*

Item No.	Matching Rule	Status	Predicate	Note	Support
1	accessPointMatch	m			N
2	masterAndShadowAccessPointsMatch	o			N
3	supplierOrConsumerInformationMatch	o			N
4	supplierAndConsumerMatch	c: m	A.3.1/3		N

A.7 *Other information*

The following table can be used to provide any other relevant information:

Index	Other information