INTERNATIONAL STANDARD

ISO/IEC 9594-7

Eighth edition
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Information technology — Open Systems Interconnection — The Directory —

Part 7: Selected object classes

Technologies de l'information — Interconnexion de systèmes ouverts (OSI) — L'annuaire —

Partie 7: Classes d'objets sélectionnées

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This eighth edition cancels and replaces the seventh edition (ISO/IEC 9594-7:2014), which has been technically revised.

This document was prepared by ISO/IEC JTC 1, *Information technology*, SC 6, *Telecommunications and information exchange between systems*, in collaboration with ITU-T. The identical text is published as ITU-T X.521 (10/2016).

A list of all parts in the ISO/IEC 9594 series, published under the general title *Information technology — Open Systems Interconnection — The Directory*, can be found on the ISO website.

CONTENTS

Introduction

This Recommendation | International Standard, together with other Recommendations | International Standards, has been produced to facilitate the interconnection of information processing systems to provide directory services. A set of such systems, together with the directory information that 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 managements;
– of different levels of complexity; and
– of different ages.

This Recommendation | International Standard defines a number of attribute sets and object classes which may be found useful across a range of applications of the Directory.

This Recommendation | International Standard provides the foundation frameworks upon which industry profiles can be defined by other standards groups and industry forums. Many of the features defined as optional in these frameworks may be mandated for use in certain environments through profiles. This eighth edition technically revises and enhances the seventh edition of this Recommendation | International Standard.

This eight edition specifies versions 1 and 2 of the Directory protocols.

The first and second editions specified only version 1. Most of the services and protocols specified in this edition are designed to function under version 1. However some enhanced services and protocols, e.g., signed errors, will not function unless all Directory entities involved in the operation have negotiated version 2. Whichever version has been negotiated, differences between the services and between the protocols defined in the eight editions, except for those specifically assigned to version 2, are accommodated using the rules of extensibility defined in Rec. ITU-T X.519 | ISO/IEC 9594-5.

Annex A, which is an integral part of this Recommendation | International Standard, provides an ASN.1 module containing all of the type and value definitions which appear in this Recommendation | International Standard.

Annex B, which is not an integral part of this Recommendation | International Standard, provides some common naming and structure rules which may or may not be used by administrative authorities.

Annex C, which is not an integral part of this Recommendation | International Standard, lists the amendments and defect reports that have been incorporated to form this edition of this Recommendation | International Standard.

INTERNATIONAL STANDARD
ITU-T RECOMMENDATION

Information technology – Open Systems Interconnection – The Directory: Selected object classes

SECTION 1 – GENERAL

1 Scope

This Recommendation | International Standard defines a number of object classes and name forms which may be found useful across a range of applications of the Directory. The definition of an object class involves listing a number of attribute types which are relevant to objects of that class. The definition of a name form involves naming the object class to which it applies and listing the attributes to be used in forming names for objects of that class. These definitions are used by the administrative authority which is responsible for the management of the directory information.

Any administrative authority can define its own object classes or subclasses and name forms for any purpose.

NOTE 1 – Those definitions may or may not use the notation specified in Rec. ITU-T X.501 | ISO/IEC 9594-2.

NOTE 2 – It is recommended that an object class defined in this Recommendation | International Standard, or a subclass derived from one, or a name form defined in this Recommendation | International Standard, be used in preference to the generation of a new one, whenever the semantics is appropriate for the application.

Administrative authorities may support some or all the selected object classes and name forms, and may also add additional ones.

All administrative authorities shall support the object classes which the directory uses for its own purpose (the top, alias and Directory system agent (DSA) object classes).

2 Normative references

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

2.1 Identical Recommendations | International Standards

- Recommendation ITU-T X.200 (1994) | ISO/IEC 7498-1:1994, *Information technology – Open Systems Interconnection – Basic Reference Model: The Basic Model.*
- Recommendation ITU-T X.500 (2016) | ISO/IEC 9594-1:2017, *Information technology – Open Systems Interconnection – The Directory: Overview of concepts, models and services.*
- Recommendation ITU-T X.501 (2016) | ISO/IEC 9594-2:2017, *Information technology – Open Systems Interconnection – The Directory: Models.*
- Recommendation ITU-T X.509 (2016) | ISO/IEC 9594-8:2017, *Information technology – Open Systems Interconnection – The Directory: Public-key and attribute certificate frameworks.*
- Recommendation ITU-T X.511 (2016) | ISO/IEC 9594-3:2017, *Information technology – Open Systems Interconnection – The Directory: Abstract service definition.*
- Recommendation ITU-T X.518 (2016) | ISO/IEC 9594-4:2017, *Information technology – Open Systems Interconnection – The Directory: Procedures for distributed operation.*
- Recommendation ITU-T X.519 (2016) | ISO/IEC 9594-5:2017, *Information technology – Open Systems Interconnection – The Directory: Protocol specifications.*
- Recommendation ITU-T X.520 (2016) | ISO/IEC 9594-6:2017, *Information technology – Open Systems Interconnection – The Directory: Selected attribute types.*

– Recommendation ITU-T X.525 (2016) | ISO/IEC 9594-9:2017, *Information technology – Open Systems Interconnection – The Directory: Replication.*

3 Definitions

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

3.1 Communication Model definitions

The following terms are defined in Rec. ITU-T X.519 | ISO/IEC 9594-5:

a) *application-entity*;

b) *application process*.

3.2 Directory Model definitions

The following terms are defined in Rec. ITU-T X.501 | ISO/IEC 9594-2:

a) *attribute*;

b) *attribute type*;

c) *Directory information tree (DIT)*;

d) *Directory system agent (DSA)*;

e) *attribute set*;

f) *entry*;

g) *name*;

h) *object class*;

i) *subclass*;

j) *name form*;

k) *structure rule*.

4 Conventions

The term "Directory Specification" (as in "this Directory Specification") shall be taken to mean Rec. ITU-T X.521 | ISO/IEC 9594-7. The term "Directory Specifications" shall be taken to mean the ITU-T X.500-series Recommendations and all parts of ISO/IEC 9594.

This Directory Specification uses the term *first edition systems* to refer to systems conforming to the first edition of the Directory Specifications, i.e., the 1988 edition of the CCITT X.500-series Recommendations and the ISO/IEC 9594:1990 edition.

This Directory Specification uses the term *second edition systems* to refer to systems conforming to the second edition of the Directory Specifications, i.e., the 1993 edition of the ITU-T X.500-series Recommendations and the ISO/IEC 9594:1995 edition.

This Directory Specification uses the term *third edition systems* to refer to systems conforming to the third edition of the Directory Specifications, i.e., the 1997 edition of the ITU-T X.500-series Recommendations and the ISO/IEC 9594:1998 edition.

This Directory Specification uses the term *fourth edition systems* to refer to systems conforming to the fourth edition of the Directory Specifications, i.e., the 2001 editions of Recs ITU-T X.500, ITU-T X.501, ITU-T X.511, ITU-T X.518, ITU-T X.519, ITU-T X.520, ITU-T X.521, ITU-T X.525, and ITU-T X.530, the 2000 edition of Rec. ITU-T X.509, and parts 1-10 of the ISO/IEC 9594:2001 edition.

This Directory Specification uses the term *fifth edition systems* to refer to systems conforming to the fifth edition of the Directory Specifications, i.e., the 2005 edition of the ITU-T X.500-series Recommendations and the ISO/IEC 9594:2005 edition.

This Directory Specification uses the term *sixth edition systems* to refer to systems conforming to the sixth edition of the Directory Specifications, i.e., the 2008 edition of the ITU-T X.500-series Recommendations and the ISO/IEC 9594:2008 edition.

This Directory Specification uses the term *seventh edition systems* to refer to systems conforming to the seventh edition of the Directory Specifications, i.e., the 2012 edition of the ITU-T X.500-series Recommendations and the ISO/IEC 9594:2014 edition.

This Directory Specification uses the term *eighth edition systems* to refer to systems conforming to the eighth edition of the Directory Specifications, i.e., the 2016 edition of the ITU-T X.500-series Recommendations and the ISO/IEC 9594:2017 edition.

This Directory Specification presents ASN.1 notation in the bold Courier New typeface. When ASN.1 types and values are referenced in normal text, they are differentiated from normal text by presenting them in the bold Courier New typeface. The names of procedures, typically referenced when specifying the semantics of processing, are differentiated from normal text by displaying them in bold Times New Roman. Access control permissions are presented in italicized Times New Roman.

Object classes and name forms are defined in this Directory Specification as values of the **OBJECT-CLASS** and **NAME-FORM** information object classes defined in Rec. ITU-T X.501 | ISO/IEC 9594-2.

SECTION 2 – SELECTED OBJECT CLASSES

5 Definition of useful attribute sets

5.1 Telecommunication attribute set

This set of attributes is used to define those which are commonly used for business communications.

```
TelecommunicationAttributeSet ATTRIBUTE ::=
  {facsimileTelephoneNumber |
   internationalISDNNumber |
   telephoneNumber |
-- teletexTerminalIdentifier  (Attribute type has been deleted)
-- teletexTerminalIdentifier |  Attribute type has been deleted
   telexNumber |
   preferredDeliveryMethod |
   destinationIndicator |
   registeredAddress |
   x121Address}
```

5.2 Postal attribute set

This set of attributes is used to define those which are directly associated with postal delivery.

```
PostalAttributeSet ATTRIBUTE ::=
  {physicalDeliveryOfficeName |
   postalAddress |
   postalCode |
   postOfficeBox |
   streetAddress}
```

5.3 Locale attribute set

This set of attributes is used to define those which are commonly used for search purposes to indicate the locale of an object.

```
LocaleAttributeSet ATTRIBUTE ::=
  {localityName |
   stateOrProvinceName |
   streetAddress}
```

5.4 Organizational attribute set

This set of attributes is used to define the attributes that an organization or organizational unit may typically possess.

```
OrganizationalAttributeSet ATTRIBUTE ::=
  {description |
   LocaleAttributeSet |
   PostalAttributeSet |
   TelecommunicationAttributeSet |
   businessCategory |
   seeAlso |
   searchGuide |
   userPassword}
```

6 Definition of selected object classes

6.1 Country

The345u **country** object class is used to define country entries in the DIT.

```
country OBJECT-CLASS ::= {
  SUBCLASS OF    {top}
  MUST CONTAIN   {countryName}
  MAY CONTAIN    {description |
                  searchGuide}
  LDAP-NAME      {"country"}
  ID             id-oc-country }
```

6.2 Locality

The **locality** object class is used to define locality in the DIT.

```
locality OBJECT-CLASS ::= {
  SUBCLASS OF   {top}
  MAY CONTAIN   {description |
                 searchGuide |
                 LocaleAttributeSet |
                 seeAlso}
  LDAP-NAME     {"locality"}
  ID            id-oc-locality }
```

At least one of Locality Name or State or Province Name shall be present.

6.3 Organization

The **organization** object class is used to define organization entries in the DIT.

```
organization OBJECT-CLASS ::= {
  SUBCLASS OF    {top}
  MUST CONTAIN   {organizationName}
  MAY CONTAIN    {OrganizationalAttributeSet}
  LDAP-NAME      {"organization"}
  ID             id-oc-organization }
```

6.4 Organizational Unit

The **organizationalUnit** object class is used to define entries representing subdivisions of organizations.

```
organizationalUnit OBJECT-CLASS ::= {
  SUBCLASS OF    {top}
  MUST CONTAIN   {organizationalUnitName}
  MAY CONTAIN    {OrganizationalAttributeSet}
  LDAP-NAME      {"organizationalUnit"}
  ID             id-oc-organizationalUnit }
```

6.5 Person

The **person** object class is used to define entries representing people generically.

```
person OBJECT-CLASS ::= {
  SUBCLASS OF    {top}
  MUST CONTAIN   {commonName |
                  surname}
  MAY CONTAIN    {description |
                  telephoneNumber |
                  userPassword |
                  seeAlso}
  LDAP-NAME      {"person"}
  ID             id-oc-person }
```

6.6 Organizational Person

The **organizationalPerson** object class is used to define entries representing people employed by, or in some other important way associated with, an organization.

```
organizationalPerson OBJECT-CLASS ::= {
  SUBCLASS OF   {person}
  MAY CONTAIN   {LocaleAttributeSet |
                 PostalAttributeSet |
                 TelecommunicationAttributeSet |
                 organizationalUnitName |
                 title}
  LDAP-NAME     {"organizationalPerson"}
  ID            id-oc-organizationalPerson }
```

6.7 Organizational Role

The **organizationalRole** object class is used to define entries representing an organizational role, i.e., a position or role within an organization. An organizational role is normally considered to be filled by a particular organizational person. Over its lifetime, however, an organizational role may be filled by a number of different organizational people in succession. In general, an organizational role may be filled by a person or a non-human entity.

```
organizationalRole OBJECT-CLASS ::= {
  SUBCLASS OF    {top}
  MUST CONTAIN   {commonName}
  MAY CONTAIN    {description |
                  LocaleAttributeSet |
                  organizationalUnitName |
                  PostalAttributeSet |
                  preferredDeliveryMethod |
                  roleOccupant |
                  seeAlso |
                  TelecommunicationAttributeSet}
  LDAP-NAME      {"organizationalRole"}
  ID             id-oc-organizationalRole }
```

6.8 Group Of Names

The **groupOfNames** object class is used to define entries representing an unordered set of names which represent individual objects or other groups of names. The membership of a group is static, i.e., it is explicitly modified by administrative action, rather than dynamically determined each time the group is referred to.

The membership of a group can be reduced to a set of individual object's names by replacing each group with its membership. This process could be carried out recursively until all constituent group names have been eliminated, and only the names of individual objects remain.

```
groupOfNames OBJECT-CLASS ::= {
  SUBCLASS OF    {top}
  MUST CONTAIN   {commonName | member}
  MAY CONTAIN    {description |
                  organizationName |
                  organizationalUnitName |
                  owner |
```

```
                seeAlso |
                businessCategory}
  LDAP-NAME     {"groupOfNames"}
  ID            id-oc-groupOfNames }
```

6.9 Group Of Unique Names

The **groupOfUniqueNames** object class is used to define entries representing an unordered set of names whose integrity can be assured and which represent individual objects or other groups of names. The membership of a group is static, i.e., it is explicitly modified by administrative action, rather than dynamically determined each time the group is referred to.

```
groupOfUniqueNames OBJECT-CLASS ::= {
  SUBCLASS OF   {top}
  MUST CONTAIN  {commonName |
                 uniqueMember}
  MAY CONTAIN   {description |
                 organizationName |
                 organizationalUnitName |
                 owner |
                 seeAlso |
                 businessCategory}
  LDAP-NAME     {"groupOfUniqueNames"}
  ID            id-oc-groupOfUniqueNames }
```

6.10 Residential Person

The **residentialPerson** object class is used to define entries representing a person in the residential environment.

```
residentialPerson OBJECT-CLASS ::= {
  SUBCLASS OF   {person}
  MUST CONTAIN  {localityName}
  MAY CONTAIN   {LocaleAttributeSet |
                 PostalAttributeSet |
                 preferredDeliveryMethod |
                 TelecommunicationAttributeSet |
                 businessCategory}
  LDAP-NAME     {"residentialPerson"}
  ID            id-oc-residentialPerson }
```

6.11 Application Process

The **applicationProcess** object class is used to define entries representing application processes. An application process is an element within a real open-system which performs the information processing for a particular application (see Rec. ITU-T X.200 | ISO/IEC 7498-1).

```
applicationProcess OBJECT-CLASS ::= {
  SUBCLASS OF   {top}
  MUST CONTAIN  {commonName}
  MAY CONTAIN   {description |
                 localityName |
                 organizationalUnitName |
                 seeAlso}
  LDAP-NAME     {"applicationProcess"}
  ID            id-oc-applicationProcess }
```

6.12 Application Entity

The **applicationEntity** object class is used to define entries representing application-entities. An application-entity consists of those aspects of an application process pertinent to communications.

```
applicationEntity OBJECT-CLASS ::= {
  SUBCLASS OF   {top}
  MUST CONTAIN  {commonName |
                 presentationAddress}
  MAY CONTAIN   {description |
                 localityName |
                 organizationName |
                 organizationalUnitName |
```

```
                  seeAlso |
                  supportedApplicationContext}
  LDAP-NAME       {"applicationEntity"}
  ID              id-oc-applicationEntity }
```

NOTE – If an application-entity is represented as a Directory object that is distinct from an application process, the **commonName** attribute is used to carry the value of the Application Entity Qualifier.

6.13 DSA

The **dSA** object class is used to define entries representing DSAs. A DSA is as defined in Rec. ITU-T X.501 | ISO/IEC 9594-2.

```
dSA OBJECT-CLASS ::= {
  SUBCLASS OF     {applicationEntity}
  MAY CONTAIN     {knowledgeInformation}
  LDAP-NAME       {"dSA"}
  ID              id-oc-dSA }
```

6.14 Device

The **device** object class is used to define entries representing devices. A device is a physical unit which can communicate, such as a modem, disk drive, etc.

```
device OBJECT-CLASS ::= {
  SUBCLASS OF     {top}
  MUST CONTAIN    {commonName}
  MAY CONTAIN     {description |
                   localityName |
                   organizationName |
                   organizationalUnitName |
                   owner |
                   seeAlso |
                   serialNumber}
  LDAP-NAME       {"device"}
  ID              id-oc-device }
```

NOTE – At least one instance of **localityName**, **serialNumber** or **owner** attribute type, should be included. The choice is dependent on device type.

6.15 Strong Authentication User

The **strongAuthenticationUser** object class is used to define entries for objects which participate in strong authentication, as defined in Rec. ITU-T X.509 | ISO/IEC 9594-8.

```
strongAuthenticationUser OBJECT-CLASS ::= {
  SUBCLASS OF     {top}
  KIND            auxiliary
  MUST CONTAIN    {userCertificate}
  LDAP-NAME       {"strongAuthenticationUser"}
  LDAP-DESC       {"X.521 strong authentication user"}
  ID              id-oc-strongAuthenticationUser }
```

NOTE – Use of this object class has been deprecated in favour of the **pkiUser** and **pkiCA** object classes defined in Rec. ITU-T X.509 | ISO/IEC 9594-8. Implementations that use **strongAuthenticationUser**, **certificationAuthority** and **certificationAuthorityv2** object classes are still conformant to the standard, although new implementations are strongly recommended to move to the **pkiUser** and **pkiCA** object classes.

6.16 User Security Information

The **userSecurityInformation** object class is used to define entries for objects which need to indicate security information associated with them as defined in Rec. ITU-T X.509 | ISO/IEC 9594-8.

```
userSecurityInformation OBJECT-CLASS ::= {
  SUBCLASS OF     {top}
  KIND            auxiliary
  MAY CONTAIN     {supportedAlgorithms}
  LDAP-NAME       {"userSecurityInformation"}
  LDAP-DESC       {"X.521 user security information"}
```

```
  ID            id-oc-userSecurityInformation }
```

6.17 User Password

The **userPwdClass** object class is used to define entries for objects that maintain a user password (**userPwd**).

```
userPwdClass  OBJECT-CLASS ::= {
  KIND          auxiliary
  MAY CONTAIN   { userPwd }
  ID            id-oc-userPwdClass }
```

6.18 Certification Authority

The **certificationAuthority** object class is used to define entries for objects which act as certification authorities, as defined in Rec. ITU-T X.509 | ISO/IEC 9594-8.

```
certificationAuthority OBJECT-CLASS ::= {
  SUBCLASS OF   {top}
  KIND          auxiliary
  MUST CONTAIN  {cACertificate |
                 certificateRevocationList |
                 authorityRevocationList}
  MAY CONTAIN   {crossCertificatePair}
  LDAP-NAME     {"certificationAuthority"}
  LDAP-DESC     {"X.509 certificate authority"}
  ID            id-oc-certificationAuthority }
```

NOTE – Use of this object class has been deprecated in favour of the pkiUser and pkiCA object classes defined in Rec. ITU-T X.509 | ISO/IEC 9594-8. Implementations that use strongAuthenticationUser, certificationAuthority and certificationAuthorityv2 object classes are still conformant to the standard, although new implementations are strongly recommended to move to the pkiUser and pkiCA object classes.

6.19 Certification Authority-V2

The **certificationAuthority-V2** object class is used to define entries for objects which act as certification authorities and can support the delta revocation list as defined in Rec. ITU-T X.509 | ISO/IEC 9594-8.

```
certificationAuthority-V2 OBJECT-CLASS ::= {
  SUBCLASS OF   {certificationAuthority}
  KIND          auxiliary
  MAY CONTAIN   {deltaRevocationList}
  LDAP-NAME     {"certificationAuthority-V2"}
  LDAP-DESC     {"X.509 certificate authority, version 2"}
  ID            id-oc-certificationAuthority-V2 }
```

NOTE – Use of this object class has been deprecated in favour of the pkiUser and pkiCA object classes defined in Rec. ITU-T X.509 | ISO/IEC 9594-8. Implementations that use strongAuthenticationUser, certificationAuthority and certificationAuthorityv2 object classes are still conformant to the standard, although new implementations are strongly recommended to move to the pkiUser and pkiCA object classes.

6.20 DMD

The **dMD** object class is used to define DMD entries in the DIT.

```
dMD OBJECT-CLASS ::= {
  SUBCLASS OF   {top}
  MUST CONTAIN  {dmdName}
  MAY CONTAIN   {OrganizationalAttributeSet}
  LDAP-NAME     {"dmd"}
  ID            id-oc-dmd }
```

6.21 OID Obj1

The **oidC1obj** object class is used to define a top level object identifier component entry in the DIT.

```
oidC1obj OBJECT-CLASS ::= {
  SUBCLASS OF   {top}
  MUST CONTAIN  {oidC}
  LDAP-NAME     {"oidC1obj"}
```

```
  ID              id-oc-oidC1obj }
```

6.22 OID Obj2

The **oidC2obj** object class is used to define second level object identifier component entries in the DIT.

```
oidC2obj OBJECT-CLASS ::= {
  SUBCLASS OF    {top}
  MUST CONTAIN   {oidC}
  LDAP-NAME      {"oidC2obj"}
  ID             id-oc-oidC2obj }
```

6.23 OID ObjC

The **oidCobj** object class is used to define the third- or lower-level object identifier component entries in the DIT.

NOTE – A tag-based object identifier typically has only three levels, where the first two values are { 2 27 }.

```
oidCobj OBJECT-CLASS ::= {
  SUBCLASS OF    {top}
  MUST CONTAIN   {oidC}
  LDAP-NAME      {"oidCobj"}
  ID             id-oc-oidCobj }
```

6.24 OID root

The **oidRoot** object class is moved to here from Rec. ITU-T X.660 | ISO/IEC 9834-1.

```
oidRoot OBJECT-CLASS ::= {
  SUBCLASS OF    {alias}
  MUST CONTAIN   { oidC1 | oidC2 | oidC}
  LDAP-NAME      {"oidRoot"}
  ID             id-oidRoot }
```

6.25 OID arc

The **oidArc** object class is moved to here from Rec. ITU-T X.660 | ISO/IEC 9834-1.

```
oidArc OBJECT-CLASS ::= {
  SUBCLASS OF    {alias}
  MUST CONTAIN   {oidC}
  LDAP-NAME      {"oidArc"}
  ID             id-oidArc }
```

6.26 URN ObjC

The **urnCobj** object class is used to define the entries of an URN subtree as determined

```
urnCobj OBJECT-CLASS ::= {
  SUBCLASS OF    {top}
  MUST CONTAIN   { urnC }
  LDAP-NAME      {"urnCobj"}
  ID             id-oc-urnCobj }
```

6.27 ISO Tag Information

The **isoTagInfo** auxiliary object class may be used to add tag-based attribute types to an entry holding information associated with a specific ISO tag.

```
isoTagInfo OBJECT-CLASS ::= {
  SUBCLASS OF   { top }
  KIND          auxiliary
  MAY CONTAIN   { tagOid |
                  tagAfi |
                  uii |
                  uiiInUrn |
                  contentUrl |
                  tagLocation }
```

```
  LDAP-NAME     {"isoTagInfo"}
  ID            id-oc-isoTagInfo }
```

6.28 ISO Tag Type

The **isoTagType** auxiliary object class may be used to add tag-based attribute types to an entry holding information about a specific type of tag (see Annex G of Rec. ITU-T X.520 | ISO/IEC 9594-6).

```
isoTagType  OBJECT-CLASS ::= {
  SUBCLASS OF   { top }
  KIND          auxiliary
  MAY CONTAIN   { tagOid |
                  tagAfi |
                  uiiFormat }
  LDAP-NAME     {"isoTagType"}
  ID            id-oc-isoTagType }
```

6.29 EPC Tag Information object class

The **epcTagInfoObj** auxiliary object class may be used to add tag-based attribute types to an entry holding information associated with a specific EPC tag.

```
epcTagInfoObj OBJECT-CLASS ::= {
  SUBCLASS OF   { top }
  KIND          auxiliary
  MAY CONTAIN   { epcHeader |
                  epcPartition |
                  epc |
                  epcInUrn |
                  contentUrl |
                  tagLocation }
  LDAP-NAME     {"epcTagInfoObj"}
  ID            id-oc-epcTagInfoObj }
```

6.30 EPC Tag Type Object Class

The **epcTagTypeObj** auxiliary object class may be used to add tag-based attribute types to an entry holding information about a specific type of EPC tag.

```
epcTagTypeObj   OBJECT-CLASS ::= {
  SUBCLASS OF   { top }
  KIND          auxiliary
  MAY CONTAIN   { uiiFormat }
  LDAP-NAME     {"epcTagTypeObj"}
  ID            id-oc-epcTagTypeObj }
```

SECTION 3 – SELECTED NAME FORMS

7 Definition of selected name forms

7.1 Country name form

The **countryNameForm** name form specifies how entries of object class **country** may be named.

```
countryNameForm NAME-FORM ::= {
  NAMES             country
  WITH ATTRIBUTES   {countryName}
  ID                id-nf-countryNameForm }
```

7.2 Locality name form

The **locNameForm** name form specifies how entries of object class **locality** may be named.

```
locNameForm NAME-FORM ::= {
  NAMES             locality
  WITH ATTRIBUTES   {localityName}
  ID                id-nf-locNameForm }
```

7.3 State Or Province name form

The **sOPNameForm** name form specifies how entries of object class **locality** may be named.

```
sOPNameForm NAME-FORM ::= {
  NAMES             locality
  WITH ATTRIBUTES   {stateOrProvinceName}
  ID                id-nf-sOPNameForm }
```

7.4 Organization name form

The **orgNameForm** name form specifies how entries of object class **organization** may be named.

```
orgNameForm NAME-FORM ::= {
  NAMES             organization
  WITH ATTRIBUTES   {organizationName}
  ID                id-nf-orgNameForm }
```

7.5 Organizational Unit name form

The **orgUnitNameForm** name form specifies how entries of object class **organizationalUnit** may be named.

```
orgUnitNameForm NAME-FORM ::= {
  NAMES             organizationalUnit
  WITH ATTRIBUTES   {organizationalUnitName}
  ID                id-nf-orgUnitNameForm }
```

7.6 Person name form

The **personNameForm** name form specifies how entries of object class **person** may be named.

```
personNameForm NAME-FORM ::= {
  NAMES             person
  WITH ATTRIBUTES   {commonName}
  ID                id-nf-personNameForm }
```

7.7 Organizational Person name form

The **orgPersonNameForm** name form specifies how entries of object class **organizationalPerson** may be named.

```
orgPersonNameForm NAME-FORM ::= {
  NAMES             organizationalPerson
  WITH ATTRIBUTES   {commonName}
  AND OPTIONALLY    {organizationalUnitName}
  ID                id-nf-orgPersonNameForm }
```

7.8 Organizational Role name form

The **orgRoleNameForm** name form specifies how entries of object class **organizationalRole** may be named.

```
orgRoleNameForm NAME-FORM ::= {
  NAMES             organizationalRole
  WITH ATTRIBUTES   {commonName}
  ID                id-nf-orgRoleNameForm }
```

7.9 Group Of Names name form

The **gONNameForm** name form specifies how entries of object class **groupOfNames** may be named.

```
gONNameForm NAME-FORM ::= {
  NAMES             groupOfNames
  WITH ATTRIBUTES   {commonName}
  ID                id-nf-gONNameForm }
```

7.10 Residential Person name form

The **resPersonNameForm** name form specifies how entries of object class **residentialPerson** may be named.

```
resPersonNameForm NAME-FORM ::= {
  NAMES             residentialPerson
  WITH ATTRIBUTES   {commonName}
  AND OPTIONALLY    {streetAddress}
  ID                id-nf-resPersonNameForm }
```

7.11 Application Process name form

The **applProcessNameForm** name form specifies how entries of object class **applicationProcess** may be named.

```
applProcessNameForm NAME-FORM ::= {
  NAMES             applicationProcess
  WITH ATTRIBUTES   {commonName}
  ID                id-nf-applProcessNameForm }
```

7.12 Application Entity name form

The **applEntityNameForm** name form specifies how entries of object class **applicationEntity** may be named.

```
applEntityNameForm NAME-FORM ::= {
  NAMES             applicationEntity
  WITH ATTRIBUTES   {commonName}
  ID                id-nf-applEntityNameForm }
```

7.13 DSA name form

The **dSANamaeForm** name form specifies how entries of object class **dSA** may be named.

```
dSANameForm NAME-FORM ::= {
  NAMES             dSA
  WITH ATTRIBUTES   {commonName}
  ID                id-nf-dSANameForm }
```

7.14 Device name form

The **deviceNameForm** name form specifies how entries of object class **device** may be named.

```
deviceNameForm NAME-FORM ::= {
  NAMES             device
  WITH ATTRIBUTES   {commonName}
  ID                id-nf-deviceNameForm }
```

7.15 DMD name form

The **dMDNameForm** name form specifies how entries of object class **dMD** may be named.

```
dMDNameForm NAME-FORM ::= {
  NAMES             dMD
  WITH ATTRIBUTES   {dmdName}
  ID                id-nf-dMDNameForm }
```

7.16 OIDC1 name form

The **oidC1NameForm** name form specifies how the entry of object class **oidObj1** shall be named.

```
oidC1NameForm NAME-FORM ::= {
  NAMES             oidCobj
  WITH ATTRIBUTES   {oidC}
  ID                id-nf-oidC1NameForm }
```

7.17 OIDC2 name form

The **oidC2NameForm** name form specifies how entries of object class **oidObj2** shall be named.

```
oidC2NameForm NAME-FORM ::= {
  NAMES             oidCobj
  WITH ATTRIBUTES   {oidC}
  ID                id-nf-oidC2NameForm }
```

7.18 OIDC name form

The **oidCNameForm** name form specifies how entries of object class **oidObjC** shall be named.

```
oidCNameForm NAME-FORM ::= {
  NAMES             oidCobj
  WITH ATTRIBUTES   {oidC}
  ID                id-nf-oidCNameForm }
```

7.19 URNC name form

The **urnCNameForm** specifies how entries of object class **urnCobj** shall be named.

```
urnCNameForm NAME-FORM ::= {
  NAMES             urnCobj
  WITH ATTRIBUTES   {urnC}
  ID                id-nf-urnCNameForm }
```

7.20 OID root name form

The **oidRootNf** name form is moved to here from Rec. ITU-T X.660 | ISO/IEC 9834-1.

```
oidRootNf NAME-FORM ::= {
  NAMES             oidRoot
  WITH ATTRIBUTES   {oidC1 | oidC2 | oidC}
  ID                id-oidRootNf }
```

7.21 OID arc name form

The **oidArcNf** name form is moved to here from Rec. ITU-T X.660 | ISO/IEC 9834-1.

```
oidArcNf NAME-FORM ::= {
  NAMES             oidArc
  WITH ATTRIBUTES   {oidC}
  ID                id-oidArcNf }
```

Annex A

Selected object classes and name forms in ASN.1

(This annex forms an integral part of this Recommendation | International Standard.)

This annex includes all of the ASN.1 type and value definitions contained in this Directory Specification in the form of the ASN.1 module **SelectedObjectClasses**.

```
SelectedObjectClasses {joint-iso-itu-t ds(5) module(1) selectedObjectClasses(6) 8}
DEFINITIONS ::=
BEGIN

--  EXPORTS All
--  EXPORTS All
-- The types and values defined in this module are exported for use in the other ASN.1
-- modules contained within the Directory Specifications, and for the use of other
-- applications which will use them to access Directory services. Other applications may
-- use them for their own purposes, but this will not constrain extensions and
-- modifications needed to maintain or improve the Directory service.

IMPORTS

  -- from Rec. ITU-T X.501 | ISO/IEC 9594-2

  authenticationFramework, certificateExtensions, id, id-nf, id-oc,
  informationFramework, objectClass, selectedAttributeTypes, passwordPolicy
    FROM UsefulDefinitions {joint-iso-itu-t ds(5) module(1) usefulDefinitions(0) 8}

  alias, ATTRIBUTE, NAME-FORM, OBJECT-CLASS, top
    FROM InformationFramework informationFramework

  -- from Rec. ITU-T X.520 | ISO/IEC 9594-6

  businessCategory, commonName, contentUrl, countryName, description,
  destinationIndicator, dmdName, epc, epcInUrn, facsimileTelephoneNumber,
  internationalISDNNumber, knowledgeInformation, localityName, member, oidC, oidC1,
  oidC2, organizationalUnitName, organizationName, owner, physicalDeliveryOfficeName,
  postalAddress, postalCode, postOfficeBox, preferredDeliveryMethod,
  presentationAddress, registeredAddress, roleOccupant, searchGuide, seeAlso,
  serialNumber, stateOrProvinceName, streetAddress, supportedApplicationContext,
  surname, tagAfi, tagLocation, tagOid, telephoneNumber, telexNumber, title, uii,
  uiiFormat, uiiInUrn, uniqueMember, urnC, x121Address
    FROM SelectedAttributeTypes selectedAttributeTypes

-- from Rec. ITU-T X.509 | ISO/IEC 9594-8

  authorityRevocationList, cACertificate, certificateRevocationList,
  crossCertificatePair, deltaRevocationList, supportedAlgorithms,
  userCertificate, userPassword
    FROM AuthenticationFramework authenticationFramework

  userPwd
    FROM PasswordPolicy passwordPolicy ;
--  Attribute sets

TelecommunicationAttributeSet ATTRIBUTE ::=
  {facsimileTelephoneNumber |
   internationalISDNNumber |
   telephoneNumber |
-- teletexTerminalIdentifier  (Attribute type has been deleted)
   telexNumber |
   preferredDeliveryMethod |
   destinationIndicator |
   registeredAddress |
   x121Address}

PostalAttributeSet ATTRIBUTE ::=
```

```
  {physicalDeliveryOfficeName |
   postalAddress |
   postalCode |
   postOfficeBox |
   streetAddress}

LocaleAttributeSet ATTRIBUTE ::=
  {localityName |
   stateOrProvinceName |
   streetAddress}

OrganizationalAttributeSet ATTRIBUTE ::=
  {description |
   LocaleAttributeSet |
   PostalAttributeSet |
   TelecommunicationAttributeSet |
   businessCategory |
   seeAlso |
   searchGuide |
   userPassword}

--  Object classes

country OBJECT-CLASS ::= {
  SUBCLASS OF    {top}
  MUST CONTAIN   {countryName}
  MAY CONTAIN    {description |
                  searchGuide}
  LDAP-NAME      {"country"}
  ID             id-oc-country }

locality OBJECT-CLASS ::= {
  SUBCLASS OF   {top}
  MAY CONTAIN   {description |
                 searchGuide |
                 LocaleAttributeSet |
                 seeAlso}
  LDAP-NAME     {"locality"}
  ID            id-oc-locality }

organization OBJECT-CLASS ::= {
  SUBCLASS OF    {top}
  MUST CONTAIN   {organizationName}
  MAY CONTAIN    {OrganizationalAttributeSet}
  LDAP-NAME      {"organization"}
  ID             id-oc-organization }

organizationalUnit OBJECT-CLASS ::= {
  SUBCLASS OF    {top}
  MUST CONTAIN   {organizationalUnitName}
  MAY CONTAIN    {OrganizationalAttributeSet}
  LDAP-NAME      {"organizationalUnit"}
  ID             id-oc-organizationalUnit }

person OBJECT-CLASS ::= {
  SUBCLASS OF    {top}
  MUST CONTAIN   {commonName |
                  surname}
  MAY CONTAIN    {description |
                  telephoneNumber |
                  userPassword |
                  seeAlso}
  LDAP-NAME      {"person"}
  ID             id-oc-person }

organizationalPerson OBJECT-CLASS ::= {
  SUBCLASS OF   {person}
  MAY CONTAIN   {LocaleAttributeSet |
                 PostalAttributeSet |
                 TelecommunicationAttributeSet |
                 organizationalUnitName |
```

```
                title}
  LDAP-NAME    {"organizationalPerson"}
  ID           id-oc-organizationalPerson }

organizationalRole OBJECT-CLASS ::= {
  SUBCLASS OF   {top}
  MUST CONTAIN  {commonName}
  MAY CONTAIN   {description |
                 LocaleAttributeSet |
                 organizationalUnitName |
                 PostalAttributeSet |
                 preferredDeliveryMethod |
                 roleOccupant |
                 seeAlso |
  LDAP-NAME      {"organizationalRole"}
                 TelecommunicationAttributeSet}
  ID            id-oc-organizationalRole }

groupOfNames OBJECT-CLASS ::= {
  SUBCLASS OF   {top}
  MUST CONTAIN  {commonName | member}
  MAY CONTAIN   {description |
                 organizationName |
                 organizationalUnitName |
                 owner |
                 seeAlso |
                 businessCategory}
  LDAP-NAME     {"groupOfNames"}
  ID            id-oc-groupOfNames }

groupOfUniqueNames OBJECT-CLASS ::= {
  SUBCLASS OF   {top}
  MUST CONTAIN  {commonName |
                 uniqueMember}
  MAY CONTAIN   {description |
                 organizationName |
                 organizationalUnitName |
                 owner |
                 seeAlso |
                 businessCategory}
  LDAP-NAME     {"groupOfUniqueNames"}
  ID            id-oc-groupOfUniqueNames }

residentialPerson OBJECT-CLASS ::= {
  SUBCLASS OF   {person}
  MUST CONTAIN  {localityName}
  MAY CONTAIN   {LocaleAttributeSet |
                 PostalAttributeSet |
                 preferredDeliveryMethod |
                 TelecommunicationAttributeSet |
                 businessCategory}
  LDAP-NAME     {"residentialPerson"}
  ID            id-oc-residentialPerson }

applicationProcess OBJECT-CLASS ::= {
  SUBCLASS OF   {top}
  MUST CONTAIN  {commonName}
  MAY CONTAIN   {description |
                 localityName |
                 organizationalUnitName |
                 seeAlso}
  LDAP-NAME     {"applicationProcess"}
  ID            id-oc-applicationProcess }

applicationEntity OBJECT-CLASS ::= {
  SUBCLASS OF   {top}
  MUST CONTAIN  {commonName |
                 presentationAddress}
  MAY CONTAIN   {description |
                 localityName |
                 organizationName |
```

```
                organizationalUnitName |
                seeAlso |
                supportedApplicationContext}
  LDAP-NAME     {"applicationEntity"}
  ID            id-oc-applicationEntity }

dSA OBJECT-CLASS ::= {
  SUBCLASS OF   {applicationEntity}
  MAY CONTAIN   {knowledgeInformation}
  LDAP-NAME     {"dSA"} -- RFC 2256
  ID            id-oc-dSA }

device OBJECT-CLASS ::= {
  SUBCLASS OF   {top}
  MUST CONTAIN  {commonName}
  MAY CONTAIN   {description |
                 localityName |
                 organizationName |
                 organizationalUnitName |
                 owner |
                 seeAlso |
                 serialNumber}
  LDAP-NAME      {"device"}
  ID            id-oc-device }

strongAuthenticationUser OBJECT-CLASS ::= {
  SUBCLASS OF   {top}
  KIND          auxiliary
  MUST CONTAIN  {userCertificate}
  LDAP-NAME     {"strongAuthenticationUser"} -- RFC 4523
  LDAP-DESC     {"X.521 strong authentication user"}
  ID            id-oc-strongAuthenticationUser }

userSecurityInformation OBJECT-CLASS ::= {
  SUBCLASS OF   {top}
  KIND          auxiliary
  MAY CONTAIN   {supportedAlgorithms}
  LDAP-NAME     {"userSecurityInformation"} -- RFC 4523
  LDAP-DESC     {"X.521 user security information"}
  ID            id-oc-userSecurityInformation }

userPwdClass  OBJECT-CLASS  ::= {
  KIND          auxiliary
  MAY CONTAIN   { userPwd }
  ID            id-oc-userPwdClass }

certificationAuthority OBJECT-CLASS ::= {
  SUBCLASS OF   {top}
  KIND          auxiliary
  MUST CONTAIN  {cACertificate |
                 certificateRevocationList |
                 authorityRevocationList}
  MAY CONTAIN   {crossCertificatePair}
  LDAP-NAME     {"certificationAuthority"} -- RFC 4523
  LDAP-DESC     {"X.509 certificate authority"}
  ID            id-oc-certificationAuthority }

certificationAuthority-V2 OBJECT-CLASS ::= {
  SUBCLASS OF   {certificationAuthority}
  KIND          auxiliary
  MAY CONTAIN   {deltaRevocationList}
  LDAP-NAME     {"certificationAuthority-V2"}
  LDAP-DESC     {"X.509 certificate authority, version 2"} -- RFC 4523
  ID            id-oc-certificationAuthority-V2 }

dMD OBJECT-CLASS ::= {
  SUBCLASS OF   {top}
  MUST CONTAIN  {dmdName}
  MAY CONTAIN   {OrganizationalAttributeSet}
  ID            id-oc-dmd }
```

```
oidC1obj OBJECT-CLASS ::= {
  SUBCLASS OF   {top}
  MUST CONTAIN  {oidC}
  ID            id-oc-oidC1obj }

oidC2obj OBJECT-CLASS ::= {
  SUBCLASS OF   {top}
  MUST CONTAIN  {oidC}
  ID            id-oc-oidC2obj }

oidCobj OBJECT-CLASS ::= {
  SUBCLASS OF   {top}
  MUST CONTAIN  {oidC}
  ID            id-oc-oidCobj }

oidRoot OBJECT-CLASS ::= {
  SUBCLASS OF   {alias}
  MUST CONTAIN  { oidC1 | oidC2 | oidC}
  ID            id-oidRoot }

oidArc OBJECT-CLASS ::= {
  SUBCLASS OF   {alias}
  MUST CONTAIN  {oidC}
  ID            id-oidArc }

urnCobj OBJECT-CLASS ::= {
  SUBCLASS OF   {top}
  MUST CONTAIN  { urnC }
  ID            id-oc-urnCobj }

isoTagInfo OBJECT-CLASS ::= {
  SUBCLASS OF  { top }
  KIND         auxiliary
  MAY CONTAIN  { tagOid |
                 tagAfi |
                 uii |
                 uiiInUrn |
                 contentUrl |
                 tagLocation }
  ID           id-oc-isoTagInfo }

isoTagType  OBJECT-CLASS ::= {
  SUBCLASS OF  { top }
  KIND         auxiliary
  MAY CONTAIN  { tagOid |
                 tagAfi |
                 uiiFormat }
  ID           id-oc-isoTagType }

epcTagInfoObj OBJECT-CLASS ::= {
  SUBCLASS OF  { top }
  KIND         auxiliary
  MAY CONTAIN  { epc |
                 epcInUrn |
                 contentUrl |
                 tagLocation }
  ID           id-oc-epcTagInfoObj }

epcTagTypeObj OBJECT-CLASS ::= {
  SUBCLASS OF  { top }
  KIND         auxiliary
  MAY CONTAIN  { uiiFormat }
  ID           id-oc-epcTagTypeObj }

--  Name forms

countryNameForm NAME-FORM ::= {
  NAMES            country
  WITH ATTRIBUTES  {countryName}
  ID               id-nf-countryNameForm }
```

```
locNameForm NAME-FORM ::= {
  NAMES             locality
  WITH ATTRIBUTES   {localityName}
  ID                id-nf-locNameForm }

sOPNameForm NAME-FORM ::= {
  NAMES             locality
  WITH ATTRIBUTES   {stateOrProvinceName}
  ID                id-nf-sOPNameForm }

orgNameForm NAME-FORM ::= {
  NAMES             organization
  WITH ATTRIBUTES   {organizationName}
  ID                id-nf-orgNameForm }

orgUnitNameForm NAME-FORM ::= {
  NAMES             organizationalUnit
  WITH ATTRIBUTES   {organizationalUnitName}
  ID                id-nf-orgUnitNameForm }

personNameForm NAME-FORM ::= {
  NAMES             person
  WITH ATTRIBUTES   {commonName}
  ID                id-nf-personNameForm }

orgPersonNameForm NAME-FORM ::= {
  NAMES             organizationalPerson
  WITH ATTRIBUTES   {commonName}
  AND OPTIONALLY    {organizationalUnitName}
  ID                id-nf-orgPersonNameForm }

orgRoleNameForm NAME-FORM ::= {
  NAMES             organizationalRole
  WITH ATTRIBUTES   {commonName}
  ID                id-nf-orgRoleNameForm }

gONNameForm NAME-FORM ::= {
  NAMES             groupOfNames
  WITH ATTRIBUTES   {commonName}
  ID                id-nf-gONNameForm }

resPersonNameForm NAME-FORM ::= {
  NAMES             residentialPerson
  WITH ATTRIBUTES   {commonName}
  AND OPTIONALLY    {streetAddress}
  ID                id-nf-resPersonNameForm }

applProcessNameForm NAME-FORM ::= {
  NAMES             applicationProcess
  WITH ATTRIBUTES   {commonName}
  ID                id-nf-applProcessNameForm }

applEntityNameForm NAME-FORM ::= {
  NAMES             applicationEntity
  WITH ATTRIBUTES   {commonName}
  ID                id-nf-applEntityNameForm }

dSANameForm NAME-FORM ::= {
  NAMES             dSA
  WITH ATTRIBUTES   {commonName}
  ID                id-nf-dSANameForm }

deviceNameForm NAME-FORM ::= {
  NAMES             device
  WITH ATTRIBUTES   {commonName}
  ID                id-nf-deviceNameForm }

dMDNameForm NAME-FORM ::= {
  NAMES             dMD
  WITH ATTRIBUTES   {dmdName}
  ID                id-nf-dMDNameForm }
```

```
oidC1NameForm NAME-FORM ::= {
  NAMES             oidCobj
  WITH ATTRIBUTES   {oidC}
  ID                id-nf-oidC1NameForm }

oidC2NameForm NAME-FORM ::= {
  NAMES             oidCobj
  WITH ATTRIBUTES   {oidC}
  ID                id-nf-oidC2NameForm }

oidCNameForm NAME-FORM ::= {
  NAMES             oidCobj
  WITH ATTRIBUTES   {oidC}
  ID                id-nf-oidCNameForm }

urnCNameForm NAME-FORM ::= {
  NAMES             urnCobj
  WITH ATTRIBUTES   {urnC}
  ID                id-nf-urnCNameForm }

oidRootNf NAME-FORM ::= {
  NAMES             oidRoot
  WITH ATTRIBUTES   {oidC1 | oidC2 | oidC}
  ID                id-oidRootNf }

oidArcNf NAME-FORM ::= {
  NAMES             oidArc
  WITH ATTRIBUTES   {oidC}
  ID                id-oidArcNf }

--  Object identifier assignments
--  object identifiers assigned in other modules are shown in comments

--  Object classes

--  id-oc-top                   OBJECT IDENTIFIER ::= {id-oc 0} Defined in X.501 | Part 2
--  id-oc-alias                 OBJECT IDENTIFIER ::= {id-oc 1} Defined in X.501 | Part 2
id-oc-country                 OBJECT IDENTIFIER ::= {id-oc 2}
id-oc-locality                OBJECT IDENTIFIER ::= {id-oc 3}
id-oc-organization            OBJECT IDENTIFIER ::= {id-oc 4}
id-oc-organizationalUnit      OBJECT IDENTIFIER ::= {id-oc 5}
id-oc-person                  OBJECT IDENTIFIER ::= {id-oc 6}
id-oc-organizationalPerson    OBJECT IDENTIFIER ::= {id-oc 7}
id-oc-organizationalRole      OBJECT IDENTIFIER ::= {id-oc 8}
id-oc-groupOfNames            OBJECT IDENTIFIER ::= {id-oc 9}
id-oc-residentialPerson       OBJECT IDENTIFIER ::= {id-oc 10}
id-oc-applicationProcess      OBJECT IDENTIFIER ::= {id-oc 11}
id-oc-applicationEntity       OBJECT IDENTIFIER ::= {id-oc 12}
id-oc-dSA                     OBJECT IDENTIFIER ::= {id-oc 13}
id-oc-device                  OBJECT IDENTIFIER ::= {id-oc 14}
id-oc-strongAuthenticationUser OBJECT IDENTIFIER ::= {id-oc 15} -- Deprecated, see 6.15
id-oc-certificationAuthority  OBJECT IDENTIFIER ::= {id-oc 16} -- Deprecated, see 6.17
id-oc-certificationAuthority-V2
                              OBJECT IDENTIFIER ::= {id-oc 16 2} -- Deprecated, see 6.18
id-oc-groupOfUniqueNames      OBJECT IDENTIFIER ::= {id-oc 17}
id-oc-userSecurityInformation OBJECT IDENTIFIER ::= {id-oc 18}
-- id-oc-cRLDistributionPoint OBJECT IDENTIFIER ::= {id-oc 19} Defined in X.509 | Part 8
id-oc-dmd                     OBJECT IDENTIFIER ::= {id-oc 20}
-- id-oc-pkiUser              OBJECT IDENTIFIER ::= {id-oc 21} Defined in X.509 | Part 8
-- id-oc-pkiCA                OBJECT IDENTIFIER ::= {id-oc 22} Defined in X.509 | Part 8
-- id-oc-deltaCRL             OBJECT IDENTIFIER ::= {id-oc 23} Defined in X.509 | Part 8
-- id-oc-pmiUser              OBJECT IDENTIFIER ::= {id-oc 24} Defined in X.509 | Part 8
-- id-oc-pmiAA                OBJECT IDENTIFIER ::= {id-oc 25} Defined in X.509 | Part 8
-- id-oc-pmiSOA               OBJECT IDENTIFIER ::= {id-oc 26} Defined in X.509 | Part 8
-- id-oc-attCertCRLDistributionPts
--                            OBJECT IDENTIFIER ::= {id-oc 27} Defined in X.509 | Part 8
-- id-oc-parent               OBJECT IDENTIFIER ::= {id-oc 28} Defined in X.501 | Part 2
-- id-oc-child                OBJECT IDENTIFIER ::= {id-oc 29} Defined in X.501 | Part 2
-- id-oc-cpCps                OBJECT IDENTIFIER ::= {id-oc 30} Defined in X.509 | Part 8
-- id-oc-pkiCertPath          OBJECT IDENTIFIER ::= {id-oc 31} Defined in X.509 | Part 8
```