INTERNATIONAL STANDARD

ISO/IEC 9594-7

First edition
1990-12-15

Information technology — Open Systems Interconnection — The Directory —

Part 7:
Selected object classes

Technologies de l'information — Interconnexion de systèmes ouverts — L'annuaire —

Partie 7: Classes d'objets sélectionnés

Contents

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. 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.

International Standard ISO/IEC 9594-7 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*.

ISO/IEC 9594 consists of the following parts, under the general title *Information technology — Open Systems Interconnection — The Directory*:

— *Part 1: Overview of concepts, models and services*

— *Part 2: Models*

— *Part 3: Abstract service definition*

— *Part 4: Procedures for distributed operation*

— *Part 5: Protocol specifications*

— *Part 6: Selected attribute types*

— *Part 7: Selected object classes*

— *Part 8: Authentication framework*

Annex A forms an integral part of this part of ISO/IEC 9594. Annex B is for information only.

Introduction

0.1 This part of ISO/IEC 9594, together with the other parts, 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.

0.2 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.

0.3 This part of ISO/IEC 9594 defines (in section two) a number of attribute sets and object classes which may be found useful across a range of applications of the Directory.

0.4 Annex A, which is a part of the standard, provides an ASN.1 module containing all of the type and value definitions which appear in this document.

0.5 Annex B, which is not a part of the standard, provides some common naming and structure rules which may or may not be used by Administrative authorities.

Information technology — Open Systems Interconnection — The Directory —

Part 7:
Selected object classes

SECTION 1: GENERAL

1 Scope

1.1 This part of ISO/IEC 9594 defines a number of selected attribute sets and object classes which may be found useful across a range of applications of the Directory. The definition of an attribute set involves identifying the attributes that it contains, and facilitates the definition of object classes.The definition of an object class involves optionally allocating an Object Identifier to it, and listing a number of attribute types which are relevant to objects of that class. These definitions are used by the administrative authority which is responsible for the management of the Directory information.

1.2 Any Administrative Authority can define its own object classes or subclasses for any purpose.

Notes

1. These definitions may or may not use the notation specified in ISO/IEC 9594-2.

2. It is recommended that an object class defined in this document, or a subclass derived from one, be used in preference to the generation of a new one, whenever the semantics is appropriate for the application.

1.3 Administrative authorities may support some or all the selected object classes, and may also add object classes.

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

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO/IEC 9594. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO/IEC 9594 are encouraged to investigate the possibility of applying the most recent editions of the standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 7498:1984, *Information Processing Systems — Open Systems Interconnection — Basic Reference Model.*

ISO/IEC 9594-1:1990, *Information Technology — Open Systems Interconnection — The Directory — Part 1: Overview of Concepts, Models and Services.*

ISO/IEC 9594-2:1990, *Information Technology — Open Systems Interconnection — The Directory — Part 2: Models.*

ISO/IEC 9594-8:1990, *Information Technology — Open Systems Interconnection — The Directory — Part 8: Authentication Framework.*

3 Definitions and Abbreviations

3.1 OSI Reference Model Definitions

This part of ISO/IEC 9594 makes use of the following definition from ISO 7498:

a) application-entity.

b) application-process.

3.2 Directory Model Definitions

This part of ISO/IEC 9594 makes use of the following definitions from 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.

4   Notation

Object classes are defined in this document by the use of special notation, defined as an ASN.1 macro, **OBJECT-CLASS**, in ISO/IEC 9594-2. One 'generic' object identifier (**objectClass**) is used in specifying the object identifiers being allocated to object classes. Its definition can be found in annex B of the same part.

Attributes sets are defined in this document by the use of special notation, defined as an ASN.1 macro, **ATTRIBUTE-SET**, in ISO/IEC 9594-2. One 'generic' object identifier (**attributeSet**) is used in specifying the object identifiers being allocated to attribute set definitions. Its definition can be found in annex B of the same part.

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-SET
        CONTAINS {
                facsimileTelephoneNumber,
                internationalISDNNumber,
                telephoneNumber,
                teletexTerminalIdentifier,
                telexNumber,
                preferredDeliveryMethod,
                destinationIndicator,
                registeredAddress,
                x121Address}
        ::= {attributeSet 0}
```

5.2   Postal Attribute Set

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

```
postalAttributeSet ATTRIBUTE-SET
        CONTAINS {
                physicalDeliveryOfficeName,
                postalAddress,
                postalCode,
                postOfficeBox,
                streetAddress}
        ::= {attributeSet 1}
```

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-SET
        CONTAINS {
                localityName,
                stateOrProvinceName,
                streetAddress}
        ::= {attributeSet 2}
```

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-SET
        CONTAINS {
                description,
                localeAttributeSet,
                postalAttributeSet,
                telecommunicationAttributeSet,
                businessCategory,
                seeAlso,
                searchGuide,
                userPassword}
        ::= {attributeSet 3}
```

6   Definition of Selected Object Classes

6.1   Top

The *top* object class, of which every other object class is a subclass, is defined, except for the allocation of an object identifier, in ISO/IEC 9594-2

```
        top     Top     ::=     {objectClass 0}
```

6.2   Alias

The *alias* object class, from which classes for alias entries may be derived, is defined, except for the allocation of an object identifier, in ISO/IEC 9594-2

```
        alias   Alias   ::=     {objectClass 1}
```

6.3   Country

A *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}
    ::= {objectClass 2}
```

6.4 Locality

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

```
locality OBJECT-CLASS
    SUBCLASS OF top
    MAY CONTAIN {
        description,
        localityName,
        stateOrProvinceName,
        searchGuide,
        seeAlso,
        streetAddress}
    ::= {objectClass 3}
```

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

6.5 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}
    ::= {objectClass 4}
```

6.6 Organizational Unit

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

```
organizationalUnit OBJECT-CLASS
    SUBCLASS OF top
    MUST CONTAIN {
        organizationalUnitName}
    MAY CONTAIN {
        organizationalAttributeSet}
    ::= {objectClass 5}
```

6.7 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,
        seeAlso,
        telephoneNumber,
        userPassword}
    ::= {objectClass 6}
```

6.8 Organizational Person

The *Organizational Person* 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,
        organizationalUnitName,
        postalAttributeSet,
        telecommunicationAttributeSet,
        title}
    ::= {objectClass 7}
```

6.9 Organizational Role

The *Organizational Role* 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}
    ::= {objectClass 8}
```

6.10 Group of Names

The *Group Of Names* 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; that is, 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

3

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}
        ::= {objectClass 9}
```

6.11 Residential Person

The *Residential Person* 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}
        ::= {objectClass 10}
```

6.12 Application Process

The *Application Process* 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 ISO 7498).

```
applicationProcess OBJECT-CLASS
        SUBCLASS OF top
        MUST CONTAIN {
                commonName}
        MAY CONTAIN {
                description,
                localityName,
                organizationalUnitName,
                seeAlso}
        ::= {objectClass 11}
```

6.13 Application Entity

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

```
applicationEntity OBJECT-CLASS
        SUBCLASS OF top
        MUST CONTAIN {
                commonName,
                presentationAddress}
        MAY CONTAIN {
                description,
                localityName,
                organizationName,
                organizationalUnitName,
                seeAlso,
                supportedApplicationContext}
        ::= {objectClass 12}
```

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.

6.14 DSA

The *DSA* object class is used to define entries representing DSAs. A DSA is as defined in ISO/IEC 9594-2.

```
dSA OBJECT-CLASS
        SUBCLASS OF applicationEntity
        MAY CONTAIN {
                knowledgeInformation}
        ::= {objectClass 13}
```

6.15 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}
        ::= {objectClass 14}
```

Note — At least one of **localityName**, **serialNumber**, **owner**, should be included. The choice is dependent on device type.

6.16 Strong Authentication User

The *Strong Authentication User* object class is used in defining entries for objects which participate in strong authentication, as defined in ISO/IEC 9594-8.

```
strongAuthenticationUser    OBJECT-CLASS
        SUBCLASS OF top
        MUST CONTAIN { userCertificate }
        ::=     { objectClass 15 }
```

6.17 Certification Authority

The *Certification Authority* object class is used in defining entries for objects which act as certification authorities, as defined in ISO/IEC 9594-8.

```
certificationAuthority        OBJECT-CLASS
        SUBCLASS OF top
        MUST CONTAIN      {
                cACertificate,
                certificateRevocationList,
                authorityRevocationList }
        MAY CONTAIN       { crossCertificatePair }
        ::=      { objectClass 16 }
```

Annex A
(Normative)
Selected Object Classes in ASN.1

This annex includes all of the ASN.1 type and value definitions contained in this part of ISO/IEC 9594, in the form of the ASN.1 module, **"SelectedObjectClasses"**.

```
SelectedObjectClasses {joint-iso-ccitt ds(5) modules(1) selectedObjectClasses(6)}
DEFINITIONS ::=
BEGIN

- - EXPORTS everything --

IMPORTS
        objectClass, attributeSet, informationFramework, selectedAttributeTypes
                FROM  UsefulDefinitions {joint-iso-ccitt ds(5) modules(1) usefulDefinitions(0) },
        OBJECT-CLASS,ATTRIBUTE-SET, Top, Alias
                FROM  InformationFramework informationFramework,
        authorityRevocationList, businessCategory, cACertificate, certificateRevocationList, commonName, countryName, description,
        destinationIndicator, facsimileTelephoneNumber, internationalISDNNumber, knowledgeInformation, localityName, member,
        organizationName, organizationalUnitName, owner, physicalDeliveryOfficeName, postOfficeBox, postalAddress, postalCode,
        preferredDeliveryMethod, presentationAddress, registeredAddress, roleOccupant, searchGuide, seeAlso, serialNumber,
        stateOrProvinceName, streetAddress, supportedApplicationContext, surname, telephoneNumber, teletexTerminalIdentifier,
        telexNumber, title, userPassword, x121Address
                FROM  SelectedAttributeTypes selectedAttributeTypes;

telecommunicationAttributeSet ATTRIBUTE-SET
        CONTAINS {
                facsimileTelephoneNumber,
                internationalISDNNumber,
                telephoneNumber,
                teletexTerminalIdentifier,
                telexNumber,
                preferredDeliveryMethod,
                destinationIndicator,
                registeredAddress,
                x121Address}
                ::= {attributeSet 0}

postalAttributeSet ATTRIBUTE-SET
        CONTAINS {
                physicalDeliveryOfficeName,
                postalAddress,
                postalCode,
                postOfficeBox,
                streetAddress}
                ::= {attributeSet 1}

localeAttributeSet ATTRIBUTE-SET
        CONTAINS {
                localityName,
                stateOrProvinceName,
                streetAddress}
                ::= {attributeSet 2}
```

6

```
organizationalAttributeSet ATTRIBUTE-SET
        CONTAINS {
                description,
                localeAttributeSet,
                postalAttributeSet,
                telecommunicationAttributeSet,
                businessCategory,
                seeAlso,
                searchGuide,
                userPassword}
        ::= {attributeSet 3}

top     Top     ::=     {objectClass 0}

alias   Alias   ::=     {objectClass 1}

country OBJECT-CLASS
        SUBCLASS OF top
        MUST CONTAIN {
                countryName}
        MAY CONTAIN {
                description,
                searchGuide}
        ::= {objectClass 2}

locality OBJECT-CLASS
        SUBCLASS OF top
        MAY CONTAIN {
                description,
                localityName,
                stateOrProvinceName,
                searchGuide,
                seeAlso,
                streetAddress}
        ::= {objectClass 3}

organization OBJECT-CLASS
        SUBCLASS OF top
        MUST CONTAIN {
                organizationName}
        MAY CONTAIN {
                organizationalAttributeSet}
        ::= {objectClass 4}

organizationalUnit OBJECT-CLASS
        SUBCLASS OF top
        MUST CONTAIN {
                organizationalUnitName}
        MAY CONTAIN {
                organizationalAttributeSet}
        ::= {objectClass 5}

person OBJECT-CLASS
        SUBCLASS OF top
        MUST CONTAIN {
                commonName,
                surname}
        MAY CONTAIN {
                description,
                seeAlso,
                telephoneNumber,
                userPassword}
        ::= {objectClass 6}
```

```
organizationalPerson OBJECT-CLASS
        SUBCLASS OF person
        MAY CONTAIN {
                localeAttributeSet,
                organizationalUnitName,
                postalAttributeSet,
                telecommunicationAttributeSet,
                title}
        ::= {objectClass 7}

organizationalRole OBJECT-CLASS
        SUBCLASS OF top
        MUST CONTAIN {
                commonName}
        MAY CONTAIN {
                description,
                localeAttributeSet,
                organizationalUnitName,
                postalAttributeSet,
                preferredDeliveryMethod,
                roleOccupant,
                seeAlso,
                telecommunicationAttributeSet}
        ::= {objectClass 8}

groupOfNames OBJECT-CLASS
        SUBCLASS OF top
        MUST CONTAIN {
                commonName,
                member}
        MAY CONTAIN {
                description,
                organizationName,
                organizationalUnitName,
                owner,
                seeAlso,
                businessCategory}
        ::= {objectClass 9}

residentialPerson OBJECT-CLASS
        SUBCLASS OF person
        MUST CONTAIN{
                localityName}
        MAY CONTAIN {
                localeAttributeSet,
                postalAttributeSet,
                preferredDeliveryMethod,
                telecommunicationAttributeSet,
                businessCategory}
        ::= {objectClass 10}

applicationProcess OBJECT-CLASS
        SUBCLASS OF top
        MUST CONTAIN {
                commonName}
        MAY CONTAIN {
                description,
                localityName,
                organizationalUnitName,
                seeAlso}
        ::= {objectClass 11}
```