Schema Reference

iPlanet Directory Server

Version 5.1

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Contents

About this Reference Guide

iPlanet Directory Server 5.1 is a powerful and scalable distributed directory server based on the industry-standard Lightweight Directory Access Protocol (LDAP). iPlanet Directory Server is the cornerstone for building a centralized and distributed data repository that can be used in your intranet, over your extranet with your trading partners, or over the public Internet to reach your customers.

For the latest information about new features and enhancements in this release of iPlanet Directory Server, please see the online release notes at:

```
http://docs.iplanet.com/docs/manuals/directory.html
```

Purpose of this Guide

This *Schema Reference Guide* guide describes the standard schema for user directories provided with the iPlanet Directory Server. The schema defines the structure of the data stored in a directory. It determines the name and syntax of each attributes and which attributes are required or allowed in each object class.

This document lists all the object classes and attributes defined by the standard schema. It also lists the operational attributes in the server. The information provided here is intended for the administrator who manages and maintains the schema. For information about server specific schema, please refer to the *iPlanet Directory Server Configuration, Command, and File Reference.*

Contents of this Guide

Chapter 1, "About Schema" provides an overview of some of the basic concepts of the directory schema, and lists the files in which the schema is described. It describes object classes, attributes and Object Identifiers (OIDs), and briefly discusses extending server schema and schema checking.

Chapter 2, "Object Class Reference" contains an alphabetical list of the object classes accepted by the default schema. It gives a definition of each object class, and lists its required and allowed attributes.

Chapter 3, "Attribute Reference" contains an alphabetic list of the standard attributes. It gives a definition of each attribute, and gives the attribute syntax and OID.

Chapter 4, "Operational Attributes, Special Attributes and Special Object Classes" contains an alphabetical list of the operational attributes used by the server, and of some special object classes and attributes used by the server. It gives a definition of each attribute, and gives the attribute syntax and OID. It also gives a definition of each object class, and gives the list of required and allowed attributes.

Prerequisite Reading

This guide describes the standard schema and the standard object classes and attributes. However, this guide does not describe how to design, customize or maintain your schema, nor does it give any information on replication. Those concepts are described in the *iPlanet Directory Server Deployment Guide*. You should read that book before continuing with this manual.

For information on how to configure iPlanet Directory Server 5.1 for the Solaris 9 operating environment, see *Solaris 9 System Administration Naming and Directory Services: (DNS, NIS and LDAP)*, the chapter entitled "iPlanet Directory Server 5.1 Configuration."

Preliminary planning includes deciding how to represent the data you store. You should chose predefined schema elements to meet as many of your needs as possible. These predefined schema elements are listed in this guide.

Conventions Used in This Book

This section explains the typographic conventions used in this book.

`Monospaced font` - This typeface is used for literal text, such as the names of attributes and object classes when they appear in text. It is also used for filenames and examples.

Italic font - In this reference guide, this typeface is used for attribute names and their description when they are inherited by an object class. It is also used for text that you must substitute for actual values, such as placeholders in path names.

NOTE	Notes, Cautions and Tips highlight important conditions or limitations. Be sure to read this information before continuing.

This book uses the following format for paths and file names:

`/var/ds5/slapd-`*serverID*`/...`

serverID represents the server identifier you gave the server when you configured it. Schema files are stored in the `/var/ds5/slapd-`*serverID*`/config/schema` directory.

For example, if you gave the name `phonebook` to your directory server, then the actual path would be:

`/var/ds5/slapd-phonebook/...`

Related Information

The document set for iPlanet Directory Server also contains the following guides:

iPlanet Directory Server Deployment Guide. Provides an overview for planning your deployment of the Directory Server. Includes deployment examples.

iPlanet Directory Server Configuration, Command, and File Reference. Provides reference information on the command-line scripts, configuration attributes, and log files shipped with Directory Server.

iPlanet Server Administrator's Guide. Procedures for managing directory contents and maintaining your directory server. Includes information on configuring server-side plug-ins.

Other useful information can be found on the following Web sites:

• iPlanet product documentation online:
  `http://docs.iplanet.com/docs/manuals/`

- iPlanet product status:
  `http://www.iplanet.com/support/technical_resources/`

- iPlanet Professional Services information:
  `http://www.iplanet.com/services/professional_services_3_3.html`

- Sun Enterprise Services for Solaris patches and support:
  `http://www.sun.com/service/`

- iPlanet developer information:
  `http://developer.iplanet.com/`

- iPlanet learning solutions:
  `http://www.iplanet.com/learning/index.html`

- iPlanet product data sheets:
  `http://www.iplanet.com/products/index.html`

About Schema

This chapter provides an overview of some of the basic concepts of the directory schema, and lists the files in which the schema is described. It describes object classes, attributes and Object Identifiers (OIDs), and briefly discusses extending server schema and schema checking.

Schema Definition

The directory schema is a set of rules that defines how the data can be stored in the directory. The data is stored in the form of directory entries. Each entry is a set of attributes and their values. Each entry must have an object class. The object class specifies the kind of object the entry describes and defines the set of attributes it contains. The schema defines the type of entries allowed, their attribute structure and the syntax of the attributes. The schema can be modified and extended if it does not meet your required needs.

To find detailed information about object classes, attributes, and how the Directory Server uses the schema, please refer to the *iPlanet Directory Server Deployment Guide.*

Object Classes

In LDAP, an object class defines the set of attributes that can be used to define an entry. The LDAP standard provides some basic types of object classes, including:

- Groups, including unordered lists of individual objects or groups of objects.

- Locations, such as the country name and description.

- Organizations.

- People.

- Devices.

Object classes may be subdivided into three types:

- Structural: indicates the attributes that the entry may have and where each entry may occur in the DIT. This object class represents the corresponding real world object. Entries must belong to a structural object class, so most object classes are structural object classes.

- Auxiliary: indicates the attributes that the entry may have. Does not represent a real world object, but represents additional attributes that can be associated with some structural object class to supplement its specification. Each entry, while belonging to only a single structural object class, may belong to zero or more auxiliary object classes.

- Abstract: defined purely for the purpose of serving as a superclass or template for other (structural) object classes. It is a way of conveniently collecting together a set of attributes which it is known will be common to a set of structural object classes, in order that these classes may be derived as subclasses of the abstract class rather than being defined from scratch. Note that an entry may not belong to an abstract object class.

Note that the Directory Server currently does not distinguish between structural and auxiliary object classes.

Required and Allowed Attributes

Every object class includes a number of required attributes and of allowed attributes. Required attributes include the attributes that must be present in entries using the object class. All entries require the `objectClass` attribute, which defines the object classes assigned to the entry.

Allowed attributes include the attributes that may be present in entries using the object class.

Example: Object Class = person

Required Attributes

```
objectClass
cn (common name)
sn (surname)
```

Allowed Attributes

```
description
seeAlso
telephoneNumber
userPassword
```

Object Class Inheritance

Each entry should be assigned to one structural object class. All object classes inherit from top. They can also inherit from other object classes. The server's object class structure determines the list of required and allowed attributes for a particular entry. For example, a person entry is usually defined with the following object class structure:

```
objectClass: top
objectClass: person
objectClass: organizationalPerson
objectClass: inetOrgperson
```

In this structure, the inetOrgperson inherits from the organizationalPerson and person object classes. Therefore, when you assign the inetOrgperson object class to an entry, it automatically inherits the required and allowed attributes from the superior object class.

Note: Object class inheritance is dependant on the order in which the object classes appear in the `.ldif` file. The order in which object classes appear in the `.ldif` file must be consistent with the object class hierarchy, otherwise the server will not start. An object class which inherits from another object class must therefore appear *after* this object class in the `.ldif` file.

Attributes

Directory data is represented as attribute-value pairs. Any piece of information in the directory is associated with a descriptive attribute.

For instance, the `commonName`, or `cn`, attribute is used to store a person's name. A person named Barbara (Babs) Jensen can be represented in the directory as

```
cn: Babs Jensen
```

Each person entered in the directory can be defined by the collection of attributes in the `inetorgperson` object class. Other attributes used to define this entry could include:

```
givenname: Barbara
surname: Jensen
mail: bjensen@siroe.com
```

Attribute Syntax

Each attribute has a syntax definition that describes the type of information provided by the attribute.

Attribute syntax is used by the Directory Server to perform sorting and pattern matching.

Table 1-1 lists the different syntax methods that can be applied to attributes, and gives an OID and a definition for each syntax method.

Table 1-1   Attribute Syntax

Syntax and OID	Definition
Binary 1.3.6.1.4.1.1466.115.121.1.5	Indicates that values for this attribute are binary.
Boolean 1.3.6.1.4.1.1466.115.121.1.7	Indicates that this attribute has one of only two values: `True` or `False`.
Country String 1.3.6.1.4.1.1466.115.121.1.11	Indicates that values for this attribute are limited to exactly two printable string characters, for example `fr`.
DN 1.3.6.1.4.1.1466.115.121.1.12	Indicates that values for this attribute are DNs (distinguished names).
DirectoryString 1.3.6.1.4.1.1466.115.121.1.15	Indicates that values for this attribute are not case sensitive.
GeneralizedTime 1.3.6.1.4.1.1466.115.121.1.24	Indicates that values for this attribute are encoded as printable strings. The time zone must be specified. It is strongly recommended to use GMT.
IA5String 1.3.6.1.4.1.1466.115.121.1.26	Indicates that values for this attribute are case sensitive.
INTEGER 1.3.6.1.4.1.1466.115.121.1.27	Indicates that valid values for this attribute are numbers.
OctetString 1.3.6.1.4.1.1466.115.121.1.40	Same behavior as binary.

Postal Address
1.3.6.1.4.1.1466.115.121.1.41
	Indicates that values for this attribute are encoded as
	
	    dstring`[`$`  `*dstring*`]*`
	
	where each *dstring* component is encoded as a value with DirectoryString syntax. Backslashes and dollar characters within *dstring* must be quoted, so that they will not be mistaken for line delimiters. Many servers limit the postal address to 6 lines of up to thirty characters. For example:
	
	    `1234 Main St.$Anytown, TX 12345$USA`

TelephoneNumber 1.3.6.1.4.1.1466.115.121.1.50	Indicates that values for this attribute are in the form of telephone numbers. It is recommended to use telephone numbers in international form.

Table 1-1   Attribute Syntax

Syntax and OID	Definition
URI 1.3.6.1.4.1.250.1.57	Indicates that the values for this attribute are in the form of a URL, introduced by a string such as `http://`, `https://`, `ftp`, `LDAP`. The URI has the same behavior as IA5String. See RFC 2396.

Single-Valued and Multi-Valued Attributes

By default, most attributes are multi-valued. This means that an entry can contain the same attribute with multiple values. For example, `cn`, `tel` and `objectClass` are all attributes that can have more than one value. Attributes that are single-valued—that is, only one instance of the attribute can be specified—are noted as such. For example, `uidNumber` can only have one possible value.

Schema Supported by Directory Server 5.1

The schema provided with iPlanet Directory Server 5.1 is described in a set of files stored in the following directory:

    /var/ds5/slapd-*serverID*/config/schema

You can modify the schema by creating new object classes and attributes. These modifications are stored in a separate file called `99user.ldif`. You should not modify the standard files provided with the Directory Server, because you incur the risk of breaking compatibility with other iPlanet products, or of causing interoperability problems with directory servers from other vendors than iPlanet.

For more information about how the Directory Server stores information and suggestions for planning directory schema, refer to the *iPlanet Directory Server Deployment Guide.*

The following tables list the schema files that are provided with iPlanet Directory Server. Table 1-2 lists the schema files that are used by the Directory Server. Table 1-3 lists the schema files that are used by other iPlanet products.

Table 1-2   Schema Files used by Directory Server

Schema Filename	Purpose
`00core.ldif`	Recommended core schema from the X.500 and LDAP standards (RFCs), and schema used by the Directory Server itself

Table 1-2   Schema Files used by Directory Server

Schema Filename	Purpose
`05rfc2247.ldif`	Schema from RFC 2247 and related pilot schema "Using Domains in LDAP/X.500 Distinguished Names"
`05rfc2927.ldif`	Schema from RFC 2927 "MIME Directory Profile for LDAP Schema"
`10rfc2307.ldif`	Schema from RFC 2307 "An Approach for Using LDAP as a Network Information Service"
`20subscriber.ldif`	Common schema elements for iPlanet-Nortel subscriber interoperability
`25java-object.ldif`	Schema from RFC 2713 "Schema for Representing Java(tm) Objects in an LDAP Directory"
`28pilot.ldif`	Schema from the pilot RFCs, especially RFC 1274, that is no longer recommended by iPlanet for use in new deployments.
`30ns-common.ldif`	Common iPlanet schema
`50ns-directory.ldif`	Additional schema used by iPlanet Directory Server 4.x
`50ns-value.ldif`	iPlanet servers "value item" schema
`99user.ldif`	Customer modifications to the schema

Table 1-3   Schema Files used by other iPlanet Products

Schema Filenames	Purpose
`50iplanet-servicemgt.ldif`	iPlanet service management schema elements
`50ns-admin.ldif`	Schema used by iPlanet Administration Services
`50ns-calendar.ldif`	iPlanet Calendar Server schema
`50ns-certificate.ldif`	Schema for iPlanet Certificate Management System
`50ns-compass.ldif`	Schema for the Netscape Compass Server
`50ns-delegated-admin.ldif`	Schema for iPlanet Delegated Administrator 4.5
`50ns-legacy.ldif`	Legacy Netscape Schema
`50ns-mail.ldif`	Schema for iPlanet Messaging Server

Table 1-3   Schema Files used by other iPlanet Products

Schema Filenames	Purpose
`50ns-mcd-browser.ldif`	Schema for Netscape Mission Control Desktop - Browser
`50ns-mcd-config.ldif`	Schema for Netscape Mission Control Desktop - Configuration
`50ns-mcd-li.ldif`	Schema for Netscape Mission Control Desktop - Location Independence
`50ns-mcd-mail.ldif`	Schema for Netscape Mission Control Desktop - Mail
`50ns-media.ldif`	Schema for Netscape Media Server
`50ns-mlm.ldif`	Schema for iPlanet Mailing List Manager
`50ns-msg.ldif`	Schema for iPlanet Web Mail
`50ns-netshare.ldif`	Schema for iPlanet Netshare
`50ns-news.ldif`	Schema for iPlanet Collabra Server.
`50ns-proxy.ldif`	Schema for iPlanet Proxy Server
`50ns-wcal.ldif`	Schema for iPlanet Web Calendaring
`50ns-web.ldif`	Schema for iPlanet Web Server

Object Identifiers (OIDs)

Object identifiers (OIDs) are assigned to all attributes and object classes to conform to the LDAP and X.500 standards. An OID is a sequence of integers, typically written as a dot-separated string. When no OID is specified, the Directory Server automatically uses *ObjectClass_name*-oid and *attribute_name*-oid.

The Netscape base OID is `2.16.840.1.113730`.

The base OID for the iPlanet Directory Server is `2.16.840.1.113730.3`.

All iPlanet-defined attributes have the base OID of `2.16.840.1.113370.3.1`.

All iPlanet-defined object classes have the base OID of `2.16.840.1.113730.3.2`.

For more information about OIDs, or to request a prefix for your enterprise, please go to the IANA (Internet Assigned Number Authority) website at `http://www.iana.org/`.

Extending Server Schema

The Directory Server schema includes hundreds of object classes and attributes that can be used to meet most of your requirements. This schema can be extended with new object classes and attributes that meet evolving requirements for the directory service in the enterprise.

When adding new attributes to the schema, a new object class should be created to contain them (adding a new attribute to an existing object class can compromise the Directory Server's compatibility with existing LDAP clients that rely on the standard LDAP schema and may cause difficulties when upgrading the server).

For more information about extending server schema, refer to the *iPlanet Directory Server Deployment Guide.*

Schema Checking

You should run Directory Server with schema checking turned on.

The schema checking capability of iPlanet Directory Server checks entries when you add them to the directory or when you modify them, to verify that:

- Object classes and attributes in the entry are defined in the directory schema

- Attributes required for an object class are contained in the entry

- Only attributes allowed by the object class are contained in the entry

Schema checking also occurs when importing a database using LDIF. For more information, refer to the *iPlanet Directory Server Administrator's Guide.*

Object Class Reference

This chapter contains an alphabetical list of the object classes accepted by the default schema. It gives a definition of each object class, and lists its required and allowed attributes. The object classes listed in this chapter are available for you to use to support your own information in the Directory Server. Object classes that are used by the Directory Server or other iPlanet products for internal operations are not documented here. For information about these object classes, please refer to the *iPlanet Directory Server Configuration, Command, and File Reference.* When an object class inherits attributes from other object classes, the inherited attributes are shown in italics. An object class which inherits from another object class must appear *after* this object class in the `.ldif` file, otherwise the server will not start.

account

Definition

Used to define entries representing computer accounts.

This object class is defined in RFC 1274.

Superior Class

top

OID

0.9.2342.19200300.100.4.5

Required Attributes

objectClass	*Defines the object class for the entry.*
uid (userID)	Identifies the account's user ID.

Allowed Attributes

description	Text description of the entry.
host	Hostname of the computer on which the account resides.
l (localityName)	Place in which the account is located.
o (organizationName)	Organization to which the account belongs.
ou (organizationUnitName)	Organizational unit to which the account belongs.
seeAlso	DN to information relevant to the account.

alias

Definition
Used to point to other entries in the directory tree.

Note: Alias dereferencing is not supported in iPlanet Directory Server.

This object class is defined in RFC 2256.

Superior Class
top

OID
2.5.6.1

Required Attributes

objectClass	*Defines the object classes for the entry.*
aliasedObjectName	Distinguished name of the entry for which this entry is an alias.

cosClassicDefinition

Definition
Identifies the template entry using both the template entry's DN (as specified in the `cosTemplateDn` attribute) and the value of one of the target entry's attributes (as specified in the `cosSpecifier` attribute).

This object class is defined in iPlanet Directory Server.

Superior Class
cosSuperDefinition

OID
2.16.840.1.113730.3.2.100

Required Attributes

objectClass	*Defines the object classes for the entry.*
cosAttribute	*Provides the name of the attribute for which you want to generate a value. You can specify more than one cosAttribute value.*

Allowed Attributes

cn (commonName)	*Common name of the entry.*
cosSpecifier	Specifies the attribute value used by a classic CoS, which, along with the template entry's DN, identifies the template entry.
cosTemplateDn	Provides the DN of the template entry associated with the CoS definition.
description	*Text description of the entry.*

cosDefinition

Definition

Defines the Class of Services you are using. This object class is supported in order to provide compatibility with the DS4.1 CoS Plugin.

This object class is defined in iPlanet Directory Server

Superior Class

top

OID

2.16.840.1.113730.3.2.84

Required Attributes

objectClass	*Defines the object classes for the entry.*

Allowed Attributes

aci	Evaluates what rights are granted or denied when the directory server receives an LDAP request from a client.
cn (commonName)	Common name of the entry.
cosAttribute	Provides the name of the attribute for which you want to generate a value. You can specify more than one `cosAttribute` value.
cosSpecifier	Specifies the attribute value used by a classic CoS, which, along with the template entry's DN, identifies the template entry.
cosTargetTree	Determines the subtrees of the DIT to which the CoS schema applies.
cosTemplateDn	Provides the DN of the template entry associated with the CoS definition.
uid (userID)	Identifies the user id.

cosIndirectDefinition

Definition
Identifies the template entry using the value of one of the target entry's attributes. The attribute of the target entry is specified in the `cosIndirectSpecifier` attribute.

This object class is defined in iPlanet Directory Server.

Superior Class
cosSuperDefinition

OID
2.16.840.1.113730.3.2.102

Required Attributes

objectClass	*Defines the object classes for the entry.*
cosAttribute	*Provides the name of the attribute for which you want to generate a value. You can specify more than one cosAttribute value.*

Allowed Attributes

cn (commonName)	*Common name of the entry.*
cosIndirectSpecifier	Specifies the attribute value used by an indirect CoS to identify the template entry.
description	*Text description of the entry.*

cosPointerDefinition

Definition

Identifies the template entry associated with the CoS definition using the template entry's DN value. The DN of the template entry is specified in the `cosTemplateDn` attribute.

This object class is defined in iPlanet Directory Server.

Superior Class
cosSuperDefinition

OID
2.16.840.1.113730.3.2.101

Required Attributes

objectClass	*Defines the object classes for the entry.*
cosAttribute	*Provides the name of the attribute for which you want to generate a value. You can specify more than one cosAttribute value.*

Allowed Attributes

cn (commonName)	*Common name of the entry.*
cosTemplateDn	Provides the DN of the template entry associated with the CoS definition.
description	*Text description of the entry.*

cosSuperDefinition

Definition

All CoS definition object classes inherit from the `cosSuperDefinition` object class.

This object class is defined in iPlanet Directory Server.

Superior Class
ldapSubEntry

OID
2.16.840.1.113730.3.2.99

Required Attributes

objectClass	*Defines the object classes for the entry.*
cosAttribute	Provides the name of the attribute for which you want to generate a value. You can specify more than one `cosAttribute` value

Allowed Attributes

cn (commonName)	*Common name of the entry.*
description	Text description of the entry.

cosTemplate

Definition

Contains a list of the shared attribute values.

This object class is defined in iPlanet Directory Server.

Superior Class

top

OID

2.16.840.1.113730.3.2.128

Required Attributes

objectClass	*Defines the object classes for the entry.*

Allowed Attributes

cn (commonName)	Common name of the entry.
cosPriority	Specifies which template provides the attribute value, when CoS templates compete to provide an attribute value.

country

Definition

Used to define entries that represent countries.

This object class is defined in RFC 2256.

Superior Class

top

OID

2.5.6.2

Required Attributes

objectClass	*Defines the object classes for the entry.*
c (countryName)	Contains the two-character code representing country names, as defined by ISO, in the directory.

Allowed Attributes

description	Text description of the country.
searchGuide	Specifies information for suggested search criteria when using the entry as the base object in the directory tree for a search operation.

dcObject

Definition

Defines a domain component, such as a network domain that is associated with the entry. This object class is defined as auxiliary because it is commonly used in combination with another object class, such as `organization`, `organizationUnit`, or `locality`. For example:

```
dn: ou=Engineering,dc=siroe,dc=com
objectClass: top
objectClass: organizationalUnit
objectClass: dcObject
ou: Engineering
dc: eng
```

This object class is defined in RFC 2247.

NOTE	Suffixes often contain the `dc` attribute, such as `dc=siroe,dc=com` in the example above. Suffixes use the `dc` attribute to suggest that the directory they represent is associated with a certain domain. However, the suffix is a string associated with a database and is not related to the `dcObject` object class.

Superior Class
top

OID
1.3.6.1.4.1.1466.344

Required Attributes

objectClass	*Defines the object classes for the entry.*
dc (domainComponent)	One component of a domain name.

See Also
domain

device

Definition

Used to store information about network devices, such as printers, in the directory.

This object class is defined in RFC 2256.

Superior Class
top

OID
2.5.6.14

Required Attributes

objectClass	*Defines the object classes for the entry.*
cn (commonName)	The common name of the series.

Allowed Attributes

description	Text description of the device.
l (localityName)	Place in which the device is located.
o (organizationName)	Organization to which the device belongs.
ou (organizationUnitName)	Organizational unit to which the device belongs.
owner	Distinguished name of the person responsible for the device.
seeAlso	DN to information relevant to the device.
serialNumber	Serial number of the device.

document

Definition
Used to define entries which represent documents in the directory.

This object class is defined in RFC 1274.

Superior Class
top

OID
0.9.2342.19200300.100.4.6

Required Attributes

objectClass	*Defines the object classes for the entry.*
documentIdentifier	Unique identifier for a document.

Allowed Attributes

abstract	Abstract of the document.
audio	Stores a sound file in binary format.
authorCn	Author's common or given name.
authorSn	Author's surname.
cn (commonName)	Common name of the document.
description	Text description of the document.
dITRedirect	Distinguished name to use as a redirect for the entry.
documentAuthor	Distinguished name of the document author.
documentLocation	Location of the original document.
documentPublisher	Person or organization that published the document.
documentStore	Not defined.
documentTitle	The document's title.
documentVersion	The document's version number.
info	Information about the object.
jpegPhoto	Photo in jpeg format.

keyWords	Keywords that describe the document.
l (localityName)	Place in which the document is located.
lastModifiedBy	Distinguished name of the last user to modify the document.
lastModifiedTime	Last time the document was modified.
manager	Distinguished name of the object's manager.
o (organizationName)	Organization to which the document belongs.
obsoletedByDocument	Distinguished name of a document that obsoletes this document.
obsoletesDocument	Distinguished name of a document that is obsoleted by this document.
ou (organizationUnitName)	Organizational unit to which the document belongs.
photo	Photo of the document, in binary form.
seeAlso	DN to information relevant to the document.
subject	Subject of the document.
uniqueIdentifier	Specific item used to distinguish between two entries when a distinguished name has been reused.
updatedByDocument	Distinguished name of a document that is an updated version of this document.
updatesDocument	Distinguished name of a document for which this document is an updated version.

documentSeries

Definition
Used to define an entry that represents a series of documents.

This object class is defined in RFC 1274.

Superior Class
top

OID
0.9.2342.19200300.100.4.9

Required Attributes

objectClass	*Defines the object classes for the entry.*
cn (commonName)	The common name of the series.

Allowed Attributes

description	Text description of the series.
l (localityName)	Place in which the series is located.
o (organizationName)	Organization to which the series belongs.
ou (organizationUnitName)	Organizational unit to which the series belongs.
seeAlso	DN to information relevant to the series.
telephoneNumber	Telephone number of the person responsible for the series.

domain

Definition

Used to represent Internet Domains (for example, `siroe.com`). The domainComponent attribute should be used for naming entries of this object class.

The domain object class can only be used with an entry that does not correspond to an organization, organizational unit or other type of object for which an object class has been defined. The domain object class requires that the domainComponent attribute be present, and allows several other attributes to be present in the entry. These allowed attributes are used to describe the object represented by the domain, and may also be useful when searching.

This object class is defined in RFC 2247.

Superior Class

top

OID

0.9.2342.19200300.100.4.13

Required Attributes

objectClass	*Defines the object classes for the entry.*
dc (domainComponent)	One component of a domain name.

Allowed Attributes

associatedName	Entry in the organizational directory tree associated with a DNS domain.
businessCategory	Type of business in which this domain is engaged.
description	Text description of the domain.
destinationIndicator	Country and city associated with the entry needed to provide Public Telegram Service.
fax (facsimileTelephoneNumber)	Domain's fax number.
internationaliSDNNumber	Domain's ISDN number.
l (localityName)	Place in which the domain is located.

o (organizationName)	Organization to which the domain belongs.
physicalDeliveryOfficeName	Location where physical deliveries can be made.
postOfficeBox	Domain's post office box.
postalAddress	Domain's mailing address.
postalCode	The postal code for this address (such as a United States zip code).
preferredDeliveryMethod	Domain's preferred method of contact or delivery.
registeredAddress	Postal address suitable for reception of expedited documents, where the recipient must verify delivery.
searchGuide	Specifies information for suggested search criteria when using the entry as the base object in the directory tree for a search operation.
seeAlso	DN to information relevant to the domain.
st (stateOrProvinceName)	State or province in which the domain is located.
street	Street address in which the domain is located.
telephoneNumber	Domain's telephone number.
teletexTerminalIdentifier	Identifier for a domain's teletex terminal.
telexNumber	Domain's telex number.
userPassword	Password with which the entry can bind to the directory.
x121Address	X.121 address of the domain.

See Also
dcObject

domainRelatedObject

Definition

Used to define entries which represent DNS/NRS domains which are "equivalent" to an X.500 domain, for example, an organization or organizational unit.

This object class is defined in RFC 1274.

Superior Class

top

OID

0.9.2342.19200300.100.4.17

Required Attributes

objectClass	*Defines the object classes for the entry.*
associatedDomain	Specifies a DNS domain associated with an object in the directory tree.

dSA

Definition

Used to define entries representing Directory Server Agents.

This object class is defined in RFC 1274.

Superior Class

top

OID

2.5.6.13

Required Attributes

objectClass	*Defines the object classes for the entry.*
cn (commonName)	The Directory Server Agent's common name.
presentationAddress	Contains an OSI presentation address for the entry.

Allowed Attributes

description	Text description of the series.
knowledgeInformation	This attribute is no longer used.
l (localityName)	Place in which the series is located.
o (organizationName)	Organization to which the series belongs.
ou (organizationUnitName)	Organizational unit to which the series belongs.
seeAlso	DN to information relevant to the series.
supportedApplicationContext	This attribute contains the identifiers of OSI application contexts.

extensibleObject

Definition

When present in an entry, permits the entry to optionally hold any attribute. The allowed attribute list of this class is implicitly the set of all attributes known to the server.

This object class is defined in RFC 2252.

Superior Class

top

OID

1.3.6.1.4.1.1466.101.120.111

Required Attributes

objectClass	*Defines the object classes for the entry.*

Allowed Attributes

All attributes known to the server.

friendlyCountry

Definition

Used to define country entries in the directory tree. This object class is used to allow more user-friendly country names than those allowed by the country object class.

This object class is defined in RFC 1274.

Superior Class

top

OID

0.9.2342.19200300.100.4.18

Required Attributes

objectClass	*Defines the object classes for the entry.*
co (friendlyCountryName)	Stores the name of a country.
c (countryName)	Contains the two-character code representing country names, as defined by ISO, in the directory.

Allowed Attributes

description	Text description of the country.
searchGuide	Specifies information for suggested search criteria when using the entry as the base object in the directory tree for a search operation.

groupOfCertificates

Definition

Used to describe a set of X.509 certificates. Any certificate that matches one of the memberCertificateDescription values is considered a member of the group.

This object class is defined in iPlanet Directory Server.

Superior Class

top

OID

2.16.840.1.113730.3.2.31

Required Attributes

objectClass	*Defines the object classes for the entry.*
cn (commonName)	The group's common name.

Allowed Attributes

businessCategory	Type of business in which the group is engaged.
description	Text description of the group's purpose.
memberCertificateDescription	Values used to determine if a particular certificate is a member of this group.
o (organizationName)	Organization to which the group of certificates belongs.
ou (organizationUnitName)	Organizational unit to which the group belongs.
owner	Distinguished name of the person responsible for the group.
seeAlso	DN to information relevant to the group.

groupOfNames

Definition
Used to define entries for a group of names.

Note: The definition in iPlanet Directory Server differs from the standard definition. In the standard definition, member is a required attribute. In iPlanet Directory Server member is an allowed attribute. iPlanet Directory Server therefore allows a group to have no member.

This object class is defined in RFC 2256.

Superior Class
top

OID
2.5.6.9

Required Attributes

objectClass	*Defines the object classes for the entry.*
cn (commonName)	The group's common name.

Allowed Attributes

businessCategory	Type of business in which the group is engaged.
description	Text description of the group's purpose.
member	Distinguished name of a group member.
o (organizationName)	Organization to which the group belongs.
ou (organizationUnitName)	Organizational unit to which the group belongs.
owner	Distinguished name of the person responsible for the group.
seeAlso	DN to information relevant to the group.

groupOfUniqueNames

Definition
Used to define entries for a group of unique names.

This object class is defined in RFC 2256.

Superior Class
top

OID
2.5.6.17

Required Attributes

objectClass	*Defines the object classes for the entry.*
cn (commonName)	The group's common name.

Allowed Attributes

businessCategory	Type of business in which the group is engaged.
description	Text description of the group's purpose.
o (organizationName)	Organization to which the group belongs.
ou (organizationUnitName)	Organizational unit to which the group belongs.
owner	Distinguished name of the person responsible for the group.
seeAlso	DN to information relevant to the group.
uniqueMember	Distinguished name of a unique group member.

groupOfURLs

Definition

An auxiliary object class of groupOfUniqueNames or groupOfNames. The group consists of a list of labeled URLs. Not supported by Netscape Directory Server 3.0.

This object class is defined in iPlanet Directory Server.

Superior Class
top

OID
2.16.840.1.113730.3.2.33

Required Attributes

objectClass	*Defines the object classes for the entry.*
cn (commonName)	The group's common name.

Allowed Attributes

businessCategory	Type of business in which the group is engaged.
description	Text description of the group's purpose.
memberURL	URL associated with each member of the group.
o (organizationName)	Organization to which the group belongs.
ou (organizationUnitName)	Organizational unit to which the group belongs.
owner	Distinguished name of the person responsible for the group.
seeAlso	DN to information relevant to the group.

inetOrgPerson

Definition
Used to define entries representing people in an organization's enterprise network.

This object class is defined in RFC 2798.

Superior Class
organizationalPerson

OID
2.16.840.1.113730.3.2.2

Required Attributes

objectClass	*Defines the object classes for the entry.*
cn (commonName)	*The person's common name.*
sn (surname)	*The person's surname, or last name.*

Allowed Attributes

audio	Stores a sound file in binary format.
businessCategory	Type of business in which the person is engaged.
carLicense	The license plate number of the person's vehicle.
departmentNumber	Department for which the person works.
description	*Text description of the person.*
destinationIndicator	*Country and city associated with the entry needed to provide Public Telegram Service.*
displayName	Preferred name of a person to be used when displaying entries.
employeeNumber	The person's employee number.
employeeType	The person's type of employment (for example, full time).
fax (facsimileTelephoneNumber)	*The person's fax number.*
givenName	The person's given, or first, name.
homePhone	The person's home phone number.

homePostalAddress	The person's home mailing address.
initials	The person's initials.
internationaliSDNNumber	*The person's ISDN number.*
jpegPhoto	Photo in JPEG format.
l (localityName)	*Place in which the person is located.*
labeledURI	Universal Resource Identifier that is relevant to the person.
mail	The person's email address.
manager	Distinguished name of the object's manager.
mobile	The person's mobile phone number.
o (organizationName)	Organization to which the person belongs.
ou (organizationUnitName)	*Organizational unit to which the person belongs.*
pager	The person's pager number.
photo	Photo of the person, in binary form.
physicalDeliveryOfficeName	*Location where physical deliveries can be made to the person.*
postOfficeBox	*The person's post office box.*
postalAddress	*The person's mailing address.*
postalCode	*The postal code for this address (such as a United States zip code).*
preferredDeliveryMethod	*The person's preferred method of contact or delivery.*
preferredLanguage	The person's preferred written or spoken language.
registeredAddress	*Postal address suitable for reception of courier documents, where the recipient must verify delivery.*
roomNumber	The room number in which the person is located.
secretary	Distinguished name of the person's secretary or administrative assistant.
seeAlso	*DN to information relevant to the person.*
st (stateOrProvinceName)	*State or province in which the person is located.*
street	*Street address at which the person is located.*
telephoneNumber	*The person's telephone number.*
teletexTerminalIdentifier	*Identifier for the person's teletex terminal.*
telexNumber	*The person's telex number.*

title	*The person's job title.*
uid (userID)	Identifies the person's user id (usually the logon ID).
userCertificate	Stores a user's certificate in clear text (not used).
userPassword	*Password with which the entry can bind to the directory.*
userSMIMECertificate	Stores a user's certificate in binary form. Used by Netscape Communicator for S/MIME.
x121Address	*X.121 address of the person.*
x500UniqueIdentifier	Reserved.

labeledURIObject

Definition

This object class can be added to existing directory objects to allow for inclusion of URI values. This approach does not preclude including the labeledURI attribute type directly in other object classes as appropriate.

This object class is defined in RFC 2079.

Superior Class

top

OID

1.3.6.1.4.1.250.3.1

Required Attributes

objectClass	*Defines the object classes for the entry.*

Allowed Attributes

labeledURI	Universal Resource Identifier that is relevant to the entry.

locality

Definition
Used to define entries that represent localities or geographic areas.

This object class is defined in RFC 2256.

Superior Class
top

OID
2.5.6.3

Required Attributes

objectClass	*Defines the object classes for the entry.*

Allowed Attributes

description	Text description of the locality.
l (localityName)	Place in which the entry is located.
searchGuide	Specifies information for a suggested search criteria when using the entry as the base object in the directory tree for a search operation.
seeAlso	DN to information relevant to the locality.
st (stateOrProvinceName)	State or province to which the locality belongs.
street	Street address associated with the locality.

newPilotPerson

Definition

Used as a subclass of person, to allow the use of a number of additional attributes to be assigned to entries of the person object class. Inherits cn and sn from the person object class.

This object class is defined in Internet White Pages Pilot.

Superior Class
person

OID
0.9.2342.19200300.100.4.4

Required Attributes

objectClass	*Defines the object classes for the entry.*
cn (commonName)	*The person's common name.*
sn (surname)	*The person's surname, or last name.*

Allowed Attributes

businessCategory	Type of business in which this person is engaged.
description	*Text description of the person.*
drink (favouriteDrink)	The person's favorite drink.
homePhone	The person's home phone number.
homePostalAddress	The person's home mailing address.
janetMailbox	The person's email address.
mail	The person's email address.
mailPreferenceOption	Indicates a preference for inclusion of the person's name on mailing lists (electronic or physical). Not valid in Messaging server 4.0.
mobile	The person's mobile phone number.
organizationalStatus	The person's type of employment (for example, full time).

otherMailbox	Values for electronic mailbox types other than X.400 and rfc822.
pager	The person's pager number.
personalSignature	The person's signature file.
personalTitle	The person's personal title.
preferredDeliveryMethod	The person's preferred method of contact or delivery.
roomNumber	The person's room number.
secretary	Distinguished name of the person's secretary or administrative assistant.
seeAlso	*DN to information relevant to the person.*
telephoneNumber	*The person's telephone number.*
textEncodedORAddress	The person's text-encoded Originator/Recipient (X.400) address.
uid (userID)	Identifies the person's user id (usually the logon ID).
userClass	Category of user.
userPassword	*Password with which the entry can bind to the directory.*

nsComplexRoleDefinition

Definition
Any role that is not a simple role is, by definition, a complex role.

This object class is defined in iPlanet Directory Server.

Superior Class
nsRoleDefinition

OID
2.16.840.1.113730.3.2.95

Required Attributes

objectClass	*Defines the object classes for the entry.*

Allowed Attributes

cn (commonName)	*The entry's common name.*
description	*Text description of the entry.*

nsFilteredRoleDefinition

Definition
Specifies assignment of entries to the role, depending upon the attributes contained by each entry.

This object class is defined in iPlanet Directory Server.

Superior Class
nsComplexRoleDefinition

OID
2.16.840.1.113730.3.2.97

Required Attributes

objectClass	*Defines the object classes for the entry.*
nsRoleFilter	Specifies the filter assigned to an entry.

Allowed Attributes

cn (commonName)	*The entry's common name.*
description	*Text description of the entry.*

nsLicenseUser

Definition

Used to track licenses for Netscape servers that are licensed on a per-client basis. nsLicenseUser is intended to be used with the inetOrgPerson object class. You can manage the contents of this object class through the Users and Groups area of the Netscape Administration Server.

This object class is defined in iPlanet Administration Services.

Superior Class

top

OID

2.16.840.1.113730.3.2.7

Required Attributes

objectClass	*Defines the object classes for the entry.*

Allowed Attributes

nsLicensedFor	Netscape server that the user is licensed to use.
nsLicenseEndTime	Reserved for future use.
nsLicenseStartTime	Reserved for future use.

nsManagedRoleDefinition

Definition

Specifies assignment of a role to an explicit, enumerated list of members.

This object class is defined in iPlanet Directory Server.

Superior Class

nsSimpleRoleDefinition

OID

2.16.840.1.113730.3.2.96

Required Attributes

objectClass	*Defines the object classes for the entry.*

Allowed Attributes

cn (commonName)	*The entry's common name.*
description	*Text description of the entry.*

nsNestedRoleDefinition

Definition

Specifies containment of one or more roles of any type within the role.

This object class is defined in iPlanet Directory Server.

Superior Class
nsComplexRoleDefinition

OID
2.16.840.1.113730.3.2.98

Required Attributes

objectClass	*Defines the object classes for the entry.*
nsRoleDN	Specifies the roles assigned to an entry.

Allowed Attributes

cn (commonName)	*The entry's common name.*
description	*Text description of the entry.*

nsRoleDefinition

Definition

All role definition object classes inherit from the nsRoleDefinition object class.

This object class is defined in iPlanet Directory Server.

Superior Class
ldapSubEntry

OID
2.16.840.1.113730.3.2.93

Required Attributes

objectClass	*Defines the object classes for the entry.*

Allowed Attributes

cn (commonName)	*The entry's common name.*
description	Text description of the entry.

nsSimpleRoleDefinition

Definition

Roles containing this object class are called simple roles because they have a deliberately limited flexibility, which makes it easy to:

- Enumerate the members of a role.

- Determine whether a given entry possesses a particular role.

- Enumerate all the roles possessed by a given entry.

- Assign a particular role to a given entry.

- Remove a particular role from a given entry.

This object class is defined in iPlanet Directory Server.

Superior Class
nsRoleDefinition

OID
2.16.840.1.113730.3.2.94

Required Attributes

objectClass	*Defines the object classes for the entry.*

Allowed Attributes

cn (commonName)	*The entry's common name.*
description	*Text description of the entry.*

organization

Definition

Used to define entries that represent organizations. An organization is generally assumed to be a large, relatively static grouping within a larger corporation or enterprise.

This object class is defined in RFC 2256.

Superior Class

top

OID

2.5.6.4

Required Attributes

objectClass	*Defines the object classes for the entry.*
o (organizationName)	The name of the organization.

Allowed Attributes

businessCategory	Type of business in which the organization is engaged.
description	Text description of the organization.
destinationIndicator	Country and city associated with the entry needed to provide Public Telegram Service.
fax (facsimileTelephoneNumber)	The organization's fax number.
internationaliSDNNumber	The organization's ISDN number.
l (localityName)	Place in which the organization is located.
physicalDeliveryOfficeName	Location where physical deliveries can be made to the organization.
postalAddress	The organization's mailing address.
postalCode	The postal code for this address (such as a United States zip code).
postOfficeBox	The organization's post office box.

preferredDeliveryMethod	The organization's preferred method of contact or delivery.
registeredAddress	Postal address suitable for reception of expedited documents, where the recipient must verify delivery.
searchGuide	Specifies information for suggested search criteria when using the entry as the base object in the directory tree for a search operation.
seeAlso	DN to information relevant to the organization.
st (stateOrProvinceName)	State or province in which the organization is located.
street	Street address at which the organization is located.
telephoneNumber	The organization's telephone number.
teletexTerminalIdentifier	Identifier for the organization's teletex terminal.
telexNumber	The organization's telex number.
userPassword	Password with which the entry can bind to the directory.
x121Address	X.121 address of the organization.

organizationalPerson

Definition

Used to define entries for people employed by or associated with an organization.

This object class is defined in RFC 2256.

Superior Class

person

OID

2.5.6.7

Required Attributes

objectClass	*Defines the object classes for the entry.*
cn (commonName)	*The person's common name.*
sn (surname)	*The person's surname, or last name.*

Allowed Attributes

description	*Text description of the person.*
destinationIndicator	Country and city associated with the person needed to provide Public Telegram Service.
fax (facsimileTelephoneNumber)	The person's fax number.
internationaliSDNNumber	The person's ISDN number.
l (localityName)	Place in which the person is located.
ou (organizationUnitName)	Organizational unit to which the person belongs.
physicalDeliveryOfficeName	Location where physical deliveries can be made to this person.
postalAddress	The person's mailing address.
postalCode	The postal code for this address (such as a United States zip code).
postOfficeBox	The person's post office box.
preferredDeliveryMethod	The person's preferred method of contact or delivery.

registeredAddress	Postal address suitable for reception of expedited documents, where the recipient must verify delivery.
seeAlso	*DN to information relevant to the person.*
st (stateOrProvinceName)	State or province in which the person is located.
street	Street address at which the person is located.
telephoneNumber	*The person's telephone number.*
teletexTerminalIdentifier	Identifier for the person's teletex terminal.
telexNumber	The person's telex number.
title	The person's job title.
userPassword	*Password with which the entry can bind to the directory.*
x121Address	X.121 address of the person.

organizationalRole

Definition
Used to define entries that represent roles held by people within an organization.

This object class is defined in RFC 2256.

Superior Class
top

OID
2.5.6.8

Required Attributes

objectClass	*Defines the object classes for the entry.*
cn (commonName)	The role's common name.

Allowed Attributes

description	Text description of the role.
destinationIndicator	Country and city associated with the entry needed to provide Public Telegram Service.
fax (facsimileTelephoneNumber)	Fax number of the person in the role.
internationaliSDNNumber	ISDN number of the person in the role.
l (localityName)	Place in which the person in the role is located.
ou (organizationUnitName)	Organizational unit to which the person in the role belongs.
physicalDeliveryOfficeName	Location where physical deliveries can be made to the person in the role.
postalAddress	The mailing address for the person in the role.
postalCode	The postal code for this address (such as a United States zip code).
postOfficeBox	The post office box for the person in the role.
preferredDeliveryMethod	Preferred method of contact or delivery of the person in the role.

registeredAddress	Postal address suitable for reception of expedited documents, where the recipient must verify delivery.
roleOccupant	Distinguished name of the person in the role.
seeAlso	DN to information relevant to the person in the role.
st (stateOrProvinceName)	State or province in which the person in the role is located.
street	Street address at which the person in the role is located.
telephoneNumber	Telephone number of the person in the role.
teletexTerminalIdentifier	Identifier for the teletex terminal of the person in the role.
telexNumber	Telex number of the person in the role.
x121Address	X.121 address of the person in the role.

organizationalUnit

Definition

Used to define entries that represent organizational units. An organizational unit is generally assumed to be a relatively static grouping within a larger organization.

This object class is defined in RFC 2256.

Superior Class

top

OID

2.5.6.5

Required Attributes

objectClass	*Defines the object classes for the entry.*
ou (organizationUnitName)	The name of the organizational unit.

Allowed Attributes

businessCategory	Type of business in which the organizational unit is engaged.
description	Text description of the organizational unit.
destinationIndicator	Country and city associated with the organizational unit needed to provide Public Telegram Service.
fax (facsimileTelephoneNumber)	The organizational unit's fax number.
internationaliSDNNumber	The organizational unit's ISDN number.
l (localityName)	Place in which the organizational unit is located.
physicalDeliveryOfficeName	Location where physical deliveries can be made to the organizational unit.
postalAddress	The organizational unit's mailing address.
postalCode	The postal code for this address (such as a United States zip code).
postOfficeBox	The organizational unit's post office box.

preferredDeliveryMethod	The organizational unit's preferred method of contact or delivery.
registeredAddress	Postal address suitable for reception of expedited documents, where the recipient must verify delivery.
searchGuide	Specifies information for suggested search criteria when using the entry as the base object in the directory tree for a search operation.
seeAlso	DN to information relevant to the organizational unit.
st (stateOrProvinceName)	State or province in which the organizational unit is located
street	Street address at which the organizational unit is located.
telephoneNumber	The organizational unit's telephone number.
teletexTerminalIdentifier	Identifier for the organizational unit's teletex terminal.
telexNumber	The organizational unit's telex number.
userPassword	Password with which the entry can bind to the directory.
x121Address	X.121 address of the organizational unit.

person

Definition
Used to define entries that generically represent people. This object class is the base class for the organizationalPerson object class.

This object class is defined in RFC 2256.

Superior Class
top

OID
2.5.6.6

Required Attributes

objectClass	*Defines the object classes for the entry.*
cn (commonName)	The person's common name.
sn (surname)	The person's surname, or last name.

Allowed Attributes

description	Text description of the person.
seeAlso	DN to information relevant to the person.
telephoneNumber	The person's telephone number.
userPassword	Password with which the entry can bind to the directory.

pilotObject

Definition
Used as a subclass to allow additional attributes to be assigned to entries of all other object classes.

This object class is defined in RFC 1274.

Superior Class
top

OID
0.9.2342.19200300.100.4.3

Required Attributes

objectClass	*Defines the object classes for the entry.*

Allowed Attributes

audio	Stores a sound file in binary format.
dITRedirect	Distinguished name to use as a redirect for the entry.
info	Information about the object.
jpegPhoto	Photo in jpeg format.
lastModifiedBy	Distinguished name of the last user to modify the object.
lastModifiedTime	Last time the object was modified.
manager	Distinguished name of the object's manager.
photo	Photo of the object.
uniqueIdentifier	Specific item used to distinguish between two entries when a distinguished name has been reused.

pilotOrganization

Definition

Used as a subclass to allow additional attributes to be assigned to organization and organizationalUnit object class entries.

This object class is defined in RFC 1274.

Superior Class

top

OID

0.9.2342.19200300.100.4.20

Required Attributes

objectClass	*Defines the object classes for the entry.*
o (organizationName)	Organization to which the entry belongs.
ou (organizationUnitName)	Organizational unit to which the entry belongs.

Allowed Attributes

buildingName	Name of the building in which the entry is located.
businessCategory	Type of business in which the entry is engaged.
description	Text description of the entry.
destinationIndicator	Country and city associated with the pilot organization needed to provide Public Telegram Service.
fax (facsimileTelephoneNumber)	The pilot organization's fax number.
internationaliSDNNumber	The pilot organization's ISDN number.
l (localityName)	Place in which the pilot organization is located.
physicalDeliveryOfficeName	Location where physical deliveries can be made to the pilot organization.
postalAddress	The pilot organization's mailing address.
postalCode	The postal code for this address (such as a United States zip code).

postOfficeBox	The pilot organization's post office box.
preferredDeliveryMethod	The pilot organization's preferred method of contact or delivery
registeredAddress	Postal address suitable for reception of expedited documents, where the recipient must verify delivery.
searchGuide	Specifies information for suggested search criteria when using the entry as the base object in the directory tree for a search operation.
seeAlso	DN to information relevant to the pilot organization.
st (stateOrProvinceName)	State or province in which the pilot organization is located.
street	Street address at which the pilot organization is located.
telephoneNumber	The pilot organization's telephone number.
teletexTerminalIdentifier	Identifier for the pilot organization's teletex terminal.
telexNumber	The pilot organization's telex number.
userPassword	Password with which the entry can bind to the directory.
x121Address	X.121 address of the pilot organization.

residentialPerson

Definition

Used by the directory server to contain a person's residential information.

This object class is defined in RFC 2256.

Superior Class

person

OID

2.5.6.10

Required Attributes

objectClass	*Defines the object classes for the entry.*
cn (commonName)	*The person's common name.*
l (localityName)	Place in which the person resides.
sn (surname)	*The person's surname, or last name.*

Allowed Attributes

businessCategory	Type of business in which the person is engaged.
description	*Text description of the person.*
destinationIndicator	Country and city associated with the entry needed to provide Public Telegram Service.
fax (facsimileTelephoneNumber)	The person's fax number.
internationaliSDNNumber	The person's ISDN number.
physicalDeliveryOfficeName	Location where physical deliveries can be made to the person.
postalAddress	The person's business mailing address.
postalCode	The postal code for this address (such as a United States zip code).
postOfficeBox	The person's business post office box.
preferredDeliveryMethod	The person's preferred method of contact or delivery.

registeredAddress	Postal address suitable for reception of expedited documents, where the recipient must verify delivery.
seeAlso	*DN to information relevant to the person.*
st (stateOrProvinceName)	State or province in which the person resides.
street	Street address at which the person is located.
telephoneNumber	*The person's telephone number.*
teletexTerminalIdentifier	Identifier for the person's teletex terminal.
telexNumber	The person's telex number.
userPassword	*Password with which the entry can bind to the directory.*
x121Address	X.121 address of the person.

RFC822LocalPart

Definition

Used to define entries that represent the local part of RFC822 mail addresses. The directory treats this part of an RFC822 address as a domain.

This object class is defined in Internet directory pilot.

Superior Class
domain

OID
0.9.2342.19200300.100.4.14

Required Attributes

objectClass	*Defines the object classes for the entry.*
dc (domainComponent)	*Domain component of the entry.*

Allowed Attributes

associatedName	*Entry in the organizational directory tree associated with a DNS domain.*
businessCategory	*Type of business in which this local part is engaged.*
cn (commonName)	The local part's common name.
description	*Text description of the local part.*
destinationIndicator	*Country and city associated with the entry needed to provide Public Telegram Service.*
fax (facsimileTelephoneNumber)	*The local part's fax number.*
internationaliSDNNumber	*The local part's ISDN number.*
l (localityName)	*Place in which the local part is located.*
o (organizationName)	*Organization to which the local part belongs.*
physicalDeliveryOfficeName	*Location where physical deliveries can be made to the local part.*
postOfficeBox	*The local part's post office box.*
postalAddress	*The local part's mailing address.*

postalCode	*The postal code for this address (such as a United States zip code).*
preferredDeliveryMethod	*Local part's preferred method of contact or delivery.*
registeredAddress	*Postal address suitable for reception of courier documents, where the recipient must verify delivery.*
searchGuide	*Specifies information for suggested search criteria when using the entry as the base object in the directory tree for a search operation.*
seeAlso	*DN to information relevant to the local part.*
sn (surname)	The entry's surname, or last name.
st (stateOrProvinceName)	*State or province in which the local part is located.*
street	*Street address at which the local part is located.*
telephoneNumber	*Telephone number associated with the local part.*
teletexTerminalIdentifier	*Identifier for a telex terminal associated with the local part.*
telexNumber	*Telex number associated with the local part.*
userPassword	*Password with which the entry can bind to the directory.*
x121Address	*X.121 address associated with the local part.*

room

Definition
Used to store information in the directory about a room.

This object class is defined in RFC 1274.

Superior Class
top

OID
0.9.2342.19200300.100.4.7

Required Attributes

objectClass	*Defines the object classes for the entry.*
cn (commonName)	Common name of the room.

Allowed Attributes

description	Text description of the room.
roomNumber	The room's number.
seeAlso	DN to information relevant to the room.
telephoneNumber	The room's telephone number.

strongAuthenticationUser

Definition

Used to store a user's certificate entry in the directory. This is an auxiliary object class and is used with other object classes, such as the person and organization object classes.

This object class is defined in RFC 2256.

Superior Class

top

OID

2.5.6.15

Required Attributes

objectClass	*Defines the object classes for the entry.*
userCertificate	Stores a user's certificate, usually in binary form.

simpleSecurityObject

Definition

Used to allow an entry to contain the userPassword attribute when an entry's principal object classes do not allow userPassword as an attribute type. Reserved for future use.

This object class is defined in RFC 1274.

Superior Class

top

OID

0.9.2342.19200300.100.4.19

Required Attributes

objectClass	*Defines the object classes for the entry.*
userPassword	Password with which the entry can bind to the directory.

Attribute Reference

This chapter contains an alphabetic list of the standard autarkies. It gives a definition of each attribute, and gives the attribute syntax and OID.

abstract

Definition
Provides an abstract of a document entry.

This attribute is defined in Internet White Pages Pilot.

Syntax
DirectoryString, multi-valued.

OID
0.9.2342.19200300.102.1.9

aliasedObjectName

Definition
Used by the directory server to identify alias entries in the directory. Contains the distinguished name of the entry for which it is an alias.

Note: Alias dereferencing is not supported in iPlanet Directory Server.

For example:

```
aliasedObjectName: cn=jdoe, dc=siroe, dc=com
```

This attribute is defined in RFC 2256.

Syntax
DN, single-valued.

OID
2.5.4.1

associatedDomain

Definition
Specifies a DNS domain associated with an object in the directory tree. For example, the entry in the directory tree with a distinguished name `c=US, o=Siroe Corporation` might be associated to the domain `siroe.com`. Note that all domains should be represented in rfc822 order.

For example:

```
associatedDomain: siroe.com
```

This attribute is defined in RFC 1274.

Syntax
DirectoryString, multi-valued.

OID
0.9.2342.19200300.100.1.37

associatedName

Definition
Specifies an entry in the organizational directory tree associated with a DNS domain.

For example:

```
associatedName: c=us
```

This attribute is defined in RFC 1274.

Syntax
DN, multi-valued.

OID
0.9.2342.19200300.100.1.38

audio

Definition
Contains a sound file in binary format. The attribute uses a u-law encoded sound file.

For example:

```
audio:: AAAAAA==
```

This attribute is defined in RFC 1274.

Syntax
Binary, multi-valued.

OID
0.9.2342.19200300.100.1.55

authorCn

Definition
Contains the common name of the author of a document entry.

For example:

```
authorCn: Kacey
```

This attribute is defined in Internet White Pages Pilot.

Syntax
DirectoryString, multi-valued.

OID
0.9.2342.19200300.102.1.11

authorSn

Definition
Contains the surname of the author of a document entry.

For example:

```
authorSn: Doe
```

This attribute is defined in Internet White Pages Pilot.

Syntax
DirectoryString, multi-valued.

OID
0.9.2342.19200300.102.1.12

authorityRevocationList

Definition

Contains a list of CA certificates that have been revoked. This attribute is to be stored and requested in the binary form, as `authorityRevocationList;binary`.

For example:

```
authorityrevocationlist;binary:: AAAAAA==
```

This attribute is defined in RFC 2256.

Syntax
Binary, multi-valued.

OID
2.5.4.38

buildingName

Definition
Defines the building name associated with the entry.

For example:

```
buildingName: B14
```

This attribute is defined in RFC 1274.

Syntax
DirectoryString, multi-valued.

OID
0.9.2342.19200300.100.1.48

businessCategory

Definition
Identifies the type of business in which the entry is engaged. This should be a broad generalization such as is made at the corporate division level.

For example:

```
businessCategory: Engineering
```

This attribute is defined in RFC 2256.

Syntax
DirectoryString, multi-valued.

OID
2.5.4.15

c (countryName)

Definition
Contains the two-character code representing country names, as defined by ISO, in the directory.

For example:

```
countryName: IE
```

or

```
c: IE
```

This attribute is defined in RFC 2256.

Syntax
DirectoryString, single-valued.

OID
2.5.4.6

CACertificate

Definition
Contains the CA's certificate. This attribute is to be stored and requested in the binary form, as `CACertificate;binary`.

For example:

```
CACertificate;binary:: AAAAAA==
```

This attribute is defined in RFC 2256.

Syntax
Binary, multi-valued.

OID
2.5.4.37

carLicense

Definition
Identifies the entry's automobile license plate number.

For example:

`carLicense: 4MCS389`

This attribute is defined in RFC 2798.

Syntax
DirectoryString, multi-valued.

OID
2.16.840.1.113730.3.1.1

certificateRevocationList

Definition
Contains a list of revoked user certificates. This attribute is to be stored and requested in the binary form, as `certificateRevocationList;binary`.

For example:

`certificaterevocationlist;binary:: AAAAAA==`

This attribute is defined in RFC 2256.

Syntax
Binary, multi-valued.

OID
2.5.4.39

cn (commonName)

Definition

Identifies the name of an object in the directory. When the object corresponds to a person, the cn is typically the person's full name.

When identifying the entry's common name or full name:

```
commonName: Bill Anderson
```

or

```
cn: Bill Anderson
```

When in reference to LDAPReplica or LDAPServer object classes:

```
commonName: replicater.iplanet.com:17430/dc%3DSiroe%2Cdc%3Dcom
```

or

```
cn: replicater.iplanet.com:17430/dc%3DSiroe%2Cdc%3Dcom
```

This attribute is defined in RFC 2256.

Syntax

DirectoryString, multi-valued.

OID

2.5.4.3

co (friendlyCountryName)

Definition

Contains the name of a country. Often, the country attribute is used to describe a two-character code for a country, and the friendlyCountryName attribute is used to describe the actual country name.

For example:

```
friendlyCountryName: Ireland
```

or

```
co: Ireland
```

This attribute is defined in RFC 1274.

Syntax
DirectoryString, multi-valued.

OID
0.9.2342.19200300.100.1.43

cosAttribute

Description
Provides the name of the attribute for which you want to generate a value. You can specify more than one `cosAttribute` value. This attribute is used by all types of CoS definition entries.

This attribute is defined in iPlanet Directory Server.

Syntax
Directory String, multi-valued.

OID
2.16.840.1.113730.3.1.550

cosIndirectSpecifier

Description
Specifies the attribute values used by an indirect CoS to identify the template entry.

This attribute is defined in iPlanet Directory Server.

Syntax
DirectoryString, single-valued.

OID
2.16.840.1.113730.3.1.577

cosPriority

Definition
Specifies which template provides the attribute value, when CoS templates compete to provide an attribute value. This attribute represents the global priority of a particular template. A priority of zero is the highest priority.

This attribute is defined in iPlanet Directory Server.

Syntax
INTEGER, single-valued.

OID
2.16.840.1.113730.3.1.569

cosSpecifier

Description
Specifies the attribute value used by a classic CoS, which, along with the template entry's DN, identifies the template entry.

This attribute is defined in iPlanet Directory Server.

Syntax
DirectoryString, single-valued.

OID
2.16.840.1.113730.3.1.551

cosTargetTree

Definition
Determines the subtrees of the DIT to which the CoS schema applies. The values for this attribute for the schema and for multiple CoS schema may overlap their target trees in an arbitrary fashion.

This attribute is defined in iPlanet Directory Server.

Syntax
DirectoryString, single-valued.

OID
2.16.840.1.113730.3.1.552

cosTemplateDn

Definition
Provides the name of the attribute for which you want to generate a value. You can specify more than one `cosAttribute` value. This attribute is used by all types of CoS definition entries.

This attribute is defined in iPlanet Directory Server.

Syntax
DirectoryString, single-valued.

OID
2.16.840.1.113730.3.1.553

crossCertificatePair

Definition
This attribute contains a pair of cross signed certificates. It is to be stored and requested in the binary form, as `crossCertificatePair;binary`.

For example:

`crosscertificatepair;binary:: AAAAAA==`

This attribute is defined in RFC 2256.

Syntax
Binary, multi-valued.

OID
2.5.4.40

dc (domainComponent)

Definition

Specifies one component of a domain name.

For example:

```
domainComponent: siroe
```

or

```
dc: siroe
```

This attribute is defined in RFC 2247.

Syntax

DirectoryString, single-valued.

OID

0.9.2342.19200300.100.1.25

deltaRevocationList

Definition

This attribute contains the "delta revocation list", a list of newly revoked certificates. It is to be stored and requested in the binary form, as `deltaRevocationList;binary`.

For example:

```
deltaRevocationList;binary:: AAAAAA==
```

This attribute is defined in RFC 2256.

Syntax

Binary, multi-valued.

OID

2.5.4.53

departmentNumber

Definition
Identifies the entry's department number.

For example:

```
departmentNumber: 2604
```

This attribute is defined in RFC 2798.

Syntax
DirectoryString, multi-valued.

OID
2.16.840.1.113730.3.1.2

description

Definition
Provides a human-readable description of the object. For people and organizations this often includes their role or work assignment.

For example:

```
description: Quality control inspector for the ME2873 product line
```

This attribute is defined in RFC 2256.

Syntax
DirectoryString, multi-valued.

OID
2.5.4.13

destinationIndicator

Definition
The country and city associated with the entry needed to provide Public Telegram Service. Generally used in conjunction with registeredAddress.

For example:

```
destinationIndicator: Stow, Ohio, USA
```

This attribute is defined in RFC 2256.

Syntax
DirectoryString, multi-valued.

OID
2.5.4.27

displayName

Definition
Preferred name of a person to be used when displaying entries. Especially useful in displaying a preferred name for an entry within a one-line summary list. Since other attribute types, such as cn, are multivalued, they can not be used to display a preferred name.

For example:

```
displayName: Michigan Smith
```

This attribute is defined in RFC 2798.

Syntax
DirectoryString, single-valued.

OID
2.16.840.1.113730.3.1.241

dITRedirect

Definition
Used to indicate that the object described by one entry now has a newer entry in the directory tree. This attribute may be used when an individual's place of work changes, and the individual acquires a new organizational DN.

For example:

```
ditRedirect: cn=jdoe, dc=siroe, dc=com
```

This attribute is defined in RFC 1274.

Syntax
DN

OID
0.9.2342.19200300.100.1.54

dmdName

Definition
The value of this attribute specifies a directory management domain (DMD), the administrative authority which operates the directory server.

For example:

```
dmdName: siroe.com
```

This attribute is defined in RFC 2256.

Syntax
DirectoryString, multi-valued.

OID
2.5.4.54

dn (distinguishedName)

Definition
Defines the distinguished name (dn) for the entry.

For example:

```
dn: cn=Jane Doe, ou=Quality Control, dc=siroe, dc=com
```

This attribute is defined in RFC 2256.

Syntax
DN

OID
2.5.4.49

dNSRecord

Definition
Specifies DNS resource records, including type A (Address), type MX (Mail Exchange), type NS (Name Server), and type SOA (Start Of Authority) resource records.

For example:

```
dNSRecord: IN NS ns.uu.net
```

This attribute is defined in Internet directory pilot.

Syntax
IA5String, multi-valued.

OID
0.9.2342.19200300.100.1.26

documentAuthor

Definition
Contains the distinguished name of the author of a document entry.

For example:

```
documentAuthor: cn=John Doe, dc=siroe, dc=com
```

This attribute is defined in RFC 1274.

Syntax
DN, multi-valued.

OID
0.9.2342.19200300.100.1.14

documentIdentifier

Definition
Specifies a unique identifier for a document.

For example:

```
documentIdentifier: L3204REV1
```

This attribute is defined in RFC 1274.

Syntax
DirectoryString, multi-valued.

OID
0.9.2342.19200300.100.1.11

documentLocation

Definition
Defines the location of the original copy of a document entry.

For example:

```
documentLocation: Department Library
```

This attribute is defined in RFC 1274.

Syntax
DirectoryString, multi-valued.

OID
0.9.2342.19200300.100.1.15

documentPublisher

Definition
The person and/or organization that published a document.

For example:

```
documentPublisher: Southeastern Publishing
```

This attribute is defined in RFC 1274.

Syntax
DirectoryString, single-valued.

OID
0.9.2342.19200300.100.1.56

documentStore

Definition
This attribute is defined in Internet White Pages Pilot.

Syntax
DirectoryString, multi-valued.

OID
0.9.2342.19200300.102.1.10

documentTitle

Definition
Contains the title of a document entry.

For example:

```
documentTitle: Directory Administrator's Guide
```

This attribute is defined in RFC 1274.

Syntax
DirectoryString, multi-valued.

OID
0.9.2342.19200300.100.1.12

documentVersion

Definition
Defines the version of a document entry.

For example:

```
documentVersion: 1.1
```

This attribute is defined in RFC 1274.

Syntax
DirectoryString, multi-valued.

OID

0.9.2342.19200300.100.1.13

drink (favouriteDrink)

Definition

Describes the favorite drink of a person entry.

For example:

```
drink: soda
```

or

```
favouriteDrink: soda
```

This attribute is defined in RFC 1274.

Syntax

DirectoryString, multi-valued.

OID

0.9.2342.19200300.100.1.5

dSAQuality

Definition

Specifies the purported quality of a DSA. This attribute allows a DSA manager to indicate the expected level of availability of the DSA.

For example:

```
dSAQuality: high
```

This attribute is defined in RFC 1274.

Syntax

DirectoryString, single-valued.

OID

0.9.2342.19200300.100.1.49

employeeNumber

Definition
Identifies the entry's employee number.

For example:

```
employeeNumber: 3440
```

This attribute is defined in RFC 2798.

Syntax
DirectoryString, single-valued.

OID
2.16.840.1.113730.3.1.3

employeeType

Definition
Identifies the entry's type of employment.

For example:

```
employeeType: Full time
```

This attribute is defined in RFC 2798.

Syntax
DirectoryString, multi-valued.

OID
2.16.840.1.113730.3.1.4

enhancedSearchGuide

Definition
Used by X.500 clients when constructing search filters.

For example:

```
enhancedSearchGuide: (uid=mhughes)
```

This attribute is defined in RFC 2798.

Syntax
DirectoryString, multi-valued.

OID
2.5.4.47

fax (facsimileTelephoneNumber)

Definition
Identifies the fax number at which the entry can be reached. Abbreviation: fax

For example:

```
facsimileTelephoneNumber: 415-555-1212
```

or:

```
fax: 415-555-1212
```

This attribute is defined in RFC 2256.

Syntax
TelephoneNumber, multi-valued.

OID
2.5.4.23

generationQualifier

Definition
Contains the generation Qualifier part of the name, typically appearing in the suffix.

For example:

```
generationqualifier: Jr
```

This attribute is defined in RFC 2256.

Syntax
DirectoryString, multi-valued.

OID
2.5.4.44

givenName

Definition
Identifies the entry's given name, usually a person's first name.

For example:

givenName: Hecuba

This attribute is defined in RFC 2256.

Syntax
DirectoryString, multi-valued.

OID
2.5.4.42

homePhone

Definition
Identifies the entry's home phone number.

For example:

homeTelephoneNumber: 415-555-1212

or

homePhone: 415-555-1212

This attribute is defined in RFC 1274.

Syntax
TelephoneNumber, multi-valued.

OID
0.9.2342.19200300.100.1.20

homePostalAddress

Definition
Identifies the entry's home mailing address. This field is intended to include multiple lines, but each line within the entry should be separated by a dollar sign ($). To represent an actual dollar sign ($) or backslash (\) within this text, use the escaped hex values \24 and \5c respectively.

To identify an entry's home mailing address:

```
homePostalAddress: 1234 Ridgeway Drive$Santa Clara, CA$99555
```

Additionally, to represent the string:

```
The dollar ($) value can be found
in the c:\cost file.
```

provide the string:

```
The dollar (\24) value can be found$in the c:\5ccost file.
```

This attribute is defined in RFC 1274.

Syntax
DirectoryString, multi-valued.

OID
0.9.2342.19200300.100.1.39

host

Definition
Defines the hostname of a computer.

For example:

```
host: mozilla
```

This attribute is defined in RFC 1274.

Syntax
DirectoryString, multi-valued.

OID
0.9.2342.19200300.100.1.9

houseIdentifier

Definition
Identifies a building in a location.

For example:

```
houseIdentifier: B105
```

This attribute is defined in RFC 2256.

Syntax
DirectoryString, multi-valued.

OID
2.5.4.51

info

Definition
Specifies any general information pertinent to an object. It is recommended that specific usage of this attribute type is avoided, and that specific requirements are met by other (possibly additional) attribute types.

For example:

```
info: not valid
```

This attribute is defined in RFC 1274.

Syntax
DirectoryString, multi-valued.

OID
0.9.2342.19200300.100.1.4

initials

Definition
Identifies the entry's initials. Does not identify the entry's surname.

For example:

```
initials: BFA
```

This attribute is defined in RFC 2256.

Syntax
DirectoryString, multi-valued.

OID
2.5.4.43

internationaliSDNNumber

Definition
Contains the ISDN number of the entry. This is in the internationally agreed format for ISDN addresses given in CCITT Rec. E. 164.

For example:

```
interntionaliSDNNumber: +SO 812467
```

This attribute is defined in RFC 2256.

Syntax
IA5String, multi-valued.

OID
2.5.4.25

janetMailbox

Definition
Specifies an email address. This attribute is intended for the convenience of UK users unfamiliar with rfc822 mail addresses. Entries using this attribute must also include an rfc822Mailbox attribute.

This attribute is defined in RFC 1274.

Syntax
DirectoryString, multi-valued.

OID
0.9.2342.19200300.100.1.46

jpegPhoto

Definition

Contains a JPEG photo of the entry.

For example:

```
jpegPhoto:: AAAAAA==
```

This attribute is defined in RFC 2798.

Syntax

Binary, multi-valued.

OID

0.9.2342.19200300.100.1.60

keyWords

Definition

Contains keywords for the entry.

For example:

```
keyWords: directory LDAP X.500
```

This attribute is defined in Internet White Pages Pilot.

Syntax

DirectoryString, multi-valued.

OID

0.9.2342.19200300.102.1.7

knowledgeInformation

Definition

This attribute is no longer used.

This attribute is defined in RFC 2256.

Syntax
DirectoryString, multi-valued.

OID
2.5.4.2

l (localityName)

Definition
Identifies the county, city, or other geographical area in which the entry is located or with which it is in some other way associated.

For example:

```
localityName: Santa Clara
```

or

```
l: Santa Clara
```

This attribute is defined in RFC 2256.

Syntax
DirectoryString, multi-valued.

OID
2.5.4.7

labeledURI

Definition
Specifies a Uniform Resource Identifier (URI) that is relevant in some way to the entry. Values placed in the attribute should consist of a URI (currently only URLs are supported) optionally followed by one or more space characters and a label.

For example:

```
labeledURI: http://home.iplanet.com
```

```
labeledURI: http://home.iplanet.com  iPlanet website
```

This attribute is defined in RFC 2079.

Syntax
IA5String, multi-valued.

OID
1.3.6.1.4.1.250.1.57

lastModifiedBy

Definition
Specifies the distinguished name of the last user to modify the associated entry.

For example:

```
lastModifiedby: cn=Jane Doe,ou=Quality Control,dc=siroe, dc=com
```

This attribute is defined in RFC 1274.

Syntax
DN, multi-valued.

OID
0.9.2342.19200300.100.1.24

lastModifiedTime

Definition
Defines the last time, in UTC format, that a change was made to the entry.

For example:

```
lastModifiedTime: Thursday, 22-Sep-93 14:15:00 GMT
```

This attribute is defined in RFC 1274.

Syntax
DirectoryString, multi-valued.

OID
0.9.2342.19200300.100.1.23

mail

Definition
Identifies a user's primary email address (the email address retrieved and displayed by "white-pages" lookup applications).

For example:

```
mail: banderson@siroe.com
```

This attribute is defined in RFC 1274.

Syntax
DirectoryString, multi-valued.

OID
0.9.2342.19200300.100.1.3

mailPreferenceOption

Definition
Not used in Messaging Server 4.0.

Indicates a preference for inclusion of user names on mailing lists (electronic or physical). Accepted values include:

- 0: user doesn't want to be included in mailing lists.

- 1: user consents to be added to any mailing list.

- 2: user only wants to be added to mailing lists which the list provider views as relevant to the user's professional interests.

The absence of this attribute for a person should be interpreted as if the attribute was present with value "no-list-inclusion". This attribute should be interpreted by anyone using the directory to derive mailing lists, and its value respected.

For example:

```
mailPreferenceOption:0
```

This attribute is defined in RFC 1274.

Syntax
INTEGER, single-valued.

OID
0.9.2342.19200300.100.1.47

manager

Definition
Identifies the distinguished name of the entry's manager.

For example:

```
manager:cn=Jane Doe, ou=Quality Control, dc=siroe, dc=com
```

This attribute is defined in RFC 1274.

Syntax
DN, multi-valued.

OID
0.9.2342.19200300.100.1.10

member

Definition
Identifies the distinguished names for each member of the group.

For example:

```
member: cn=John Doe, dc=siroe, dc=com
```

This attribute is defined in RFC 2256.

Syntax
DN, multi-valued.

OID
2.5.4.31

memberCertificateDescription

Definition

This attribute is a multivalued attribute, where each value is a description, a pattern, or a filter matching the subject DN of a certificate (usually certificates used for SSL client authentication).

memberCertificateDescription matches any certificate that contains a subject DN with the same AVAs as the description. The description may contain multiple "ou=" AVAs. A matching DN must contain those same "ou=" AVAs, in the same order, although it may contain other AVAs (including other "ou=" AVAs) interspersed. For any other attribute type (not ou), there should be at most one AVA of that type in the description. If there are several, all but the last are ignored.

A matching DN must contain that same AVA, but no other AVA of the same type nearer the root (later, syntactically).

AVAs are considered the same if they contain the same attribute description (case-insensitive comparison) and the same attribute value (case-insensitive comparison, leading and trailing whitespace ignored, and consecutive whitespace characters treated as a single SP).

In order to be considered a member of a group with the following memberCertificateDescription, a certificate would need to include ou=x, ou=A, and o=siroe, but not o=company.

```
memberCertificateDescription: {ou=x, ou=A, o=company, o=siroe}
```

In order to match the group's requirements, a certificate's subject DNs must contain the same ou attribute types in the same order as defined in the memberCertificateDescription attribute.

This attribute is defined in iPlanet Directory Server.

Syntax

IA5String, multi-valued.

OID

2.16.840.1.113730.3.1.199

memberURL

Definition
Identifies an URL associated with each member of a group. Any type of labeled URL can be used.

For example:

```
memberURL: ldap:///cn=jdoe,dc=siroe,dc=com
```

This attribute is defined in iPlanet Directory Server.

Syntax
IA5String, multi-valued.

OID
2.16.840.1.113730.3.1.198

mobile

Definition
Identifies the entry's mobile or cellular phone number. Abbreviation: mobile

For example:

```
mobileTelephoneNumber: 415-555-4321
```

or

```
mobile: 415-555-4321
```

This attribute is defined in RFC 1274.

Syntax
TelephoneNumber, multi-valued.

OID
0.9.2342.19200300.100.1.41

multiLineDescription

Definition

Provides descriptive text for a mail user. When represented in LDIF format, each line should be separated by a dollar sign ($). The Directory Server expects 0 or 1 occurrences of this attribute per mail account.

For example:

```
multiLineDescription: Account Administrator and$directory manager.
```

To represent an actual dollar sign ($) or backslash (\) within this text, use the escaped hex values \24 and \5c respectively. For example, to represent the string:

```
The dollar ($) value can be found in the c:\cost file.
```

provide the string:

```
The dollar (\24) value can be found$in the c:\5ccost file.
```

This attribute is defined in Internet White Pages Pilot.

Syntax
DirectoryString, multi-valued.

OID
1.3.6.1.4.1.250.1.2

name

Definition

Identifies the attribute supertype from which string attribute types used for naming may be formed. It is unlikely that values of this type will occur in an entry. LDAP server implementations that do not support attribute subtyping do not need to recognize this attribute in requests. Client implementations should not assume that LDAP servers are capable of performing attribute subtyping.

This attribute is defined in RFC 2256.

Syntax
DirectoryString, multi-valued.

OID
2.5.4.41

nsLicensedFor

Definition

Identifies the Netscape server the user is licensed to use. The Netscape Administration Server expects each `nsLicenseUser` entry to contain zero or more instances of this attribute. Valid keywords for this attribute are currently:

- mail: the user is a licensed client of the Messaging Server.
- new: the user is a licensed client of the Collabra Server.
- slapd: the user is a licensed client of the Directory Server.
- cal: the user is a licensed client of the Calendar Server.

For example:

```
nsLicensedFor: slapd
```

This attribute is defined in iPlanet Administration Services.

Syntax
DirectoryString, multi-valued.

OID
2.16.840.1.113730.3.1.36

nsLicenseEndTime

Definition
Reserved for future use.

This attribute is defined in iPlanet Administration Services.

Syntax
DirectoryString, multi-valued.

OID
2.16.840.1.113730.3.1.38

nsLicenseStartTime

Definition
Reserved for future use.

This attribute is defined in iPlanet Administration Services.

Syntax
DirectoryString, multi-valued.

OID
2.16.840.1.113730.3.1.37

o (organizationName)

Definition
Identifies the name of the organization.

For example:

```
organizationName: Siroe, Inc.
```

or

```
o: Siroe, Inc
```

This attribute is defined in RFC 2256.

Syntax
DirectoryString, multi-valued.

OID
2.5.4.10

objectClass

Definition
Specifies the object classes of the object. Must include the object.

For example:

```
objectClass: person
```

This attribute is defined in RFC 2256.

Syntax
DirectoryString, multi-valued.

OID
2.5.4.0

obsoletedByDocument

Definition
Contains the distinguished name of a document that obsoletes the document entry.

For example:

```
obsoletedbyDocument: cn=Document Version 2, ou=Document Library,
 dc=siroe, dc=com
```

This attribute is defined in Internet White Pages Pilot.

Syntax
DN, multi-valued.

OID
0.9.2342.19200300.102.1.4

obsoletesDocument

Definition
Contains the distinguished name of a document that is obsoleted by the document entry.

For example:

```
obsoletesDocument: cn=Document Version 1, ou=Document Library,
 dc=siroe, dc=com
```

This attribute is defined in Internet White Pages Pilot.

Syntax
DN, multi-valued.

OID
0.9.2342.19200300.102.1.3

organizationalStatus

Definition
Specifies a category by which a person is often referred to in an organization.

For example:

```
organizationalStatus: researcher
```

This attribute is defined in RFC 1274.

Syntax
DirectoryString, multi-valued.

OID
0.9.2342.19200300.100.1.45

otherMailbox

Definition
Specifies values for electronic mailbox types other than X.400 and rfc822.

For example:

```
otherMailbox: Telemail: x378: Joe
```

This attribute is defined in RFC 1274.

Syntax
DirectoryString, multi-valued.

OID
0.9.2342.19200300.100.1.22

ou (organizationUnitName)

Definition

Identifies the name of an organizational unit.

For example:

```
organizationUnitName: Marketing
```

or

```
ou: Marketing
```

This attribute is defined in RFC 2256.

Syntax

DirectoryString, multi-valued.

OID

2.5.4.11

owner

Definition

Identifies the distinguished name of the person responsible for the entry.

For example:

```
owner: cn=Babs Jensen, dc=siroe, dc=com
```

This attribute is defined in RFC 2256.

Syntax

DN, multi-valued.

OID

2.5.4.32

pager

Definition

Identifies the entry's pager phone number. Abbreviation: pager.

For example:

```
pagerTelephoneNumber: 415-555-6789
```

or

```
pager: 415-555-6789
```

This attribute is defined in RFC 1274.

Syntax
TelephoneNumber, multi-valued.

OID
0.9.2342.19200300.100.1.42

personalSignature

Definition
A signature file, in binary format, for the entry.

For example:

```
personalSignature:: AAAAAA==
```

This attribute is defined in RFC 1274.

Syntax
Binary, multi-valued.

OID
0.9.2342.19200300.100.1.53

personalTitle

Definition
Specifies a personal title for a person. Examples of personal titles are "Ms", "Dr", "Prof" and "Rev".

For example:

```
personalTitle: Mr
```

This attribute is defined in RFC 1274.

Syntax
DirectoryString, multi-valued.

OID
0.9.2342.19200300.100.1.40

photo

Definition
Contains a photo, in binary form, of the entry.

For example:

```
photo:: AAAAAA==
```

This attribute is defined in RFC 1274.

Syntax
Binary, multi-valued.

OID
0.9.2342.19200300.100.1.7

physicalDeliveryOfficeName

Definition
Identifies the name of the city or village in which a physical delivery office is located.

For example:

```
physicalDeliveryOfficeName: Santa Clara
```

This attribute is defined in RFC 2256.

Syntax
DirectoryString, multi-valued.

OID
2.5.4.19

postalAddress

Definition

Identifies the entry's mailing address. This field is intended to include multiple lines. When represented in LDIF format, each line should be separated by a dollar sign ($).

For example:

```
P.O. Box 3541$Santa Clara, CA$99555
```

To represent an actual dollar sign ($) or backslash (\) within the text, use the escaped hex values \24 and \5c respectively.

This attribute is defined in RFC 2256.

Syntax

DirectoryString, multi-valued.

OID

2.5.4.16

postalCode

Definition

Identifies the entry's zip code in the United States.

For example:

```
postalCode: 44224
```

This attribute is defined in RFC 2256.

Syntax

DirectoryString, multi-valued.

OID

2.5.4.17

postOfficeBox

Definition
Specifies a postal mailing address.

For example:

```
postOfficeBox: P.O. Box 1234
```

This attribute is defined in RFC 2256.

Syntax
DirectoryString, multi-valued.

OID
2.5.4.18

preferredDeliveryMethod

Definition
Identifies the entry's preferred contact or delivery method.

For example:

```
preferredDeliveryMethod: telephone
```

This attribute is defined in RFC 2256.

Syntax
DirectoryString, single-valued.

OID
2.5.4.28

preferredLanguage

Definition
Defines a person's preferred written or spoken language. The value for this attribute should conform to the syntax for HTTP Accept-Language header values.

For example:

```
preferredLanguage: en-us
```
This attribute is defined in RFC 2798.

Syntax
DirectoryString, single-valued.

OID
2.16.840.1.113730.3.1.39

presentationAddress

Definition
Contains an OSI presentation address for the entry. The presentation address consists of an OSI Network Address and up to three selectors, one each for use by the transport, session, and presentation entities.

For example:

```
presentationAddress: TELEX+00726322+RFC-1006+02+130.59.2.1
```

This attribute is defined in RFC 2256.

Syntax
IA5String, single-valued.

OID
2.5.4.29

protocolInformation

Definition
Used in conjunction with the presentationAddress attribute to provide additional information to the OSI network service.

This attribute is defined in RFC 2256.

Syntax
DirectoryString, multi-valued.

OID
2.5.4.48

ref

Description
Used in LDAPv3 to support smart referrals. Contains an LDAP URL in the format:

```
ldap://<servername>:<portnumber>/<dn>
```

The port number is optional.

For example:

```
ref: ldap://server.acme.com:389/ou=People, o=acme.com
```

This attribute is defined in LDAPv3 referrals Internet Draft.

Syntax
IA5String, multi-valued.

OID
2.16.840.1.113730.3.1.34

registeredAddress

Definition
This attribute contains a postal address for receiving telegrams or expedited documents. The recipient's signature is usually required on delivery.

This attribute is defined in RFC 2256.

Syntax
DirectoryString, multi-valued.

OID
2.5.4.26

roleOccupant

Definition
Contains the distinguished name of the person acting in the role defined in the `organizationalRole` entry.

For example:

```
roleOccupant: uid=jdoe, dc=siroe, dc=com
```

This attribute is defined in RFC 2256.

Syntax
DN, multi-valued.

OID
2.5.4.33

roomNumber

Definition
Specifies the room number of an object. Note that the commonName attribute should be used for naming room objects.

For example:

```
roomNumber: 230
```

This attribute is defined in RFC 1274.

Syntax
DirectoryString, multi-valued.

OID
0.9.2342.19200300.100.1.6

searchGuide

Definition
Specifies information for a suggested search criteria when using the entry as the base object in the directory tree for a search operation. When constructing search filters, use enhancedSearchGuide instead.

This attribute is defined in RFC 2256.

Syntax
IA5String, multi-valued.

OID
2.5.4.14

secretary

Definition
Identifies the entry's secretary or administrative assistant.

For example:

```
secretary: cn=John Doe, dc=siroe, dc=com
```

This attribute is defined in RFC 1274.

Syntax
DN, multi-valued.

OID
0.9.2342.19200300.100.1.21

seeAlso

Definition
Identifies another directory server entry that may contain information related to this entry.

For example:

```
seeAlso: cn=Quality Control Inspectors,ou=manufacturing,
 dc=siroe, dc=com
```

This attribute is defined in RFC 2256.

Syntax
DN, multi-valued.

OID
2.5.4.34

serialNumber

Definition
Specifies the serial number of a device.

For example:

```
serialNumber: 555-1234-AZ
```

This attribute is defined in RFC 2256.

Syntax
DirectoryString, multi-valued.

OID
2.5.4.5

singleLevelQuality

Definition
Specifies the purported data quality at the level immediately below in the DIT.

This attribute is defined in RFC 1274.

Syntax
DirectoryString, single-valued.

OID
0.9.2342.19200300.100.1.50

sn (surname)

Definition
Identifies the entry's surname, also referred to as last name or family name.

For example:

```
surname: Anderson
```

or

```
sn: Anderson
```

This attribute is defined in RFC 2256.

Syntax
DirectoryString, multi-valued.

OID
2.5.4.4

st (stateOrProvinceName)

Definition
Identifies the state or province in which the entry resides. Abbreviation: st.

For example:

```
stateOrProvinceName: California
```

or

```
st: California
```

This attribute is defined in RFC 2256.

Syntax
DirectoryString, multi-valued.

OID
2.5.4.8

street

Definition
Identifies the entry's house number and street name.

For example:

```
streetAddress: 1234 Ridgeway Drive
```

or

```
street: 1234 Ridgeway Drive
```

This attribute is defined in RFC 2256.

Syntax
DirectoryString, multi-valued.

OID
2.5.4.9

subject

Definition
Contains information about the subject matter of the document entry.

For example:

```
subject: employee option grants
```

This attribute is defined in Internet White Pages Pilot.

Syntax
DirectoryString, multi-valued.

OID
0.9.2342.19200300.102.1.8

subtreeMaximumQuality

Definition
Specifies the purported maximum data quality for a DIT subtree.

This attribute is defined in RFC 1274.

Syntax
DirectoryString, single-valued.

OID
0.9.2342.19200300.100.1.52

subtreeMinimumQuality

Definition
Specifies the purported minimum data quality for a DIT subtree.

This attribute is defined in RFC 1274.

Syntax
DirectoryString, single-valued.

OID
0.9.2342.19200300.100.1.51

supportedAlgorithms

Definition
This attribute is to be stored and requested in the binary form, as
`supportedAlgorithms;binary`.

For example:

`supportedAlgorithms:: AAAAAA==`

This attribute is defined in RFC 2256.

Syntax
Binary, multi-valued.

OID
2.5.4.52

supportedApplicationContext

Definition
This attribute contains the identifiers of OSI application contexts.

This attribute is defined in RFC 2256.

Syntax
DirectoryString, multi-valued.

OID
2.5.4.30

telephoneNumber

Definition
Identifies the entry's phone number.

For example:

```
telephoneNumber: 415-555-2233
```

This attribute is defined in RFC 2256.

Syntax
TelephoneNumber, multi-valued.

OID
2.5.4.20

teletexTerminalIdentifier

Definition
Identifies the entry's teletex terminal identifier. The format of the attribute is as follows:

```
teletex-id = ttx-term  0*("$" ttx-param)
ttx-term   = printablestring
ttx-param  = ttx-key ":" ttx-value
ttx-key    = "graphic" / "control" / "misc" / "page" / "private"
ttx-value  = octetstring
```

In the above, the first printable string is the encoding of the first portion of the teletex terminal identifier to be encoded, and the subsequent 0 or more octet strings are subsequent portions of the teletex terminal identifier.

This attribute is defined in RFC 2256.

Syntax
DirectoryString, multi-valued.

telexNumber

Definition
Defines the telex number of the entry. The format of the telex number is as follows:

```
actual-number "$" country "$" answerback
```

where:

- actual-number: the syntactic representation of the number portion of the TELEX number being encoded.

- country: the TELEX country code.

- answerback: the answerback code of a TELEX terminal.

This attribute is defined in RFC 2256.

Syntax
DirectoryString, multi-valued.

OID
2.5.4.21

textEncodedORAddress

Definition
Defines the text-encoded Originator/Recipient (X.400) address of the entry as defined in RFC987.

For example:

```
textEncodedORAddress: /S=doe/OU=eng/O=siroe/ADMD=telemail/C=us/
```

This attribute is defined in RFC 1274.

Syntax
DirectoryString, multi-valued.

OID
0.9.2342.19200300.100.1.2

title

Definition
Identifies the title of a person in the organization.

For example:

`title: Senior QC Inspector`

This attribute is defined in RFC 2256.

Syntax
DirectoryString, multi-valued.

OID
2.5.4.12

ttl (timeToLive)

Definition
Contains the time, in seconds, that cached information about an entry should be considered valid. Once the specified time has elapsed, the information is considered out of date. A value of zero (0) indicates that the entry should not be cached. Abbreviation: ttl.

For example:

`timeToLive: 120`

or

`ttl: 120`

This attribute is defined in LDAP Caching Internet Draft.

Syntax
DirectoryString, multi-valued.

OID
1.3.6.1.4.1.250.1.60

uid (userID)

Definition
Identifies the entry's userid (usually the logon ID). Abbreviation: uid.

For example:

```
userid: banderson
```

or

```
uid: banderson
```

This attribute is defined in RFC 1274.

Syntax
DirectoryString, multi-valued.

OID
0.9.2342.19200300.100.1.1

uniqueIdentifier

Definition
Identifies a specific item used to distinguish between two entries when a distinguished name has been reused. This attribute is intended to detect instance of a reference to a distinguished name that has been deleted. This attribute is assigned by the server.

For example:

```
uniqueIdentifier: 17B
```

This attribute is defined in RFC 1274.

Syntax
DirectoryString, multi-valued.

OID
0.9.2342.19200300.100.1.44

uniqueMember

Definition

Identifies a group of names associated with an entry where each name was given a uniqueIdentifier to ensure its uniqueness. A value for the uniqueMember attribute is a DN followed by the uniqueIdentifier.

For example:

```
uniqueMember: cn=John Doe, dc=siroe, dc=com 17
```

This attribute is defined in RFC 2256.

Syntax

DN, multi-valued.

OID

2.5.4.50

updatedByDocument

Definition

Contains the distinguished name of a document that is an updated version of the document entry.

For example:

```
updatedbyDocument: cn=Document Version 2, ou=Document Library,
 dc=siroe, dc=com
```

This attribute is defined in Internet White Pages Pilot.

Syntax

DN, multi-valued.

OID

0.9.2342.19200300.102.1.6

updatesDocument

Definition

Contains the distinguished name of a document for which this document is an updated version.

For example:

```
updatesDocument: cn=Document Version 1, ou=Document Library,
 dc=siroe, dc=com
```

This attribute is defined in Internet White Pages Pilot.

Syntax
DN, multi-valued.

OID
0.9.2342.19200300.102.1.5

userCertificate

Definition

This attribute contains a certificate. It is to be stored and requested in the binary form, as `userCertificate;binary`.

For example:

```
userCertificate;binary:: AAAAAA==
```

This attribute is defined in RFC 2256.

Syntax
Binary, multi-valued.

OID
2.5.4.36

userClass

Definition

Specifies a category of computer user. The semantics of this attribute are arbitrary. The organizationalStatus attribute makes no distinction between computer users and others users and may be more applicable.

For example:

```
userClass: intern
```

This attribute is defined in RFC 1274.

Syntax

DirectoryString, multi-valued.

OID

0.9.2342.19200300.100.1.8

userPassword

Definition

Identifies the entry's password and encryption method in the following format:

```
{encryption method}encrypted password
```

Transfer of clear text passwords is strongly discouraged where the underlying transport service cannot guarantee confidentiality. Transfer of clear text may result in disclosure of the password to unauthorized parties.

For example:

```
userPassword: {ssha}9LsFG7RT+dFnPErwSfxDlaQTn6dbIFGklMNFRr==
```

This attribute is defined in RFC 2256.

Syntax

Binary, multi-valued.

OID

2.5.4.35

userPKCS12

Definition
This attribute provides a format for the exchange of personal identity information. The attribute is to be stored and requested in binary form, as `userPKCS12;binary`. The attribute values are PFX PDUs stored as binary data.

This attribute is defined in RFC 2798.

Syntax
Binary, multi-valued.

OID
2.16.840.1.113730.3.1.216

userSMIMECertificate

Definition
Used by Netscape Communicator for S/MIME. This attribute is to be stored and requested in the binary form, as `userSMIMECertificate;binary`.

For example:

```
userSMIMECertificate;binary:: AAAAAA==
```

This attribute is defined in RFC 2798.

Syntax
Binary, multi-valued.

OID
2.16.840.1.113730.3.1.40

x121Address

Definition
Defines the X.121 address of a person.

This attribute is defined in RFC 2256.

Syntax
IA5String, multi-valued.

OID
2.5.4.24

x500UniqueIdentifier

Definition
Reserved for future use. A binary method of identification useful for differentiating objects when a distinguished name has been reused.

For example:

```
x500UniqueIdentifier: 17B
```

This attribute is defined in RFC 2256.

Syntax
Binary, multi-valued.

OID
2.5.4.45

Operational Attributes, Special Attributes and Special Object Classes

This chapter describes operational attributes used by the directory server. Operational attributes may be available for use on every entry in the directory, regardless of whether they are defined for the object class of the entry. Operational attributes are only returned in an `ldapsearch` operation if specifically requested.This chapter also describes some special attributes and object classes, that are used by the server. When an object class inherits attributes from other object classes, the inherited attributes are shown in italics.

Operational Attributes

accountUnlockTime

Definition
This refers to the exact time after which the entry can be used for authentication.

This attribute is defined in iPlanet Directory Server.

Syntax
GeneralizedTime, single-valued

OID
2.16.840.1.113730.3.1.95

aci

Definition
Used by the directory server to evaluate what rights are granted or denied when it receives an LDAP request from a client.

This attribute is defined in iPlanet Directory Server.

Syntax
IA5String, multi-valued

OID
2.16.840.1.113730.3.1.55

altServer

Definition
The values of this attribute are URLs of other servers which may be contacted when this server becomes unavailable. If the server does not know of any other servers which could be used, this attribute is absent. You may cache this information in case your preferred LDAP server later becomes unavailable.

This attribute is defined in RFC 2252.

Syntax
IA5String, multi-valued.

OID
1.3.6.1.4.1.1466.101.120.6

attributeTypes

Definition
Multi-valued attribute that specifies the attribute types used within a subschema. Each value describes a single attribute.

This attribute is defined in RFC 2252.

Syntax
DirectoryString, multi-valued.

OID
2.5.21.5

copiedFrom

Definition
Used by read-only replica to recognize master data source. Contains a reference to the server that holds the master data. Note that this attribute is only used for legacy replication. It is not used for multi master replication.

This attribute is defined in iPlanet Directory Server.

Syntax
DirectoryString, single-valued.

OID
2.16.840.1.113730.3.1.613

copyingFrom

Definition
Used by read-only replica to recognize master data source while replication is in progress. Contains a reference to the server that holds the master data. Note that this attribute is only used for legacy replication. It is not used for multi master replication.

This attribute is defined in iPlanet Directory Server.

Syntax
DirectoryString, single-valued.

OID
2.16.840.1.113730.3.1.614

dITContentRules

Definition
Multi-valued attribute that defines the DIT content rules which are in force within a subschema. Each value defines one DIT content rule. Each value is tagged by the object identifier of the structural object class to which it pertains.

Note: iPlanet Directory Server does not support or use this attribute.

This attribute is defined in RFC 2252.

Syntax
DirectoryString, multi-valued.

OID
2.5.21.2

dITStructureRules

Definition
Multi-valued attribute that defines the DIT structure rules which are in force within a subschema. Each value defines one DIT structure rule.

Note: iPlanet Directory Server does not support or use this attribute.

This attribute is defined in RFC 2252.

Syntax
DirectoryString, multi-valued.

OID
2.5.21.1

ldapSyntaxes

Definition
This attribute identifies the syntaxes implemented, with each value corresponding to one syntax.

This attribute is defined in RFC 2252.

Syntax
DirectoryString, multi-valued.

OID
1.3.6.1.4.1.1466.101.120.16

matchingRules

Definition
Multi-valued attribute that defines the matching rules used within a subschema. Each value defines one matching rule.

This attribute is defined in RFC 2252.

Syntax
DirectoryString, multi-valued.

OID
2.5.21.4

matchingRuleUse

Definition
Used to indicate the attribute types to which a matching rule applies in a subschema.

This attribute is defined in RFC 2252.

Syntax
DirectoryString, multi-valued.

OID
2.5.21.8

nameForms

Definition
Multi-valued attribute that defines the name forms used in a subschema. Each value defines one name form.

Note: iPlanet Directory Server does not support or use this attribute.

This attribute is defined in RFC 2252.

Syntax
DirectoryString, multi-valued.

OID
2.5.21.7

namingContexts

Definition
Corresponds to a naming context the server is mastering or shadowing. When the directory server does not master any information (for example, it is an LDAP gateway to a public X.500 directory), this attribute is absent. When the directory server believes it contains the entire directory, the attribute has a single value, and that value is the empty string (indicating the null DN of the root).This attribute permits a client contacting a server to choose suitable base objects for searching.

This attribute is defined in RFC 2252.

Syntax
DN, multi-valued.

OID
1.3.6.1.4.1.1466.101.120.5

nsds5replconflict

Definition
This attribute is a conflict marker attribute. It is included on entries that have a change conflict that cannot be resolved automatically by the replication process.

This attribute is defined in iPlanet Directory Server.

Syntax
DirectoryString, multi-valued.

OID
2.16.840.1.113730.3.1.973

nsRole

Definition
This attribute is a computed attribute that is not stored with the entry itself. It identifies which roles an entry belongs to.

This attribute is defined in iPlanet Directory Server.

Syntax
DN, multi-valued.

OID
2.16.840.1.113730.3.1.574

nsRoleDN

Definition

This attribute contains the distinguished name of each managed role to which the entry belongs. Membership of a managed role is conferred upon an entry by adding the role's DN to the entry's nsRoleDN attribute.

This attribute is not to be confused with the generated nsRole attribute that contains the DN of *all* roles to which the entry belongs, as computed by the Directory Server. Use nsRoleDN to set managed role membership, and use nsRole to read all roles.

For example:

```
dn: cn=staff,ou=People,dc=siroe,dc=com
objectclass: LDAPsubentry
objectclass: nsRoleDefinition
objectclass: nsSimpleRoleDefinition
objectclass: nsManagedRoleDefinition

dn: uid=bjensen,ou=People,dc=siroe,dc=com
objectclass: top
objectclass: person
sn: Jensen
cn: Babs Jensen
uid: bjensen
nsroledn: cn=staff,ou=People,dc=siroe,dc=com
```

A nested role specifies containment of one or more roles of any type. In that case, nsRoleDN defines the DN of the contained roles.

For example:

```
dn: cn=everybody,o=iPlanet,o=airius.com
objectclass: LDAPsubentry
objectclass: nsRoleDefinition
objectclass: nsComplexRoleDefinition
objectclass: nsNestedRoleDefinition
nsroledn: cn=manager,ou=People,dc=siroe,dc=com
nsroledn: cn=staff,ou=People,dc=siroe,dc=com
```

This attribute is defined in iPlanet Directory Server.

Syntax

DN, multi-valued.

OID

2.16.840.1.113730.3.1.575

numSubordinates

Description
Indicates how many immediate subordinates an entry has.

For example, `numSubordinates=0` in a leaf entry.

This attribute is defined in numSubordinates Internet Draft.

Syntax
INTEGER, single-valued.

OID
1.3.1.1.4.1.453.16.2.103

objectClasses

Definition
Multi-valued attribute that defines the object classes used in a subschema. Each value defines one object class.

This attribute is defined in RFC 2252.

Syntax
DirectoryString, multi-valued.

OID
2.5.21.6

passwordAllowChangeTime

Definition
Used to specify the exact time after which the user is allowed to change their password.

This attribute is defined in iPlanet Directory Server.

Syntax
GeneralizedTime, single-valued.

OID
2.16.840.1.113730.3.1.214

passwordExpirationTime

Definition
Used to specify the exact time after which the user's password expires.

This attribute is defined in iPlanet Directory Server.

Syntax
GeneralizedTime, single-valued.

OID
2.16.840.1.113730.3.1.91

passwordExpWarned

Definition
Used to indicate that a password expiration warning has been sent to the user.

This attribute is defined in iPlanet Directory Server.

Syntax
DirectoryString, single-valued.

OID
2.16.840.1.113730.3.1.92

passwordHistory

Definition
Contains the history of the user's previous passwords.

This attribute is defined in iPlanet Directory Server.

Syntax
Binary, multi-valued.

OID
2.16.840.1.113730.3.1.96

passwordRetryCount

Definition
Used to count the number of consecutive failed attempts at entering the correct password.

This attribute is defined in iPlanet Directory Server.

Syntax
INTEGER, single-valued.

OID
2.16.840.1.113730.3.1.93

retryCountResetTime

Definition
Specifies the exact time after which the passwordRetryCount is reset.

This attribute is defined in iPlanet Directory Server.

Syntax
GeneralizedTime, single-valued.

OID
2.16.840.1.113730.3.1.94

subschemaSubentry

Definition
DN of the entry that contains schema information for this entry. This attribute is present for every entry in the directory.

For example:

```
subschemaSubentry: cn=schema
```

This attribute is defined in RFC 2252.

Syntax
DN, single-valued.

OID
2.5.18.10

supportedControl

Definition
The values of this attribute are the object identifiers (OIDs) that identify the controls supported by the server. When the server does not support controls, this attribute is absent.

This attribute is defined in RFC 2252.

Syntax
DirectoryString, multi-valued.

OID
1.3.6.1.4.1.1466.101.120.13

supportedExtension

Definition
The values of this attribute are the object identifiers (OIDs) that identify the supported extended operations supported by the server. When the server does not support extensions, this attribute is absent.

This attribute is defined in RFC 2252.

Syntax
DirectoryString, multi-valued.

OID
1.3.6.1.4.1.1466.101.120.7

supportedLDAPVersion

Definition

Identifies the versions of the LDAP protocol implemented by the server.

This attribute is defined in RFC 2252.

Syntax

INTEGER, multi-valued.

OID

1.3.6.1.4.1.1466.101.120.15

supportedSASLMechanisms

Definition

Identifies the names of supported SASL mechanisms supported by the server. When the server does not support SASL attributes, this attribute is absent.

This attribute is defined in RFC 2252.

Syntax

DirectoryString, multi-valued.

OID

1.3.6.1.4.1.1466.101.120.14

Special Object Classes

changeLogEntry

Definition
Used to represent changes made to the directory server. You can configure iPlanet Directory Server 5.1 to maintain a change log that is compatible with the change log implemented in Directory Server 4.1, 4.1, 4.11, 4.12, and 4.13 by enabling the Retro Changelog plug-in. Each entry in the change log has the object class `changeLogEntry`.

This object class is defined in Changelog Internet Draft.

Superior Class
top

OID
2.16.840.1.113730.3.2.1

Required Attributes

objectClass	*Defines the object classes for the entry.*
changeNumber	Number assigned arbitrarily to the changelog.
changeTime	The time at which a change took place.
changeType	The type of change performed on an entry.
targetDn	The distinguished name of an entry added, modified or deleted on a supplier server.

Allowed Attributes

changes	Changes made to the directory server.
deleteOldRdn	A flag that defines whether the old Relative Distinguished Name (RDN) of the entry should be kept as a distinguished attribute of the entry, or should be deleted.
newRdn	New RDN of an entry that is the target of a modRDN or modDN operation.

| newSuperior | Name of the entry that becomes the immediate superior of the existing entry, when processing a modDN operation. |

passwordObject

Definition
Stores password information for a user in the directory.

This object class is defined in iPlanet Directory Server.

Superior Class
top

OID
2.16.840.1.113730.3.2.12

Required Attributes

| *objectClass* | *Defines the object classes for the entry.* |

Allowed Attributes

accountUnlockTime	Refers to the amount of time that must pass after an account lockout before the user can bind to the directory again.
passwordAllowChangeTime	Used to specify the length of time that must pass before the user is allowed to change their password.
passwordExpirationTime	Used to specify the length of time that passes before the user's password expires.
passwordExpWarned	Used to indicate that a password expiration warning has been sent to the user.
passwordHistory	Contains the history of the user's previous passwords.
passwordRetryCount	Used to count the number of consecutive failed attempts at entering the correct password.
retryCountResetTime	Specifies the length of time that passes before the passwordRetryCount is reset.

subschema

Definition

An auxiliary object class subentry used to administer the subschema for the subschema administrative area. It holds the operational attributes representing the policy parameters used to express the subschema.

This object class is defined in RFC 2252.

Superior Class

top

OID

2.5.20.1

Required Attributes

objectClass	*Defines the object classes for the entry.*

Allowed Attributes

attributeTypes	Attribute types used within a subschema.
dITContentRules	Defines the DIT content rules which are in force within a subschema.
dITStructureRules	Defines the DIT structure rules which are in force within a subschema.
matchingRules	Defines the matching rules used within a subschema
matchingRuleUse	Indicates the attribute types to which a matching rule applies in a subschema.
nameForms	Defines the name forms used in a subschema.
objectClasses	Defines the object classes used in a subschema.

Special Attributes

changes

Description
For add and modify operations, contains the changes made to the entry, in LDIF format.

This attribute is defined in Changelog Internet Draft.

Syntax
Binary, multi-valued.

OID
2.16.840.1.113730.3.1.8

changeLog

Description
The distinguished name of the entry which contains the set of entries comprising the servers changelog.

This attribute is defined in Changelog Internet Draft.

Syntax
DN, multi-valued.

OID
2.16.840.1.113730.3.1.35

changeNumber

Description
This single-valued attribute is always present. It contains an integer which uniquely identifies each change made to a directory entry. This number is related to the order in which the change occurred. The higher the number, the later the change.

This attribute is defined in Changelog Internet Draft.

Syntax
INTEGER, multi-valued.

OID
2.16.840.1.113730.3.1.5

changeTime

Description
Defines a time, in a YYMMDDHHMMSS format, when the entry was added.

This attribute is defined in iPlanet Directory Server.

Syntax
DirectoryString, multi-valued.

OID
2.16.840.1.113730.3.1.77

changeType

Description
Specifies the type of LDAP operation. This attribute can have one of the following values: **add, delete, modify,** or **modrdn.**

For example:

```
changeType: modify
```

This attribute is defined in Changelog Internet Draft.

Syntax
DirectoryString, multi-valued.

OID
2.16.840.1.113730.3.1.7

deleteOldRdn

Description
In the case of `modrdn` operations, specifies whether the old RDN was deleted.

This attribute is defined in Changelog Internet Draft.

Syntax
Boolean, multi-valued.

OID
2.16.840.1.113730.3.1.10

newRdn

Description
In the case of `modrdn` operations, specifies the new RDN of the entry.

This attribute is defined in Changelog Internet Draft.

Syntax
DN, multi-valued.

OID
2.16.840.1.113730.3.1.9

newSuperior

Description
In the case of `modrdn` operations, specifies the `newSuperior` attribute of the entry.

This attribute is defined in Changelog Internet Draft.

Syntax
DN, multi-valued.

OID
2.16.840.1.113730.3.1.11

targetDn

Description
Contains the DN of the entry that was affected by the LDAP operation. In the case of a modrdn operation, the targetDn attribute contains the DN of the entry before it was modified or moved.

This attribute is defined in Changelog Internet Draft.

Syntax
DN, multi-valued.

OID
2.16.840.1.113730.3.1.6

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