

Novell Developer Kit

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NOVELL EDIRECTORY™ SCHEMA
REFERENCE



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Preface

Novell® eDirectory™ is based on a set of rules which define the following:

- ♦ The types of objects that can exist in an eDirectory tree
- ♦ The possible locations of these objects in the eDirectory tree
- ♦ The information (stored as attributes) that can be and must be maintained about the object

This set of rules is called the schema. The eDirectory Schema Reference describes these rules and the items that have been defined for the NDS operational schema. This information is divided into the following sections:

- ♦ Chapter 1, “Schema Concepts,” on page 25
- ♦ Chapter 2, “Base Object Class Definitions,” on page 59
- ♦ Chapter 3, “Novell Object Class Extensions,” on page 269
- ♦ Chapter 4, “Graphical View of Object Class Inheritance,” on page 315
- ♦ Chapter 5, “Base Attribute Definitions,” on page 327
- ♦ Chapter 6, “Novell Attribute Extensions,” on page 779
- ♦ Chapter 7, “LDAP Operational Attributes,” on page 953
- ♦ Chapter 8, “Attribute Syntax Definitions,” on page 963

Feedback

We want to hear your comments and suggestions about this manual and the other documentation included with this product. Please use the User Comments feature at the bottom of each page of the online documentation.

Documentation Updates

For the most recent version of this guide, see [eDirectory Libraries for C \(http://developer.novell.com/ndk/ndslib.htm\)](http://developer.novell.com/ndk/ndslib.htm).

Additional Information

For information about other eDirectory interfaces, see the following guides:

- ♦ eDirectory Iterator Services (http://developer.novell.com/ndk/doc/ndslib/skds_enu/data/front.html)
- ♦ eDirectory Event Services (http://developer.novell.com/ndk/doc/ndslib/dsev_enu/data/hmwiqbwd.html)
- ♦ eDirectory Technical Overview (http://developer.novell.com/ndk/doc/ndslib/dsov_enu/data/h6tv4z7.html)
- ♦ eDirectory Core Services (http://developer.novell.com/ndk/doc/ndslib/nds__enu/data/h2y7hdit.html)
- ♦ eDirectory Backup Services (http://developer.novell.com/ndk/doc/ndslib/dsbk_enu/data/front.html)

For help with eDirectory problems or questions, visit the [eDirectory Libraries for C Developer Support Forum \(http://developer.novell.com/ndk/devforums.htm\)](http://developer.novell.com/ndk/devforums.htm).

For product information about eDirectory, see the [eDirectory Documentation Site \(http://www.novell.com/documentation/edirectory.html\)](http://www.novell.com/documentation/edirectory.html).

Documentation Conventions

In this documentation, a greater-than symbol (>) is used to separate actions within a step and items within a cross-reference path.

A trademark symbol (®, ™, etc.) denotes a Novell trademark. An asterisk (*) denotes a third-party trademark.

When a single pathname can be written with a backslash for some platforms or a forward slash for other platforms, the pathname is presented with a backslash. Users of platforms that require a forward slash, such as Linux* or UNIX*, should use forward slashes as required by your software.

Schema Concepts

1

This chapter describes the rules that govern the schema and its various data types. For general rule structure and rule information, see [Section 1.1, “Schema Structure,” on page 25](#). For information about its three data types, see

- ♦ [Section 1.3, “Object Classes,” on page 27](#)
- ♦ [Section 1.11, “Attribute Type Definitions,” on page 48](#)
- ♦ [Section 1.12, “Attribute Syntax Definitions,” on page 52](#)

For information on extending these data types to include other object classes and attributes, see [Section 1.13, “Schema Extensions,” on page 54](#).

NDS 8 adds the following:

- ♦ A container class, domain, that accepts most leaf objects as subordinate objects
- ♦ Effective class status for the Person and Organizational Person classes
- ♦ An ndsLoginProperties class which allows Person, Organizational Person, Organization, and Organizational Unit classes to inherit all the attributes required for logging in to eDirectory

NDS eDirectory has enhanced the support for LDAP v3 and the LDAP schema. An LDAP name section has been added to the attribute and class definitions that are automatically made available for LDAP access. The other definitions that do not conform to LDAP naming conventions must be mapped to allow LDAP access.

The eDirectory schema is extensible, which means developers can add to the types of objects and attributes maintained by eDirectory.

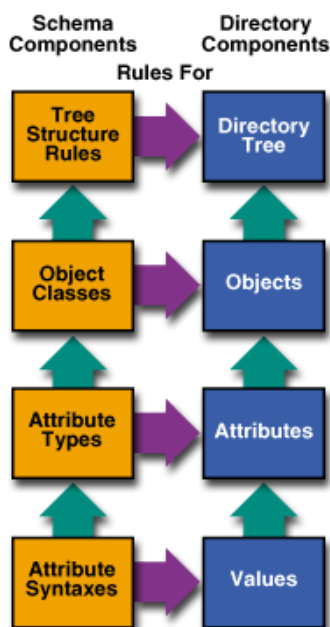
1.1 Schema Structure

The schema defines the set of rules that govern the types of objects that can exist in an NDS™ tree. Each object belongs to an object class that specifies which attributes can be associated with the object. All attributes are based on a set of attribute types that are, in turn, based on a standard set of attribute syntaxes.

The NDS schema not only controls the structure of individual objects, but it also controls the relationship among objects in the NDS tree. The schema rules allow some objects to contain other subordinate objects. Thus the schema gives structure to the NDS tree.

The figure below shows how the schema components and the NDS components are interrelated. The vertical arrows indicate the structure dependencies from the basic building blocks up to the NDS schema and the NDS tree, respectively. The horizontal arrows denote the schema rules that apply to the respective NDS components.

Figure 1-1 *The Relationship between Schema Components and NDS components*



The attribute syntaxes define the primary data types for values stored in the NDS tree. Attribute types are defined from the attribute syntaxes and define the possible attributes an object can have. Object classes are defined using a subset of the possible attributes and determine the types of objects that can be in the tree. The tree structure rules define how the object classes can be organized and nested in the tree, and therefore determine the tree's structure.

Objects that can contain other objects are called container objects. Container objects are the building blocks of the NDS tree. Objects that cannot contain other objects are known as noncontainer or leaf objects. Leaf objects comprise the actual network resources such as a user, a server, or a printer.

See Also:

- ♦ [Section 1.2, "Schema Components," on page 27](#)
- ♦ [Section 1.3, "Object Classes," on page 27](#)
- ♦ [Section 1.11, "Attribute Type Definitions," on page 48](#)
- ♦ [Section 1.12, "Attribute Syntax Definitions," on page 52](#)

1.1.1 Structure Rules

The Structure Rules define the relationships between objects in the NDS tree. These relationships are defined by two properties:

- ♦ [Section 1.5, "Containment Classes," on page 31](#)
- ♦ [Section 1.4, "Naming Attributes," on page 30](#)

Containment classes determine where the object can appear in the NDS tree relative to other classes of objects. Naming attributes-sometimes called Named By attributes-determine how the object is named.

1.1.2 Distribution of the NDS Schema

The NDS schema is global. Each server stores a replica of the schema in its entirety. The schema replica is stored separately from the partitions that contain directory objects. Changes to any one schema replica are propagated to the other replicas. You can perform modifications to the schema only through a server that stores a writable replica of the root partition. Servers storing read-only replicas of the root partition can read but not modify schema information.

1.2 Schema Components

The NDS schema consists of two basic components:

- ♦ Object Classes
- ♦ Attribute Types

The set of rules that controls the creation of a particular object is called an object class. Each object class is defined in terms of attributes. An attribute is a specific piece of information that exists for an object. (Attributes are called properties by NetWare utilities and documentation.)

For example, NDS contains an object class for users, called User object. This User object class defines many attributes (more than 80), including attributes for such items as the user's name, telephone number, address, and group memberships.

Attributes are defined in terms of a base set of data types called attribute syntaxes. The attribute syntaxes define the primary data types for values stored in the NDS database.

For example, some attributes such as Password Minimum Length or Minimum Account Balance take integer values while other attributes such as a user's Full Name or Given Name take string values.

NDS has a set of built-in classes and attribute types that accommodate general categories of network objects such as organizations, users, and devices. This set is called the base schema. To this schema, Novell developers have added objects and attributes to form a standard schema for NetWare 5.x. As a developer, you can build on the standard schema to create new classes and new attributes for objects. However, these new classes and attributes must be defined in terms of the existing syntaxes. Defining new syntaxes is not allowed.

See Also:

- ♦ [Section 1.1, "Schema Structure," on page 25](#)
- ♦ [Section 1.3, "Object Classes," on page 27](#)
- ♦ [Section 1.11, "Attribute Type Definitions," on page 48](#)
- ♦ [Section 1.12, "Attribute Syntax Definitions," on page 52](#)

1.3 Object Classes

Object classes define the types of objects that can exist in the NDS database. Database entries are created by selecting an object class and then supplying the required attribute information for the entry. For example, to create an entry for a user, you must select the User object class and then supply a name for the user.

In the base schema, all object classes are nonremovable; that is, they cannot be deleted or in any other way removed from the schema. Object classes that extend the schema are removable.

An object class is defined by its characteristics and consists of the following kinds of information:

- ♦ [Section 1.4, “Naming Attributes,” on page 30](#) (for naming and containment)
- ♦ [Section 1.5, “Containment Classes,” on page 31](#)
- ♦ [Section 1.6, “Super Classes,” on page 36](#)
- ♦ [Section 1.7, “Object Class Flags,” on page 40](#)
- ♦ [Section 1.8, “Mandatory and Optional Attributes,” on page 41](#)
- ♦ [Section 1.9, “Default ACL Templates,” on page 42](#)

An object class does not have to specify definitions for all characteristics, because it can inherit characteristics from super classes. See [“Class Inheritance Rules” on page 38](#).

See Also:

- ♦ [“Novell Object Class Extensions” on page 269](#)
- ♦ [“Class Construction Rules” on page 57](#)

1.3.1 Effective and Noneffective Classes

Object classes can be either effective or noneffective.

- ♦ Effective class—you can actually create an instance of the defined object in the NDS tree.
- ♦ Noneffective class—the class is used only to define other classes. You cannot create an object of a noneffective class

The Computer class, for example, is an effective class. You could create a Computer object on the NDS tree using the Computer class. The Device class is a noneffective class. You could not create a Device object because it would have no real function. However, the Device class is a super class of the Computer class and helps to define the attributes needed by the Computer class.

Most of the object classes in the base schema are effective classes. Since effective classes are the active building blocks from which an NDS tree is created, their structure rules must be complete. This means that the naming attributes and containment classes cannot be ambiguous.

For example, if naming attributes or containment classes are not specified for a new effective class, they are inherited from the new class’s super classes. If the new effective class inherits from multiple super classes, the naming attribute and containment classes must be identical. If they aren’t identical, the structure rules conflict and are ambiguous. In this case, an effective class must define its naming attributes and containment classes.

If the structure rules are incomplete or ambiguous, NDS automatically flags the class as noneffective. The effective or noneffective flag is assigned to a class when it is originally defined. The value cannot be modified after the class is created.

The noneffective classes are not active and thus cannot be used to create objects in an NDS tree. They are typically used as super classes to define class information that is shared by multiple effective classes. The effective classes can then inherit the class information from the noneffective super class rather than repetitively defining it.

The base schema defines the following noneffective classes:

- ♦ Device
- ♦ ndsLoginProperties
- ♦ Resource
- ♦ Server

Top is the one special case for the Effective flag. Although Top is flagged as an effective class, no object can be created from the Top class.

1.3.2 Reading Class Definitions

The “[Novell Object Class Extensions](#)” on [page 269](#) section lists the name of each class in alphabetical order. The name is followed by a brief description of the purpose of the class and whether the class is effective or noneffective.

Each object class has the following information defined:

Class Flags

The class flags determine whether the object is a leaf or container object and whether object class is effective or noneffective. See [Section 1.7, “Object Class Flags,” on page 40](#) for a description of these flags.

Super Classes

Objects inherit information from classes listed in this section. All object classes must have one or more super classes, except [Top \(page 249\)](#), which is a super class to all classes. The super classes are listed in a hierarchical manner, with the super class at the bottom of the list being the immediate super class from which the current class inherits.

Containment

Objects of the class can be created only as subordinates in the NDS tree to objects of the classes listed here. An object of the class cannot be subordinate to any object of a class that is not listed here.

Named By

The partial name or Relative Distinguished Name (RDN) of objects of the class consists of at least one of the attributes listed here. These attributes can be either mandatory or optional attributes, but at least one must be given a value when creating an object of the class. If the only Named By attribute is optional, it is in effect mandatory.

Attributes listed in this section will also be listed in the Mandatory Attributes and Optional Attributes sections. For example, a User object is named by Common Name, which is a mandatory attribute.

Default ACL Template

Every expanded class definition has an ACL attribute (inherited from [Top \(page 249\)](#)). This attribute holds information about which trustees have access to the object itself (entry rights) and which trustees have access to the attributes for the object. This information is stored in sets of information containing the trustee name, privileges, and the affected attribute (entry, all attributes, or a specific attribute). For example, the default template for [AFP Server \(page 60\)](#) is that the creator of an object has the supervisor right on [Entry Rights].

Some object classes define a default set of values for their ACL. Objects also inherit default ACL values from their super classes. Therefore, every object class inherits a default ACL template from [Top \(page 249\)](#). When an object is created, its ACL contains the values that are in the default ACL template for that object. There are two cases where the ACL values are different:

- ♦ Your code overrides the default values.
- ♦ The creator of the object has effective rights comparable to those in the default template. In this case, the rights are not granted explicitly.

1.4 Naming Attributes

Objects are identified by their own names and the names of their parent objects. An object's name is called its partial name or Relative Distinguished Name (RDN). For example, a user's partial name might be the following:

CN=Fred

The full name of an object, which includes the names of its parent objects, is called the complete name or Distinguished Name (DN). For example, a user's complete name may be the following:

CN=Fred.OU=Client.OU=Engineering.O=Novell

An object's DN is determined by all the objects to which it is subordinate, but only the immediate parent's object class must appear in the object's containment class list. Hence, structure rules effectively control the formation of Distinguished Names.

Naming attributes are part of the [Structure Rules \(page 26\)](#) of the schema and are listed under the Named By headings in the object class definitions found in [“Novell Object Class Extensions” on page 269](#).

Naming attributes have the following characteristics:

- ♦ [“Naming Attribute Rules” on page 30](#)
- ♦ [“Multi-Valued Naming Attributes” on page 31](#)
- ♦ [“Shareable Naming Attributes” on page 31](#)
- ♦ [“Naming Attribute Inheritance” on page 31](#)

See Also:

- ♦ [Section 1.5, “Containment Classes,” on page 31](#)
- ♦ [Section 1.6, “Super Classes,” on page 36](#)

1.4.1 Naming Attribute Rules

Each class has one or more attributes designated as naming attributes. These attributes can be either mandatory or optional attributes, but at least one must be given a value when creating an object of that class. If the only naming attribute is declared as optional, it is, in effect, mandatory.

Naming attributes specify the rules for the partial name of the object. For example, Organization objects are named by the O (Organization Name) attribute. This attribute is the only attribute value that can appear in an organizational entry's partial name.

1.4.2 Multi-Valued Naming Attributes

Naming attributes can be multi-valued; in other words, more than one name (value) can be added to the naming attribute. For example, an organization can have both “Testing” and “Engineering” as values for the O (Organization Name) attribute. However, only the first value is used in search operations.

Some object class definitions specify multiple naming attributes. For example, the Locality object class is named by the L (Locality Name) and S (State or Province Name) attributes. Thus, an RDN for locality can include just an L (Locality Name) attribute, just an S (State or Province Name) attribute, or both attributes. For example, the name for the Provo, Utah locality could be

- ♦ L=Provo
- ♦ S=Utah
- ♦ L=Provo + S=Utah

The last example uses both attributes with a plus sign (+) to indicate where the second attribute’s value begins. When the type specifiers (in this case, L and S) are used as shown, the name is referred to as a typed name. A typeless name has the following format: “Provo+Utah”.

1.4.3 Shareable Naming Attributes

A naming attribute does not necessarily reflect the class an object belongs to. Many classes, such as Computer, User, and Server, are named by their CN (Common Name) attribute. In such names, the naming attribute itself does not indicate which class the object belongs to, but the value of the naming attribute might suggest the nature of the object. However, some naming attributes are closely tied to specific classes. For example, the C (Country Name) attribute is used to name only Country objects.

1.4.4 Naming Attribute Inheritance

Naming attributes for effective classes must follow the inheritance rules. Effective classes can inherit naming attributes only if the naming attributes of the super classes are identical and do not conflict. If they are different and therefore ambiguous, the effective class must define its own naming attributes. Noneffective classes may have ambiguous naming attributes, but they often define the naming attributes so subordinate objects can inherit them. For example, the Server class defines naming attributes that are inherited by the AFP Server, NCP Server, CommExec, Messaging Server, and Print Server classes.

1.5 Containment Classes

Objects that can contain other objects are called container objects or parent objects. Container objects are the branches of the NDS tree, are part of the [Structure Rules \(page 26\)](#) of the schema, and provide a structure that is similar to a directory in a file system. Objects that cannot contain other objects are called noncontainer or leaf objects. Leaf objects represent the actual network resources that perform some function in the NDS tree, such as users, printers, modems, servers, or volumes.

The following topics contain additional information about containment classes:

- ♦ [“Containment Class Rules” on page 32](#)
- ♦ [“Containment Classes in the Base Schema” on page 32](#)

- ♦ “Containment of Leaf Objects” on page 34
- ♦ “Containment Classes and Inheritance” on page 36

See Also

- ♦ Section 1.4, “Naming Attributes,” on page 30
- ♦ “Structure Rules” on page 26
- ♦ Section 1.3, “Object Classes,” on page 27

1.5.1 Containment Class Rules

For each object class, a list of containment classes specifies where an object of that class may appear in the hierarchical structure of the NDS tree. An object can be immediately subordinate to only those objects whose classes appear in the containment list of the object’s expanded class definition. An expanded class definition includes all the characteristics defined for the class plus all the characteristics that the class can inherit from super classes.

Effective classes can inherit containment classes from super classes only if the inheritance does not make containment ambiguous. If the inherited containment is ambiguous, the class must define containment. Class-defined containment overrides containment defined for super classes.

Effective classes are those object classes that can be used to create entries in the NDS database. Noneffective classes cannot be used to create entries and are used by the schema so that multiple object classes can inherit a common set of schema characteristics. Noneffective classes can have ambiguous containment.

Containment classes limit the possible locations of an object in the NDS tree, thus restricting the order and types of partial names that appear in the object’s complete name. Containment helps to ensure that the NDS tree expands in a consistent and logical fashion. For example, an Organization object can be either the topmost object of the NDS tree or subordinate to the Tree Root object. A User object can be subordinate to an Organization object but not to a Tree Root object. Before users can be added to an NDS tree, the tree must contain either an Organization object or an Organizational Unit object which are the containment classes for the User object.

While helping to control the structure of the NDS tree, containment classes must also be flexible enough to accommodate a variety of organizational situations. An example is the relationship between the Organization and Locality classes. Each class specifies the other as a containment class. This allows an administrator to decide which hierarchical order best represents the company’s organization.

1.5.2 Containment Classes in the Base Schema

The following table shows the classes that can contain other objects and the object types that they can contain.

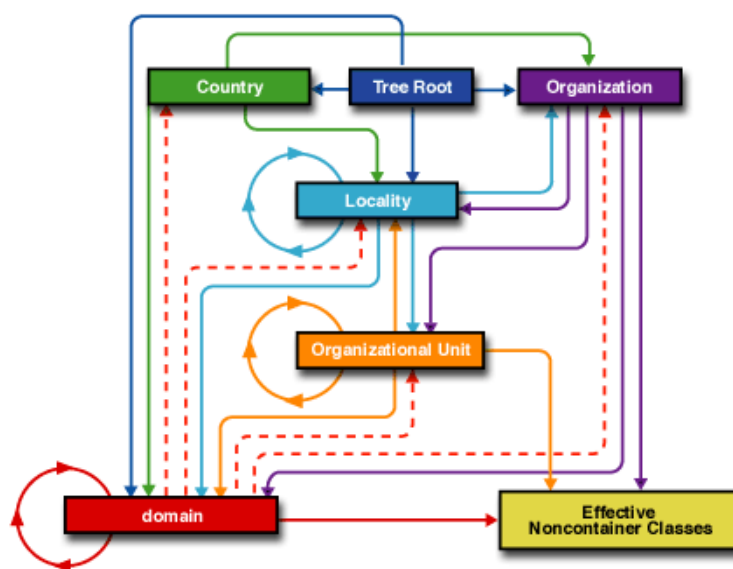
Table 1-1 *Containment Classes in the Base Schema*

Object Class	Contained Classes
Tree Root (page 251)	Country domain Organization
Country (page 90)	domain Locality Organization
Locality (page 146)	domain Locality Organization Organizational Unit
Organization (page 198)	domain Locality Organizational Unit Leaf objects
Organizational Unit (page 206)	domain Locality Organizational Unit Leaf objects
domain (page 114)	domain Country Locality Organization Organizational Unit Leaf objects

The ability for Country, Locality, Organization, and Organizational Unit objects to contain domain objects comes with the installation of NDS 8. The ability of domain objects to contain Country, Locality, Organization, and Organizational Unit objects does not come through installation. The schema must be expanded to this functionality with a schema option in DSRepair.

The following figure presents a graphical view of the NDS containment structure. This view shows the containment classes and the object classes that they can contain and that can contain them. Object classes that cannot contain other objects (leaf objects) are collectively shown as noncontainer classes. The object class Top is not shown in the graphical view because Top is used for schema hierarchy and inheritance but not for NDS tree hierarchy.

Figure 1-2 *A Graphical View of NDS Containment*



Tree Root, Organization, and Country are shown on the same level because they all can be the topmost object in the tree. Tree Root has arrows pointing to both Country and Organization because Country and Organization can be, but are not required to be, subordinate to Tree Root.

Lines that have arrows pointing up indicate that these objects can contain each other. For example, an Organizational Unit object can contain a Locality object, and a Locality object can contain an Organizational Unit object.

Objects with circular lines indicate that they can contain objects of the same type as themselves. For example, one Organizational Unit object can contain another Organizational Unit object.

The base schema in NDS 8 adds one new container object, domain. A domain can be contained by all the other containers in the base schema: Tree Root, Country, Organization, Locality, Organizational Unit, and domain. It can contain all the leaf objects that Organizational Unit and Organization can.

The domain object can also contain all the other base container objects, except Tree Root. This containment is shown with a dotted red line with an arrow pointing up to these objects. The line is not solid because this functionality is not automatically added to the schema with an NDS 8 upgrade. This functionality must be added to the schema by running a schema option in DSRepair, and the other servers in the NDS tree must be running NDS 5.17, 6.01, or higher.

1.5.3 Containment of Leaf Objects

Most leaf classes and noneffective classes in the base schema are contained by the domain, Organization, and Organizational Unit classes. The following table lists the exceptions.

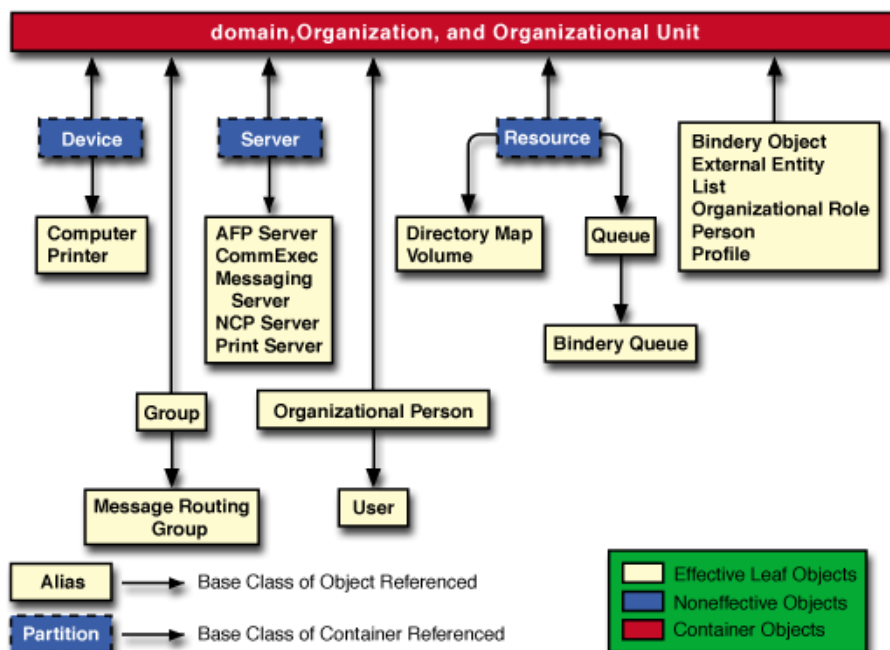
Table 1-2 *Containment of Leaf Objects*

Object Class	Classes Contained By	Class Defined For
Alias (page 63)	Special case	Inherits containment from referenced object. Since an Alias can reference a container object, it can inherit the containment rules of the container object.
Partition (page 209)	Special case	Inherits containment from the object that is the root object of the partition. In NDS 8, Partition becomes an Auxiliary class and no longer requires any containment rules.
Unknown (page 253)	Special case	Any.

Noneffective classes cannot be used to create objects in NDS, but they are often used to define containment classes for other object classes to inherit. Effective classes can define containment for themselves and for subordinate classes.

The following figure is a graphical view of how the leaf objects obtain their containment classes. The arrows pointing up to the container objects indicate which object class declared the containment class. Arrows pointing down to a leaf object indicate the objects that inherit the containment classes. Effective classes are represented by shapes with solid lines and noneffective classes by shapes with dotted lines.

Figure 1-3 *Graphical view of Leaf Objects and their Containment Classes*



One effective object class is unique: Alias. It is shown at the bottom of the figure because Alias inherits its containment classes from the object that it references. Since all leaf objects have domain, Organization, and Organizational Unit as their containment classes, an Alias will usually inherit these containment classes. However, an Alias can reference a container class, and when it does, the Alias inherits the container's containment classes.

The Partition class is like the Alias class. Since any container class can be the root object in a partition, the Partition class inherits its containment classes from that root object.

The ndsLoginProperties class is not shown because it is a noneffective class, defines no containment classes, and inherits no containment class from its super class, Top. Thus, ndsLoginProperties is like Top in that they both do not affect containment classes of any objects in the NDS tree.

1.5.4 Containment Classes and Inheritance

Containment classes create the hierarchy of the NDS tree and determine where an instance of an object can be created in the NDS tree. Once an instance of an object (or an entry) is created in the NDS tree, the entry inherits rights from its container objects and the container objects are part of the entry's Distinguished Name. However, the object classes in the schema do not inherit anything from their containment classes.

Object classes can inherit containment definitions, but such inheritances come from the schema's super class structure.

1.6 Super Classes

Super classes create the hierarchy of the schema and determine the characteristics that an object class can inherit from another object class. Inheritance simplifies the rules of the schema because it allows some characteristics to be defined once, while multiple object classes can use and enforce these common characteristics.

The following topics describe the other aspects of super classes:

- ♦ [“Root Schema Object” on page 37](#)
- ♦ [“Super Class Rules” on page 37](#)
- ♦ [“Class Hierarchy” on page 37](#)
- ♦ [“Class Inheritance Rules” on page 38](#)

See Also:

- ♦ [Section 1.8, “Mandatory and Optional Attributes,” on page 41](#)
- ♦ [Section 1.7, “Object Class Flags,” on page 40](#)
- ♦ [Section 1.9, “Default ACL Templates,” on page 42](#)
- ♦ [“Structure Rules” on page 26](#)

1.6.1 Root Schema Object

The Top object class is the root of the schema. Since all other object classes inherit characteristics from the Top class, the Top class specifies information that pertains to all other classes. For example, the Top class defines the following optional attributes:

- ♦ ACL—contains access control information
- ♦ Back Links—contains reference information, used by NetWare 4.x to connect objects with their external references
- ♦ Last Referenced Time—contains a time stamp for the last time the object was referenced
- ♦ Obituary—contains information about objects that are being deleted, renamed, or moved
- ♦ Used By—contains Distributed Reference Link information, used by NetWare 5.x to connect objects with their external references

NDS™ uses these attributes to maintain information. Since these attributes are defined for Top, all object classes inherit these attributes. Entries in the NDS tree have them available whenever NDS needs to assign a value to one.

1.6.2 Super Class Rules

Each object class must define an object class as its super class. Super classes cannot be recursive; therefore, an object class cannot list itself as a super class. The complete definition of each object class is derived from the characteristics of the object class itself plus the characteristics of all classes in its super class lineage. Hierarchies of classes develop through class inheritance in this manner. The classes at the top of the hierarchy provide general characteristics, while those at the bottom become more and more specialized. The complete set of rules for an object class is called the expanded class definition.

The object class from which an entry is created is called the entry's base class. The expanded class definition for an object class includes the base class and the sum of the information specified by all its super classes. For the purpose of searching the NDS tree, an entry is considered a member of all of its super classes. For example, the base class for creating a user is the User class. The User class inherits from the following super classes: Organizational Person, Person, and Top.

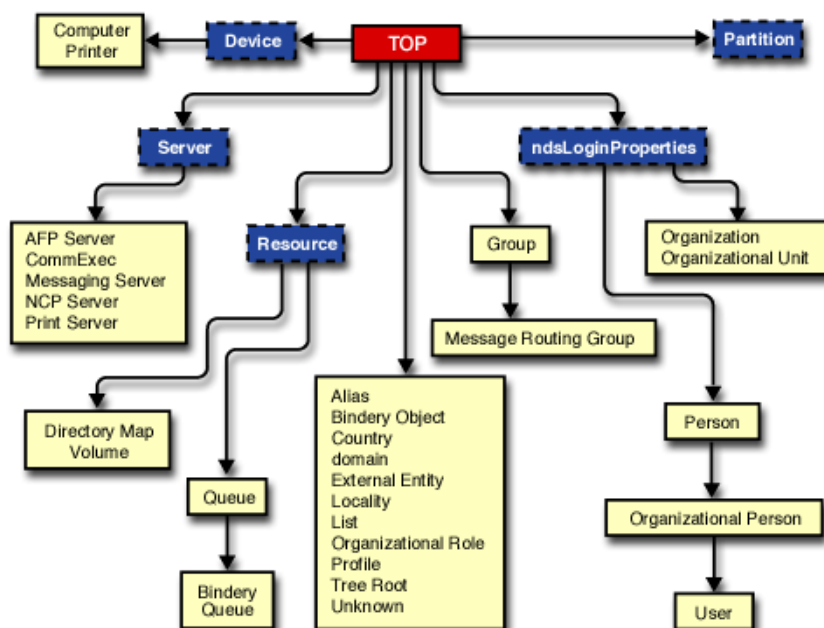
Although the schema is stored with the rest of the NDS database, schema data is logically separated from the NDS tree and must be accessed through different functions. Also, the schema's class hierarchy does not necessarily form a simple tree graph because a class can list more than one class as a super class. Listing multiple classes as a super class is called multiple inheritance. (None of the objects in the NDS base schema uses multiple inheritance.)

1.6.3 Class Hierarchy

The following figure is a single graphical view of the NDS base schema, showing the object classes in the structure of the class hierarchy. In this view of the object classes, the arrows show the direction of flow for inheritance from super classes. An object class inherits the rules and attributes defined by all its super classes, but does not inherit from its subordinates.

Effective object classes are represented by shapes with solid lines and noneffective object classes are represented by shapes with dotted lines.

Figure 1-4 A Graphical View of the NDS Base Schema



The Top class is an effective class, but it is a special super class because it cannot be used to define an instance of an object.

The figure illustrates the purpose of noneffective classes. For example, the Server class (noneffective) defines those characteristics shared by all servers; the effective classes (AFP server, NCP Server, Print Server, etc.) define only those characteristics that are particular to that type of server.

Effective classes can inherit from effective classes. In NDS 8, the Person and Organizational Person classes are effective. The User class inherits from both of them.

1.6.4 Class Inheritance Rules

While a class automatically inherits some characteristics in the NDS schema, a class can select to inherit or block the inheritance of other characteristics. The schema enforces the following inheritance rules:

- ♦ A class must declare another class as its super class. The class then automatically inherits any super classes of its defined super class. (Top is the only class that has no super class.)
- ♦ A class can, but is not required to, define mandatory or optional attributes. The class, however, always inherits all the attributes, both mandatory and optional, of its super classes.
- ♦ A class can, but is not required to, define a default ACL template. The class always inherits all the default ACL templates of its super classes. Classes that extend the schema cannot define new default ACL templates.
- ♦ A class can inherit containment classes and naming attributes, but if the class defines them, any definitions made in super classes are not applied to the class.

These class inheritance rules are illustrated in the following figure by the relationship between the classes [Top](#) (page 249), [Device](#) (page 96), and [Computer](#) (page 85). Computer has Device as a super

class and inherits the features defined by Device. Device and Computer inherit from Top, because Top is a super class of Device.

Figure 1-5 *Class Inheritance Rules*

Class	Top	Device	Computer
Super Classes	Top	Device	
Containment		Organization Organizational Unit	
Named By		CN (Common Name)	
Mandatory Attributes	Object Class	CN (Common Name)	
Optional Attributes	ACL Authority Revocation Back Link Bindery Property CA Private Key CA Public Key Certificate Revocation Certificate Validity Interval Cross Certificate Pair Equivalent To Me Last Referenced Time Obituary Reference Revision Used By	Description L (Locality Name) Network Address O (Organization Name) OU (Organizational Unit Name) Owner See Also Serial Number	Operator Server Status
Default ACL Template	[Creator] Supervisor [Entry Rights]		

The Computer class inherits all of the attributes from the Device class but adds several attributes to accommodate the needs of computers. A different type of device, such as a modem, would add different attributes from a computer.

In the example, the Computer class does not define containment or naming attributes, so it inherits from the Device class.

- ♦ Containment classes: Organization and Organizational Unit
- ♦ Naming attribute: CN (Common Name)

It also inherits the default ACL template that the Top class defines. This ACL enables the creator of an object to be the supervisor of the object.

According to the object class definition, a Computer object could appear only as a subordinate of objects belonging to either the Organization or the Organizational Unit class. The object would be recognized by its common name and might be assigned various optional attributes. In this case, Computer refines the definition of the Device to serve a particular class of devices.

1.6.5 Graphical View Explanation

The “**Graphical View of Object Class Inheritance**” on page 315 represents the NDS base schema. It shows the object classes in the structure of the class hierarchy, rather than in alphabetical order as presented in “**Novell Object Class Extensions**” on page 269. This graphical view does not contain the object classes and attributes added during a default NetWare® 5 installation or and NDS 8 installation.

Each object class is represented by a box that contains the name of the object class, its immediate super class, and a listing of the containment rules and attributes that are defined for that object class. This view does not show the default ACL templates that are listed in “[Novell Object Class Extensions](#)” on [page 269](#), nor does it provide comments about the attributes.

In this graphical view, the object classes that are placed above an object class are its super classes. The object classes that are below an object class are its subordinates. An object class inherits all attributes defined by all of its super classes and any naming or containment rules that the class does not define. The arrows show the direction of flow for inheritance.

Objects inherit from their super classes but they do not inherit from their subordinates. For example, [Device \(page 96\)](#) inherits from [Top \(page 249\)](#), but it does not inherit from [Computer \(page 85\)](#). However, Computer inherits from Top and from Device.

Each object class has the following information listed:

Super Classes. Objects of the class inherit information types and attributes from classes listed here. All object classes must have one or more super classes, except Top, which is a super class to all classes. (In this view, Top is shown multiple times, since it is a super class to all classes.) These listings just list the object’s immediate super class.

Containment. Objects of the class can be created as subordinates in the NDS tree to objects of the classes listed here. An object of the class cannot be subordinate to any object that is of a class not listed here. If no classes are listed, the object inherits its containment classes from its super classes.

Named By. The partial name or Relative Distinguished Name (RDN) of objects of the class consists of at least one of the attributes listed here. These naming attributes can be either mandatory or optional attributes, but at least one must be given a value when creating an object of the class. If the only naming attribute is optional, it is in effect mandatory. If no naming attributes are listed, the class inherits its naming attributes from its super classes.

Mandatory and Optional Attributes. All attributes are either mandatory or optional. If an attribute is mandatory, a value must be assigned to that attribute. If an attribute is optional, an assigned value is not required, unless it is the only naming attribute.

1.7 Object Class Flags

Besides basic information about containment classes, naming attributes, mandatory and optional attributes and super classes, NDS uses a set of flags to define allowable class operations. Developers, when extending the schema, can set the following flags on object class definitions.

Table 1-3 *Object Class Flags*

Flag	Description
Container	Indicates whether the object can contain other objects. The flag is turned On for those object classes that are designated as container classes. The flag is turned Off for all leaf object classes.
Effective	Indicates whether an object class is effective or not. The effective flag is turned On for those classes which can be used both to provide definition and to create objects. The effective flag is turned Off for those classes which provide definition but cannot be used to create objects

Flag	Description
Auxiliary	Indicates that the object class is an auxiliary class. When this flag is turned on, the Effective and Container flags must be turned off. This flag is new in NDS 8. For more information on auxiliary classes, see Section 1.10, "Auxiliary Classes," on page 43
Non-removable	<p>Indicates whether the object class can be removed from the schema. The flag is turned On for objects that cannot be removed. The flag is turned Off for object classes that can be removed. All base schema object classes are flagged nonremovable. Object classes added to extend the schema are the only classes that can have the nonremovable flag turned Off</p> <p>In NDS 8, developers can turn this flag On. In previous NDS versions, the flag was reserved for NDS</p>

NDS controls and sets the following flags.

Flag	Description
Ambiguous Containment	<p>Indicates whether the object class has clearly defined containment classes. As a general rule, noneffective classes can be created with ambiguous containment, but effective classes must have nonambiguous containment. Ambiguous containment occurs when an object inherits non-identical containment classes from different super classes.</p> <p>Only in special cases can effective classes be created with ambiguous containment. The Alias class object is one of these special cases since it needs to inherit the containment classes of its reference object class.</p> <p>For most object classes in the base schema, the Ambiguous Container flag is turned Off. It is turned On for object classes Top, Alias, and Partition.</p>
Ambiguous Naming	<p>Indicates whether the object class has clearly defined naming attributes. As a general rule, noneffective classes can be created with ambiguous naming, but effective classes must have nonambiguous naming attributes. Ambiguous naming occurs when an object inherits non-identical naming attributes from different super classes.</p> <p>Only in special cases can effective classes be created with ambiguous naming. The Alias class object is one of these special cases since it needs to inherit the naming attributes of its reference object class.</p> <p>For most object classes in the base schema, the Ambiguous Naming flag is turned Off. The only object classes where this flag is turned On are Top, Alias, and Partition.</p>
Operational	Indicates that NDS requires this object class to exist. This flag is turned ON for object classes that NDS must have in order to operate correctly.

1.8 Mandatory and Optional Attributes

An attribute is a single piece of information that is stored in the NDS database about an object. The attributes assigned to an object class can be mandatory or optional:

- ♦ If an attribute is mandatory, a value must be assigned to the attribute before an instance of the object can be created.

- ♦ If an attribute is optional, a value does not need to be assigned to create an instance of the object. The only exception is an optional naming attribute. If the optional naming attribute is the only attribute used for naming the object, this optional attribute becomes a mandatory attribute.

A class inherits all the mandatory and optional attributes defined for its super classes (see [“Novell Object Class Extensions” on page 269](#)). There is no way to block the inheritance.

A client cannot associate an attribute with an object unless the attribute is listed among the mandatory or optional attributes of the object’s expanded class definition. If a client must associate an attribute with a particular object and the attribute is not specified by the object class, the client must extend the schema by either

- ♦ Adding the new attribute to the class as an optional attribute
- ♦ Defining a new class that inherits from the original class and adds the new attribute as an optional attribute

See Also:

- ♦ [Section 1.11, “Attribute Type Definitions,” on page 48](#)
- ♦ [“Structure Rules” on page 26](#)
- ♦ [Section 1.6, “Super Classes,” on page 36](#)
- ♦ [Section 1.9, “Default ACL Templates,” on page 42](#)

1.9 Default ACL Templates

Every object in the NDS tree has an ACL attribute. This attribute holds information about which trustees have access to the object itself (entry rights) and which trustees have access to the attributes for the object. This information is stored in sets of information containing

- ♦ The trustee name
- ♦ The affected attribute-[Entry Rights], [All Attributes Rights], or a specific attribute
- ♦ The privileges

Default ACL templates are defined for specific classes in the base schema and provide a minimum amount of access security for newly created objects. Only base schema objects can have default ACL templates. Developers extending the schema cannot create default ACL templates for new objects.

Since the Top object class defines a default ACL template, all object classes inherit a default ACL template. The ACL defined for Top allows the object that creates another object the right to supervise the created object. This ACL ensures that every object added to an NDS tree has a supervisor.

An object inherits the default ACL templates that are defined for any of the object’s super classes. For example, the NCP Server object inherits default ACL templates from Top and Server, and then defines one for itself.

Developers extending the schema cannot create templates that overwrite or add to the templates in the base schema. However, when an object is created in an NDS tree, the creation process can set the object’s ACLs to any value, including one that changes a value that comes from a default ACL template.

See Also:

- ♦ [“Class Inheritance Rules” on page 38](#)
- ♦ [Section 1.6, “Super Classes,” on page 36](#)
- ♦ [“Novell Object Class Extensions” on page 269](#)

1.10 Auxiliary Classes

Auxiliary classes are a special type of object class definition that have been added to the schema in NDS 8.

Auxiliary classes are dynamic classes that can be added to the Object Class attribute of individual objects. When the auxiliary class is added, the object inherits all the attributes of the auxiliary class while retaining all of its own attributes. When the auxiliary class is removed from the object, the auxiliary class attributes are removed from the object and the object is no longer permitted to use those attributes.

In other words, the attributes allowed on an object are the union of the attributes defined for the following:

- ♦ Object's base class
- ♦ Current auxiliary classes
- ♦ Super classes of its base class and auxiliary classes

For example, NDS 8 adds a dcObject auxiliary class to the schema. This auxiliary class allows all objects in the NDS database to support the dc attribute for LDAP naming conventions—if the class is added to the object. When added or removed, this attribute has the following effects:

- ♦ Add this auxiliary class to the containers that are in a user's distinguished name, and LDAP applications can find the user with a domain name search.
- ♦ Remove the auxiliary class from the container objects, and the dcObject attributes (mandatory or optional) and their values are removed from the objects.

The following sections describe the major differences between auxiliary classes and standard object classes:

- ♦ [“Attribute Additions with Auxiliary Classes” on page 43](#)
- ♦ [“Auxiliary Classes and Object Class Rules” on page 45](#)
- ♦ [“Required Rights” on page 45](#)
- ♦ [“Backwards Compatibility” on page 46](#)

1.10.1 Attribute Additions with Auxiliary Classes

NDS allows mandatory attributes for a class definition such as User to be added only when the class definition is first created, and once attributes are added to a class definition, NDS does not allow them to be removed. Auxiliary classes add flexibility by allowing attributes to be added and removed, but they are added to and removed from an existing NDS object rather than to or from the class definition.

Auxiliary classes are added to individual instances of the object in the database. For example, suppose you have the following conditions:

- ♦ An auxiliary class called Pager Users with attributes for the Pager Number, Pager Codes, and Pager Is Alphanumeric
- ♦ Four users: Kim, Chris, Lynn, and Terry
- ♦ Two users with pagers: Kim and Chris

As system administrator, you assign the Pager User class to Kim and Chris. The objects would have the following classes and attributes.

Table 1-4 *Example Explanation*

Name	Base Class and Attributes	Auxiliary Class and Attributes
Kim	User	Pager User
	Account Balance, Last Login Time, Password Required, etc.	Pager Number, Pager Codes, Pager Is Alphanumeric
Chris	User	Pager User
	Account Balance, Last Login Time, Password Required, etc.	Pager Number, Pager Codes, Pager Is Alphanumeric
Lynn	User	
	Account Balance, Last Login Time, Password Required, etc.	
Terry	User	
	Account Balance, Last Login Time, Password Required, etc.	

Two months later, Kim switches job assignments with Lynn and gives Lynn the pager. You remove the Pager User class from Kim and all the Pager User attributes are deleted from Kim. You then add the Pager User class to Lynn who gains the attributes required for pagers, enabling you to add the appropriate values. The objects would then have the following classes and attributes.

Name	Base Class and Attributes	Auxiliary Class and Attributes
Kim	User	
	Account Balance, Last Login Time, Password Required, etc.	
Chris	User	Pager User
	Account Balance, Last Login Time, Password Required, etc.	Pager Number, Pager Codes, Pager Is Alphanumeric
Lynn	User	Pager User
	Account Balance, Last Login Time, Password Required, etc.	Pager Number, Pager Codes, Pager Is Alphanumeric

Name	Base Class and Attributes	Auxiliary Class and Attributes
Terry	User	
	Account Balance, Last Login Time, Password Required, etc.	

1.10.2 Auxiliary Classes and Object Class Rules

The object class rules have been modified to allow auxiliary classes to have features that no other class type can have in the NDS schema. The following paragraphs explain how auxiliary classes use object class flags, super classes, containment classes, mandatory and optional attributes, and naming attributes.

Object Class Flags. Auxiliary classes do not support all the possible object class flags. When creating an auxiliary class, the only flag that should be set is the auxiliary class flag. If developers attempted to turn on any of the following flags when the auxiliary class is defined, creation of the auxiliary class fails:

- ♦ Container—an auxiliary class cannot be a container class. Since auxiliary classes can be added and removed from an object, an auxiliary class cannot contain other objects. Object containment rules need to be stable.
- ♦ Effective—an auxiliary class cannot be an effective class.

The operational, ambiguous containment, and ambiguous naming flags can be set, but NDS ignores their settings.

Super Classes. Auxiliary classes are not required to have a super class. They may declare other classes as their super class, but auxiliary classes should not declare Top as their super class.

If an auxiliary class does have a super class, NDS adds the super class to the object's Object Class attribute and flags them and the base auxiliary class so that they can be deleted only if the base auxiliary class is removed from the object. The object inherits all the attributes defined for the super classes of the auxiliary class.

Containment Classes. Auxiliary classes cannot define containment.

Mandatory and Optional Attributes. Auxiliary classes can have mandatory attributes, optional attributes, or both. If you add mandatory attributes to an auxiliary class, the application that allows the user to add the auxiliary class to an object must also prompt the user for values or supply the values for the mandatory attributes. NDS will not add an auxiliary class to an object without values for all mandatory attributes.

Naming Attributes. Auxiliary classes can define naming attributes, which can be either optional or mandatory. If an auxiliary class attribute is used to name an object, the object must be renamed to use a non-auxiliary class attribute before the auxiliary class can be removed from the object.

1.10.3 Required Rights

To add the auxiliary class to the schema, the user needs the standard rights required to extend the schema: Write rights to a Read/Write partition of the root partition of the NDS tree.

To add an auxiliary class to, or delete an auxiliary class from, an object in the NDS database, the user needs Write rights to that object's Object Class attribute.

1.10.4 Backwards Compatibility

NDS versions prior to NDS 8 do not know about auxiliary classes. NDS 8 servers will send auxiliary class information and auxiliary attribute information only to NDS 8 servers. To servers running previous versions, NDS modifies the information to make it compatible. Special modifications have been made for the following operations.

Replica Synchronization in a Mixed Replica Ring. Changes to objects are synchronized to all servers in a replica ring. If the replica ring contains both NDS 8 servers and servers with previous versions of NDS, NDS must send the auxiliary class information in a manner that is compatible with the previous releases. Since an auxiliary class adds attributes to an object that previous versions on NDS consider illegal, NDS 8 servers make the following modifications before sending objects with auxiliary classes to servers with previous versions of NDS:

- ♦ **Object Class.** The object's class is changed to Unknown object.
- ♦ **AuxClass Object Class Backup.** This attribute is added to the object and all the information from the object's Object Class attribute is stored in the attribute.

When an NDS 8 server receives an Unknown object with an AuxClass Object Class Backup attribute, the server has the information needed to restore the object to its base class and to restore the object's auxiliary class information.

If many objects are using auxiliary classes, replicas on servers with previous versions of NDS will not be particularly useful because they will contain so many Unknown objects. If system administrators are going to add auxiliary classes to objects, they should be encouraged to include only NDS 8 servers in the replica ring.

Schema Synchronization in a Mixed NDS Tree. Schema changes are synchronized from the root of the NDS tree down to its branches. Since an NDS tree can have NDS 8 servers near the root, with NetWare 5 or 4.11 servers in the middle, and an NDS 8 server below them, NDS must be able to send information about auxiliary classes in a manner that is compatible with previous versions of NDS and with sufficient clues that an NDS 8 server can recreate an auxiliary class from the information. To accomplish this, NDS must make three characteristics of auxiliary classes compatible with previous versions:

- ♦ **Auxiliary Class Flag.** This is a new object class flag for NDS 8, and NDS 8 uses it to recognize which classes are auxiliary classes. Since previous versions of NDS do not recognize this flag, NDS 8 servers send auxiliary class definitions as standard class definitions with one additional attribute, the Auxiliary Class Flag attribute, that contains the auxiliary class flag information. When an NDS 8 server receives a class definition with this attribute, the NDS 8 server knows it should remove the attribute from the class definition and recreate an auxiliary class from the class definition.
- ♦ **Super Classes.** Versions of NDS previous to NDS 8 require all classes to have a super class. To make auxiliary classes compatible with these rules, NDS 8 servers send Top as the super class of any auxiliary class which has declared no super class. When an NDS 8 server receives a class definition with the Auxiliary Class Flag attribute and with Top as its super class, the NDS 8 server removes Top as its super class.
- ♦ **Object Class Attribute.** In versions of NDS previous to NDS 8, the Object Class attribute is a Read-Only attribute. When NDS 8 servers send the definition of this attribute to servers with previous versions of NDS, the NDS 8 servers include the Read-Only constraint. When NDS 8 servers receive the definition for this attribute from a server with previous versions of NDS, they remove the Read-Only constraint from the definition.

Backup. The backup routines in NDS 8 are compatible with existing backup applications. They perform the same data conversions that NDS uses for replica and schema synchronization: the replica synchronization conversions for backing up objects and attributes, and the schema synchronization conversions for backing up schema definitions. Information backed up in this manner can be restored, without loss of data, to either an NDS 8 server or a server running an earlier version.

Class Definitions. Since existing applications that read class definitions do not understand auxiliary classes, the read class definition routines have been modified. These routines perform the same data conversions as the schema synchronization routines and display auxiliary classes as regular classes with an Auxiliary Class Flag attribute. Only applications that have been updated to be compatible with NDS 8 can display auxiliary class definitions with an auxiliary object class flag.

1.10.5 When to Use Auxiliary Classes

Auxiliary classes have the following advantages over modifying existing class definitions:

- ♦ **Efficient.** Auxiliary classes can be applied to some instances of a class definition and not applied to other instances of that class definition. For example, if you are developing a laptop management utility and want to add a few attributes to the users who have laptops, adding these attributes to the User class would not be as efficient as creating an auxiliary class with the attributes. Since all users in a company might not be laptop owners, modifying the User class definition adds attributes that will never be used by some objects. The auxiliary class option is efficient because the attributes are added only to the objects that have laptops.
- ♦ **Flexible.** Auxiliary classes can be used on objects from multiple class definitions. In NetWare 4.x, all logged in users were User objects. With the changes made in NDS 8 and higher, users can now authenticate as other object types such as Person, inetOrgPerson, and residentialPerson objects. An auxiliary class allows you to add your attributes to objects from any of these classes or any other class in the schema.
- ♦ **Separate from Class Definitions.** Auxiliary classes and their attributes are added to the objects rather than to the class definitions. Therefore, when the auxiliary class is removed from the objects, the class definition doesn't retain any unnecessary, unused attributes. The auxiliary class attributes were never added to the class definition, so they don't need to be removed.
- ♦ **Removable.** The attributes in an auxiliary class are removable from the schema. When you modify an existing class definition, the attributes you add cannot be removed without deleting the class definition. All the classes in the base schema, such as User and Person, are nonremovable. Thus, any attributes added to these classes are permanent additions.

As your product evolves and you change your attributes, you cannot remove your obsolete attributes from base schema classes. With an auxiliary class, you can find all the objects in the NDS tree with your auxiliary class, add your new auxiliary class to these objects, transfer any old attribute values to the new attributes, and then delete your old auxiliary class and its obsolete attributes.

- ♦ **LDAP Conformance.** Modifying objects with auxiliary classes conforms to LDAP standards. LDAP expects class definitions to remain unmodified once the definition of the class has been published. NDS has allowed a more dynamic schema, with the notion that the attributes defined for the User object in one tree will probably never match all the attributes defined for the User object in another tree. Applications in this environment must read the schema definitions rather than assuming schema definitions.

The NDS method for conforming to LDAP standards is to use auxiliary classes where possible, and when not, to modify a non-effective super class which allows the child class to inherit the attributes without the attributes becoming part of its definition.

Auxiliary classes cannot be used in products that require the following:

- ♦ Compatibility with NDS trees in which all the servers are using versions of NDS earlier than NDS 8
- ♦ The new attributes will be used in every instance of a class definition

1.11 Attribute Type Definitions

All attributes found in an NDS tree consist of an attribute type and an attribute value, which can be multi-valued. The attribute type identifies the nature of information the attribute stores, and the value is the stored information.

The attribute type definition

- ♦ Identifies the attribute syntax used for the value
- ♦ Specifies the constraints that are imposed on the syntax

These constraints are also known as attribute flags. Attributes are assigned to objects according to the object's class definition.

An example of an attribute type is **CN (Common Name)** (page 372), which uses the Case Ignore String syntax. The CN (Common Name) attribute constrains this syntax to a range of from 1 to 64 elements.

Attribute types can be added to the NDS schema. However, once an attribute type has been created, it can't be modified.

Attribute types can be removed from the NDS schema, but only if the attribute is not part of the base schema and only if the attribute type isn't assigned to a class. All attribute types in the base schema are always flagged nonremovable.

See Also:

- ♦ **"Base Attribute Definitions"** on page 327
- ♦ **"Novell Attribute Extensions"** on page 779

1.11.1 Attribute Syntaxes

The attribute syntax controls the type of information that can be stored in the value of an attribute. For example, the syntax determines whether the attribute stores integer, string, or stream data. The attribute's syntax must be selected from the set of predefined attribute syntaxes. The syntax also controls the type of compare operations that can be performed on the value. See **Section 1.12, "Attribute Syntax Definitions,"** on page 52 for more information.

1.11.2 Attribute Constraints

The attribute constraints restrict the information that can be stored in the data type and constrain the operations of NDS and NDS clients. The constraints specify whether the attribute

- ♦ Allows only a single value or multiple values
- ♦ Has a range or size limit to the value
- ♦ Is synchronized immediately, at the next scheduled interval, or never
- ♦ Is hidden or viewable
- ♦ Is writable or read-only

The attribute constraints are flags, which are either TRUE or FALSE, and they can only be set when the attribute definition is created. Since there are more than dozen, they have been functionally grouped.

Reading the Attribute. These flags determine who can read the attribute's information.

Name	Description
Hidden Attribute	<p>In NDS version 6.xx and below, marks the attribute as usable only by the NDS server.</p> <p>In NDS version 7.xx and above, marks the attribute as usable by NDS and the applications running on the NDS server.</p> <p>If FALSE, clients can see the attribute.</p>
Public Read	<p>Indicates that anyone can read the attribute without read privileges being assigned. You cannot use inheritance masks to prevent an object from reading attributes with this constraint.</p> <p>If FALSE, NDS rights determine who can read the value of the attribute.</p> <p>If TRUE, NDS skips all rights checking, making access to the data extremely efficient.</p>
Server Read	<p>Indicates that Server class objects can read the attribute even though the privilege to read has not been inherited or explicitly granted. You cannot use inheritance masks to restrict servers from reading attributes with this constraint. The client cannot set or modify this constraint flag and thus cannot modify the attribute.</p>

Modifying the Attribute. The following flags regulate who can modify the attribute's value.

Name	Description
Read Only Attribute	<p>Prevents clients from remotely modifying the attribute. The NDS server and applications running on it create and maintain these attributes. Clients can read the attribute's value.</p> <p>If FALSE, clients can remotely modify the attribute.</p>

Name	Description
Write Managed	Requires users to have supervisor rights to the object before they can add or delete the object as a value for this attribute. This flag only works on attributes which have a DN in the syntax. It is used on attributes such as Security Equals, Group Membership, and Profile Membership.

Synchronizing the Attribute. The following flags regulate how changes to the attribute's value affect NDS synchronization.

Name	Description
Per Replica	Marks the attribute so that the information in the attribute is not synchronized with other replicas. Modifications to the attribute never schedule synchronization and are never synchronized to other replicas.
Schedule Sync Never	Allows the attribute's value to change without scheduling synchronization. Synchronization occurs at the next regularly scheduled synchronization cycle or when another event triggers synchronization Set this flag to TRUE if the change in the attribute's value can wait ten to thirty minutes to be propagated.
Sync Immediate	Schedules synchronization within 10 seconds when the value of the attribute changes. Set this flag to TRUE if the change in the attribute's value needs to be immediately propagated or changed throughout the NDS tree. If FALSE, the attribute is synchronized at the next synchronization interval.

If all of these synchronizing flags are false, NDS synchronizes the data at the slow synchronization level set on the server that contains the replica holding the change.

Constraining the Attribute Values. The following flags regulate the type of data that the attribute can store.

Name	Description
Single Valued Attribute	Indicates that the attribute has a single value, with no order implied. If FALSE, the attribute is multi-valued.
Sized Attribute	Indicates that the attribute has an upper and lower boundary. The first number indicates the lower boundary and the second, the upper boundary. This flag should be set only on attributes with integer and string syntaxes. If FALSE, the attribute has no length or range limits.
String Attribute	Labels the attribute as a string type. NDS sets this constraint on all attributes that use a string for their syntax. Naming attributes must have this constraint. If FALSE, the attribute isn't a string and cannot be used as a naming attribute.

Removing an Attribute. These flags control whether the attributes are removable from the schema.

Name	Description
Nonremovable Attribute	<p>Prevents the attribute from being removed from the schema:</p> <ul style="list-style-type: none">♦ In NDS version 6.xx and below, clients cannot set this constraint flag.♦ In NDS version 7.xxx and above, clients can set this flag when the attribute is created. <p>All base attribute definitions have the nonremovable flag set to TRUE</p> <p>If FALSE, the attribute can be removed if it hasn't been assigned to a class.</p>
Operational	<p>Indicates that NDS uses the attribute internally and requires the attribute to function correctly.</p> <p>Also used for LDAP compatibility.</p>

1.11.3 Attributes and Classes

When an attribute is first defined, it is not associated with any object class. You must create an association with an object class before the attribute can be useful.

In other words, you could create a set of attributes such as Given Name, Initials, Surname, Telephone Number, and EMail Address. By themselves, they aren't particularly useful. Then you define an object class such as Person, and have it include these attributes. The attributes now take on a meaning and give dimension to the object class.

1.11.4 Attribute Type Abbreviations

For convenience, NDS uses abbreviations for the name types that are used most often. The following table shows the accepted abbreviations for these attributes.

Attribute Type	Abbreviation
Country Name	C
Organization Name	O
Organizational Unit Name	OU
State or Province Name	S
Locality Name	L
Common Name	CN
Street Address	SA

1.11.5 Reading NDS Attribute Type Definitions

The [Base Attribute Definitions \(page 327\)](#) section lists the names of each attribute type in alphabetical order. The name of the attribute is followed by a brief description of the attribute's

purpose. Valid abbreviations for the attribute appear in parentheses next to the attribute name. Additionally, you will find the following information:

Syntax

The name of the syntax for this attribute type. See [“Attribute Syntax Definitions” on page 963](#) for the syntax specification.

Constraints

Any constraints that apply to this attribute type.

Used In

The object class definitions which require or allow an attribute of this type when creating that class of object.

Remarks

These remarks can include further restrictions, how to use the attribute, references to related documents, etc.

Attributes are assigned to objects according to the object’s class definition. For more information about the specific attributes an object class uses, see [“Novell Object Class Extensions” on page 269](#).

1.12 Attribute Syntax Definitions

An attribute syntax defines a standard data type which an attribute uses to store its values in the NDS tree. The syntax definitions are static definitions represented in basic C-code format. For example, the schema includes the following attribute syntaxes:

SYN_CI_STRING

The Case Ignore String syntax is used in attributes whose values are strings and where the case (upper or lower) is not significant.

SYN_INTEGER

The Integer syntax is used for attributes whose values are signed integers.

For a complete list of the attribute syntaxes defined in the schema, see [“Attribute Syntax Definitions” on page 963](#).

Attribute type definitions are built on attribute syntaxes. Developers extending the schema can create new attribute types using these syntaxes, but they cannot create any new syntax definitions.

1.12.1 Matching Rules

An attribute syntax consists of a single data type. Matching rules indicate the characteristics that are significant when comparing two values of the same syntax. There are three primary matching rules:

Equality

To match for equality, two values must be identical, use the same attribute syntax, and conform to the data type of the attribute syntax. Most syntaxes specify a match for equality. NDS™ checks that the values being matched conform to the data type of the syntax. NDS will not attempt to match two values if the syntax does not specify a match for equality.

Ordering

To match for ordering, a syntax must be open to comparisons of less than, equal to, and greater than. For example, 50 is less than 100, and N is greater than B.

Substrings

To match substrings, a syntax must be open to search and comparison patterns that include the asterisk (*) wildcard. For example, in a syntax using substring matching, N*V*L would match NAVAL, NAVEL, or NOVEL.

An approximate comparison rule can be used in searches and comparisons on syntaxes with lists of strings and syntaxes with multiple fields and an ID field:

Strings

The approximate rule determines whether a string is present in a syntax with a string list.

IDs

The approximate rule determines whether an ID matches the ID in a corresponding field while ignoring the other fields in the syntax. Although most of the API structures for syntaxes require an object name, NDS replaces these names with IDs in the comparison and search operations.

This NDS approximate matching rule is quite different from the LDAP approximate matching rule.

A syntax can specify one or more of these matching rules. For example, the Case Ignore String syntax specifies matching rules of equality and substrings.

A syntax can also specify qualifiers for comparison which ignore characters such as dashes, leading spaces, trailing spaces, and multiple consecutive internal spaces. All string syntaxes use comparison operations that ignore extra spaces. Other qualifiers allow only digits or only printable characters.

1.12.2 Reading Syntax Definitions

The “**Attribute Syntax Definitions**” on page 963 section lists the names of each syntax in alphabetical order. The name of the syntax is followed by a brief description of how the syntax is used.

Each syntax defines the following information:

Syntax ID

A 32-bit integer used as an identifier in Application Programming Interface (API) functions that transfer attribute values in and out of NCP™ message buffers. The syntax IDs are defined in nwdsdefs.h.

API Data Structure

A C structure supported by the NDS API.

Transfer Format

The format the syntax takes when it is transferred on the wire.

Matching Rules

The rules for matching two values that comply with the syntax.

Used In

A list of attribute type definitions that use the syntax.

Remarks

Additional information that may include information concerning comparisons, explanations of structure members, and qualifiers.

To determine which syntax is used for a particular attribute type, refer to the attribute's syntax specification in the [“Base Attribute Definitions” on page 327](#).

1.13 Schema Extensions

The NDS schema is extensible. Developers can define new object classes and attributes. In fact, the NetWare operating system and Novell utilities and applications extend the schema. You can perform the following operations on the NDS schema:

- ♦ Create, read, and delete attribute type definitions
- ♦ Create, read, and delete object class definitions
- ♦ List containable classes
- ♦ Modify class definitions
- ♦ Read attribute syntax definitions
- ♦ Read attribute syntax IDs

However, you cannot create or modify an attribute syntax. The attribute syntaxes are the most fundamental building blocks of NDS and cannot be altered.

To extend the NDS schema, you must have Admin equivalent rights to a server containing a Read/Write replica of the root partition. In addition, if you are extending the schema from a workstation client, you must initialize the Unicode tables.

See Also:

- ♦ [“Distribution of the NDS Schema” on page 27](#)

1.13.1 Class Definition Creation

Before creating a new object class, you must make the following decisions:

- ♦ What should you call the new object class? To register the name with Novell, see [“Registering Attribute Types and Class Definitions” on page 55](#). For naming rules, see [“Valid Class and Attribute Names” on page 56](#).
- ♦ Which class flags does the object class require? For a list, see [Section 1.7, “Object Class Flags,” on page 40](#).
- ♦ Which class or classes will you assign as the super classes? For information, see [Section 1.6, “Super Classes,” on page 36](#).
- ♦ Do you need to define containment for the class? For information, see [Section 1.5, “Containment Classes,” on page 31](#).
- ♦ Do you need to define naming attributes for the class? For information, see [Section 1.4, “Naming Attributes,” on page 30](#).

- ♦ Does the class require any mandatory attributes that cannot be inherited from its super classes?
- ♦ Does the class require any optional attributes that cannot be inherited from its super classes?

Your code should create new attributes before the new class so that the attributes can be assigned when the class is created. Otherwise, you will have to modify the class after the attributes are created. Mandatory attributes cannot be added later; they must be added to the class when the class is created.

The schema can be extended with many of the interfaces in the NDK such as NDS Libraries for C, LDAP Service Provider for JNDI, NDS Service Provider for JNDI, Novell Controls for ActiveX, Beans for Novell Services, and Novell ConsoleOne.

1.13.2 Registering Attribute Types and Class Definitions

When you define new attribute types or new object class definitions, you must register them with Developer Support to ensure uniqueness. To register, you should go to the [Novell Developer Support Web site \(http://developer.novell.com/support\)](http://developer.novell.com/support), fill out the form, and submit the information.

If you cannot use the form, call Developer Support at 1-800-REDWORD (1-800-733-9673). If you cannot use an 800 number, the international number is 1-44-801-861-5588.

When you register, you receive a unique prefix that you prepend to the names of your new attribute and class definitions. You also receive two ASN.1 (Abstract Syntax Notation One) identifiers: one for object classes and one for attribute definitions. These IDs can be expanded to include as many unique IDs as you need for object classes and attributes.

In NetWare 4.11 and below, object class and attributes can have, but are not required to have, an ASN.1 ID. In NetWare 5.x, ASN.1 IDs are required for applications to pass Novell certification. NDS 8 verifies that the ASN.1 is BER encoded. ASN.1 IDs serve as a common syntax for transferring information between two end systems.

Prefix

The prefix, which can be from 3 to 8 characters long, serves two purposes. It guarantees that your attribute and class names are unique. We keep a database of registered prefixes to ensure that no two companies select the same prefix. Since no two class definitions can share the same name, the unique prefix ensures that the name is unique.

The prefix also identifies which attributes and classes belong to your application. In the past, we used a convention that separated the prefix from the descriptive name with a colon. Since LDAP does not support colons in schema definition names, we are now using a convention which lowercases the prefix and capitalizes the first letter of each word in the descriptive part of the name. Don't use spaces between words because LDAP naming rules do not support spaces.

For example, if you registered the ABC prefix with Novell and used it to create a Reading Group class definition, we would recommend the following name which conforms to both NDS and LDAP naming conventions:

abcReadingGroup

ASN.1 IDs or OIDs

When you register for a prefix and an OID, we assign you a number similar to the following:

2.16.840.1.113719.2.888.4.12.1

These numbers have the following meanings:

2 — joint-iso-ccitt

16 — Country

840 — US

1 — Organization

113719 — Novell

2 — external application (Novell internal applications receive a 1)

888 — unique subarc for your application

4 — type identifier (4 = attribute; 5 = syntax; 6 = class; 100 = LDAP extension; 101 = LDAP control)

12 — unique number for attribute

1 — version

After the subarc number, you are free to assign and subdivide the OID as best fits your application. However, we recommend that you use the format described above for the next few subdivisions. If you want to conform to standards and supply meaningful OIDs, the type identifier is important and needs to be used according to established conventions.

We also recommend starting the attribute and class count with 1 (not 0) and leaving the version number for first release blank (don't use zero). For the next release, use 1 for the first revision and increment the version number with each subsequent release. Add the version number to the classes that are modified and to the classes and attributes that are new for that version. The version number of previous classes and attributes which have not been modified should not be incremented to the new version.

1.13.3 Valid Class and Attribute Names

For a new class name or attribute name to be valid NDS name, it must fit two criteria:

- ♦ The name cannot exceed 32 characters. Spaces are allowed but are counted in the 32-character limit. Spaces are not recommended since they are not allowed in LDAP schema names.
- ♦ The name must be unique in its level of hierarchy in the NDS tree. Names are case insensitive, although case can be used for easier visual discrimination.

For example, "Accounting" and "accounting" would be considered as duplicates and not allowed as two class names or two attribute names, although differences in capitalization would appear on the screen. However, NDS allows the same name to be used for a class name and an attribute name. Thus Accounting could be the name of a class, and accounting the name of an attribute.

NDS has defined a number of classes and attributes with the same name, for example User (Class) and User (Attribute), Queue (Class) and Queue (Attribute), and Resource (Class) and Resource (Attribute).

If you want your application to work with LDAP (Lightweight Directory Access Protocol) applications, your schema extensions should conform to the LDAP naming conventions, which are

more restrictive than NDS schema naming conventions. LDAP schema names must conform to the following rules:

- ♦ Use alpha-numeric characters. LDAP allows one hyphen in a name, the only non-alpha-numeric character allowed, and it cannot start the name. The hyphen can be used only once in the name. We recommend that names contain only alpha-numeric characters without a hyphen.
- ♦ Start with an alpha character. Numeric characters cannot start a name.
- ♦ Do not include spaces.
- ♦ Create a unique name for the type (class or attribute). Names are not case sensitive.
- ♦ Do not create a name with more than 32 characters. This is an NDS restriction. LDAP allows longer names, but NDS does not currently support names longer than 32 characters.

We recommend that you lowercase the prefix, and then capitalize the initial word of the attribute's or class's descriptive name. For example, if we assigned you the prefix of *adb* for an address book application, the following object class names are possible:

adbGroup
adbConferenceRoom

1.13.4 Class Construction Rules

Below is a list of rules that regulate the construction of new object classes. If you need to define new classes, pay close attention to these rules.

1. Object class definitions cannot be recursive. An object cannot have itself as a super class.
2. Only classes with complete structure rules can be flagged effective and used to create objects. That is, the super classes, containment, and naming attributes must be complete.
3. An effective class can be constructed in three ways:
 - ♦ The class defines its own structure rules.
 - ♦ The class inherits structure rules from its super classes.
 - ♦ The class defines part of the structure rules (such as naming) and inherits the other part of the structure rules (such as containment) from a super class.
4. For a class that defines its own structure rules, any structure rules that might be inherited from its super classes are ignored.
5. If structure rules of an effective class are inherited, they must be nonambiguous (for more information, see [“Effective and Noneffective Classes” on page 28](#)).

Base Object Class Definitions

2

This chapter lists alphabetically all the object classes installed with Novell® eDirectory™.

- ♦ For object class definitions that are added in a default NetWare installation or with the downloadable schema files, see “[Novell Object Class Extensions](#)” on page 269.
- ♦ For an explanation of the types of information included about each class, see “[Reading Class Definitions](#)” on page 29.

AFP Server

Identifies objects that provide AFP services.

Type: Effective

NDS Operational: Yes

ASN.1 ID

2.16.840.1.113719.1.1.6.1.0

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Server (page 239)
	Server (page 239)	AFP Server
Containment	domain (page 114)	Server (page 239)
	Organization (page 198)	Server (page 239)
	Organizational Unit (page 206)	Server (page 239)
Named By	CN (Common Name) (page 372)	Server (page 239)

Mandatory Attributes

AFP Server	Inherited from Top	Inherited from Server
(None)	Object Class (page 648)	CN (Common Name) (page 372)

Optional Attributes

AFP Server

Serial Number (page 723)

Supported Connections (page 733)

Inherited from Top

ACL (page 331)

Audit:File Link (page 341)

Authority Revocation (page 347)

auxClassCompatibility (page 349)

Back Link (page 351)

Bindery Property (page 353)

CA Private Key (page 359)

CA Public Key (page 360)

Certificate Revocation (page 363)

Certificate Validity Interval (page 364)

creatorsName (page 375)

Cross Certificate Pair (page 376)

DirXML-Associations (page 394)

Equivalent To Me (page 429)

GUID (page 445)

Last Referenced Time (page 478)

masvAuthorizedRange (page 553)

masvDefaultRange (page 555)

masvProposedLabel (page 565)

modifiersName (page 577)

Obituary (page 646)

objectVersion (page 649)

Other GUID (page 651)

Reference (page 699)

Revision (page 704)

rbsAssignedRoles (page 696)

rbsOwnedCollections (page 697)

Used By (page 757)

Inherited from Server

Account Balance (page 330)

Allow Unlimited Credit (page 332)

Description (page 381)

Full Name (page 439)

Host Device (page 458)

L (Locality Name) (page 474)

masvAuthorizedRange (page 553)

masvDefaultRange (page 555)

masvProposedLabel (page 565)

Minimum Account Balance (page 575)

Network Address (page 604)

O (Organization Name) (page 644)

OU (Organizational Unit Name) (page 653)

Private Key (page 688)

Public Key (page 692)

Resource (page 703)

Security Equals (page 720)

Security Flags (page 721)

See Also (page 722)

Status (page 730)

SvcInfo (page 949)

SvcType (page 950)

SvcTypeID (page 951)

User (page 758)

Version (page 767)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)
[Public]	Read	Network Address	Server (page 239)

Object Name	Default Rights	Affected Attributes	Class Defined For
[Self]	Supervisor	[Entry Rights]	Server (page 239)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

Alias

Defines alias objects which reference other object classes. The aliased object class determines how the alias is named and where it can be contained.

Type: Effective

NDS Operational: Yes

LDAP Name

alias

ASN.1 ID

2.5.6.1

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	On
Ambiguous Container	On
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Alias
Containment	(special)	Alias
Named By	(special)	Alias

Mandatory Attributes

Alias	Inherited from Top
Aliased Object Name (page 328)	Object Class (page 648)

Optional Attributes

Alias

(None)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

An alias is an object that references the Distinguished Name of another object in the eDirectory tree. An object in the eDirectory tree can have zero or more aliases. Several Alias entries can point to the same object entry. Only object entries can have aliases; thus, aliases of aliases are not permitted. An object entry does not have to be a leaf entry to have an Alias. However, Alias entries cannot have subordinates and are always leaf objects.

eDirectory uses the Aliased Object Name attribute in an Alias entry to identify and to find the corresponding object entry. The object class Alias does not specify naming attributes for alias entries, nor does the class define where alias entries may be contained in the eDirectory tree. eDirectory enforces the naming and containment rules mandated by the base class of the object to which the alias points.

applicationEntity

Represents an application entity.

Type: Effective

LDAP Name

applicationEntity

ASN.1 ID

2.5.6.12

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	applicationEntity
Containment	Country (page 90)	applicationEntity
	Locality (page 146)	applicationEntity
	Organization (page 198)	applicationEntity
	Organizational Unit (page 206)	applicationEntity
Named By	CN (Common Name) (page 372)	applicationEntity

Mandatory Attributes

applicationEntity	Inherited from Top
CN (Common Name) (page 372)	Object Class (page 648)
presentationAddress (page 682)	

Optional Attributes

applicationEntity	
Description (page 381)	OU (Organizational Unit Name) (page 653)
L (Locality Name) (page 474)	See Also (page 722)
O (Organization Name) (page 644)	supportedApplicationContext (page 732)

Inherited from Top	
ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see “[Reading Class Definitions](#)” on page 29.

For more information, see RFC 2256.

applicationProcess

Represents an LDAP application process.

Type: Effective

LDAP Name

applicationProcess

ASN.1 ID

2.5.6.11

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	applicationProcess
Containment	Country (page 90)	applicationProcess
	Locality (page 146)	applicationProcess
	Organization (page 198)	applicationProcess
	Organizational Unit (page 206)	applicationProcess
Named By	CN (Common Name) (page 372)	applicationProcess

Mandatory Attributes

applicationProcess	Inherited from Top
CN (Common Name) (page 372)	Object Class (page 648)

Optional Attributes

applicationProcess

Description (page 381)	OU (Organizational Unit Name) (page 653)
L (Locality Name) (page 474)	See Also (page 722)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

For more information, see RFC 2256.

Audit:File Object

Contains the audit records for an audited object.

Type: Effective

ASN.1 ID

2.16.840.1.113719.1.12.6.1.0

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Audit:File Object
Containment	Country (page 90)	Audit:File Object
	Locality (page 146)	Audit:File Object
	Organization (page 198)	Audit:File Object
	Organizational Unit (page 206)	Audit:File Object
	Top (page 249)	Audit:File Object
	Tree Root (page 251)	Audit:File Object
Named By	CN (Common Name) (page 372)	Audit:File Object

Mandatory Attributes

Audit:File Object	Inherited from Top
Audit:Contents (page 339)	Object Class (page 648)
Audit:Policy (page 344)	
CN (Common Name) (page 372)	

Optional Attributes

Audit:File Object	
Audit:A Encryption Key (page 337)	Audit:Link List (page 342)
Audit:B Encryption Key (page 338)	Audit:Path (page 343)
Audit:Current Encryption Key (page 340)	Description (page 381)
Audit:Type (page 345)	
Inherited from Top	
ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see “[Reading Class Definitions](#)” on page 29.

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

Bindery Object

Used to represent an object that has been created by the Bindery Emulator to emulate a Bindery object.

Type: Effective

NDS Operational: Yes

ASN.1 ID

2.16.840.1.113719.1.1.6.1.2

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Bindery Object
Containment	domain (page 114)	Bindery Object
	Organization (page 198)	Bindery Object
	Organizational Unit (page 206)	
Named By	Bindery Type (page 355)	Bindery Object
	CN (Common Name) (page 372)	Bindery Object

Mandatory Attributes

Bindery Object	Inherited from Top
Bindery Object Restriction (page 352)	Object Class (page 648)
Bindery Type (page 355)	
CN (Common Name) (page 372)	

Optional Attributes

Bindery Object	
(Special)	
Inherited from Top	
ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

The special case notation for optional attributes indicates that any attribute type which has been defined for the schema and is not listed in the “Mandatory Attributes” section for a Bindery Object is optional for a Bindery Object. See [“Base Attribute Definitions” on page 327](#) for a list of attribute types defined for the base schema.

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

Bindery Queue

Represents an object that has been created by the Bindery Emulator to emulate a user-defined queue object.

Type: Effective

NDS Operational: Yes

ASN.1 ID

2.16.840.1.113719.1.1.6.1.3

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Resource (page 231)
	Resource (page 231)	Queue (page 228)
	Queue (page 228)	Bindery Queue (page 75)
Containment	domain (page 114)	Resource (page 231)
	Organization (page 198)	Resource (page 231)
	Organizational Unit (page 206)	Resource (page 231)
Named By	Bindery Type (page 355)	Bindery Queue (page 75)
	CN (Common Name) (page 372)	Bindery Queue (page 75)

Mandatory Object Class

Bindery Queue	Inherited from Top	Inherited from Resource	Inherited from Queue
Bindery Type (page 355)	Object Class (page 648)	CN (Common Name) (page 372)	Queue Directory (page 695)

Optional Attributes

Bindery Queue	
(None)	
Inherited from Top	
ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)
Inherited from Resource	
Description (page 381)	OU (Organizational Unit Name) (page 653)
Host Resource Name (page 459)	See Also (page 722)
L (Locality Name) (page 474)	Uses (page 762)
O (Organization Name) (page 644)	
Inherited from Queue	
Device (page 385)	Server (page 724)
Host Server (page 460)	User (page 758)
Network Address (page 604)	Volume (page 768)
Operator (page 650)	

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)
[Root]	Read	[All Attributes]	Bindery Queue (page 75)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

The queue management service (QMS) requires the Host Server attribute to identify the NCP server that holds this queue.

The Queue directory names the subdirectory where this queue’s files are stored.

The Operator, Server, and User attributes are used by the QMS as access control lists.

The Operator attribute identifies users or groups that have operator privileges. The Server attribute identifies print servers allowed to service this queue.

The User attribute contains a list of objects that are authorized to use this queue. The server that controls the queue must determine if the user list is maintained by an administrator or if the list is automatically generated by the server. If the user list is used by the server as an access control list, the administrator will usually maintain the list. If the user list is purely informational, reflecting access control information stored elsewhere, the server usually maintains the list.

The See Also attribute might be used to list related queues. For example, two queues, “Fast” and “Slow,” might provide the same set of services, except that “Fast” runs at a higher priority. These two queues might reference each other in their respective See Also attributes.

The Host Resource Name attribute is used when the host’s local identification for a resource differs from the global resource identification. For example, a server might recognize “SYS:” as the local name for a volume with the following eDirectory name:

```
"Project X.Engineering.Acme.US"
```

The L (Locality Name), O (Organization Name), and OU (Organizational Unit Name) attributes are useful when multiple localities, organizations, or organizational units use a single resource. If these attributes contain appropriate values, a search can be initiated for resources associated with a particular locality or organization.

The Network Address attribute (inherited from Resource) acts as a cache for the server’s network address. The user can contact the server without having to dereference the Host Server attribute.

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

certificationAuthority

Defines an LDAP Certificate Authority.

Type: Auxiliary Class

LDAP Name

certificationAuthority

ASN.1 ID

2.5.6.16

Class Flags

Class Flags	Setting
Container	Off
Effective	Off
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	On

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	(None)	certificationAuthority
Containment	(None)	certificationAuthority
Named By	(None)	certificationAuthority

Mandatory Attributes

certificationAuthority
authorityRevocationList (page 346)
certificateRevocationList (page 362)
cACertificate (page 358)

Optional Attributes

`certificationAuthority`

`crossCertificatePair` (page 371)

Default ACL Template

None

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

For more information, see RFC 2256.

certificationAuthorityVer2

Defines an LDAP Certificate Authority.

Type: Auxiliary Class

LDAP Name

certificationAuthorityVer2

ASN.1 ID

2.5.6.16.2

Class Flags

Class Flags	Setting
Container	Off
Effective	Off
Nonremovable	Off
Ambiguous Naming	On
Ambiguous Container	On
Auxiliary Class	On

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	(None)	certificationAuthority
Containment	(None)	certificationAuthority
Named By	(None)	certificationAuthority

Mandatory Attributes

certificationAuthority
authorityRevocationList (page 346)
certificateRevocationList (page 362)
cACertificate (page 358)

Optional Attributes

`certificationAuthority`

`crossCertificatePair` (page 371)

`deltaRevocationList` (page 379)

Default ACL Template

None

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

For more information, see RFC 2256.

CommExec

Represents a resource used by NetWare MHS services.

Type: Effective

NDS Operational: Yes

ASN.1 ID

2.16.840.1.113719.1.1.6.1.31

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Server (page 239)
	Server (page 239)	CommExec
Containment	domain (page 114)	Server (page 239)
	Organization (page 198)	Server (page 239)
	Organizational Unit (page 206)	Server (page 239)
Named By	CN (Common Name) (page 372)	Server (page 239)

Mandatory Attributes

CommExec	Inherited from Top	Inherited from Server
	Object Class (page 648)	CN (Common Name) (page 372)

Optional Attributes

CommExec

[Network Address Restriction \(page 605\)](#)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Inherited from Server

Account Balance (page 330)	Public Key (page 692)
Allow Unlimited Credit (page 332)	Resource (page 703)
Description (page 381)	Security Equals (page 720)
Full Name (page 439)	Security Flags (page 721)
Host Device (page 458)	See Also (page 722)
L (Locality Name) (page 474)	Status (page 730)
Minimum Account Balance (page 575)	SvcInfo (page 949)
Network Address (page 604)	SvcType (page 950)
O (Organization Name) (page 644)	SvcTypeID (page 951)
OU (Organizational Unit Name) (page 653)	Used By (page 757)
Private Key (page 688)	Version (page 767)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top
[Public]	Read	Network Address	Server (page 239)
[Self]	Supervisor	[Entry Rights]	Server (page 239)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

Computer

Represents both computers that host NetWare[®] servers and computers used as client workstations.

Type: Effective

NDS Operational: Yes

LDAP Name

computer

ASN.1 ID

2.16.840.1.113719.1.1.6.1.4

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Device (page 96)
	Device (page 96)	Computer
Containment	domain (page 114)	Device (page 96)
	Organization (page 198)	Device (page 96)
	Organizational Unit (page 206)	Device (page 96)
Named By	CN (Common Name) (page 372)	Device (page 96)

Mandatory Attributes

Computer	Inherited from Top	Inherited from Device
	Object Class (page 648)	CN (Common Name) (page 372)

Optional Attributes

Computer	
Operator (page 650)	Status (page 730)
Server (page 724)	
Inherited from Top	
ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)
Inherited from Device	
Description (page 381)	See Also (page 722)
L (Locality Name) (page 474)	Serial Number (page 723)
Network Address (page 604)	SvcInfo (page 949)
O (Organization Name) (page 644)	SvcType (page 950)
OU (Organizational Unit Name) (page 653)	SvcTypeID (page 951)
Owner (page 655)	

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

The Operator attribute lists individuals or groups that are responsible for day-to-day maintenance of the computer. This can differ from the value of Owner, which can indicate more of an administrative responsibility with respect to the computer.

The Server attribute provides a list of servers that are hosted on this computer. The See Also attribute might be used, in this instance, to identify other related computers assigned to a network.

The L (Locality Name) attribute identifies the physical location of a device. For example, if the device were a printer, the locality might be “Building D, Section 24, by Ed Bender’s desk.”

The O (Organization Name) and OU (Organizational Unit Name) might already be present in the device’s distinguished name. They are repeated here to aid searching when an organization spans multiple subtrees in the eDirectory tree. However, eDirectory does not add these attributes automatically even though they may be present in the device’s Distinguished Name. Additional values for the organization or organizational unit can be useful when a device is “co-owned” by multiple organizations.

The LDAP server maps requests for the computer class to this class.

contingentWorker

Contains information about contract employees.

Added: NDS eDirectory 8.5

LDAP Name

contingentWorker

ASN.1 ID

2.16.840.1.113719.1.8.6.2

Class Flags

Class Flags	Setting
Container	Off
Effective	Off
Nonremovable	Off
Ambiguous Naming	On
Ambiguous Container	On
Auxiliary Class	On

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	(None)	contingentWorker
Containment	(None)	contingentWorker
Named By	(None)	contingentWorker

Mandatory Attributes

None

Optional Attributes

contingentWorker

vendorAddress (page 765)

vendorPhoneNumber (page 766)

vendorName (page 764)

Remarks

This object is an auxiliary class and is designed to be assigned to entries in the object classes that comprise the contract workers in a company's workforce.

Country

Defines country entries in the eDirectory tree.

Type: Effective

NDS Operational: Yes

LDAP Name

country

ASN.1 ID

2.5.6.2

Class Flags

Class Flags	Setting
Container	On
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Country
Containment	domain (page 114)	Country
	Top (page 249)	Country
	Tree Root (page 251)	Country
	(Nothing)	Country
Named By	C (Country Name) (page 357)	Country

Mandatory Attributes

Country	Inherited from Top
C (Country Name) (page 357)	Object Class (page 648)

Optional Attributes

Country
Description (page 381) searchGuide (page 717)

Inherited from Top	
ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

In NetWare 5.x, Country can appear as the topmost object in an eDirectory tree or subordinate to Tree Root. Top is a special object and never appears as an object in an eDirectory tree.

The Description attribute might contain the full name of the country, since the C attribute is restricted to the two letter code defined by ISO 3166.

cRLDistributionPoint

Represents a distribution point for a certificate revocation list.

Type: Effective Class

LDAP Name

cRLDistributionPoint

ASN.1 ID

2.5.6.19

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	cRLDistributionPoint
Containment	Country (page 90)	cRLDistributionPoint
	Locality (page 146)	cRLDistributionPoint
	Organizational Unit (page 206)	cRLDistributionPoint
	Organization (page 198)	cRLDistributionPoint
	SAS:Security (page 234)	cRLDistributionPoint
Named By	CN (Common Name) (page 372)	cRLDistributionPoint

Mandatory Attributes

cRLDistributionPoint	Inherited from Top
CN (Common Name) (page 372)	Object Class (page 648)

Optional Attributes

cRLDistributionPoint	
authorityRevocationList (page 346)	crossCertificatePair (page 371)
cACertificate (page 358)	deltaRevocationList (page 379)
certificateRevocationList (page 362)	
Inherited from Top	
ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see “[Reading Class Definitions](#)” on page 29.

dcObject

Identifies an auxiliary class that supplies the domain naming component for existing structural object classes such as Organization, Organizational Unit, and Locality.

Type: Auxiliary Class

NDS Operational: Yes

LDAP Name

dcObject

ASN.1 ID

1.3.6.1.4.1.1466.344

Class Flags

Class Flags	Setting
Container	Off
Effective	Off
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	On

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	(None)	dcObject
Containment	(None)	dcObject
Named By	dc (page 377)	dcObject

Mandatory Attributes

dcObject
dc (page 377)

Optional Attributes

dcObject

(None)

Default ACL Template

None

Remarks

For more information about this object, see RFC 2247.

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

Device

Represents physical units that can communicate (such as a modem or a printer). At least one of the L (Locality Name), Serial Number, or Owner attributes should be included with the object entry. The choice depends on the type of device.

Type: Effective

NDS Operational: Yes

LDAP Name

device

ASN.1 ID

2.5.6.14

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Device
Containment	domain (page 114)	Device
	Organization (page 198)	Device
	Organizational Unit (page 206)	Device
	CN (Common Name) (page 372)	Device
Named By	CN (Common Name) (page 372)	Device

Mandatory Attributes

Device	Inherited from Top
CN (Common Name) (page 372)	Object Class (page 648)

Optional Attributes

Device	
Description (page 381)	See Also (page 722)
L (Locality Name) (page 474)	Serial Number (page 723)
Network Address (page 604)	SvcInfo (page 949)
O (Organization Name) (page 644)	SvcType (page 950)
OU (Organizational Unit Name) (page 653)	SvcTypeID (page 951)
Owner (page 655)	
Inherited from Top	
ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

The L (Locality Name) attribute can be used to identify the physical location of a device. For example, if the device were a printer, the locality might be “Building D, Section 24, by Ed Bender’s desk.”

The O (Organization Name) and OU (Organizational Unit Name) may already be present in the device’s Distinguished Name. They are repeated here to aid searching when an organization spans multiple subtrees in the eDirectory tree. However, eDirectory does not automatically add these attributes even though they may be present in the device’s Distinguished Name. Additional values for the organization or organizational unit can be useful when a device is “co-owned” by multiple organizations.

In versions of NDS previous to NDS eDirectory 8.5, device is a non-effective class.

Directory Map

Represents the physical name of a file system directory path.

Type: Effective

NDS Operational: Yes

ASN.1 ID

2.16.840.1.113719.1.1.6.1.7

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Resource (page 231)
	Resource (page 231)	Directory Map
Containment	domain (page 114)	Resource (page 231)
	Organization (page 198)	Resource (page 231)
	Organizational Unit (page 206)	Resource (page 231)
Named By	CN (Common Name) (page 372)	Resource (page 231)

Mandatory Attributes

Directory Map	Inherited from Top	Inherited from Resource
Host Server (page 460)	Object Class (page 648)	CN (Common Name) (page 372)

Optional Attributes

Directory Map

[Path \(page 669\)](#)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Inherited from Resource

Description (page 381)	OU (Organizational Unit Name) (page 653)
Host Resource Name (page 459)	See Also (page 722)
L (Locality Name) (page 474)	Uses (page 762)
O (Organization Name) (page 644)	

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

The Host Server attribute identifies the server that owns and services the resource. Requests to manipulate a particular resource must usually be directed to the host server.

The Host Resource Name attribute is used when the host’s local identification for a resource differs from the global resource identification. For example, a server might recognize SYS as the local name for a volume with the following eDirectory name:

"Project X.Engineering.Acme.US"

The L (Locality Name), O (Organization Name), and OU (Organizational Unit Name) attributes are useful when a resource is used by multiple localities, organizations, or organizational units. If these attributes contain appropriate values, a search can be initiated for resources associated with a particular locality or organization.

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

DirXML-Driver

Contains the configuration attributes and objects for a single DirXML driver.

ASN.1 ID

2.16.840.1.113719.1.14.6.1.2

Class Flags

Class Flags	Setting
Container	On
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top	DirXML-Driver
Containment	DirXML-DriverSet	DirXML-Driver
Named By	CN (Common Name)	DirXML-Driver

Mandatory Attributes

DirXML-Driver	Inherited from Top
CN	Object Class

Optional Attributes

DirXML-Driver

DirXML-ApplicationSchema (page 393)	DirXML-ShimAuthID (page 412)
DirXML-DriverCacheLimit (page 396)	DirXML-ShimAuthPassword (page 413)
DirXML-DriverStartOption (page 399)	DirXML-ShimAuthServer (page 414)
DirXML-DriverStorage (page 400)	DirXML-ShimConfigInfo (page 415)
DirXML-InputTransform (page 403)	DirXML-State (page 417)
DirXML-JavaModule (page 405)	Private Key (page 688)
DirXML-MappingRule (page 407)	Public Key (page 692)
DirXML-NativeModule (page 409)	Security Equals (page 720)
DirXML-OutputTransform (page 410)	

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top

Remarks

This object can contain two application shim objects, [DirXML-Subscriber \(page 112\)](#) and [DirXML-Publisher \(page 106\)](#). These objects are associated with the DirXML object by their containment. If they are placed in another directory, the driver loses its association with them.

If the subscriber or publisher objects are created with ConsoleOne, ConsoleOne places them under the driver the administrator is configuring.

DirXML-DriverSet

Contains all the drivers that are applicable for a given server.

ASN.1 ID

2.16.840.1.113719.1.14.6.1.1

Class Flags

Class Flags	Setting
Container	On
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top	DirXML-DriverSet
Containment	Country	DirXML-DriverSet
	domain	DirXML-DriverSet
	Locality	DirXML-DriverSet
	Organization	DirXML-DriverSet
	Organizational Unit	DirXML-DriverSet
Named By	CN (Common Name)	DirXML-DriverSet

Mandatory Attributes

DirXML-DriverSet	Inherited from Top
CN	Object Class

Optional Attributes

DirXML-DriverSet

DirXML-DriverTraceLevel (page 401)	DirXML-ServerList (page 416)
DirXML-JavaDebugPort (page 404)	DirXML-XSLTraceLevel (page 419)
DirXML-JavaTraceFile (page 406)	

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top

Remarks

This object should be defined as its own partition, so that a replica can be placed on the eDirectory servers that are using the driver set. With this configuration, servers not using the driver set are not involved with synchronizing the data in the DirXML partition.

DirXML-Publisher

Contains the required information that allows an external application to synchronized selected data with eDirectory.

ASN.1 ID

2.16.840.1.113719.1.14.6.1.3

Class Flags

Class Flags	Setting
Container	On
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top	DirXML-Publisher
Containment	DirXML-Driver	DirXML-Publisher
Named By	CN (Common Name)	DirXML-Publisher

Mandatory Attributes

DirXML-Publisher	Inherited from Top
CN	Object Class

Optional Attributes

DirXML-Publisher

DirXML-CreateRule (page 395)	DirXML-PlacementRule (page 411)
DirXML-DriverFilter (page 397)	Private Key (page 688)
DirXML-EventTransformationRule (page 402)	Public Key (page 692)
DirXML-MatchingRule (page 408)	

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top

Remarks

This object can contain rule and style sheet objects which further define the format and rules that DirXML engine enforces when it sends data from the external application to eDirectory.

DirXML-Rule

Contains rule information which controls the behavior of the DirXML-Driver, DirXML-Publisher, or DirXML-Subscriber.

ASN.1 ID

2.16.840.1.113719.1.14.6.1.7

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top	DirXML-Rule
Containment	DirXML-Driver (page 102)	DirXML-Rule
	DirXML-Publisher (page 106)	DirXML-Rule
	DirXML-Subscriber (page 112)	DirXML-Rule
Named By	CN (Common Name)	DirXML-Rule

Mandatory Attributes

DirXML-Rule	Inherited from Top
CN	Object Class

Optional Attributes

DirXML-Rule

[XmlData \(page 775\)](#)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top

Remarks

A rule object contains a particular type of rule in an XDS format defined for that rule type. Rule objects can contain mapping, matching, create, and placement rules. XDS is a subset of XML and is defined in the nds.dtd which specifies the formats for the rules.

DirXML-StyleSheet

Contains the XSL data that can transform data from one format to another, for example from XDS format to the external application format.

ASN.1 ID

2.16.840.1.113719.1.14.6.1.6

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	StyleSheet (page 244)	DirXML-StyleSheet
Containment	DirXML-Driver	DirXML-StyleSheet
	DirXML-Publisher	DirXML-StyleSheet
	DirXML-Subscriber	DirXML-StyleSheet
Named By	CN (Common Name)	StyleSheet (page 244)

Mandatory Attributes

DirXML-StyleSheet	Inherited from StyleSheet	Inherited from Top
(None)	CN	Object Class

Optional Attributes

DirXML-StyleSheet	Inherited from StyleSheet
(None)	XmlData (page 775)
Inherited from Top	
ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top

Remarks

Attributes associate a particular style sheet with a driver object. The DirXML-Driver contains two attributes (DirXML-InputTransform and DirXML-OutputTransform) which can associate both a input and output style sheet with the driver. The DirXML-Publisher and DirXML-Subscriber objects use the DirXML-EventTransformationRule attribute to form an association with a style sheet.

DirXML-Subscriber

Contains the required information that allows eDirectory to synchronize selected data to an external application.

ASN.1 ID

2.16.840.1.113719.1.14.6.1.4

Class Flags

Class Flags	Setting
Container	On
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top	DirXML-Subscriber
Containment	DirXML-Driver	DirXML-Subscriber
Named By	CN (Common Name)	DirXML-Subscriber

Mandatory Attributes

DirXML-Subscriber	Inherited from Top
CN	Object Class

Optional Attributes

DirXML-Subscriber	
DirXML-CreateRule (page 395)	DirXML-MatchingRule (page 408)
DirXML-DriverFilter (page 397)	DirXML-PlacementRule (page 411)
DirXML-EventTransformationRule (page 402)	DirXML-Timestamp (page 418)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top

Remarks

This object can contain rule and style sheet objects which further define the format and rules that the DirXML engine enforces when it sends data from eDirectory to the external application.

domain

Provides a container class for Internet or domain objects that do not correspond to a defined schema class.

Type: Effective

NDS Operational: Yes

LDAP Name

domain

ASN.1 ID

0.9.2342.19200300.100.4.13

Class Flags

Class Flags	Setting
Container	On
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	domain
Containment	Country (page 90)	domain
	domain	domain
	Locality (page 146)	domain
	Organization (page 198)	domain
	Organizational Unit (page 206)	domain
	Top (page 249)	domain
	Tree Root (page 251)	domain
Named By	dc (page 377)	domain

Mandatory Attributes

domain	Inherited from Top
dc (page 377)	Object Class (page 648)

Optional Attributes

domain	
associatedName (page 335)	Postal Office Box (page 678)
businessCategory (page 356)	preferredDeliveryMethod (page 680)
Description (page 381)	registeredAddress (page 700)
destinationIndicator (page 383)	SA (Street Address) (page 709)
Facsimile Telephone Number (page 433)	searchGuide (page 717)
internationaliSDNNumber (page 466)	See Also (page 722)
L (Locality Name) (page 474)	Telephone Number (page 742)
Physical Delivery Office Name (page 674)	telexNumber (page 743)
Postal Address (page 675)	telexTerminalIdentifier (page 744)
Postal Code (page 677)	x121Address (page 776)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For more information about this class, see RFC 2247.

When NDS 8 is installed, domain objects can contain all the leaf objects in the operational schema. However, the ability for domain objects to contain the operational container objects such as Country, Locality, Organization, or Organizational Unit does not come automatically. This functionality must be added to the schema by running a schema option in DSRepair.

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

dmd

Defines a directory management domain object.

Added: NDS eDirectory 8.5

LDAP Name

dmd

ASN.1 ID

2.5.6.20

Class Flags

Class Flags	Setting
Container	Off
Effective	Off
Nonremovable	Off
Ambiguous Naming	On
Ambiguous Container	On
Auxiliary Class	On

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	dmd
	ndsLoginProperties (page 163)	dmd
Containment	(none)	dmd
Named By	dmdName (page 420)	dmd

Mandatory Attributes

dmd	Inherited from Top
dmdName (page 420)	Object Class (page 648)

Optional Attributes

dmd

businessCategory (page 356)	preferredDeliveryMethod (page 680)
Description (page 381)	registeredAddress (page 700)
destinationIndicator (page 383)	SA (Street Address) (page 709)
Facsimile Telephone Number (page 433)	searchGuide (page 717)
internationaliSDNNNumber (page 466)	See Also (page 722)
L (Locality Name) (page 474)	Telephone Number (page 742)
Physical Delivery Office Name (page 674)	telexNumber (page 743)
Postal Address (page 675)	telexTerminalIdentifier (page 744)
Postal Code (page 677)	x121Address (page 776)
Postal Office Box (page 678)	

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Inherited from ndsLoginProperites

Account Balance (page 330)	Minimum Account Balance (page 575)
Allow Unlimited Credit (page 332)	Network Address (page 604)
Group Membership (page 444)	Network Address Restriction (page 605)
Higher Privileges (page 447)	Password Allow Change (page 661)
Language (page 476)	Password Expiration Interval (page 662)
Last Login Time (page 477)	Password Expiration Time (page 663)
Locked By Intruder (page 532)	Password Minimum Length (page 665)
Login Allowed Time Map (page 534)	Password Required (page 666)
Login Disabled (page 535)	Password Unique Required (page 667)
Login Expiration Time (page 536)	Passwords Used (page 668)
Login Grace Limit (page 537)	Private Key (page 688)
Login Grace Remaining (page 538)	Profile (page 689)
Login Intruder Address (page 539)	Profile Membership (page 690)
Login Intruder Attempts (page 540)	Public Key (page 692)
Login Intruder Reset Time (page 542)	Security Equals (page 720)
Login Maximum Simultaneous (page 543)	Security Flags (page 721)
Login Script (page 544)	Server Holds (page 725)
Login Time (page 545)	Timezone (page 745)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top

dSA

Represents an LDAP directory service agent.

Type: Effective

LDAP Name

dSA

ASN.1 ID

2.5.6.13

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	applicationEntity (page 65)
	applicationEntity (page 65)	dSA
Containment	Country (page 90)	dSA
	Locality (page 146)	dSA
	Organization (page 198)	dSA
	Organizational Unit (page 206)	dSA
Named By	CN (Common Name) (page 372)	applicationEntity (page 65)

Mandatory Attributes

dSA	Inherited from Top	Inherited from applicationEntity
(None)	Object Class (page 648)	CN (Common Name) (page 372) presentationAddress (page 682)

Optional Attributes

dSA
knowledgeInformation (page 473)
Inherited from Top
<div> <div>ACL (page 331)</div> <div>Audit:File Link (page 341)</div> <div>Authority Revocation (page 347)</div> <div>auxClassCompatibility (page 349)</div> <div>Back Link (page 351)</div> <div>Bindery Property (page 353)</div> <div>CA Private Key (page 359)</div> <div>CA Public Key (page 360)</div> <div>Certificate Revocation (page 363)</div> <div>Certificate Validity Interval (page 364)</div> <div>creatorsName (page 375)</div> <div>Cross Certificate Pair (page 376)</div> <div>DirXML-Associations (page 394)</div> <div>Equivalent To Me (page 429)</div> </div> <div> <div>GUID (page 445)</div> <div>Last Referenced Time (page 478)</div> <div>masvAuthorizedRange (page 553)</div> <div>masvDefaultRange (page 555)</div> <div>masvProposedLabel (page 565)</div> <div>modifiersName (page 577)</div> <div>Obituary (page 646)</div> <div>objectVersion (page 649)</div> <div>Other GUID (page 651)</div> <div>Reference (page 699)</div> <div>Revision (page 704)</div> <div>rbsAssignedRoles (page 696)</div> <div>rbsOwnedCollections (page 697)</div> <div>Used By (page 757)</div> </div>
Inherited from applicationEntity
<div> <div>Description (page 381)</div> <div>L (Locality Name) (page 474)</div> <div>O (Organization Name) (page 644)</div> </div> <div> <div>OU (Organizational Unit Name) (page 653)</div> <div>See Also (page 722)</div> <div>supportedApplicationContext (page 732)</div> </div>

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

For more information, see RFC 2256.

dynamicGroup

Represents a dynamic group.

Added: NDS 8.5

LDAP Name

dynamicGroup

ASN.1 ID

2.16.840.1.113719.1.1.6.1.45

Class Flags

Class Flags	Setting
Container	On
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	dynamicGroup
	Group (page 134)	
	ndsLoginProperties (page 163)	
Containment	domain (page 114)	Group (page 134)
	Organization (page 198)	Group (page 134)
	Organizational Unit (page 206)	Group (page 134)
Named By	CN (Common Name) (page 372)	Group (page 134)

Mandatory Attributes

dynamicGroup	Group	Inherited from Top
(None)	CN (Common Name) (page 372)	Object Class (page 648)

Optional Attributes

dynamicGroup	
dgAllowDuplicates (page 389)	dgTimeOut (page 387)
dgAllowUnknown (page 388)	excludedMember (page 390)
dgIdentity (page 386)	memberQuery (page 567)
Inherited from Top	
ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)
Inherited from Group	
businessCategory (page 356)	Mailbox Location (page 549)
Description (page 381)	Member (page 566)
EMail Address (page 424)	O (Organization Name) (page 644)
Full Name (page 439)	OU (Organizational Unit Name) (page 653)
GID (Group ID) (page 442)	Owner (page 655)
L (Locality Name) (page 474)	Profile (page 689)
Login Script (page 544)	Profile Membership (page 690)
Mailbox ID (page 548)	See Also (page 722)

Inherited from ndsLoginProperties

Account Balance (page 330)	Minimum Account Balance (page 575)
Allow Unlimited Credit (page 332)	Network Address (page 604)
Group Membership (page 444)	Network Address Restriction (page 605)
Higher Privileges (page 447)	Password Allow Change (page 661)
Language (page 476)	Password Expiration Interval (page 662)
Last Login Time (page 477)	Password Expiration Time (page 663)
Locked By Intruder (page 532)	Password Minimum Length (page 665)
Login Allowed Time Map (page 534)	Password Required (page 666)
Login Disabled (page 535)	Password Unique Required (page 667)
Login Expiration Time (page 536)	Passwords Used (page 668)
Login Grace Limit (page 537)	Private Key (page 688)
Login Grace Remaining (page 538)	Profile (page 689)
Login Intruder Address (page 539)	Profile Membership (page 690)
Login Intruder Attempts (page 540)	Public Key (page 692)
Login Intruder Reset Time (page 542)	Security Equals (page 720)
Login Maximum Simultaneous (page 543)	Security Flags (page 721)
Login Script (page 544)	Server Holds (page 725)
Login Time (page 545)	Timezone (page 745)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top

dynamicGroupAux

Represents a dynamic group.

Added: NDS 8.5

LDAP Name

dynamicGroupAux

ASN.1 ID

2.16.840.1.113719.1.1.6.1.46

Class Flags

Class Flags	Setting
Container	Off
Effective	Off
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	On

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	(None)	dynamicGroupAux
Containment	(None)	dynamicGroupAux
Named By	(None)	dynamicGroupAux

Mandatory Attributes

dynamicGroupAux
None

Optional Attributes

dynamicGroupAux

dgAllowDuplicates (page 389)	dgTimeOut (page 387)
dgAllowUnknown (page 388)	excludedMember (page 390)
dgIdentity (page 386)	memberQuery (page 567)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Inherited from Group

businessCategory (page 356)	Mailbox Location (page 549)
Description (page 381)	Member (page 566)
EMail Address (page 424)	O (Organization Name) (page 644)
Full Name (page 439)	OU (Organizational Unit Name) (page 653)
GID (Group ID) (page 442)	Owner (page 655)
L (Locality Name) (page 474)	Profile (page 689)
Login Script (page 544)	Profile Membership (page 690)
Mailbox ID (page 548)	See Also (page 722)

Inherited from ndsLoginProperties

Account Balance (page 330)	Minimum Account Balance (page 575)
Allow Unlimited Credit (page 332)	Network Address (page 604)
Group Membership (page 444)	Network Address Restriction (page 605)
Higher Privileges (page 447)	Password Allow Change (page 661)
Language (page 476)	Password Expiration Interval (page 662)
Last Login Time (page 477)	Password Expiration Time (page 663)
Locked By Intruder (page 532)	Password Minimum Length (page 665)
Login Allowed Time Map (page 534)	Password Required (page 666)
Login Disabled (page 535)	Password Unique Required (page 667)
Login Expiration Time (page 536)	Passwords Used (page 668)
Login Grace Limit (page 537)	Private Key (page 688)
Login Grace Remaining (page 538)	Profile (page 689)
Login Intruder Address (page 539)	Profile Membership (page 690)
Login Intruder Attempts (page 540)	Public Key (page 692)
Login Intruder Reset Time (page 542)	Security Equals (page 720)
Login Maximum Simultaneous (page 543)	Security Flags (page 721)
Login Script (page 544)	Server Holds (page 725)
Login Time (page 545)	Timezone (page 745)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top

External Entity

Represents a non-native eDirectory object.

Type: Effective

NDS Operational: Yes

ASN.1 ID

2.16.840.1.113719.1.1.6.1.29

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	External Entity
Containment	domain (page 114)	External Entity
	Organization (page 198)	External Entity
	Organizational Unit (page 206)	External Entity
Named By	CN (Common Name) (page 372)	External Entity
	OU (Organizational Unit Name) (page 653)	External Entity

Mandatory Attributes

External Entity	Inherited from Top
CN (Common Name) (page 372)	Object Class (page 648)

Optional Attributes

External Entity

Description (page 381)	Physical Delivery Office Name (page 674)
EMail Address (page 424)	Postal Address (page 675)
External Name (page 431)	Postal Code (page 677)
Facsimile Telephone Number (page 433)	Postal Office Box (page 678)
L (Locality Name) (page 474)	S (State or Province Name) (page 708)
Mailbox ID (page 548)	SA (Street Address) (page 709)
Mailbox Location (page 549)	See Also (page 722)
OU (Organizational Unit Name) (page 653)	Title (page 746)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)
[Public]	Read	External Name	External Entity

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

This object can be used by services that need to store information about entities outside of the eDirectory tree. For example, a messaging service that can send messages to E-mail users outside of the eDirectory tree needs to store address information about those E-mail users.

Such a messaging service can use External Entity objects to store information about E-mail users who exist on other systems. It can then use the objects' names in distribution lists that are List objects.

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

federationBoundary

Contains federation information for DNS.

Added: NDS 8.5

LDAP Name

federationBoundary

ASN.1 ID

2.16.840.1.113719.1.141.6.1

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	On
Ambiguous Container	On
Auxiliary Class	On

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top	federationBoundary
Containment	(None)	federationBoundary
Named By	(None)	federationBoundary

Mandatory Attributes

federationBoundary	Inherited from Top
federationBoundaryType (page 434)	Object Class (page 648)

Optional Attributes

federationBoundary

[federationControl \(page 435\)](#)

[federationDNSName \(page 436\)](#)

[federationControl \(page 435\)](#)

[federationSearchPath \(page 437\)](#)

Inherited from Top

[ACL \(page 331\)](#)

[Audit:File Link \(page 341\)](#)

[Authority Revocation \(page 347\)](#)

[auxClassCompatibility \(page 349\)](#)

[Back Link \(page 351\)](#)

[Bindery Property \(page 353\)](#)

[CA Private Key \(page 359\)](#)

[CA Public Key \(page 360\)](#)

[Certificate Revocation \(page 363\)](#)

[Certificate Validity Interval \(page 364\)](#)

[creatorsName \(page 375\)](#)

[Cross Certificate Pair \(page 376\)](#)

[DirXML-Associations \(page 394\)](#)

[Equivalent To Me \(page 429\)](#)

[GUID \(page 445\)](#)

[Last Referenced Time \(page 478\)](#)

[masvAuthorizedRange \(page 553\)](#)

[masvDefaultRange \(page 555\)](#)

[masvProposedLabel \(page 565\)](#)

[modifiersName \(page 577\)](#)

[Obituary \(page 646\)](#)

[objectVersion \(page 649\)](#)

[Other GUID \(page 651\)](#)

[Reference \(page 699\)](#)

[Revision \(page 704\)](#)

[rbsAssignedRoles \(page 696\)](#)

[rbsOwnedCollections \(page 697\)](#)

[Used By \(page 757\)](#)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

Group

Defines values representing an unordered set of names. The names themselves can represent individual objects or other groups of names.

Type: Effective

NDS Operational: Yes

LDAP Name

group
groupOfNames
groupOfUniqueNames

ASN.1 ID

2.5.6.9 (groupOfNames)
2.5.6.17 (groupOfUniqueNames)
2.16.840.1.113719.1.1.6.1.8 (group)

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Group
Containment	domain (page 114)	Group
	Organization (page 198)	Group
	Organizational Unit (page 206)	Group
Named By	CN (Common Name) (page 372)	Group

Mandatory Attributes

Group	Inherited from Top
CN (Common Name) (page 372)	Object Class (page 648)

Optional Attributes

Group	
businessCategory (page 356)	Mailbox Location (page 549)
Description (page 381)	Member (page 566)
EMail Address (page 424)	O (Organization Name) (page 644)
Full Name (page 439)	OU (Organizational Unit Name) (page 653)
GID (Group ID) (page 442)	Owner (page 655)
L (Locality Name) (page 474)	Profile (page 689)
Login Script (page 544)	Profile Membership (page 690)
Mailbox ID (page 548)	See Also (page 722)
Inherited from Top	
ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see “[Reading Class Definitions](#)” on page 29.

The membership of a group is static; that is, it is explicitly modified by administrative action, rather than dynamically determined each time the group is referred to. The membership of a group can be reduced to a set of individual object's names by replacing each group with its membership. This process can be carried out recursively until all constituent group names have been eliminated, and only the names of individual objects remain.

In general, eDirectory operations do not perform recursive membership expansion. However, access control resolution effectively expands one level of groups listed in an Access Control List (ACL). Thus, if A is a member of group B, which is in turn listed in an ACL, A gains the access granted to group B. However, if A is a member of group B, which is a member of group C, and C is listed in an access control list, A does not gain the access granted to group C.

Other applications are free to perform recursive group expansion, if they so choose.

The L (Locality Name), O (Organization Name), and OU (Organizational Unit Name) attributes might already be present in the group's Distinguished Name. They are repeated here to aid searching when an organization spans multiple subtrees in the eDirectory tree. Additional values for the locality, organization or organizational unit may be useful when a group contains members from multiple organizations, organizational units, or localities.

The Owner attribute could be used to contain the name of the group leader or group moderator. This value might not be the same as the set of individuals authorized to modify the group object.

The See Also attribute might be used to list related groups. For example, the groups "Project A Programmers," "Project A Writers," and "Project A Testers" might mention one another in their See Also attributes.

homeInfo

Contains personal information about an employee such as home address, phone number, name of spouse and children.

Added: NDS eDirectory 8.5

LDAP Name

homeInfo

ASN.1 ID

2.16.840.1.113719.1.8.6.1

Class Flags

Class Flags	Setting
Container	Off
Effective	Off
Nonremovable	Off
Ambiguous Naming	On
Ambiguous Container	On
Auxiliary Class	On

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	(None)	homeInfo
Containment	(None)	homeInfo
Named By	(None)	homeInfo

Mandatory Attributes

homeInfo
None

Optional Attributes

homeInfo

children (page 365)	homePostalAddress (page 454)
homeCity (page 450)	homeState (page 455)
homeEmailAddress (page 451)	homeZipCode (page 456)
homeFax (page 452)	personalMobile (page 671)
homePhone (page 453)	spouse (page 729)

Remarks

This object is an auxiliary class and is designed to be assigned to entries in the object classes that comprise a company's workforce.

LDAP Group

Defines configuration data that can be applied to a group of LDAP servers.

Type: Effective

ASN.1 ID

2.16.840.1.113719.1.1.6.1.34

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	LDAP Group (Class)
Containment	Country (page 90)	LDAP Group (Class)
	Locality (page 146)	LDAP Group (Class)
	Organization (page 198)	LDAP Group (Class)
	Organizational Unit (page 206)	LDAP Group (Class)
Named By	CN (Common Name) (page 372)	LDAP Group (Class)

Mandatory Attributes

LDAP Group (Class)	Inherited from Top
CN (Common Name) (page 372)	Object Class (page 648)

Optional Attributes

LDAP Group (Class)

LDAP Allow Clear Text Password (page 480)	LDAP Suffix (page 506)
LDAP ACL v11 (page 479)	LDAP:otherReferralUsage (page 512)
LDAP Anonymous Identity (page 481)	LDAP:searchReferralUsage (page 515)
LDAP Attribute Map v11 (page 482)	ldapAttributeList (page 516)
LDAP Class Map v11 (page 485)	ldapClassList (page 519)
LDAP Referral (page 496)	ldapConfigVersion (page 520)
LDAP Server List (page 504)	Version (page 767)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

LDAP Server

Defines configuration data for the LDAP server.

Type: Effective

ASN.1 ID

2.16.840.1.113719.1.27.6.1

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	LDAP Server (Class)
Containment	Country (page 90)	LDAP Server (Class)
	Locality (page 146)	LDAP Server (Class)
	Organization (page 198)	LDAP Server (Class)
	Organizational Unit (page 206)	LDAP Server (Class)
	CN (Common Name) (page 372)	LDAP Server (Class)
Named By	CN (Common Name) (page 372)	LDAP Server (Class)

Mandatory Attributes

LDAP Server (Class)	Inherited from Top
CN (Common Name) (page 372)	Object Class (page 648)

Optional Attributes

LDAP Server (Class)

extensionInfo (page 430)	LDAP:keyMaterialName (page 511)
LDAP Backup Log Filename (page 483)	LDAP:searchCatalogUsage (page 514)
LDAP Enable SSL (page 487)	LDAP:searchCatalog (page 513)
LDAPDerefAlias (page 486)	ldapBindRestrictions (page 517)
LDAP Enable TCP (page 488)	ldapChainSecureRequired (page 518)
LDAP Enable UDP (page 489)	ldapConfigVersion (page 520)
LDAP Group (page 490)	ldapEnableMonitorEvents (page 521)
LDAP Host Server (page 491)	ldapEnablePSearch (page 522)
LDAP Log Filename (page 492)	ldapInterfaces (page 524)
LDAP Log Level (page 493)	ldapMaximumMonitorEventsLoad (page 525)
LDAP Log Size Limit (page 495)	ldapIgnorePSearchLimitsForEvents (page 523)
LDAP Screen Level (page 497)	ldapMaximumPSearchOperations (page 526)
LDAP Search Size Limit (page 499)	ldapNonStdAllUserAttrsMode (page 527)
LDAP Search Time Limit (page 500)	ldapStdCompliance (page 528)
LDAP Server Bind Limit (page 502)	ldapTLSRequired (page 529)
LDAP Server Idle Timeout (page 503)	ldapTLSTrustedRootContainer (page 530)
LDAP SSL Port (page 505)	ldapTLSVerifyClientCertificate (page 531)
LDAP TCP Port (page 507)	searchSizeLimit (page 718)
LDAP UDP Port (page 508)	searchTimeLimit (page 719)
LDAP:bindCatalog (page 509)	Version (page 767)
LDAP:bindCatalogUsage (page 510)	

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

List

Represents an unordered set of names in the eDirectory tree.

Type: Effective

NDS Operational: Yes

ASN.1 ID

2.16.840.1.113719.1.1.6.1.30

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	List
Containment	domain (page 114)	List
	Organization (page 198)	List
	Organizational Unit (page 206)	List
Named By	CN (Common Name) (page 372)	List

Mandatory Attributes

List	Inherited from Top
CN (Common Name) (page 372)	Object Class (page 648)

Optional Attributes

List

Description (page 381)	Member (page 566)
EEmail Address (page 424)	O (Organization Name) (page 644)
Full Name (page 439)	OU (Organizational Unit Name) (page 653)
L (Locality Name) (page 474)	Owner (page 655)
Mailbox ID (page 548)	See Also (page 722)
Mailbox Location (page 549)	

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)
[Root]	Read	Member	List

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

Member contains the names of the objects that are members of the list. The members can be individual objects (including Group objects) or the names of other List objects.

Unlike Group membership, List membership does not imply security equivalence.

Locality

Defines geographic locations in the eDirectory tree.

Type: Effective

NDS Operational: Yes

LDAP Name

locality

ASN.1 ID

2.5.6.3

Class Flags

Class Flags	Setting
Container	On
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Locality
Containment	Country (page 90)	Locality
	domain (page 114)	Locality
	Locality (page 146)	Locality
	Organization (page 198)	Locality
	Organizational Unit (page 206)	Locality
Named By	L (Locality Name) (page 474)	Locality
	S (State or Province Name) (page 708)	Locality

Mandatory Attributes

Locality	Inherited from Top
(None)	Object Class (page 648)

Optional Attributes

Locality	
Description (page 381)	SA (Street Address) (page 709)
L (Locality Name) (page 474)	searchGuide (page 717)
S (State or Province Name) (page 708)	See Also (page 722)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

At least one of the naming attributes, L (Locality Name) or S (State or Province Name), must be represented since these are included in the naming rules.

It is recommended that only an object contained by a country use a state or a province name as a naming attribute.

MASV:Security Policy

Defines the class that holds the MASV security policy.

Type: Effective

ASN.1 ID

2.16.840.1.113719.1.31.6.2.1

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	MASV:Security Policy
Containment	SAS:Security (page 234)	MASV:Security Policy
Named By	CN (Common Name) (page 372)	MASV:Security Policy

Mandatory Attributes

MASV:Security Policy	Inherited from Top
CN (Common Name) (page 372)	Object Class (page 648)

Optional Attributes

MASV:Security Policy
Description (page 381) masvDomainPolicy (page 556)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

Mandatory Access Control Service (MASV) uses access class labels. These labels represent the sensitivity of the information and the formal authorization of logged-in objects. Access class labels assigned to logged-in objects are called clearances or ranges. When these labels are assigned to resources (such as volumes or partitions), they are called classifications or security labels.

MASV makes use of both classifications and clearances to compute the access rights of a logged-in object to information stored in eDirectory objects and volumes. MASV works in conjunction with eDirectory ACLs and file system rights. All the security systems must allow access for an object to access the resource.

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

Message Routing Group

Represents a group (or cluster) of messaging servers that have direct connectivity for transferring messages between any two of them.

Type: Effective

NDS Operational: Yes

ASN.1 ID

2.16.840.1.113719.1.1.6.1.28

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Group (page 134)
	Group (page 134)	Message Routing Group
Containment	domain (page 114)	Group (page 134)
	Organization (page 198)	Group (page 134)
	Organizational Unit (page 206)	Group (page 134)
Named By	CN (Common Name) (page 372)	Group (page 134)

Mandatory Attributes

Message Routing Group	Inherited from Top	Inherited from Group
(None)	Object Class (page 648)	CN (Common Name) (page 372)

Optional Attributes

Message Routing Group

(None)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Inherited from Group

Description (page 381)	Member (page 566)
EMail Address (page 424)	O (Organization Name) (page 644)
Full Name (page 439)	OU (Organizational Unit Name) (page 653)
GID (Group ID) (page 442)	Owner (page 655)
L (Locality Name) (page 474)	Profile (page 689)
Login Script (page 544)	Profile Membership (page 690)
Mailbox ID (page 548)	See Also (page 722)
Mailbox Location (page 549)	

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)
[Self]	Read	[All Attributes]	Message Routing Group
[Self]	Browse	[Entry Rights]	Message Routing Group

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

The Member attribute (inherited from Group) lists the messaging servers that belong to the Message Routing Group.

The Owner attribute (inherited from Group) contains the name of the postmaster general of the messaging server’s message routing group. The owner has the authority to add a messaging server’s name to, or remove a messaging server’s name, from the Member list.

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

Messaging Server

Represents messaging servers (such as NetWare MHS servers).

Type: Effective

NDS Operational: Yes

ASN.1 ID

2.16.840.1.113719.1.1.6.1.27

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Server (page 239)
	Server (page 239)	Messaging Server
Containment	domain (page 114)	Server (page 239)
	Organization (page 198)	Server (page 239)
	Organizational Unit (page 206)	Server (page 239)
Named By	CN (Common Name) (page 372)	Server (page 239)

Mandatory Attributes

Messaging Server	Inherited from Top	Inherited from Server
(None)	Object Class (page 648)	CN (Common Name) (page 372)

Optional Attributes

Messaging Server

Message Routing Group (page 570)	Postmaster (page 679)
Messaging Database Location (page 572)	Supported Gateway (page 734)
Messaging Server Type (page 574)	Supported Services (page 735)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Inherited from Server

Account Balance (page 330)	Private Key (page 688)
Allow Unlimited Credit (page 332)	Public Key (page 692)
Description (page 381)	Resource (page 703)
Full Name (page 439)	Security Equals (page 720)
Host Device (page 458)	Security Flags (page 721)
L (Locality Name) (page 474)	See Also (page 722)
masvAuthorizedRange (page 553)	Status (page 730)
masvDefaultRange (page 555)	SvcInfo (page 949)
masvProposedLabel (page 565)	SvcType (page 950)
Minimum Account Balance (page 575)	SvcTypeID (page 951)
Network Address (page 604)	User (page 758)
O (Organization Name) (page 644)	Version (page 767)
OU (Organizational Unit Name) (page 653)	

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)
[Public]	Read	Network Address	Server (page 239)
[Self]	Supervisor	[Entry Rights]	Server (page 239)
[Self]	Read/Write	Status	Messaging Server
[Self]	Browse	[Entry Rights]	Messaging Server
[Self]	Read	[All Attributes]	Messaging Server
[Public]	Read	Messaging Server Type	Messaging Server
[Public]	Read	Messaging Database Location	Messaging Server

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

A MHS messaging server picks up messages, which are either submitted by messaging applications (for example, E-mail) or transferred from another messaging server, and delivers them to the recipients. For recipients whose mailboxes are local on the messaging server, the messages are delivered to their mailboxes. Otherwise, the messaging server transfers the messages to another messaging server for eventual delivery to the recipient’s mailbox.

A MHS messaging server runs as mhs.nlm on a NetWare server. There is no limit to the number of mailboxes it serves, except that mailboxes take up disk space.

A MHS messaging server is represented by a eDirectory leaf object whose object class is Messaging Server.

The Host Device attribute (inherited from Server) identifies the NCP Server on which the messaging server’s software runs.

The Message Routing Group attribute names the message routing groups to which the messaging server belongs.

The Messaging Database Location attribute names the volume and path (such as sys:mhs) on which the message directory resides. MHS messaging servers use a file system subtree to (1) receive messages from applications, other messaging servers and gateways, (2) store messages while they are being routed, (3) store internal control files, and (4) to extract files.

The Messaging Server Type attribute identifies the type of the Messaging Server object (for example, MHS, GMHS, X400).

The Postmaster attribute specifies one or more users who have the privileges to manage the messaging server, such as privileges to remove a mailbox. Postmasters also receive messages about special events in the messaging server, such as messages not being processed.

The Supported Gateway attribute specifies the messaging gateways that are connected through the messaging server. It provides messaging connectivity between the MHS messaging system and foreign messaging systems.

The Supported Services attribute indicates the messaging capabilities of the server.

The User attribute (inherited from Server) contains a list users whose mailboxes are serviced by the messaging server. Any effective object that has the Mailbox ID and Mailbox Location attributes is a valid value for this list.

Adding an object to the User list has the same effect as assigning values to the object's Mailbox Location and Mailbox ID attributes. An administrator can give an object a mailbox by either means.

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

NCP Server

Represents servers that provide NCP transport and session services.

Type: Effective

NDS Operational: Yes

LDAP Name

ncpServer

ASN.1 ID

2.16.840.1.113719.1.1.6.1.10

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Server (page 239)
	Server (page 239)	NCP Server
Containment	domain (page 114)	Server (page 239)
	Organization (page 198)	Server (page 239)
	Organizational Unit (page 206)	Server (page 239)
Named By	CN (Common Name) (page 372)	Server (page 239)

Mandatory Attributes

NCP Server	Inherited from Top	Inherited from Server
	Object Class (page 648)	CN (Common Name) (page 372)

Optional Attributes

NCP Server	
cACertificate (page 358)	NDSPKI:Public Key (page 594)
DS Revision (page 423)	NDSPKI:SD Key ID (page 597)
LDAP Server (page 501)	NDSPKI:SD Key Struct (page 599)
Messaging Server (page 573)	NLS:License Service Provider (page 873)
NDSCat:Catalog List (page 848)	Operator (page 650)
NDSCat:Max Threads (page 858)	Permanent Config Params (page 670)
NDSCat:Synch Interval (page 864)	SLP Directory Agent DN (page 935)
NDSPKI:Certificate Chain (page 584)	SAS:Service DN (page 716)
NDSPKI:Parent CA DN (page 592)	Supported Services (page 735)
NDSPKI:Private Key (page 593)	
Inherited from Top	
ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Inherited from Server

Account Balance (page 330)	Private Key (page 688)
Allow Unlimited Credit (page 332)	Public Key (page 692)
Description (page 381)	Resource (page 703)
Full Name (page 439)	Security Equals (page 720)
Host Device (page 458)	Security Flags (page 721)
L (Locality Name) (page 474)	See Also (page 722)
masvAuthorizedRange (page 553)	Status (page 730)
masvDefaultRange (page 555)	SvcInfo (page 949)
masvProposedLabel (page 565)	SvcType (page 950)
Minimum Account Balance (page 575)	SvcTypeID (page 951)
Network Address (page 604)	User (page 758)
O (Organization Name) (page 644)	Version (page 767)
OU (Organizational Unit Name) (page 653)	

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)
[Public]	Read	Network Address	Server (page 239)
[Self]	Supervisor	[Entry Rights]	Server (page 239)
[Public]	Read	Messaging Server	NCP Server

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

Individual services on an NCP server do not need distinct eDirectory names, since they can all share a common NCP session. However, individual resources on a server may require distinct eDirectory entries. For example, if a server supports file services and queue management services, that server will have only one object in the eDirectory tree for the server itself. Other eDirectory entries would denote the individual queues and the volumes for files.

The Supported Services attribute lists NCP-based services or features available at this network address. It should not be used to list other non-NCP services residing on the same host.

The Operator attribute is used by the NCP server as an ACL. If an object is listed in this attribute, that object is allowed to perform remote-console operations.

The NCP Server class is intended to represent both bindery-based and eDirectory-based NCP servers. The Version attribute (inherited from Server) should distinguish one type of server from the other

The Private Key and Public Key attributes are present if the server is a client of eDirectory authentication services. The Resource attribute contains a list of resources managed by this service.

The User attribute contains a list of objects that are authorized to use this server. The server must determine if the user list is to be maintained by an administrator, or if the list is automatically generated by the server. If the user list is used by the server as an ACL, the administrator usually maintains the list. If the user list is purely informational, reflecting access control information stored elsewhere, the server usually maintains the list.

The LDAP server maps requests for the ncpServer class to this class.

ndsContainerLoginProperties

Contains a set of login-related attributes to be managed at the parent container level, rather than the object level.

Added: NDS 8.5

LDAP Name

ndsContainerLoginProperties

ASN.1 ID

2.16.840.1.113719.1.1.6.1.34

Class Flags

Class Flags	Setting
Container	Off
Effective	Off
Nonremovable	On
Ambiguous Naming	On
Ambiguous Container	On
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top	ndsContainerLoginProperties
Containment	(None)	ndsContainerLoginProperties
Named By	(None)	ndsContainerLoginProperties

Mandatory Attributes

NdsContainerLoginProperties	Inherited from Top
(None)	Object Class (page 648)

Optional Attributes

NdsContainerLoginProperties

Login Intruder Limit (page 541)	Lockout After Detection (page 533)
Intruder Attempt Reset Interval (page 468)	Intruder Lockout Reset Interval (page 469)
Detect Intruder (page 384)	

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top

Remarks

For help in understanding the class definition template, see “[Reading Class Definitions](#)” on page 29.

ndsLoginProperties

Contains all the attributes that are required by objects who log in to the eDirectory tree.

Type: Noneffective

NDS Operational: Yes

ASN.1 ID

2.16.840.1.113719.1.1.6.1.33

Class Flags

Class Flags	Setting
Container	Off
Effective	Off
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	ndsLoginProperties
Containment	(None)	ndsLoginProperties
Named By	(None)	ndsLoginProperties

Mandatory Attributes

ndsLoginProperties	Inherited from Top
(None)	Object Class (page 648)

Optional Attributes

ndsLoginProperties

Account Balance (page 330)	Minimum Account Balance (page 575)
Allow Unlimited Credit (page 332)	Network Address (page 604)
Group Membership (page 444)	Network Address Restriction (page 605)
Higher Privileges (page 447)	Password Allow Change (page 661)
Language (page 476)	Password Expiration Interval (page 662)
Last Login Time (page 477)	Password Expiration Time (page 663)
Locked By Intruder (page 532)	Password Minimum Length (page 665)
Login Allowed Time Map (page 534)	Password Required (page 666)
Login Disabled (page 535)	Password Unique Required (page 667)
Login Expiration Time (page 536)	Passwords Used (page 668)
Login Grace Limit (page 537)	Private Key (page 688)
Login Grace Remaining (page 538)	Profile (page 689)
Login Intruder Address (page 539)	Profile Membership (page 690)
Login Intruder Attempts (page 540)	Public Key (page 692)
Login Intruder Reset Time (page 542)	Security Equals (page 720)
Login Maximum Simultaneous (page 543)	Security Flags (page 721)
Login Script (page 544)	Server Holds (page 725)
Login Time (page 545)	Timezone (page 745)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

ndsPredicateStats

Contains information on search filters to assist in the creation of indexes.

Added: NDS eDirectory 8.5

LDAP Name

ndsPredicateStats

ASN.1 ID

2.16.840.1.113719.1.27.6.3

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top	ndsPredicateStats
Containment	Country	ndsPredicateStats
	domain	ndsPredicateStats
	Locality	ndsPredicateStats
	Organization	ndsPredicateStats
	Organizational Unit	ndsPredicateStats
Named By	CN	ndsPredicateStats

Mandatory Attributes

ndsPredicateStats	Inherited from Top
CN (Common Name) (page 372)	Object Class (page 648)
ndsPredicateState (page 579)	
ndsPredicateFlush (page 580)	

Optional Attributes

ndsPredicateStats	
ndsPredicate (page 578)	ndsPredicateUseValues (page 582)
ndsPredicateTimeout (page 581)	

Inherited from Top	
ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top

NDSPKI:Certificate Authority

Defines the certificate authority (CA) for the eDirectory tree.

Type: Effective

ASN.1 ID

2.16.840.1.113719.1.48.6.1.1

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	NDSPKI:Certificate Authority
Containment	SAS:Security (page 234)	NDSPKI:Certificate Authority
Named By	CN (Common Name) (page 372)	NDSPKI:Certificate Authority

Mandatory Attributes

NDSPKI:Certificate Authority	Inherited from Top
CN (Common Name) (page 372)	Object Class (page 648)

Optional Attributes

NDSPKI:Certificate Authority

Host Server (page 460)	NDSPKI:Private Key (page 593)
NDSPKI:Certificate Chain (page 584)	NDSPKI:Public Key (page 594)
NDSPKI:Parent CA (page 591)	NDSPKI:Public Key Certificate (page 595)
NDSPKI:Parent CA DN (page 592)	NDSPKI:Subject Name (page 600)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

Certificate authorities issue public/private key pairs and public key certificates.

The Host Server attribute contains the distinguished name of the NCP server that hosts the certificate authority service.

This attribute was added for NetWare 5. NDS 8 replaces this class with the pkiCA class.

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

NDSPKI:Key Material

Defines the object that holds public/private key pairs and a public key certificate for an NCP Server object.

Type: Effective

ASN.1 ID

2.16.840.1.113719.1.48.6.1.2

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	NDSPKI:Key Material
Containment	Organization (page 198)	NDSPKI:Key Material
	Organizational Unit (page 206)	NDSPKI:Key Material
	SAS:Security (page 234)	NDSPKI:Key Material
Named By	CN (Common Name) (page 372)	NDSPKI:Key Material

Mandatory Attributes

NDSPKI:Key Material	Inherited from Top
CN (Common Name) (page 372)	Object Class (page 648)

Optional Attributes

NDSPKI:Key Material

Host Server (page 460)	NDSPKI:Private Key (page 593)
NDSPKI:Certificate Chain (page 584)	NDSPKI:Public Key (page 594)
NDSPKI:Given Name (page 585)	NDSPKI:Public Key Certificate (page 595)
NDSPKI:Key File (page 586)	NDSPKI:Subject Name (page 600)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

An NCP Server object can have multiple NDSPKI:Key Material objects. One should be created for each service that needs one. Each service should have its own so that if the key pair is broken for one service, the other service is not compromised.

The service that is using a NDSPKI:Key Material object must run on the same NCP server that created the NDSPKI:Key Material object. NDSPKI:Key Material objects cannot be shared across servers.

The Host Server attribute identifies the NCP Server object to which the NDSPKI:Key Material object belongs.

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

NDSPKI:SD Key Access Partition

Defines the object that contains security domain key objects.

Type: Effective

ASN.1 ID

2.16.840.1.113719.1.48.6.1.101

Class Flags

Class Flags	Setting
Container	On
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	NDSPKI:SD Key Access Partition
Containment	SAS:Security (page 234)	NDSPKI:SD Key Access Partition
Named By	CN (Common Name) (page 372)	NDSPKI:SD Key Access Partition

Mandatory Attributes

NDSPKI:SD Key Access Partition	Inherited from Top
CN (Common Name) (page 372)	Object Class (page 648)

Optional Attributes

NDSPKI:SD Key Access Partition
(None)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

NDSPKI:SD Key List

Defines the object that holds information about a security domain key.

Type: Effective

ASN.1 ID

2.16.840.1.113719.1.48.6.1.102

Class Flags

Class Flags	Setting
Container	On
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	NDSPKI:SD Key List
Containment	NDSPKI:SD Key Access Partition (page 173)	NDSPKI:SD Key List
Named By	CN (Common Name) (page 372)	NDSPKI:SD Key List

Mandatory Attributes

NDSPKI:SD Key List	Inherited from Top
CN (Common Name) (page 372)	Object Class (page 648)

Optional Attributes

NDSPKI:SD Key List

NDSPKI:SD Key Cert (page 596)	NDSPKI:SD Key Struct (page 599)
NDSPKI:SD Key Server DN (page 598)	

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

NDSPKI:Trusted Root

Defines the object that contains trusted root certificate objects.

Type: Effective

ASN.1 ID

2.16.840.1.113719.1.48.6.1.3

Class Flags

Class Flags	Setting
Container	On
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	NDSPKI:Trusted Root
Containment	Country (page 90)	NDSPKI:Trusted Root
	Locality (page 146)	NDSPKI:Trusted Root
	Organization (page 198)	NDSPKI:Trusted Root
	Organizational Unit (page 206)	NDSPKI:Trusted Root
	SAS:Security (page 234)	NDSPKI:Trusted Root
Named By	CN (Common Name) (page 372)	NDSPKI:Trusted Root

Mandatory Attributes

NDSPKI:Trusted Root	Inherited from Top
CN (Common Name) (page 372)	Object Class (page 648)

Optional Attributes

NDSPKI:Trusted Root

(None)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

NDSPKI:Trusted Root Object

Defines an object that holds a trusted root certificate from a Certificate Authority that is trusted.

Type: Effective

ASN.1 ID

2.16.840.1.113719.1.48.6.1.4

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	NDSPKI:Trusted Root Object
Containment	NDSPKI:Trusted Root (page 177)	NDSPKI:Trusted Root Object
Named By	CN (Common Name) (page 372)	NDSPKI:Trusted Root Object

Mandatory Attributes

NDSPKI:Trusted Root Object	Inherited from Top
CN (Common Name) (page 372)	Object Class (page 648)
NDSPKI:Trusted Root Certificate (page 602)	

Optional Attributes

NDSPKI:Trusted Root Object

Cross Certificate Pair (page 376)	NDSPKI:Not Before (page 590)
Given Name (page 443)	NDSPKI:Subject Name (page 600)
External Name (page 431)	Surname (page 737)
NDSPKI:Not After (page 589)	

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see “[Reading Class Definitions](#)” on page 29.

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

NSCP:groupOfCertificates

Represents a group of certificates used by Netscape products.

Type: Effective

LDAP Name

groupOfCertificates

ASN.1 ID

2.16.840.1.113730.3.2.31

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	NSCP:groupOfCertificates
Containment	Country (page 90)	NSCP:groupOfCertificates
	Locality (page 146)	NSCP:groupOfCertificates
	Organization (page 198)	NSCP:groupOfCertificates
	Organizational Unit (page 206)	NSCP:groupOfCertificates
Named By	CN (Common Name) (page 372)	NSCP:groupOfCertificates

Mandatory Attributes

NSCP:groupOfCertificates	Inherited from Top
CN (Common Name) (page 372)	Object Class (page 648)

Optional Attributes

NSCP:groupOfCertificates

businessCategory (page 356)	OU (Organizational Unit Name) (page 653)
Description (page 381)	Owner (page 655)
NSCP:memberCertificateDesc (page 631)	See Also (page 722)
O (Organization Name) (page 644)	

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

NSCP:mailGroup1

Represents a Netscape mail group.

Type: Effective

LDAP Name

rfc822mailGroup

ASN.1 ID

2.16.840.1.113730.3.2.4

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Group (page 134)
	Group (page 134)	NSCP:mailGroup1
Containment	Country (page 90)	NSCP:mailGroup1
	Locality (page 146)	NSCP:mailGroup1
	Organization (page 198)	NSCP:mailGroup1
	Organizational Unit (page 206)	NSCP:mailGroup1
Named By	CN (Common Name) (page 372)	Group (page 134)

Mandatory Attributes

NSCP:mailGroup1	Inherited from Top	Inherited from Group
	Object Class (page 648)	CN (Common Name) (page 372)

Optional Attributes

NSCP:mailGroup1

Internet EMail Address (page 467)	NSCP:mgrpRFC822mailmember (page 632)
NSCP:mailAlternateAddress (page 896)	NSCP:mailAlternateAddress (page 896)
NSCP:mailForwardingAddress (page 900)	NSCP:mailForwardingAddress (page 900)
NSCP:mailHost (page 901)	NSCP:mailHost (page 901)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Inherited from Group

Description (page 381)	Member (page 566)
EMail Address (page 424)	O (Organization Name) (page 644)
Full Name (page 439)	OU (Organizational Unit Name) (page 653)
GID (Group ID) (page 442)	Owner (page 655)
L (Locality Name) (page 474)	Profile (page 689)
Login Script (page 544)	Profile Membership (page 690)
Mailbox ID (page 548)	See Also (page 722)
Mailbox Location (page 549)	

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

In NDS 8, LDAP adds this class for Netscape support. For more information, see the documentation for the Netscape SuiteSpot schema.

This class was redefined for NDS 8 because the NSCP:mailGroup5 class has restricted containment.

NSCP:mailRecipient

Defines a Netscape auxiliary class for users of Netscape mail.

Type: Auxiliary Class

LDAP Name

mailRecipient

ASN.1 ID

2.16.840.1.113730.3.2.3

Class Flags

Class Flags	Setting
Container	Off
Effective	Off
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	On

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	(None)	NSCP:mailRecipient
Containment	(None)	NSCP:mailRecipient
Named By	(None)	NSCP:mailRecipient

Mandatory Attributes

NSCP:mailRecipient
(None)

Optional Attributes

NSCP:mailRecipient

NSCP:mailAccessDomain (page 895)	NSCP:mailForwardingAddress (page 900)
NSCP:mailAlternateAddress (page 896)	NSCP:mailHost (page 901)
NSCP:mailAutoReplyMode (page 897)	NSCP:mailMessageStore (page 902)
NSCP:mailAutoReplyText (page 898)	NSCP:mailProgramDeliveryInfo (page 903)
NSCP:mailDeliveryOption (page 899)	NSCP:mailQuota (page 904)

Default ACL Template

None

Remarks

For help in understanding the class definition template, see “[Reading Class Definitions](#)” on page 29.

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

NSCP:NetscapeMailServer5

Represents a Netscape mail server.

Type: Effective

LDAP Name

netscapeMailServer

ASN.1 ID

2.16.840.1.113730.3.2.24

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Server (page 239)
	Server (page 239)	NSCP:NetscapeServer5 (page 191)
	NSCP:NetscapeServer5 (page 191)	NSCP:NetscapeMailServer5
Containment	NSCP:NetscapeServer5 (page 191)	NSCP:NetscapeMailServer5
Named By	CN (Common Name) (page 372)	Server (page 239)

Mandatory Attributes

NSCP:NetscapeMailServer5	Inherited from Top	Inherited from Server	Inherited from NCSP:NetscapeServer5
(None)	Object Class (page 648)	CN (Common Name) (page 372)	(None)

Optional Attributes

NSCP:NetscapeMailServer5

(None)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Inherited from Server

Account Balance (page 330)	Public Key (page 692)
Allow Unlimited Credit (page 332)	Resource (page 703)
Description (page 381)	Security Equals (page 720)
Full Name (page 439)	Security Flags (page 721)
Host Device (page 458)	See Also (page 722)
L (Locality Name) (page 474)	Status (page 730)
Minimum Account Balance (page 575)	SvcInfo (page 949)
Network Address (page 604)	SvcType (page 950)
O (Organization Name) (page 644)	SvcTypeID (page 951)
OU (Organizational Unit Name) (page 653)	User (page 758)
Private Key (page 688)	Version (page 767)

Inherited from NSCP:NetscapeServer5

NSCP:adminURL (page 614)	NSCP:serverProductName (page 640)
NSCP:administratorContactInfo (page 613)	NSCP:serverRoot (page 641)
NSCP:installationTimeStamp (page 629)	NSCP:serverVersionNumber (page 642)
NSCP:serverHostName (page 639)	

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)
[Public]	Read	Network Address	Server (page 239)
[Self]	Supervisor	[Entry Rights]	Server (page 239)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

LDAP added this class for Netscape support. For more information, see the documentation for the Netscape schema.

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

NSCP:NetscapeServer5

Represents a Netscape server.

Type: Effective

LDAP Name

netscapeServer

ASN.1 ID

2.16.840.1.113730.3.2.10

Class Flags

Class Flags	Setting
Container	On
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Server (page 239)
	Server (page 239)	NSCP:NetscapeServer5
Containment	Country (page 90)	NSCP:NetscapeServer5
	Locality (page 146)	NSCP:NetscapeServer5
	Organization (page 198)	NSCP:NetscapeServer5
	Organizational Unit (page 206)	NSCP:NetscapeServer5
Named By	CN (Common Name) (page 372)	Server (page 239)

Mandatory Attributes

NSCP:NetscapeServer5	Inherited from Top	Inherited from Server (Class)
	Object Class (page 648)	CN (Common Name) (page 372)

Optional Attributes

NSCP:NetscapeServer5

NSCP:adminURL (page 614)	NSCP:serverProductName (page 640)
NSCP:administratorContactInfo (page 613)	NSCP:serverRoot (page 641)
NSCP:installationTimeStamp (page 629)	NSCP:serverVersionNumber (page 642)
NSCP:serverHostName (page 639)	

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Inherited from Server

Account Balance (page 330)	Public Key (page 692)
Allow Unlimited Credit (page 332)	Resource (page 703)
Description (page 381)	Security Equals (page 720)
Full Name (page 439)	Security Flags (page 721)
Host Device (page 458)	See Also (page 722)
L (Locality Name) (page 474)	Status (page 730)
Minimum Account Balance (page 575)	SvcInfo (page 949)
Network Address (page 604)	SvcType (page 950)
O (Organization Name) (page 644)	SvcTypeID (page 951)
OU (Organizational Unit Name) (page 653)	User (page 758)
Private Key (page 688)	Version (page 767)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)
[Public]	Read	Network Address	Server (page 239)
[Self]	Supervisor	[Entry Rights]	Server (page 239)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

LDAP adds this class for Netscape support. For more information, see the documentation for the Netscape schema.

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

NSCP:nginfo3

Represents a Netscape class.

Type: Effective

LDAP Name

nginfo

ASN.1 ID

2.16.840.1.113730.3.2.26

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	NSCP:nginfo3
Containment	Country (page 90)	NSCP:nginfo3
	Country (page 90)	NSCP:nginfo3
	Organization (page 198)	NSCP:nginfo3
	Organizational Unit (page 206)	NSCP:nginfo3
Named By	NSCP:ngComponent (page 905)	NSCP:nginfo3

Mandatory Attributes

NSCP:nginfo3	Inherited from Top
NSCP:ngComponent (page 905)	Object Class (page 648)

Optional Attributes

NSCP:nginfo3

NSCP:nsaclrole (page 634)	NSCP:nsnewsACL (page 637)
NSCP:nscreator (page 635)	NSCP:nsprettyname (page 638)
NSCP:nsflags (page 636)	NSCP:subtreeACL (page 643)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

In NDS 8, LDAP adds this class for Netscape support. For more information, see the documentation for the Netscape schema.

This class was redefined for NDS 8 because the NSCP:Nginfo2 class uses the wrong naming attribute and has restricted containment.

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

NSCP:nsLicenseUser

Defines an auxiliary class for users who license Netscape products.

Type: Auxiliary Class

LDAP Name

nsLicenseUser

ASN.1 ID

2.16.840.1.113730.3.2.7

Class Flags

Class Flags	Setting
Container	Off
Effective	Off
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	On

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	(None)	NSCP:nsLicenseUser
Containment	(None)	NSCP:nsLicenseUser
Named By	(None)	NSCP:nsLicenseUser

Mandatory Attributes

NSCP:nsLicenseUser
(None)

Optional Attributes

NSCP:nsLicenseUser

[NSCP:nsLicenseEndTime \(page 906\)](#)

[NSCP:nsLicensedFor \(page 907\)](#)

[NSCP:nsLicenseStartTime \(page 908\)](#)

Default ACL Template

None

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions”](#) on page 29.

Organization

Defines organization objects in the eDirectory tree.

Type: Effective

NDS Operational: Yes

LDAP Name

organization

ASN.1 ID

2.5.6.4

Class Flags

Class Flags	Setting
Container	On
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	ndsLoginProperties (page 163)
	ndsLoginProperties (page 163)	Organization
Containment	Country (page 90)	Organization
	domain (page 114)	Organization
	Locality (page 146)	Organization
	Top (page 249)	Orgainization
	Tree Root (page 251)	Orgainization
	(Nothing)	Organization
Named By	O (Organization Name) (page 644)	Organization

Mandatory Attributes

Organization	Inherited from Top	Inherited from ndsLoginProperties
O (Organization Name) (page 644)	Object Class (page 648)	(None)

Optional Attributes

Organization	
Description (page 381)	NDPS Default Printer (page 816)
Detect Intruder (page 384)	NDPS Default Public Printer (page 817)
EMail Address (page 424)	NDPS Printer Install List (page 821)
Facsimile Telephone Number (page 433)	NDPS Printer Install Timestamp (page 822)
Intruder Attempt Reset Interval (page 468)	NDPS Public Printer Install List (page 825)
Intruder Lockout Reset Interval (page 469)	NDPS Replace All Client Printers (page 826)
L (Locality Name) (page 474)	NNS Domain (page 610)
LDAPUserCertificate (page 801)	Physical Delivery Office Name (page 674)
LDAP:ARL (page 802)	Postal Address (page 675)
LDAP:caCertificate (page 803)	Postal Code (page 677)
LDAP:CRL (page 804)	Postal Office Box (page 678)
LDAP:crossCertificatePair (page 805)	Print Job Configuration (page 683)
Lockout After Detection (page 533)	Printer Control (page 687)
Login Intruder Limit (page 541)	S (State or Province Name) (page 708)
Login Script (page 544)	SA (Street Address) (page 709)
Mailbox ID (page 548)	See Also (page 722)
Mailbox Location (page 549)	Telephone Number (page 742)
NDPS Control Flags (page 812)	
Inherited from Top	
ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Inherited from ndsLoginProperites

Account Balance (page 330)	Minimum Account Balance (page 575)
Allow Unlimited Credit (page 332)	Network Address (page 604)
Group Membership (page 444)	Network Address Restriction (page 605)
Higher Privileges (page 447)	Password Allow Change (page 661)
Language (page 476)	Password Expiration Interval (page 662)
Last Login Time (page 477)	Password Expiration Time (page 663)
Locked By Intruder (page 532)	Password Minimum Length (page 665)
Login Allowed Time Map (page 534)	Password Required (page 666)
Login Disabled (page 535)	Password Unique Required (page 667)
Login Expiration Time (page 536)	Passwords Used (page 668)
Login Grace Limit (page 537)	Private Key (page 688)
Login Grace Remaining (page 538)	Profile (page 689)
Login Intruder Address (page 539)	Profile Membership (page 690)
Login Intruder Attempts (page 540)	Public Key (page 692)
Login Intruder Reset Time (page 542)	Security Equals (page 720)
Login Maximum Simultaneous (page 543)	Security Flags (page 721)
Login Script (page 544)	Server Holds (page 725)
Login Time (page 545)	Timezone (page 745)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)
[Self]	Read	Login Script	Organization
[Self]	Read	Print Job Configuration	Organization

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

Organization might appear as the topmost object in an eDirectory tree, or it might be subordinate to Tree Root, Country, or Locality. Top is a special object and never appears as an object in an eDirectory tree.

An organization located directly under the root denotes an international organization. For international organizations, the values of the O (Organization Name) attribute must all be distinct.

Organizational Person

Defines objects representing people employed by, or in some other important way associated with, an organization.

Type: Effective

NDS Operational: Yes

LDAP Name

organizationalPerson

ASN.1 ID

2.5.6.7

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	ndsLoginProperties (page 163)
	ndsLoginProperties (page 163)	Person (page 212)
	Person (page 212)	Organizational Person
Containment	domain (page 114)	Organizational Person
	Organization (page 198)	Organizational Person
	Organizational Unit (page 206)	Organizational Person
Named By	CN (Common Name) (page 372)	Organizational Person
	uniqueID (page 753)	Organizational Person
	OU (Organizational Unit Name) (page 653)	Organizational Person

Mandatory Attributes

Organizational Person	Inherited from Top	Inherited from ndsLoginProperties	Inherited from Person
(None)	Object Class (page 648)	(None)	CN (Common Name) (page 372) Surname (page 737)

Optional Attributes

Organizational Person

businessCategory (page 356)	Postal Office Box (page 678)
destinationIndicator (page 383)	preferredDeliveryMethod (page 680)
EMail Address (page 424)	registeredAddress (page 700)
Facsimile Telephone Number (page 433)	roomNumber (page 706)
internationaliSDNNumber (page 466)	S (State or Province Name) (page 708)
L (Locality Name) (page 474)	SA (Street Address) (page 709)
Mailbox ID (page 548)	telexNumber (page 743)
Mailbox Location (page 549)	telexTerminalIdentifier (page 744)
OU (Organizational Unit Name) (page 653)	Title (page 746)
Physical Delivery Office Name (page 674)	uniqueID (page 753)
Postal Address (page 675)	x121Address (page 776)
Postal Code (page 677)	x500UniqueIdentifier (page 777)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Inherited from ndsLoginProperites

Account Balance (page 330)	Minimum Account Balance (page 575)
Allow Unlimited Credit (page 332)	Network Address (page 604)
Group Membership (page 444)	Network Address Restriction (page 605)
Higher Privileges (page 447)	Password Allow Change (page 661)
Language (page 476)	Password Expiration Interval (page 662)
Last Login Time (page 477)	Password Expiration Time (page 663)
Locked By Intruder (page 532)	Password Minimum Length (page 665)
Login Allowed Time Map (page 534)	Password Required (page 666)
Login Disabled (page 535)	Password Unique Required (page 667)
Login Expiration Time (page 536)	Passwords Used (page 668)
Login Grace Limit (page 537)	Private Key (page 688)
Login Grace Remaining (page 538)	Profile (page 689)
Login Intruder Address (page 539)	Profile Membership (page 690)
Login Intruder Attempts (page 540)	Public Key (page 692)
Login Intruder Reset Time (page 542)	Security Equals (page 720)
Login Maximum Simultaneous (page 543)	Security Flags (page 721)
Login Script (page 544)	Server Holds (page 725)
Login Time (page 545)	Timezone (page 745)

Inherited from Person

Description (page 381)	Initials (page 465)
Full Name (page 439)	See Also (page 722)
Generational Qualifier (page 440)	Telephone Number (page 742)
Given Name (page 443)	

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

The X.500 standard defines two subclasses of person: Organizational Person and Residential Person. The schema defined by this document does not include Residential Person, but the division of Person from Organizational Person has been maintained for future compatibility with X.500.

Organizational Role

Defines a position or role within an organization.

Type: Effective

NDS Operational: Yes

LDAP Name

organizationalRole

ASN.1 ID

2.5.6.8

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Organizational Role
Containment	domain (page 114)	Organizational Role
	Organization (page 198)	Organizational Role
	Organizational Unit (page 206)	Organizational Role
Named By	CN (Common Name) (page 372)	Organizational Role

Mandatory Attributes

Organizational Role	Inherited from Top
CN (Common Name) (page 372)	Object Class (page 648)

Optional Attributes

Organizational Role

Description (page 381)	Postal Address (page 675)
EEmail Address (page 424)	Postal Code (page 677)
Facsimile Telephone Number (page 433)	Postal Office Box (page 678)
L (Locality Name) (page 474)	Role Occupant (page 705)
Mailbox ID (page 548)	S (State or Province Name) (page 708)
Mailbox Location (page 549)	SA (Street Address) (page 709)
OU (Organizational Unit Name) (page 653)	See Also (page 722)
Physical Delivery Office Name (page 674)	Telephone Number (page 742)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

Normally, an organizational role is thought to be performed by a particular organizational person. Over its lifetime, however, an organizational role can be filled by a succession of different organizational people. In general, an organizational role can be filled by a person or a nonhuman entity.

The LDAP server maps requests for the organizationalRole class to this class.

Organizational Unit

Defines objects representing subdivisions of organizations.

Type: Effective

NDS Operational: Yes

LDAP Name

organizationalUnit

ASN.1 ID

2.5.6.5

Class Flags

Class Flags	Setting
Container	On
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	ndsLoginProperties (page 163)
	ndsLoginProperties (page 163)	Organizational Unit
Containment	domain (page 114)	Organizational Unit
	Locality (page 146)	Organizational Unit
	Organization (page 198)	Organizational Unit
	Organizational Unit (page 206)	Organizational Unit
Named By	OU (Organizational Unit Name) (page 653)	Organizational Unit

Mandatory Attributes

Organizational Unit	Inherited from Top	Inherited from ndsLoginProperties
OU (Organizational Unit Name) (page 653)	Object Class (page 648)	

Optional Attributes

Organizational Unit	
Description (page 381)	NDPS Printer Install List (page 821)
Detect Intruder (page 384)	NDPS Printer Install Timestamp (page 822)
EMail Address (page 424)	NDPS Public Printer Install List (page 825)
Entrust:AttributeCertificate (page 791)	NDPS Replace All Client Printers (page 826)
Facsimile Telephone Number (page 433)	Network Address (page 604)
Intruder Attempt Reset Interval (page 468)	NNS Domain (page 610)
Intruder Lockout Reset Interval (page 469)	Physical Delivery Office Name (page 674)
L (Locality Name) (page 474)	Postal Address (page 675)
Last Login Time (page 477)	Postal Code (page 677)
Lockout After Detection (page 533)	Postal Office Box (page 678)
Login Intruder Limit (page 541)	Print Job Configuration (page 683)
Login Time (page 545)	Printer Control (page 687)
Login Script (page 544)	Private Key (page 688)
Mailbox ID (page 548)	Public Key (page 692)
Mailbox Location (page 549)	S (State or Province Name) (page 708)
NDPS Control Flags (page 812)	SA (Street Address) (page 709)
NDPS Default Printer (page 816)	See Also (page 722)
NDPS Default Public Printer (page 817)	Telephone Number (page 742)
Inherited from Top	
ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Inherited from ndsLoginProperites

Account Balance (page 330)	Minimum Account Balance (page 575)
Allow Unlimited Credit (page 332)	Network Address (page 604)
Group Membership (page 444)	Network Address Restriction (page 605)
Higher Privileges (page 447)	Password Allow Change (page 661)
Language (page 476)	Password Expiration Interval (page 662)
Last Login Time (page 477)	Password Expiration Time (page 663)
Locked By Intruder (page 532)	Password Minimum Length (page 665)
Login Allowed Time Map (page 534)	Password Required (page 666)
Login Disabled (page 535)	Password Unique Required (page 667)
Login Expiration Time (page 536)	Passwords Used (page 668)
Login Grace Limit (page 537)	Private Key (page 688)
Login Grace Remaining (page 538)	Profile (page 689)
Login Intruder Address (page 539)	Profile Membership (page 690)
Login Intruder Attempts (page 540)	Public Key (page 692)
Login Intruder Reset Time (page 542)	Security Equals (page 720)
Login Maximum Simultaneous (page 543)	Security Flags (page 721)
Login Script (page 544)	Server Holds (page 725)
Login Time (page 545)	Timezone (page 745)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)
[Self]	Read	Print Job Configuration	Organizational Unit
[Self]	Read	Login Script	Organizational Unit

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions”](#) on page 29.

Partition

Encapsulates the information required to maintain the synchronization and connectivity of eDirectory distributed operation.

Type: Auxiliary

NDS Operational: Yes

ASN.1 ID

2.16.840.1.113719.1.1.6.1.15

Class Flags

Class Flags	Setting
Container	Off
Effective	Off
Nonremovable	On
Ambiguous Naming	On
Ambiguous Container	On
Auxiliary Class	On

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Partition
Containment	(none)	Partition and Top
Named By	(none)	Partition and Top

Mandatory Attributes

Partition	Inherited from Top
(None)	Object Class (page 648)

Optional Attributes

Partition

Authority Revocation (page 347)	Partition Control (page 658)
CA Private Key (page 359)	Partition Creation Time (page 659)
CA Public Key (page 360)	Partition Status (page 660)
Certificate Revocation (page 363)	Purge Vector (page 693)
Convergence (page 374)	Received Up To (page 698)
Cross Certificate Pair (page 376)	Replica (page 701)
High Convergence Sync Interval (page 446)	Replica Up To (page 702)
Inherited ACL (page 463)	SAS:Security DN (page 715)
Low Convergence Reset Time (page 546)	Synchronization Tolerance (page 738)
Low Convergence Sync Interval (page 547)	Synchronized Up To (page 739)
masvLabel (page 557)	TransitionGroupDN (page 748)
Obituary Notify (page 647)	

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

eDirectory automatically adds this class (and its required attributes) to the Root object of a partition. (This class is added in addition to the base class of the object, but does not change that base class.)

Most of the partition attributes are operational, so eDirectory can supply initial values for these attributes automatically.

The optional attributes, Authority Revocation, CA Private Key, CA Public Key, Certification Revocation, Convergence, and Cross Certificate Pair, were originally only in the Partition class. However, in the next eDirectory release, they were also added to the Top object class. Thus, they are now redundant in the Partition class because they are inherited from Top.

NDS 8 defines the Partition class as an auxiliary class. Previous versions of NDS define it as an effective class.

Person

Represents the common elements of organizational and residential persons.

Type: Effective

NDS Operational: Yes

LDAP Name

person

ASN.1 ID

2.5.6.6

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	ndsLoginProperties
	ndsLoginProperties	Person
Containment	domain (page 114)	Person
	Organization (page 198)	Person
	Organizational Unit (page 206)	Person
Named By	CN (Common Name) (page 372)	Person
	uniqueID (page 753)	Person

Mandatory Attributes

Person	Inherited from Top	Inherited from ndsLoginProperties
CN (Common Name) (page 372)	Object Class (page 648)	(None)
Surname (page 737)		

Optional Attributes

Person	
accessCardNumber (page 329)	jobCode (page 472)
assistant (page 333)	mailstop (page 550)
assistantPhone (page 334)	manager (page 551)
city (page 366)	mobile (page 576)
co (page 367)	otherPhoneNumber (page 652)
company (page 368)	pager (page 657)
costCenter (page 369)	personalTitle (page 672)
costCenterDescription (page 370)	photo (page 673)
departmentNumber (page 380)	preferredName (page 681)
Description (page 381)	roomNumber (page 706)
directReports (page 392)	See Also (page 722)
employeeStatus (page 427)	siteLocation (page 728)
employeeType (page 426)	S (State or Province Name) (page 708)
Full Name (page 439)	Surname (page 737)
Generational Qualifier (page 440)	Telephone Number (page 742)
Given Name (page 443)	tollFreePhoneNumber (page 747)
Initials (page 465)	uniqueID (page 753)
instantMessagingID (page 464)	vehicleInformation (page 763)
isManager (page 470)	workforceID (page 774)
jackNumber (page 471)	

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Inherited from ndsLoginProperites

Account Balance (page 330)	Minimum Account Balance (page 575)
Allow Unlimited Credit (page 332)	Network Address (page 604)
Group Membership (page 444)	Network Address Restriction (page 605)
Higher Privileges (page 447)	Password Allow Change (page 661)
Language (page 476)	Password Expiration Interval (page 662)
Last Login Time (page 477)	Password Expiration Time (page 663)
Locked By Intruder (page 532)	Password Minimum Length (page 665)
Login Allowed Time Map (page 534)	Password Required (page 666)
Login Disabled (page 535)	Password Unique Required (page 667)
Login Expiration Time (page 536)	Passwords Used (page 668)
Login Grace Limit (page 537)	Private Key (page 688)
Login Grace Remaining (page 538)	Profile (page 689)
Login Intruder Address (page 539)	Profile Membership (page 690)
Login Intruder Attempts (page 540)	Public Key (page 692)
Login Intruder Reset Time (page 542)	Security Equals (page 720)
Login Maximum Simultaneous (page 543)	Security Flags (page 721)
Login Script (page 544)	Server Holds (page 725)
Login Time (page 545)	Timezone (page 745)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

The X.500 standard defines two subclasses of person: Organizational Person and Residential Person. The schema defined by this document does not include Residential Person, but the division of Person from Organizational Person has been maintained for future compatibility with X.500.

pkiCA

Defines a certificate authority (CA) for the eDirectory tree.

Type: Auxiliary Class

LDAP Name

pkiCA

ASN.1 ID

2.5.6.22

Class Flags

Class Flags	Setting
Container	Off
Effective	Off
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	On

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	(None)	pkiCA
Containment	(None)	pkiCA
Named By	(None)	pkiCA

Mandatory Attributes

pkiCA
(None)

Optional Attributes

pkiCA

attributeCertificate (page 336)	Last Login Time (page 477)
authorityRevocationList (page 346)	Login Time (page 545)
cACertificate (page 358)	Network Address (page 604)
certificateRevocationList (page 362)	Private Key (page 688)
crossCertificatePair (page 371)	Public Key (page 692)

Default ACL Template

None

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

Certificate authorities issue public/private key pairs and public key certificates.

pkiUser

Defines a PKI user.

Type: Auxiliary Class

LDAP Name

pkiUser

ASN.1 ID

2.5.6.21

Class Flags

Class Flags	Setting
Container	Off
Effective	Off
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	On

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	(None)	pkiUser
Containment	(None)	pkiUser
Named By	(None)	pkiUser

Mandatory Attributes

pkiUser
(None)

Optional Attributes

pkiUser

[userCertificate \(page 759\)](#)

Default ACL Template

None

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

Print Server

Represents NetWare print servers.

Type: Effective

NDS Operational: Yes

ASN.1 ID

2.16.840.1.113719.1.1.6.1.18

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Server (page 239)
	Server (page 239)	Print Server
Containment	domain (page 114)	Server (page 239)
	Organization (page 198)	Server (page 239)
	Organizational Unit (page 206)	Server (page 239)
Named By	CN (Common Name) (page 372)	Server (page 239)

Mandatory Attributes

Print Server	Inherited from Top	Inherited from Server
(None)	Object Class (page 648)	CN (Common Name) (page 372)

Optional Attributes

Print Server

Operator (page 650)	SAP Name (page 710)
Printer (page 685)	

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Inherited from Server

Account Balance (page 330)	Public Key (page 692)
Allow Unlimited Credit (page 332)	Resource (page 703)
Description (page 381)	Security Equals (page 720)
Full Name (page 439)	Security Flags (page 721)
Host Device (page 458)	See Also (page 722)
L (Locality Name) (page 474)	Status (page 730)
Minimum Account Balance (page 575)	SvcInfo (page 949)
Network Address (page 604)	SvcType (page 950)
O (Organization Name) (page 644)	SvcTypeID (page 951)
OU (Organizational Unit Name) (page 653)	User (page 758)
Private Key (page 688)	Version (page 767)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)
[Public]	Read	Network Address	Server (page 239)

Object Name	Default Rights	Affected Attributes	Class Defined For
[Self]	Supervisor	[Entry Rights]	Server (page 239)
[Root]	Read	[All Attributes]	Print Server

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

The Print Server class differs from the NCP Server class in that print servers use the SPX protocol for communications rather than NCP.

The Print Server class is used for both bindery-based and eDirectory-based print servers. Bindery-based print servers do not have the Public Key or Private Key attributes. The Private Key and Public Key attributes are present if the server is a client of eDirectory Authentication Services.

The Version attribute (inherited from Server) indicates whether the server is bindery-based or eDirectory-based.

The Operator and User attributes are used by the print server as access control lists. (The User attribute is inherited from Server.) The Operator attribute identifies those individuals who are authorized to act as print server operators. The User attribute identifies individuals authorized to use the print server.

The Host Device attribute identifies the device that hosts the server. This is usually a computer, but it might be some other device. For example, a printer could host a built-in print server.

The Resource attribute contains a list of resources managed by this service.

The User attribute contains a list of objects that are authorized to use this server. The server must determine if the user list is to be maintained by an administrator, or if the list is automatically generated by the server. If the user list is used by the server as an access control list, the administrator will usually maintain the list. If the user list is purely informational, reflecting access control information stored elsewhere, the server usually maintains the list.

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

Printer

Represents printers in the eDirectory tree. A printer object points to the queues to which it is attached.

Type: Effective

NDS Operational: Yes

ASN.1 ID

2.16.840.1.113719.1.1.6.1.17

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Device (page 96)
	Device (page 96)	Printer
Containment	domain (page 114)	Device (page 96)
	Organization (page 198)	Device (page 96)
	Organizational Unit (page 206)	Device (page 96)
Named By	CN (Common Name) (page 372)	Device (page 96)

Mandatory Attributes

Printer	Inherited from Top	Inherited from Device
(None)	Object Class (page 648)	CN (Common Name) (page 372)

Optional Attributes

Printer

Cartridge (page 361)	Page Description Language (page 656)
Default Queue (page 378)	Print Server (page 684)
Host Device (page 458)	Printer Configuration (page 686)
Memory (page 569)	Queue (page 694)
Network Address Restriction (page 605)	Status (page 730)
Notify (page 612)	Supported Typefaces (page 736)
Operator (page 650)	

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Inherited from Device

Description (page 381)	See Also (page 722)
L (Locality Name) (page 474)	Serial Number (page 723)
Network Address (page 604)	SvcInfo (page 949)
O (Organization Name) (page 644)	SvcType (page 950)
OU (Organizational Unit Name) (page 653)	SvcTypeID (page 951)
Owner (page 655)	

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

The Host Device attribute is used in this class to denote the computer (or other device) to which the printer is attached.

The Print Server attribute identifies the print servers that manage this device.

The Supported Typefaces and Page Description Language attributes are included to aid a search for printers with a particular set of capabilities. The contents of these attributes are statically maintained by an administrator, rather than being dynamically updated from printer feedback.

The Queue attribute identifies the associated queues through which this printer can be accessed.

The L (Locality Name) attribute can be used to identify the physical location of a device. For example, if the device were a printer, the locality might be "Building D, Section 24, by Ed Bender's desk."

The O (Organization Name) and the OU (Organizational Unit Name) attributes may already be present in the device's distinguished name. They are repeated here to aid searching when an organization spans multiple subtrees in the eDirectory tree. However, eDirectory does not automatically add these attributes even though they may be present in the device's distinguished name. Additional values for the organization name or organizational unit name can be useful when a device is "co-owned" by multiple organizations.

Profile

Specifies a shared login configuration.

Type: Effective

NDS Operational: Yes

ASN.1 ID

2.16.840.1.113719.1.1.6.1.19

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class	Defined For
Super Classes	Top (page 249)	Profile
Containment	domain (page 114)	Profile
	Organization (page 198)	Profile
	Organizational Unit (page 206)	Profile
Named By	CN (Common Name) (page 372)	Profile

Mandatory Attributes

Profile	Inherited from Top
CN (Common Name) (page 372)	Object Class (page 648)
Login Script (page 544)	

Optional Attributes

Profile	
Description (page 381)	O (Organization Name) (page 644)
Full Name (page 439)	OU (Organizational Unit Name) (page 653)
L (Locality Name) (page 474)	See Also (page 722)
Inherited from Top	
ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

A Profile class has an associated Login Script attribute that contains the bulk of the configuration information. This login script is executed after the container login script, but before the user login script. The login script for the Profile class should contain group-related conditional statements.

Queue

Represents batch processing queues available in the NetWare NCP environment.

Type: Effective

NDS Operational: Yes

ASN.1 ID

2.16.840.1.113719.1.1.6.1.20

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class	Defined For
Super Classes	Top (page 249)	Resource (page 231)
	Resource (page 231)	Queue
Containment	domain (page 114)	Resource (page 231)
	Organization (page 198)	Resource (page 231)
	Organizational Unit (page 206)	Resource (page 231)
Named By	CN (Common Name) (page 372)	Resource (page 231)

Mandatory Attributes

Queue	Inherited from Top	Inherited from Resource
Queue Directory (page 695)	Object Class (page 648)	CN (Common Name) (page 372)

Optional Attributes

Queue

Device (page 385)	Server (page 724)
Host Server (page 460)	User (page 758)
Network Address (page 604)	Volume (page 768)
Operator (page 650)	

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Inherited from Resource

Description (page 381)	OU (Organizational Unit Name) (page 653)
Host Resource Name (page 459)	See Also (page 722)
L (Locality Name) (page 474)	Uses (page 762)
O (Organization Name) (page 644)	

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)
[Root]	Read	[All Attributes]	Queue

Remarks

For help in understanding the class definition template, see “[Reading Class Definitions](#)” on page 29.

The Host Server attribute identifies the server that provides the Queue Management Service (QMS) for this queue. Requests to manipulate a particular resource must usually be directed to the host server.

The Queue Directory attribute names the subdirectory where this queue's files are stored. The Host Resource Name attribute is used when the host's local identification for a resource differs from the global resource identification. For example, a server might recognize SYS as the local name for a volume with the eDirectory name:

```
Project X.Engineering.Acme.US
```

The L (Locality Name), O (Organization Name), and OU (Organizational Unit Name) attributes are useful when a resource is used by multiple localities, organizations, or organizational units. If these attributes contain appropriate values, a search can be initiated for resources associated with a particular locality or organization.

The Network Address attribute acts as a cache for the server's network address. The user can contact the server without having to dereference the Host Server attribute.

The Operator, Server, and User attributes are used by QMS for Access Control Lists. The Operator attribute identifies the users or groups that have operator privileges. The Server attribute identifies print servers allowed to service this queue.

The User attribute contains a list of objects that are authorized to use this queue. The server that controls the resource must determine if the user list is maintained by an administrator or if the list is automatically generated by the server. If the user list is used by the server as an access control list, the administrator will usually maintain the list. If the user list is purely informational, reflecting access control information stored elsewhere, the server usually maintains the list.

Resource

Identifies logical resources available on the network.

Type: Noneffective

NDS Operational: Yes

LDAP Name

resource

ASN.1 ID

2.16.840.1.113719.1.1.6.1.21

Class Flags

Class Flags	Setting
Container	Off
Effective	Off
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class	Defined For
Super Classes	Top (page 249)	Resource
Containment	domain (page 114)	Resource
	Organization (page 198)	Resource
	Organizational Unit (page 206)	Resource
Named By	CN (Common Name) (page 372)	Resource

Mandatory Attributes

Resource	Inherited from Top
CN (Common Name) (page 372)	Object Class (page 648)

Optional Attributes

Resource

Description (page 381)	OU (Organizational Unit Name) (page 653)
Host Resource Name (page 459)	See Also (page 722)
L (Locality Name) (page 474)	Uses (page 762)
O (Organization Name) (page 644)	

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

The Resource class differs from the Device class in that a device is a physical unit such as a printer, and a resource is some nonphysical, logical unit such as a queue or volume.

The Host Resource Name attribute is used when the host’s local identification for a resource differs from the global resource identification. For example, a server might recognize SYS as the local name for a volume with the eDirectory name:

Project X.Engineering.Acme.US

The L (Locality Name), O (Organization Name), and OU (Organizational Unit Name) attributes are useful when a resource is used by multiple localities, organizations, or organizational units. If these

attributes contain appropriate values, a search can be initiated for resources associated with a particular locality or organization.

SAS:Security

Identifies a container object that holds tree-wide security configuration information

Type: Effective

ASN.1 ID

2.16.840.1.113719.1.39.6.1.1

Class Flags

Class Flags	Setting
Container	On
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	SAS:Security
Containment	Top (page 249)	SAS:Security
	Tree Root (page 251)	SAS:Security
Named By	CN (Common Name) (page 372)	SAS:Security

Mandatory Attributes

SAS:Security	Inherited from Top
CN (Common Name) (page 372)	Object Class (page 648)

Optional Attributes

SAS:Security
NDSPKI:Tree CA DN (page 601)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

In NetWare 4.x, this object is placed under Top, which is the virtual tree root in NetWare 4.x.

In NetWare 5.x, this object is placed under the Tree Root object.

In a WAN environment, the replica containing this object needs to be widely distributed.

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

SAS:Service

Identifies the NDSPKI:Key Material object (the server certificates) that belongs to the server.

Type: Effective

ASN.1 ID

2.16.840.1.113719.1.39.6.1.2

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Resource (page 231)
	Resource (page 231)	SAS:Service
Containment	Organization (page 198)	Resource (page 231)
	Organizational Unit (page 206)	Resource (page 231)
Named By	CN (Common Name) (page 372)	SAS:Service

Mandatory Attributes

SAS:Service	Inherited from Top	Inherited from Resource
	Object Class (page 648)	CN (Common Name) (page 372)

Optional Attributes

SAS:Service

Host Server (page 460)	Private Key (page 688)
NDSPKI:Key Material DN (page 587)	Public Key (page 692)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Inherited from Resource

Description (page 381)	OU (Organizational Unit Name) (page 653)
Host Resource Name (page 459)	See Also (page 722)
L (Locality Name) (page 474)	Uses (page 762)
O (Organization Name) (page 644)	

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

For each server on which SAS (Secure Authentication Services) is installed, a SAS:Service object exists for that server. This object contains attributes that identify the NCP Server object (the Host Server attribute) and the NDSPKI: Key Material object (the NDSPKI:Key Material DN attribute).

The Private Key and Public Key attributes are not currently used.

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

Server

Identifies entities that manage one or more resources and provide access to those resources through a communications protocol.

Type: Noneffective

NDS Operational: Yes

LDAP Name

server

ASN.1 ID

2.16.840.1.113719.1.1.6.1.22

Class Flags

Class Flags	Setting
Container	Off
Effective	Off
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Server
Containment	domain (page 114)	Server
	Organization (page 198)	Server
	Organizational Unit (page 206)	Server
Named By	CN (Common Name) (page 372)	Server

Mandatory Attributes

Server	Inherited from Top
CN (Common Name) (page 372)	Object Class (page 648)

Optional Attributes

Server	
Account Balance (page 330)	Private Key (page 688)
Allow Unlimited Credit (page 332)	Public Key (page 692)
Description (page 381)	Resource (page 703)
Full Name (page 439)	Security Equals (page 720)
Host Device (page 458)	Security Flags (page 721)
L (Locality Name) (page 474)	See Also (page 722)
Minimum Account Balance (page 575)	Status (page 730)
Network Address (page 604)	Timezone (page 745)
O (Organization Name) (page 644)	User (page 758)
OU (Organizational Unit Name) (page 653)	Version (page 767)

Inherited from Top	
ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)
[Public]	Read	Network Address	Server

Object Name	Default Rights	Affected Attributes	Class Defined For
[Self]	Supervisor	[Entry Rights]	Server

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

The Host Device attribute identifies the device that hosts the server. This is usually a computer, but it might be some other device. For example, a printer could host a built-in print server.

The Private Key and Public Key attributes are present if the server is a client of eDirectory Authentication Services. The Resource attribute contains a list of resources managed by this service.

The User attribute contains a list of objects that are authorized to use this server. The server must determine if the user list is to be maintained by an administrator, or if the list is automatically generated by the server. If the user list is used by the server as an access control list, the administrator will usually maintain the list. If the user list is purely informational, reflecting access control information stored elsewhere, the server usually maintains the list.

strongAuthenticationUser

Defines a Netscape user who can use certificates for authentication.

Type: Auxiliary Class

LDAP Name

strongAuthenticationUser

ASN.1 ID

2.5.6.15

Class Flags

Class Flags	Setting
Container	Off
Effective	Off
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	On

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	(None)	strongAuthenticationUser
Containment	(None)	strongAuthenticationUser
Named By	(None)	strongAuthenticationUser

Mandatory Attributes

strongAuthenticationUser
(None)

Optional Attributes

`strongAuthenticationUser`

`userCertificate` (page 759)

Default ACL Template

None

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

StyleSheet

Contains general XML styling information.

ASN.1 ID

2.16.840.1.113719.1.14.6.1.5

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top	StyleSheet
Containment	Country	StyleSheet
	domain	StyleSheet
	Locality	StyleSheet
	Organization	StyleSheet
	Organizational Unit	StyleSheet
Named By	CN (Common Name)	StyleSheet

Mandatory Attributes

StyleSheet	Inherited from Top
CN	Object Class

Optional Attributes

StyleSheet

[XmlData \(page 775\)](#)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top

Template

Identifies an object that can be used to create User objects with default values for file system and eDirectory rights.

Type: Effective

ASN.1 ID

2.16.840.1.113719.1.64.6.1.1

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Template
Containment	Organization (page 198)	Template
	Organizational Unit (page 206)	Template
Named By	CN (Common Name) (page 372)	Template

Mandatory Attributes

Template	Inherited from Top
CN (Common Name) (page 372)	Object Class (page 648)

Optional Attributes

Template

Account Balance (page 330)	New Object's FS Rights (page 607)
Allow Unlimited Credit (page 332)	New Object's Self Rights (page 608)
Description (page 381)	OU (Organizational Unit Name) (page 653)
EMail Address (page 424)	Password Allow Change (page 661)
Facsimile Telephone Number (page 433)	Password Expiration Interval (page 662)
Group Membership (page 444)	Password Expiration Time (page 663)
Higher Privileges (page 447)	Password Minimum Length (page 665)
Home Directory (page 448)	Password Required (page 666)
Home Directory Rights (page 449)	Password Unique Required (page 667)
L (Locality Name) (page 474)	Physical Delivery Office Name (page 674)
Language (page 476)	Postal Address (page 675)
Login Allowed Time Map (page 534)	Postal Code (page 677)
Login Disabled (page 535)	Postal Office Box (page 678)
Login Expiration Time (page 536)	Profile (page 689)
Login Grace Limit (page 537)	Run Setup Script (page 707)
Login Maximum Simultaneous (page 543)	S (State or Province Name) (page 708)
Login Script (page 544)	SA (Street Address) (page 709)
Mailbox ID (page 548)	Security Equals (page 720)
Mailbox Location (page 549)	Security Flags (page 721)
Member (page 566)	See Also (page 722)
Members Of Template (page 568)	Set Password After Create (page 726)
Message Server (page 571)	Setup Script (page 727)
Minimum Account Balance (page 575)	Telephone Number (page 742)
Network Address Restriction (page 605)	Title (page 746)
New Object's DS Rights (page 606)	Trustees Of New Object (page 750)
	Volume Space Restrictions (page 769)

Added to Template in NDS eDirectory 8.5

departmentNumber (page 380)	manager (page 551)
employeeType (page 426)	S (State or Province Name) (page 708)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions”](#) on page 29.

Top

All classes are a subclass of Top. This class mandates that all objects contain an Object Class attribute. Although Top is an effective class, it is a special case in that no objects can be constructed from this class by the user.

Type: Effective

NDS Operational: Yes

LDAP Name

top

ASN.1 ID

2.5.6.0

Class Flags

Class Flags	Setting
Container	On
Effective	On
Nonremovable	On
Ambiguous Naming	On
Ambiguous Container	On
Auxiliary Class	Off

Class Structure

Rule	Class	Defined For
Super Classes	(none)	Top
Containment	(none)	Top
Named By	(none)	Top

Mandatory Attributes

Top
Object Class (page 648)

Optional Attributes

Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

This class mandates that all objects will contain an Object Class attribute, that all classes can have values for the attributes needed for authentication and synchronization, and that all objects are supervised by the object that created them. Although Top is an effective class, it is a special case in that the user cannot construct objects from this class.

In NetWare 4.x, the eDirectory tree root has a base class of Top. In NetWare 5.x, the eDirectory tree root can use a new object, Tree Root, as its base class.

The optional attributes, Authority Revocation, CA Private Key, CA Public Key, Certificate Revocation, and Cross Certificate Pair, were originally only in the Partition class. However, in the next NDS/eDirectory release, they were also added to the Top object class. Thus they are now redundant in the Partition class because they are inherited from Top.

The LDAP server maps requests for the top class to this class.

Tree Root

Defines the eDirectory tree's [Root] object.

Type: Effective

NDS Operational: Yes

LDAP Name

treeRoot

ASN.1 ID

2.16.840.1.113719.1.1.6.1.32

Class Flags

Class Flags	Setting
Container	On
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class	Defined For
Super Classes	Top (page 249)	Tree Root
Containment	(Nothing)	Tree Root
Named By	T (Tree Name) (page 741)	Tree Root

Mandatory Attributes

Tree Root	Inherited from Top
T (Tree Name) (page 741)	Object Class (page 648)

Optional Attributes

Tree Root

[SAS:Security DN \(page 715\)](#)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

This class object is new to NetWare 5.x, and in NetWare 5.x, the Tree Root class is one of three objects that can be the topmost object in the tree. The Country class and Organization class are the other two.

NetWare 4.x supports either Country class or Organization class as the topmost object in the tree.

Unknown

Represents any object created by the server to restore an object whose base class is no longer defined by the schema.

Type: Effective

NDS Operational: Yes

LDAP Name

unknown

ASN.1 ID

2.16.840.1.113719.1.1.6.1.24

Class Flags

Class Flags	Setting
Container	On
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class	Defined For
Super Classes	Top (page 249)	Unknown
Containment	(none)	Unknown and Top
Named By	(none)	Unknown and Top

Mandatory Attributes

Unknown	Inherited from Top
	Object Class (page 648)

Optional Attributes

Unknown

(Special)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

Any attribute is valid as an optional attribute for this class. An eDirectory client cannot create objects of class Unknown.

The LDAP server maps requests for the unknown class to this class.

User

Represents users of network services.

Type: Effective

NDS Operational: Yes

LDAP Name

residentialPerson

ASN.1 ID

2.5.6.10

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class	Defined For
Super Classes	Top (page 249)	ndsLoginProperties (page 163)
	ndsLoginProperties (page 163)	Person (page 212)
	Person (page 212)	Organizational Person (page 201)
	Organizational Person (page 201)	User
Containment	domain (page 114)	Organizational Person (page 201)
	Organization (page 198)	Organizational Person (page 201)
	Organizational Unit (page 206)	Organizational Person (page 201)

Rule	Class	Defined For
Named By	CN (Common Name) (page 372)	Organizational Person (page 201)
	uniqueID (page 753)	Organizational Person (page 201)
	OU (Organizational Unit Name) (page 653)	Organizational Person (page 201)

Mandatory Attributes

User	Inherited from Top	Inherited from ndsLoginProperties	Inherited from Person	Inherited from Organizational Person
(None)	Object Class (page 648)	(None)	CN (Common Name) (page 372) Surname (page 737)	(None)

Optional Attributes Defined for User

User

Account Balance (page 330)	Login Allowed Time Map (page 534)
Allow Unlimited Credit (page 332)	Login Disabled (page 535)
audio (page 780)	Login Expiration Time (page 536)
businessCategory (page 356)	Login Grace Limit (page 537)
carLicense (page 781)	Login Grace Remaining (page 538)
departmentNumber (page 380)	Login Intruder Address (page 539)
displayName (page 789)	Login Intruder Attempts (page 540)
Employee ID (page 790)	Login Intruder Reset Time (page 542)
employeeType (page 426)	Login Maximum Simultaneous (page 543)
Entrust:User (page 792)	Login Script (page 544)
Group Membership (page 444)	Login Time (page 545)
Higher Privileges (page 447)	manager (page 551)
Home Directory (page 448)	Message Server (page 571)
homePhone (page 453)	Minimum Account Balance (page 575)
homePostalAddress (page 454)	mobile (page 576)
Internet EMail Address (page 467)	NDSPKI:Keystore (page 588)
jpegPhoto (page 797)	NDSPKI:userCertificateInfo (page 603)
labeledUri (page 798)	Network Address (page 604)
Language (page 476)	Network Address Restriction (page 605)
Last Login Time (page 477)	NRD:Registry Data (page 893)
LDAP:ARL (page 802)	NRD:Registry Index (page 894)
LDAP:caCertificate (page 803)	NSCP:employeeNumber (page 628)
LDAP:CRL (page 804)	NSCP:mailAccessDomain (page 895)
LDAP:crossCertificatePair (page 805)	NSCP:mailAlternateAddress (page 896)
ldapPhoto (page 800)	NSCP:mailAutoReplyMode (page 897)
LDAPUserCertificate (page 801)	NSCP:mailAutoReplyText (page 898)
Locked By Intruder (page 532)	NSCP:mailDeliveryOption (page 899)
NSCP:mailForwardingAddress (page 900)	Print Job Configuration (page 683)
NSCP:mailHost (page 901)	Printer Control (page 687)
NSCP:mailMessageStore (page 902)	Private Key (page 688)
NSCP:mailProgramDeliveryInfo (page 903)	Profile (page 689)
NSCP:mailQuota (page 904)	Profile Membership (page 690)
NSCP:nsLicenseEndTime (page 906)	Public Key (page 692)
NSCP:nsLicensedFor (page 907)	roomNumber (page 706)
NSCP:nsLicenseStartTime (page 908)	secretary (page 930)
pager (page 657)	Security Equals (page 720)
Password Allow Change (page 661)	Security Flags (page 721)
Password Expiration Interval (page 662)	Server Holds (page 725)
Password Expiration Time (page 663)	Timezone (page 745)
Password Minimum Length (page 665)	Type Creator Map (page 751)
Password Required (page 666)	UID (User ID) (page 752)
Password Unique Required (page 667)	userCertificate (page 759)
Passwords Used (page 668)	userSMIMECertificate (page 952)
preferredLanguage (page 910)	x500UniqueIdentifier (page 777)

Optional Attributes from inetOrgPerson*

audio (page 780)	ldapPhoto (page 800)
businessCategory (page 356)	manager (page 551)
carLicense (page 781)	mobile (page 576)
departmentNumber (page 380)	NSCP:employeeNumber (page 628)
displayName (page 789)	pager (page 657)
employeeType (page 426)	preferredLanguage (page 910)
Given Name (page 443)	roomNumber (page 706)
homePhone (page 453)	secretary (page 930)
homePostalAddress (page 454)	uniqueID (page 753)
Initials (page 465)	userCertificate (page 759)
Internet EMail Address (page 467)	userSMIMECertificate (page 952)
jpegPhoto (page 797)	x500UniqueIdentifier (page 777)
labeledUri (page 798)	

*The inetOrgPerson attributes are not added automatically to User. See Remarks for more information.

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Inherited from ndsLoginProperties

Account Balance (page 330)	Minimum Account Balance (page 575)
Allow Unlimited Credit (page 332)	Network Address (page 604)
Group Membership (page 444)	Network Address Restriction (page 605)
Higher Privileges (page 447)	Password Allow Change (page 661)
Language (page 476)	Password Expiration Interval (page 662)
Last Login Time (page 477)	Password Expiration Time (page 663)
Locked By Intruder (page 532)	Password Minimum Length (page 665)
Login Allowed Time Map (page 534)	Password Required (page 666)
Login Disabled (page 535)	Password Unique Required (page 667)
Login Expiration Time (page 536)	Passwords Used (page 668)
Login Grace Limit (page 537)	Private Key (page 688)
Login Grace Remaining (page 538)	Profile (page 689)
Login Intruder Address (page 539)	Profile Membership (page 690)
Login Intruder Attempts (page 540)	Public Key (page 692)
Login Intruder Reset Time (page 542)	Security Equals (page 720)
Login Maximum Simultaneous (page 543)	Security Flags (page 721)
Login Script (page 544)	Server Holds (page 725)
Login Time (page 545)	Timezone (page 745)

Inherited from Person

accessCardNumber (page 329)	jobCode (page 472)
assistant (page 333)	mailstop (page 550)
assistantPhone (page 334)	manager (page 551)
city (page 366)	mobile (page 576)
co (page 367)	otherPhoneNumber (page 652)
company (page 368)	pager (page 657)
costCenter (page 369)	personalTitle (page 672)
costCenterDescription (page 370)	photo (page 673)
departmentNumber (page 380)	preferredName (page 681)
Description (page 381)	roomNumber (page 706)
directReports (page 392)	See Also (page 722)
employeeStatus (page 427)	siteLocation (page 728)
employeeType (page 426)	S (State or Province Name) (page 708)
Full Name (page 439)	Surname (page 737)
Generational Qualifier (page 440)	Telephone Number (page 742)
Given Name (page 443)	tollFreePhoneNumber (page 747)
Initials (page 465)	uniqueID (page 753)
instantMessagingID (page 464)	vehicleInformation (page 763)
isManager (page 470)	workforceID (page 774)
jackNumber (page 471)	

Inherited from Organizational Person

destinationIndicator (page 383)	Postal Code (page 677)
EMail Address (page 424)	Postal Office Box (page 678)
Facsimile Telephone Number (page 433)	preferredDeliveryMethod (page 680)
internationaliSDNNumber (page 466)	registeredAddress (page 700)
L (Locality Name) (page 474)	S (State or Province Name) (page 708)
Mailbox ID (page 548)	SA (Street Address) (page 709)
Mailbox Location (page 549)	telexNumber (page 743)
OU (Organizational Unit Name) (page 653)	telexTerminalIdentifier (page 744)
Physical Delivery Office Name (page 674)	Title (page 746)
Postal Address (page 675)	x121Address (page 776)

Default ACL Template Defined for User

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top
[Public]	Read	Message Server	User
[Root]	Browse	[Entry Rights]	User
[Root]	Read	Group Membership	User
[Root]	Read	Network Address	User
[Self]	Read	[All Attributes]	User
[Self]	Read/Write	Login Script	User
[Self]	Read/Write	Print Job Configuration	User

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

The User class includes both clients and service providers. In this context, Private Key stores the object’s private key encrypted by the object’s password.

The X.500 standard defines two subclasses of person: Organizational Person and Residential Person. The operational schema does not defined Residential Person, but the division of Person from Organizational Person has been maintained for compatibility with X.500.

In NDS 8, the User class inherits the eDirectory login attributes from the ndsLoginProperties class. For backwards compatibility with previous versions of NDS, they have not been removed from the list of optional attributes in the User class definition.

The LDAP server ships with an optional nov_inet.sch file. This file, when executed, adds inetOrgPerson attributes to the User class. To add these attributes and allow LDAP applications to use the User class as if it were the inetOrgPerson class, run nwconfig.nlm and run the sys:system\schema\nov_inet.sch file. For information on setting up a separate class for inetOrgPerson, see [inetOrgPerson \(page 271\)](#).

userSecurityInformation

Defines a list of supported algorithms.

Type: Auxiliary Class

LDAP Name

userSecurityInformation

ASN.1 ID

2.5.6.18

Class Flags

Class Flags	Setting
Container	Off
Effective	Off
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	On

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	(None)	userSecurityInformation
Containment	(None)	userSecurityInformation
Named By	(None)	userSecurityInformation

Mandatory Attributes

userSecurityInformation
(None)

Optional Attributes

`userSecurityInformation`

`supportedAlgorithms` ([page 731](#))

Default ACL Template

None

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

For more information, see RFC 2256.

Volume

Represents NetWare file system volumes.

Type: Effective

NDS Operational: Yes

LDAP Name

volume

ASN.1 ID

2.16.840.1.113719.1.1.6.1.26

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	On
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Resource (page 231)
	Resource (page 231)	Volume
Containment	domain (page 114)	Resource (page 231)
	Organization (page 198)	Resource (page 231)
	Organizational Unit (page 206)	Resource (page 231)
Named By	CN (Common Name) (page 372)	Resource (page 231)

Mandatory Attributes

Volume	Inherited from Top	Inherited from Resource
Host Server (page 460)	Object Class (page 648)	CN (Common Name) (page 372)

Optional Attributes

Volume	
Status (page 730)	
Inherited from Top	
ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)
Inherited from Resource	
Description (page 381)	OU (Organizational Unit Name) (page 653)
Host Resource Name (page 459)	See Also (page 722)
L (Locality Name) (page 474)	Uses (page 762)
O (Organization Name) (page 644)	

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)
[Root]	Read	Host Resource Name	Volume
[Root]	Read	Host Server	Volume

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

This subclass exists primarily to allow Volume objects to be distinguished from other types of Resource objects.

The Host Server attribute identifies the server that owns and services the resource. Requests to manipulate a particular resource must usually be directed to the host server.

When present, the Host Resource Name attribute is used to contain the local volume name that corresponds to the volume name on the server. This attribute is used when the host’s local identification for a resource differs from the global resource identification. For example, a server might recognize SYS as the local name for a volume with the eDirectory name:

```
Project X.Engineering.Acme.US
```

If the attribute is not present, the local volume name "SYS" can be assumed.

The L (Locality Name), O (Organization Name), and OU (Organizational Unit Name) attributes are useful when a resource is used by multiple localities, organizations, or organizational units. If these attributes contain appropriate values, a search can be initiated for resources associated with a particular locality or organization.

WANMAN:LAN Area

Contains the information on the group of servers that belong to a LAN area and can share a single WAN policy.

Type: Effective

ASN.1 ID

2.16.840.1.113719.1.38.6.1.4

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	WANMAN:LAN Area
Containment	Country (page 90)	WANMAN:LAN Area
	Locality (page 146)	WANMAN:LAN Area
	Organization (page 198)	WANMAN:LAN Area
	Organizational Unit (page 206)	WANMAN:LAN Area
	CN (Common Name) (page 372)	WANMAN:LAN Area
Named By	CN (Common Name) (page 372)	WANMAN:LAN Area

Mandatory Attributes

WANMAN:LAN Area	Inherited from Top
CN (Common Name) (page 372)	Object Class (page 648)

Optional Attributes

WANMAN:LAN Area

Description (page 381)	Owner (page 655)
L (Locality Name) (page 474)	See Also (page 722)
Member (page 566)	WANMAN:Cost (page 770)
O (Organization Name) (page 644)	WANMAN:Default Cost (page 771)
OU (Organizational Unit Name) (page 653)	WANMAN:WAN Policy (page 773)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
auxClassCompatibility (page 349)	masvDefaultRange (page 555)
Back Link (page 351)	masvProposedLabel (page 565)
Bindery Property (page 353)	modifiersName (page 577)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	objectVersion (page 649)
Certificate Revocation (page 363)	Other GUID (page 651)
Certificate Validity Interval (page 364)	Reference (page 699)
creatorsName (page 375)	Revision (page 704)
Cross Certificate Pair (page 376)	rbsAssignedRoles (page 696)
DirXML-Associations (page 394)	rbsOwnedCollections (page 697)
Equivalent To Me (page 429)	Used By (page 757)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

The Member attribute contains the list of servers that belong to the LAN area.

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

Novell Object Class Extensions

3

This chapter lists alphabetically the object classes that extend the schema in a default NetWare installation and from the downloadable [schema files \(http://www.novell.com/products/edirectory/schema/\)](http://www.novell.com/products/edirectory/schema/). It also includes the obsolete object classes that have extended the schema in NDS releases previous to NDS eDirectory 8.5.

- ♦ For object class definitions that are in the base schema, see “[Base Object Class Definitions](#)” on [page 59](#).
- ♦ For an explanation of the types of information included about each class, see “[Reading Class Definitions](#)” on [page 29](#).

Entrust:CRLDistributionPoint

Replaced by [cRLDistributionPoint](#) (page 92).

inetOrgPerson

Defines an LDAP user-type object that can log in to the network and contains information about that object's relationship to an organization.

Type: Effective

LDAP Name

inetOrgPerson

ASN.1 ID

2.16.840.1.113730.3.2.2

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	ndsLoginProperties (page 163)
	ndsLoginProperties (page 163)	Person (page 212)
	Person (page 212)	Organizational Person (page 201)
	Organizational Person (page 201)	inetOrgPerson
Containment	Country (page 90)	inetOrgPerson
	domain (page 114)	inetOrgPerson
	Locality (page 146)	inetOrgPerson
	Organization (page 198)	inetOrgPerson
	Organizational Unit (page 206)	inetOrgPerson

Rule	Class/Attribute	Defined For
Named By	CN (Common Name) (page 372)	inetOrgPerson
	uniqueID (page 753)	inetOrgPerson
	Given Name (page 443)	inetOrgPerson
	Internet EMail Address (page 467)	inetOrgPerson
	Surname (page 737)	inetOrgPerson

Mandatory Attributes

inetOrgPerson	Inherited from Top	Inherited from Person
	Object Class (page 648)	CN (Common Name) (page 372)
		Surname (page 737)

Optional Attributes

inetOrgPerson	
audio (page 780)	ldapPhoto (page 800)
businessCategory (page 356)	manager (page 551)
carLicense (page 781)	mobile (page 576)
departmentNumber (page 380)	NSCP:employeeNumber (page 628)
displayName (page 789)	pager (page 657)
employeeType (page 426)	preferredLanguage (page 910)
Given Name (page 443)	roomNumber (page 706)
homePhone (page 453)	secretary (page 930)
homePostalAddress (page 454)	uniqueID (page 753)
Initials (page 465)	userCertificate (page 759)
Internet EMail Address (page 467)	userSMIMECertificate (page 952)
jpegPhoto (page 797)	x500UniqueIdentifier (page 777)
labeledUri (page 798)	

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
Back Link (page 351)	masvDefaultRange (page 555)
Bindery Property (page 353)	masvProposedLabel (page 565)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	Other GUID (page 651)
Certificate Revocation (page 363)	Reference (page 699)
Certificate Validity Interval (page 364)	Revision (page 704)
Cross Certificate Pair (page 376)	Used By (page 757)
Equivalent To Me (page 429)	

Inherited from ndsLoginProperties

Account Balance (page 330)	Minimum Account Balance (page 575)
Allow Unlimited Credit (page 332)	Network Address (page 604)
Group Membership (page 444)	Network Address Restriction (page 605)
Higher Privileges (page 447)	Password Allow Change (page 661)
Language (page 476)	Password Expiration Interval (page 662)
Last Login Time (page 477)	Password Expiration Time (page 663)
Locked By Intruder (page 532)	Password Minimum Length (page 665)
Login Allowed Time Map (page 534)	Password Required (page 666)
Login Disabled (page 535)	Password Unique Required (page 667)
Login Expiration Time (page 536)	Passwords Used (page 668)
Login Grace Limit (page 537)	Private Key (page 688)
Login Grace Remaining (page 538)	Profile (page 689)
Login Intruder Address (page 539)	Profile Membership (page 690)
Login Intruder Attempts (page 540)	Public Key (page 692)
Login Intruder Reset Time (page 542)	Security Equals (page 720)
Login Maximum Simultaneous (page 543)	Security Flags (page 721)
Login Script (page 544)	Server Holds (page 725)
Login Time (page 545)	Timezone (page 745)

Inherited from Person

Description (page 381)	Initials (page 465)
Full Name (page 439)	See Also (page 722)
Generational Qualifier (page 440)	Telephone Number (page 742)
Given Name (page 443)	

Inherited from Organizational Person

destinationIndicator (page 383)	Postal Code (page 677)
EMail Address (page 424)	Postal Office Box (page 678)
Facsimile Telephone Number (page 433)	preferredDeliveryMethod (page 680)
internationaliSDNNumber (page 466)	registeredAddress (page 700)
L (Locality Name) (page 474)	S (State or Province Name) (page 708)
Mailbox ID (page 548)	SA (Street Address) (page 709)
Mailbox Location (page 549)	telexNumber (page 743)
OU (Organizational Unit Name) (page 653)	telexTerminalIdentifier (page 744)
Physical Delivery Office Name (page 674)	Title (page 746)
Postal Address (page 675)	x121Address (page 776)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

This is an optional class that is not installed automatically with the LDAP server. The administrator must use the nwconfig.nlm to execute the Sys:system\schema\iperson.sch file. The administrator must then manually reconfigure the LDAP mapping so that inetOrgPerson points to inetOrgPerson rather than to User.

The User class can be modified to support the additional inetOrgPerson attributes by executing the nov_inet.sch file. This is the preferred method because most eDirectory applications assume that User is the only class used to define user-type objects in the tree.

NDPS Broker

Defines the NDPS broker that manages the following three services: service registry, notification, and resource management

Type: Effective

ASN.1 ID

2.16.840.1.113719.1.4.2.1.1

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Server (page 239)
	Server (page 239)	NDPS Broker
Containment	domain (page 114)	Server (page 239)
	Organization (page 198)	Server (page 239)
	Organizational Unit (page 206)	Server (page 239)
Named By	CN (Common Name) (page 372)	Server (page 239)

Mandatory Attributes

NDPS Broker	Inherited from Top	Inherited from Server
	Object Class (page 648)	CN (Common Name) (page 372)

Optional Attributes

NDPS Broker

Delivery Methods Installed (page 788)	Registry Advertising Name (page 920)
GW API Gateway Directory Path (page 793)	Registry Service Enabled (page 921)
GW API Gateway Directory Volume (page 794)	Registry Svc Net Addr (page 922)
MHS Send Directory Path (page 809)	Registry Svc Net Address (page 923)
MHS Send Directory Volume (page 810)	Resource Mgmt Service Enabled (page 927)
NDPS SMTP Server (page 827)	Resource Mgmt Svc Net Addr (page 925)
Notification Service Enabled (page 890)	Resource Mgmt Svc Net Address (page 926)
Notification Svc Net Addr (page 891)	Resource Mgr Database Path (page 928)
Notification Svc Net Address (page 892)	Resource Mgr Database Volume (page 929)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
Back Link (page 351)	masvDefaultRange (page 555)
Bindery Property (page 353)	masvProposedLabel (page 565)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	Other GUID (page 651)
Certificate Revocation (page 363)	Reference (page 699)
Certificate Validity Interval (page 364)	Revision (page 704)
Cross Certificate Pair (page 376)	Used By (page 757)
Equivalent To Me (page 429)	

Inherited from Server

Account Balance (page 330)	Private Key (page 688)
Allow Unlimited Credit (page 332)	Public Key (page 692)
Description (page 381)	Resource (page 703)
Full Name (page 439)	Security Equals (page 720)
Host Device (page 458)	Security Flags (page 721)
L (Locality Name) (page 474)	See Also (page 722)
masvAuthorizedRange (page 553)	Status (page 730)
masvDefaultRange (page 555)	SvcInfo (page 949)
masvProposedLabel (page 565)	SvcType (page 950)
Minimum Account Balance (page 575)	SvcTypeID (page 951)
Network Address (page 604)	User (page 758)
O (Organization Name) (page 644)	Version (page 767)
OU (Organizational Unit Name) (page 653)	

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)
[Public]	Read	Network Address	Server (page 239)
[Self]	Supervisor	[Entry Rights]	Server (page 239)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

NDPS Manager

Defines the NDPS Printer Manager that manages NDPS Printer objects and Public Access Printer Agents.

Type: Effective

ASN.1 ID

2.16.840.1.113719.1.4.2.1.0

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Server (page 239)
	Server (page 239)	NDPS Manager
Containment	domain (page 114)	Server (page 239)
	Organization (page 198)	Server (page 239)
	Organizational Unit (page 206)	Server (page 239)
Named By	CN (Common Name) (page 372)	Server (page 239)

Mandatory Attributes

NDPS Manager	Inherited from Top	Inherited from Server
Database Dir Path (page 784)	Object Class (page 648)	CN (Common Name) (page 372)
Database Volume Name (page 785)		
NDPS Manager Status (page 819)		

Optional Attributes

NDPS Manager

Datapool Locations (page 787)	NDPS Database Saved Timestamp (page 813)
NDPS Database Saved Data Image (page 814)	Printer to PA ID Mappings (page 918)
NDPS Database Saved Index Image (page 815)	

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
Back Link (page 351)	masvDefaultRange (page 555)
Bindery Property (page 353)	masvProposedLabel (page 565)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	Other GUID (page 651)
Certificate Revocation (page 363)	Reference (page 699)
Certificate Validity Interval (page 364)	Revision (page 704)
Cross Certificate Pair (page 376)	Used By (page 757)
Equivalent To Me (page 429)	

Inherited from Server

Account Balance (page 330)	Private Key (page 688)
Allow Unlimited Credit (page 332)	Public Key (page 692)
Description (page 381)	Resource (page 703)
Full Name (page 439)	Security Equals (page 720)
Host Device (page 458)	Security Flags (page 721)
L (Locality Name) (page 474)	See Also (page 722)
masvAuthorizedRange (page 553)	Status (page 730)
masvDefaultRange (page 555)	SvcInfo (page 949)
masvProposedLabel (page 565)	SvcType (page 950)
Minimum Account Balance (page 575)	SvcTypeID (page 951)
Network Address (page 604)	User (page 758)
O (Organization Name) (page 644)	Version (page 767)
OU (Organizational Unit Name) (page 653)	

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)
[Public]	Read	Network Address	Server (page 239)

Object Name	Default Rights	Affected Attributes	Class Defined For
[Self]	Supervisor	[Entry Rights]	Server (page 239)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

NDPS Printer

Identifies a printer agent and contains information about a printer's features and about the printer's authorized users and operators.

Type: Effective

ASN.1 ID

2.16.840.1.113719.1.4.2.2.0

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Device (page 96)
	Device (page 96)	NDPS Printer
Containment	domain (page 114)	Device (page 96)
	Organization (page 198)	Device (page 96)
	Organizational Unit (page 206)	Device (page 96)
Named By	CN (Common Name) (page 372)	Device (page 96)

Mandatory Attributes

NDPS Printer	Inherited from Top	Inherited from Device (Class)
NDPS Operator Role (page 820)	Object Class (page 648)	CN (Common Name) (page 372)
NDPS User Role (page 828)		
Printer Status (page 917)		

Optional Attributes

NDPS Printer

Client Install Candidate (page 782)	NDPS Printer Queue List (page 823)
Color Supported (page 783)	NDPS Printer Siblings (page 824)
Datapool Location (page 786)	Notification Consumers (page 888)
Host Device (page 458)	Notification Profile (page 889)
IPP URI (page 795)	Page Description Languages (page 909)
IPP URI Security Scheme (page 796)	Primary Notification Service (page 911)
Maximum Speed (page 807)	Primary Resource Service (page 912)
Maximum Speed Units (page 808)	Printer Agent Name (page 913)
NDPS Accountant Role (page 811)	Printer Manufacturer (page 914)
NDPS Job Configuration (page 818)	

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
Back Link (page 351)	masvDefaultRange (page 555)
Bindery Property (page 353)	masvProposedLabel (page 565)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	Other GUID (page 651)
Certificate Revocation (page 363)	Reference (page 699)
Certificate Validity Interval (page 364)	Revision (page 704)
Cross Certificate Pair (page 376)	Used By (page 757)
Equivalent To Me (page 429)	

Inherited from Device (Class)

Description (page 381)	See Also (page 722)
L (Locality Name) (page 474)	Serial Number (page 723)
Network Address (page 604)	SvcInfo (page 949)
O (Organization Name) (page 644)	SvcType (page 950)
OU (Organizational Unit Name) (page 653)	SvcTypeID (page 951)
Owner (page 655)	

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

NDSCat:Catalog

Identifies logical attributes that catalog objects may need.

Type: Noneffective

ASN.1 ID

2.16.840.1.113719.1.1.6.1.42

Class Flags

Class Flags	Setting
Container	Off
Effective	Off
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Resource (page 231)
	Resource (page 231)	NDSCat: Catalog
Containment	domain (page 114)	Resource (page 231)
	Organization (page 198)	Resource (page 231)
	Organizational Unit (page 206)	Resource (page 231)
Named By	CN (Common Name) (page 372)	Resource (page 231)

Mandatory Attributes

NDSCat: Catalog	Inherited from Top	Inherited from Resource
	Object Class (page 648)	CN (Common Name) (page 372)

Optional Attributes

NDSCat: Catalog

NDSCat:Actual All Attributes (page 829)	NDSCat:Actual Scope (page 838)
NDSCat:Actual Attribute Count (page 830)	NDSCat:Actual Search Aliases (page 839)
NDSCat:Actual Attributes (page 831)	NDSCat:Actual Start Time (page 840)
NDSCat:Actual Base Object (page 832)	NDSCat:Actual Value Count (page 841)
NDSCat:Actual Catalog Size (page 833)	NDSCat:AttrDefTbl (page 843)
NDSCat:Actual End Time (page 834)	NDSCat:CatalogDB (page 847)
NDSCat:Actual Filter (page 835)	NDSCat:IndexDefTbl (page 851)
NDSCat:Actual Object Count (page 836)	NDSCat:Label (page 853)
NDSCat:Actual Return Code (page 837)	NDSCat:Log (page 854)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
Back Link (page 351)	masvDefaultRange (page 555)
Bindery Property (page 353)	masvProposedLabel (page 565)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	Other GUID (page 651)
Certificate Revocation (page 363)	Reference (page 699)
Certificate Validity Interval (page 364)	Revision (page 704)
Cross Certificate Pair (page 376)	Used By (page 757)
Equivalent To Me (page 429)	

Inherited from Resource

Description (page 381)	OU (Organizational Unit Name) (page 653)
Host Resource Name (page 459)	See Also (page 722)
L (Locality Name) (page 474)	Uses (page 762)
O (Organization Name) (page 644)	

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

NDSCat:Master Catalog

Defines and contains the catalog database.

Type: Effective

ASN.1 ID

2.16.840.1.113719.1.1.6.1.43

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Resource (page 231)
	Resource (page 231)	NDSCat:Catalog (page 284)
	NDSCat:Catalog (page 284)	NDSCat: Master Catalog
Containment	domain (page 114)	Resource (page 231)
	Organization (page 198)	Resource (page 231)
	Organizational Unit (page 206)	Resource (page 231)
Named By	CN (Common Name) (page 372)	Resource (page 231)

Mandatory Attributes

NDSCat: Master Catalog	Inherited from Top	Inherited from Resource	Inherited from NDSCat: Catalog
	Object Class (page 648)	CN (Common Name) (page 372)	

Optional Attributes

NDSCat: Master Catalog

Host Server (page 460)	NDSCat:Max Retries (page 857)
NDSCat:All Attributes (page 842)	NDSCat:Retry Interval (page 859)
NDSCat:Attributes (page 844)	NDSCat:Scope (page 860)
NDSCat:Auto Dredge (page 845)	NDSCat:Search Aliases (page 861)
NDSCat:Base Object (page 846)	NDSCat:Slave Catalog List (page 862)
NDSCat:Dredge Interval (page 849)	NDSCat:Start Time (page 863)
NDSCat:Filter (page 850)	Private Key (page 688)
NDSCat:Indexes (page 852)	Public Key (page 692)
NDSCat:Max Log Size (page 856)	Security Equals (page 720)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
Back Link (page 351)	masvDefaultRange (page 555)
Bindery Property (page 353)	masvProposedLabel (page 565)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	Other GUID (page 651)
Certificate Revocation (page 363)	Reference (page 699)
Certificate Validity Interval (page 364)	Revision (page 704)
Cross Certificate Pair (page 376)	Used By (page 757)
Equivalent To Me (page 429)	

Inherited from Resource

Description (page 381)	OU (Organizational Unit Name) (page 653)
Host Resource Name (page 459)	See Also (page 722)
L (Locality Name) (page 474)	Uses (page 762)
O (Organization Name) (page 644)	

Inherited from NDSCat: Catalog

NDSCat:Actual All Attributes (page 829)	NDSCat:Actual Scope (page 838)
NDSCat:Actual Attribute Count (page 830)	NDSCat:Actual Search Aliases (page 839)
NDSCat:Actual Attributes (page 831)	NDSCat:Actual Start Time (page 840)
NDSCat:Actual Base Object (page 832)	NDSCat:Actual Value Count (page 841)
NDSCat:Actual Catalog Size (page 833)	NDSCat:AttrDefTbl (page 843)
NDSCat:Actual End Time (page 834)	NDSCat:CatalogDB (page 847)
NDSCat:Actual Filter (page 835)	NDSCat:IndexDefTbl (page 851)
NDSCat:Actual Object Count (page 836)	NDSCat:Label (page 853)
NDSCat:Actual Return Code (page 837)	NDSCat:Log (page 854)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

NDSCat:Slave Catalog

Identifies a catalog that is an exact duplicate of a master catalog object.

Type: Effective

ASN.1 ID

2.16.840.1.113719.1.1.6.1.44

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Resource (page 231)
	Resource (page 231)	NDSCat:Catalog (page 284)
	NDSCat:Catalog (page 284)	NDSCat:Slave Catalog
Containment	domain (page 114)	Resource (page 231)
	Organization (page 198)	Resource (page 231)
	Organizational Unit (page 206)	Resource (page 231)
Named By	CN (Common Name) (page 372)	Resource (page 231)

Mandatory Attributes

NDSCat:Slave Catalog	Inherited from Top	Inherited from Resource	Inherited from NDSCat: Catalog
(None)	Object Class (page 648)	CN (Common Name) (page 372)	(None)

Optional Attributes

NDSCat:Slave Catalog

[NDSCat:Master Catalog \(page 855\)](#)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
Back Link (page 351)	masvDefaultRange (page 555)
Bindery Property (page 353)	masvProposedLabel (page 565)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	Other GUID (page 651)
Certificate Revocation (page 363)	Reference (page 699)
Certificate Validity Interval (page 364)	Revision (page 704)
Cross Certificate Pair (page 376)	Used By (page 757)
Equivalent To Me (page 429)	

Inherited from Resource

Description (page 381)	OU (Organizational Unit Name) (page 653)
Host Resource Name (page 459)	See Also (page 722)
L (Locality Name) (page 474)	Uses (page 762)
O (Organization Name) (page 644)	

Inherited from NDSCat: Catalog

NDSCat:Actual All Attributes (page 829)	NDSCat:Actual Scope (page 838)
NDSCat:Actual Attribute Count (page 830)	NDSCat:Actual Search Aliases (page 839)
NDSCat:Actual Attributes (page 831)	NDSCat:Actual Start Time (page 840)
NDSCat:Actual Base Object (page 832)	NDSCat:Actual Value Count (page 841)
NDSCat:Actual Catalog Size (page 833)	NDSCat:AttrDefTbl (page 843)
NDSCat:Actual End Time (page 834)	NDSCat:CatalogDB (page 847)
NDSCat:Actual Filter (page 835)	NDSCat:IndexDefTbl (page 851)
NDSCat:Actual Object Count (page 836)	NDSCat:Label (page 853)
NDSCat:Actual Return Code (page 837)	NDSCat:Log (page 854)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

After the dredger writes the master catalog, it writes any specified slave catalogs. Slave catalogs can be placed in any location in the eDirectory tree, including in local partitions for performance enhancements. If a new dredge results in an updated master catalog, each slave catalog is also replaced with an updated copy.

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

NetSvc

Identifies a Winsock 2 service on the network.

Type: Effective

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Server (page 239)
	Server (page 239)	NetSvc
Containment	domain (page 114)	Server (page 239)
	Organization (page 198)	Server (page 239)
	Organizational Unit (page 206)	Server (page 239)
Named By	CN (Common Name) (page 372)	Server (page 239)

Mandatory Attributes

NetSvc	Inherited from Top	Inherited from Server
SvcTypeID (page 951)	Object Class (page 648)	CN (Common Name) (page 372)

Optional Attributes

NetSvc
(None)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
Back Link (page 351)	masvDefaultRange (page 555)
Bindery Property (page 353)	masvProposedLabel (page 565)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	Other GUID (page 651)
Certificate Revocation (page 363)	Reference (page 699)
Certificate Validity Interval (page 364)	Revision (page 704)
Cross Certificate Pair (page 376)	Used By (page 757)
Equivalent To Me (page 429)	

Inherited from Server

Account Balance (page 330)	Public Key (page 692)
Allow Unlimited Credit (page 332)	Resource (page 703)
Description (page 381)	Security Equals (page 720)
Full Name (page 439)	Security Flags (page 721)
Host Device (page 458)	See Also (page 722)
L (Locality Name) (page 474)	SvcInfo (page 949)
Minimum Account Balance (page 575)	SvcType (page 950)
Network Address (page 604)	SvcTypeID (page 951)
O (Organization Name) (page 644)	Status (page 730)
OU (Organizational Unit Name) (page 653)	User (page 758)
Private Key (page 688)	Version (page 767)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)
[Public]	Read	Network Address	Server (page 239)
[Self]	Supervisor	[Entry Rights]	Server (page 239)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

NLS:License Certificate

Stores the license certificate, usage information, and the object that is assigned to it.

Type: Effective

ASN.1 ID

2.16.840.1.113719.1.51.6.1.1

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	NLS:License Certificate
Containment	NLS:Product Container (page 300)	NLS:License Certificate
Named By	NLS:License ID (page 872)	NLS:License Certificate

Mandatory Attributes

NLS:License Certificate	Inherited from Top
NLS:Common Certificate (page 865)	Object Class (page 648)
NLS:License ID (page 872)	
NLS:Revision (page 880)	

Optional Attributes

NLS:License Certificate

[NLS:Owner \(page 875\)](#)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
Back Link (page 351)	masvDefaultRange (page 555)
Bindery Property (page 353)	masvProposedLabel (page 565)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	Other GUID (page 651)
Certificate Revocation (page 363)	Reference (page 699)
Certificate Validity Interval (page 364)	Revision (page 704)
Cross Certificate Pair (page 376)	Used By (page 757)
Equivalent To Me (page 429)	

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

NLS:License Server

Stores the configuration information for the licensing server (the nlsisp nlm).

Type: Effective

ASN.1 ID

2.16.840.1.113719.1.51.6.1.2

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Server (page 239)
	Server (page 239)	NLS:License Server
Containment	domain (page 114)	Server (page 239)
	Organization (page 198)	Server (page 239)
	Organizational Unit (page 206)	Server (page 239)
Named By	CN (Common Name) (page 372)	Server (page 239)

Mandatory Attributes

NLS:License Server	Inherited from Top	Inherited from Server
Host Server (page 460)	Object Class (page 648)	CN (Common Name) (page 372)
NLS:License Database (page 871)		
NLS:LSP Revision (page 874)		
NLS:Transaction Database (page 884)		

Optional Attributes

NLS:License Server

NLS:Transaction Log Name (page 885)

NLS:Search Type (page 881)

NLS:Transaction Log Size (page 886)

Inherited from Top

ACL (page 331)

GUID (page 445)

Audit:File Link (page 341)

Last Referenced Time (page 478)

Authority Revocation (page 347)

masvAuthorizedRange (page 553)

Back Link (page 351)

masvDefaultRange (page 555)

Bindery Property (page 353)

masvProposedLabel (page 565)

CA Private Key (page 359)

Obituary (page 646)

CA Public Key (page 360)

Other GUID (page 651)

Certificate Revocation (page 363)

Reference (page 699)

Certificate Validity Interval (page 364)

Revision (page 704)

Cross Certificate Pair (page 376)

Used By (page 757)

Equivalent To Me (page 429)

Inherited from Server

Account Balance (page 330)

Public Key (page 692)

Allow Unlimited Credit (page 332)

Resource (page 703)

Description (page 381)

Security Equals (page 720)

Full Name (page 439)

Security Flags (page 721)

Host Device (page 458)

See Also (page 722)

L (Locality Name) (page 474)

Status (page 730)

Minimum Account Balance (page 575)

SvcInfo (page 949)

Network Address (page 604)

SvcType (page 950)

O (Organization Name) (page 644)

SvcTypeID (page 951)

OU (Organizational Unit Name) (page 653)

User (page 758)

Private Key (page 688)

Version (page 767)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)
[Public]	Read	Network Address	Server (page 239)
[Self]	Supervisor	[Entry Rights]	Server (page 239)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

NLS:Product Container

Contains the license certificates for a product and stores the summary information.

Type: Effective

ASN.1 ID

2.16.840.1.113719.1.51.6.1.0

Class Flags

Class Flags	Setting
Container	On
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	NLS:Product Container
Containment	Organization (page 198)	NLS:Product Container
	Organizational Unit (page 206)	NLS:Product Container
Named By	NLS:Publisher (page 879)	NLS:Product Container
	NLS:Product (page 878)	NLS:Product Container
	NLS:Version (page 887)	NLS:Product Container

Mandatory Attributes

NLS:Product Container	Inherited from Top
NLS:Product (page 878)	Object Class (page 648)
NLS:Publisher (page 879)	
NLS:Revision (page 880)	
NLS:Version (page 887)	

Optional Attributes

NLS:Product Container

NLS:Current Installed (page 866)	NLS:Peak Installed Data (page 876)
NLS:Current Peak Installed (page 867)	NLS:Peak Used Data (page 877)
NLS:Current Peak Used (page 868)	NLS:Summary Update Time (page 882)
NLS:Current Used (page 869)	NLS:Summary Version (page 883)
NLS:Hourly Data Size (page 870)	

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
Back Link (page 351)	masvDefaultRange (page 555)
Bindery Property (page 353)	masvProposedLabel (page 565)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	Other GUID (page 651)
Certificate Revocation (page 363)	Reference (page 699)
Certificate Validity Interval (page 364)	Revision (page 704)
Cross Certificate Pair (page 376)	Used By (page 757)
Equivalent To Me (page 429)	

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

NSCP:mailGroup5

Replaced by [NSCP:mailGroup1 \(page 183\)](#).

NSCP:Nginfo

Replaced by [NSCP:nginfo3 \(page 194\)](#).

NSCP:Nginfo2

Replaced by [NSCP:nginfo3 \(page 194\)](#).

SLP Scope Unit

Contains SLP Service objects.

Type: Effective

ASN.1 ID

2.16.840.1.113719.1.49.6.1.1

Class Flags

Class Flags	Setting
Container	On
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	SLP Scope Unit
Containment	Country (page 90)	SLP Scope Unit
	Locality (page 146)	SLP Scope Unit
	Organization (page 198)	SLP Scope Unit
	Organizational Unit (page 206)	SLP Scope Unit
Named By	SU (page 948)	SLP Scope Unit

Mandatory Attributes

SLP Scope Unit	Inherited from Top
(None)	Object Class (page 648)

Optional Attributes

SLP Scope Unit

SLP Scope Name (page 938)	SLP SU Type (page 943)
SLP SU Back Link (page 942)	SU (page 948)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
Back Link (page 351)	masvDefaultRange (page 555)
Bindery Property (page 353)	masvProposedLabel (page 565)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	Other GUID (page 651)
Certificate Revocation (page 363)	Reference (page 699)
Certificate Validity Interval (page 364)	Revision (page 704)
Cross Certificate Pair (page 376)	Used By (page 757)
Equivalent To Me (page 429)	

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

Each SLP Scope Unit object contains all the SLP Service objects found in the specified scope or scopes. Since this is an eDirectory container object, it can become its own partition, which can then be replicated and placed on a server in any location that needs service information.

In a typical eDirectory tree, the tree will contain one SLP Scope Unit object with a scope for each geographically separate location (for example, a scope for Provo and a scope for San Jose). The object would be its own partition, and a replica would be placed in Provo and San Jose. The San Jose replica would keep the San Jose services current, and eDirectory would synchronize the For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.information with the Provo replica. The Provo services would be kept current in Provo, and then synchronized with San Jose. Both sites would contain a complete list of available services.

The SLP Directory Agent object obtains its rights to SLP Service objects from the SLP Scope Unit object. The SLP Scope Unit object should have Read, Write, and Browse rights to the objects in its container. The agent control over the SLP Service objects can be restricted by modifying these rights.

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

SLP Directory Agent

Identifies an instance of a Directory Agent and contains its configuration information.

Type: Effective

ASN.1 ID

2.16.840.1.113719.1.49.6.1.2

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	SLP Directory Agent
Containment	Country (page 90)	SLP Directory Agent
	Locality (page 146)	SLP Directory Agent
	Organization (page 198)	SLP Directory Agent
	Organizational Unit (page 206)	SLP Directory Agent
	CN (Common Name) (page 372)	SLP Directory Agent
Named By	CN (Common Name) (page 372)	SLP Directory Agent

Mandatory Attributes

SLP Directory Agent	Inherited from Top
(None)	Object Class (page 648)

Optional Attributes

SLP Directory Agent

CN (Common Name) (page 372)	SLP DA Back Link (page 934)
Private Key (page 688)	SLP Scope Unit DN (page 939)
Public Key (page 692)	SLP Start Purge Hour (page 940)
SLP Cache Limit (page 933)	SLP Status (page 941)

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
Back Link (page 351)	masvDefaultRange (page 555)
Bindery Property (page 353)	masvProposedLabel (page 565)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	Other GUID (page 651)
Certificate Revocation (page 363)	Reference (page 699)
Certificate Validity Interval (page 364)	Revision (page 704)
Cross Certificate Pair (page 376)	Used By (page 757)
Equivalent To Me (page 429)	

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

Each NetWare server that is running a SLP Directory Agent requires an SLP Directory Agent object.

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

SLP Service

Identifies a network resource that has registered its service with the SLP Directory Agent.

Type: Effective

ASN.1 ID

2.16.840.1.113719.1.49.6.1.3

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	SLP Service
Containment	SLP Scope Unit (page 305)	SLP Service
Named By	CN (Common Name) (page 372)	SLP Service

Mandatory Attributes

SLP Service	Inherited from Top
SLP Language (page 936)	Object Class (page 648)
SLP Lifetime (page 937)	
SLP Type (page 944)	
SLP URL (page 945)	

Optional Attributes

SLP Directory Agent

[CN \(Common Name\) \(page 372\)](#)

[SLP Attribute \(page 932\)](#)

Inherited from Top

[ACL \(page 331\)](#)

[Audit:File Link \(page 341\)](#)

[Authority Revocation \(page 347\)](#)

[Back Link \(page 351\)](#)

[Bindery Property \(page 353\)](#)

[CA Private Key \(page 359\)](#)

[CA Public Key \(page 360\)](#)

[Certificate Revocation \(page 363\)](#)

[Certificate Validity Interval \(page 364\)](#)

[Cross Certificate Pair \(page 376\)](#)

[Equivalent To Me \(page 429\)](#)

[GUID \(page 445\)](#)

[Last Referenced Time \(page 478\)](#)

[masvAuthorizedRange \(page 553\)](#)

[masvDefaultRange \(page 555\)](#)

[masvProposedLabel \(page 565\)](#)

[Obituary \(page 646\)](#)

[Other GUID \(page 651\)](#)

[Reference \(page 699\)](#)

[Revision \(page 704\)](#)

[Used By \(page 757\)](#)

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

When the SLP Directory Agent first loads, it creates an SLP Service object for each network service that it discovers. The object contains all the information a client requires to discover the service type and its location.

Network administrators can create SLP Service objects with a snap-in to the NetWare Administrator utility. This is the recommended procedure, for with the utility, the administrator can place the SLP Service objects in an SLP Scope Unit container.

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

SMS SMDR Class

Provides for SMDR (Storage Management Data Requester) location and name resolution on an IP network.

Type: Effective

Class Flags

Class Flags	Setting
Container	Off
Effective	On
Nonremovable	Off
Ambiguous Naming	Off
Ambiguous Container	Off
Auxiliary Class	Off

Class Structure

Rule	Class/Attribute	Defined For
Super Classes	Top (page 249)	Resource (page 231)
	Resource (page 231)	SMS SMDR Class
Containment	domain (page 114)	Resource (page 231)
	Organization (page 198)	Resource (page 231)
	Organizational Unit (page 206)	Resource (page 231)
Named By	CN (Common Name) (page 372)	Resource (page 231)

Mandatory Attributes

SMS SMDR Class	Inherited from Top	Inherited from Resource
(None)	Object Class (page 648)	CN (Common Name) (page 372)

Optional Attributes

SMS SMDR Class

SAP Name (page 710)	Status (page 730)
SMS Protocol Address (page 946)	Version (page 767)
SMS Registered Service (page 947)	

Inherited from Top

ACL (page 331)	GUID (page 445)
Audit:File Link (page 341)	Last Referenced Time (page 478)
Authority Revocation (page 347)	masvAuthorizedRange (page 553)
Back Link (page 351)	masvDefaultRange (page 555)
Bindery Property (page 353)	masvProposedLabel (page 565)
CA Private Key (page 359)	Obituary (page 646)
CA Public Key (page 360)	Other GUID (page 651)
Certificate Revocation (page 363)	Reference (page 699)
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Inherited from Resource

Description (page 381)	OU (Organizational Unit Name) (page 653)
Host Resource Name (page 459)	See Also (page 722)
L (Locality Name) (page 474)	Uses (page 762)
O (Organization Name) (page 644)	

Default ACL Template

Object Name	Default Rights	Affected Attributes	Class Defined For
[Creator]	Supervisor	[Entry Rights]	Top (page 249)

Remarks

When the SMDR starts the first time, it creates an SMS SMDR Class object in its configured context. This object is made a member of a container object which holds objects for all the SMDRs on the network. When an SMDR receives a service or name resolution request on an IP network, the SMDR uses the objects in the container to find the requested information.

For help in understanding the class definition template, see [“Reading Class Definitions” on page 29](#).

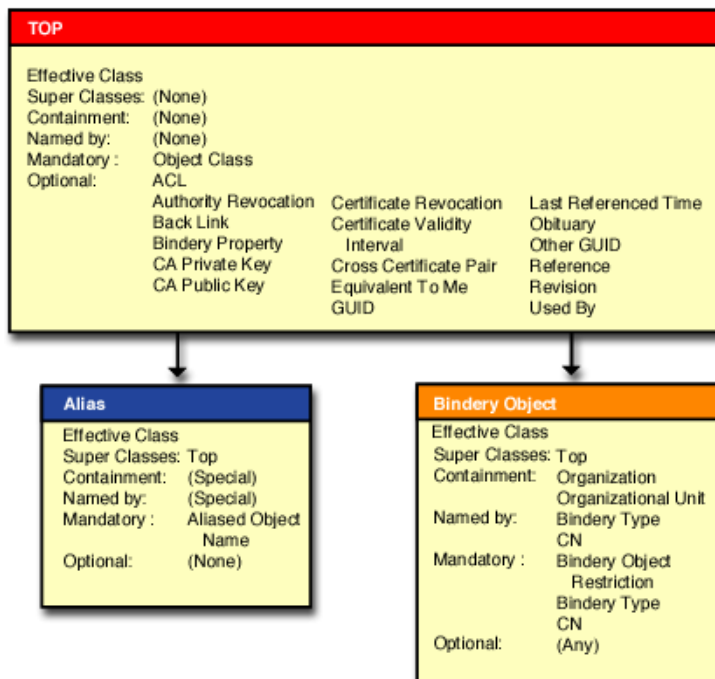
For LDAP clients to access this class, the LDAP server must map this class to a name that contains no spaces or colons.

Graphical View of Object Class Inheritance

This section displays the inheritance for all the object classes defined in the Novell® eDirectory™ operational schema. For more information, see [“Graphical View Explanation” on page 39](#).

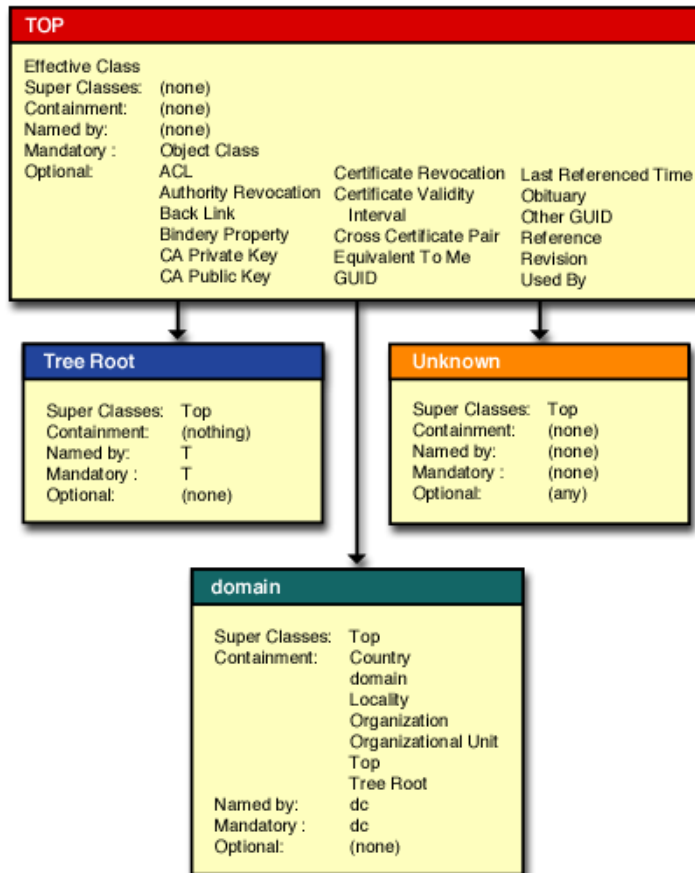
4.1 Alias and Bindery Object Classes

Figure 4-1 Graphical View of Alias and Bindery Object Class Inheritance



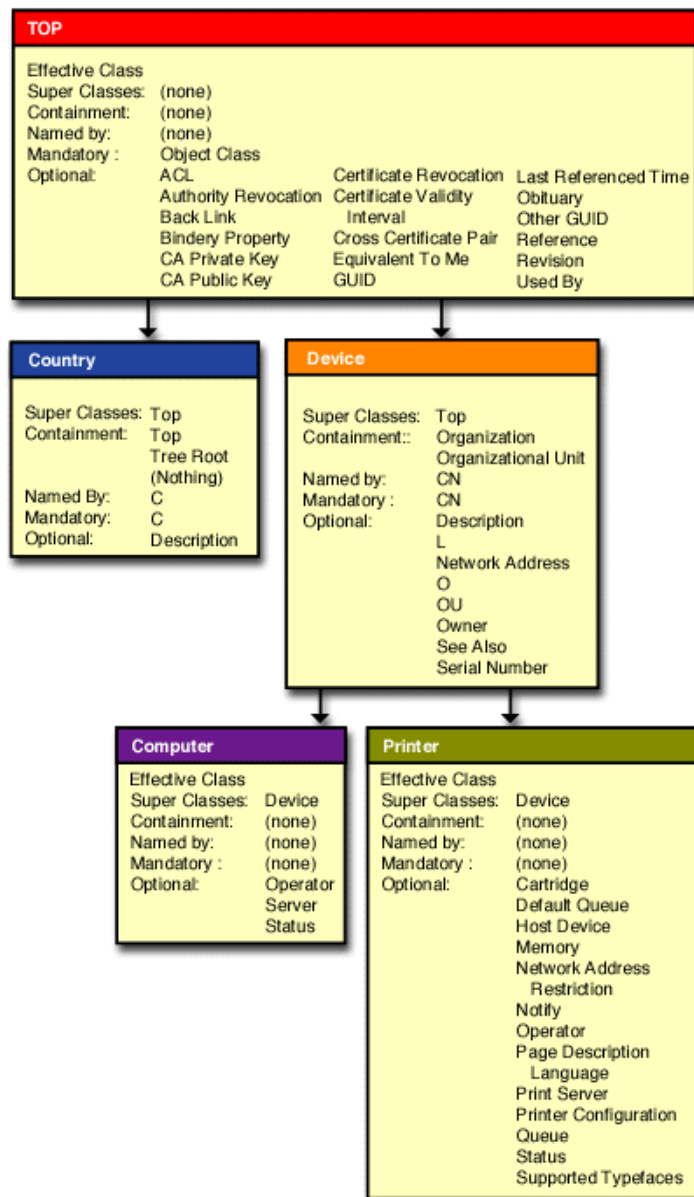
4.2 Tree Root, domain, and Unknown

Figure 4-2 Graphical View of Tree Root, domain, and Unknown Class Inheritance.



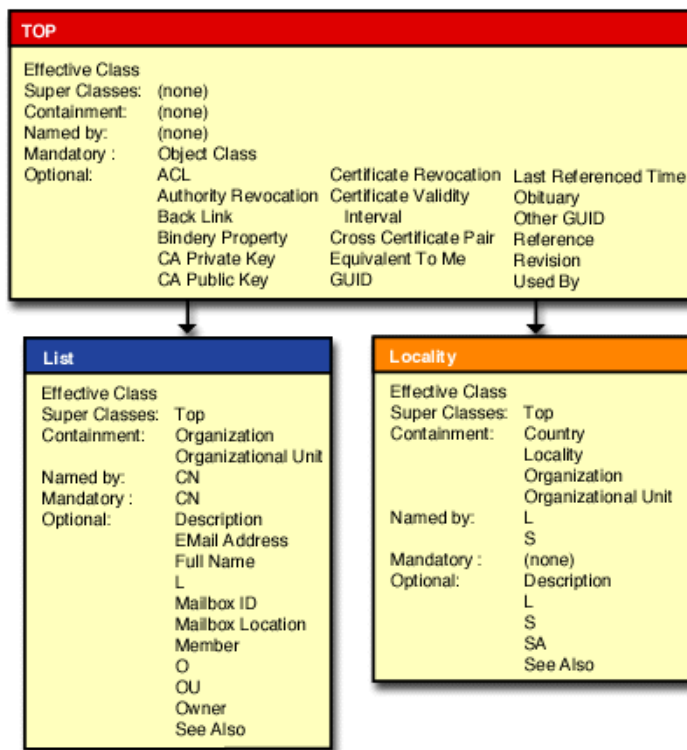
4.3 Computer, Country, Device, and Printer

Figure 4-3 Graphical View of Computer, Country, Device, and Printer Class Inheritance



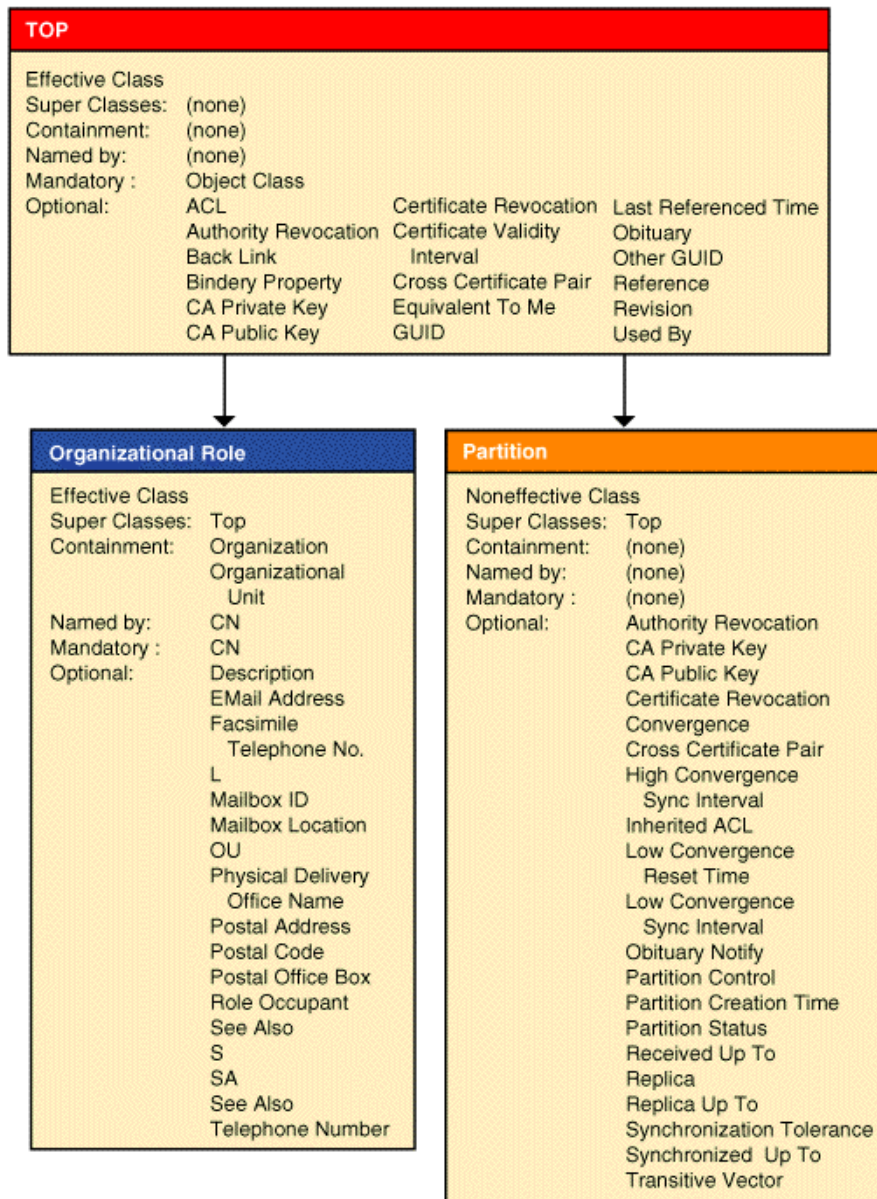
4.4 List and Locality

Figure 4-4 Graphical View of List and Locality Class Inheritance



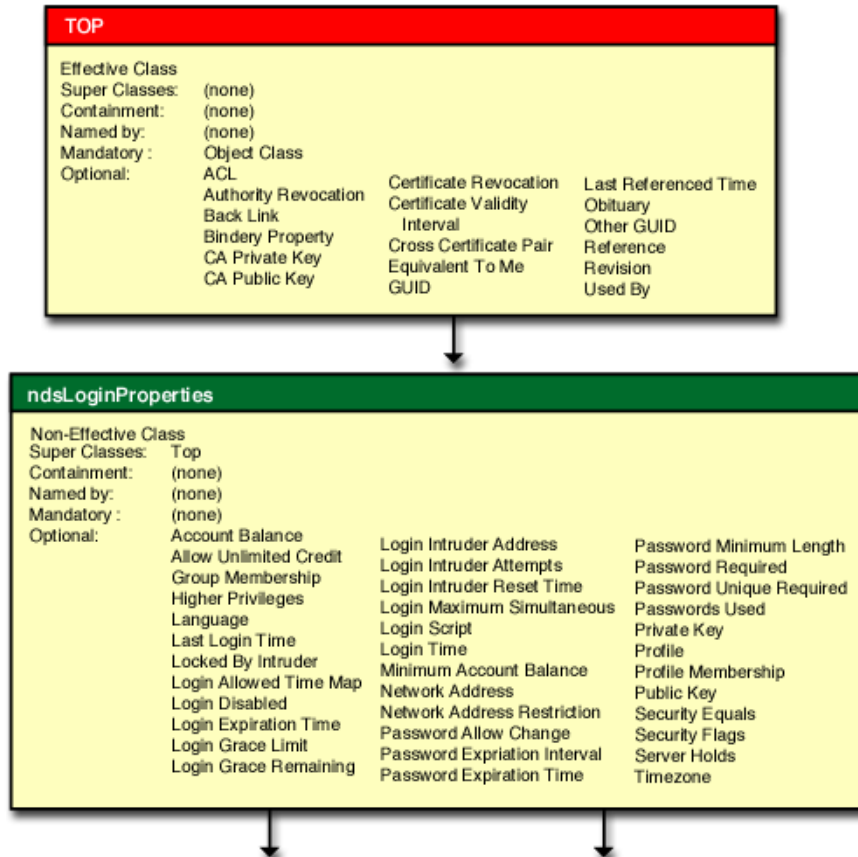
4.5 Organizational Role and Partition

Figure 4-5 Graphical View of Organizational Role and Partition Class Inheritance



4.6 ndsLoginProperties, Organization, and Organizational Unit

Figure 4-6 Graphical View of ndsLoginProperties, Organization, and Organizational Unit Class Inheritance

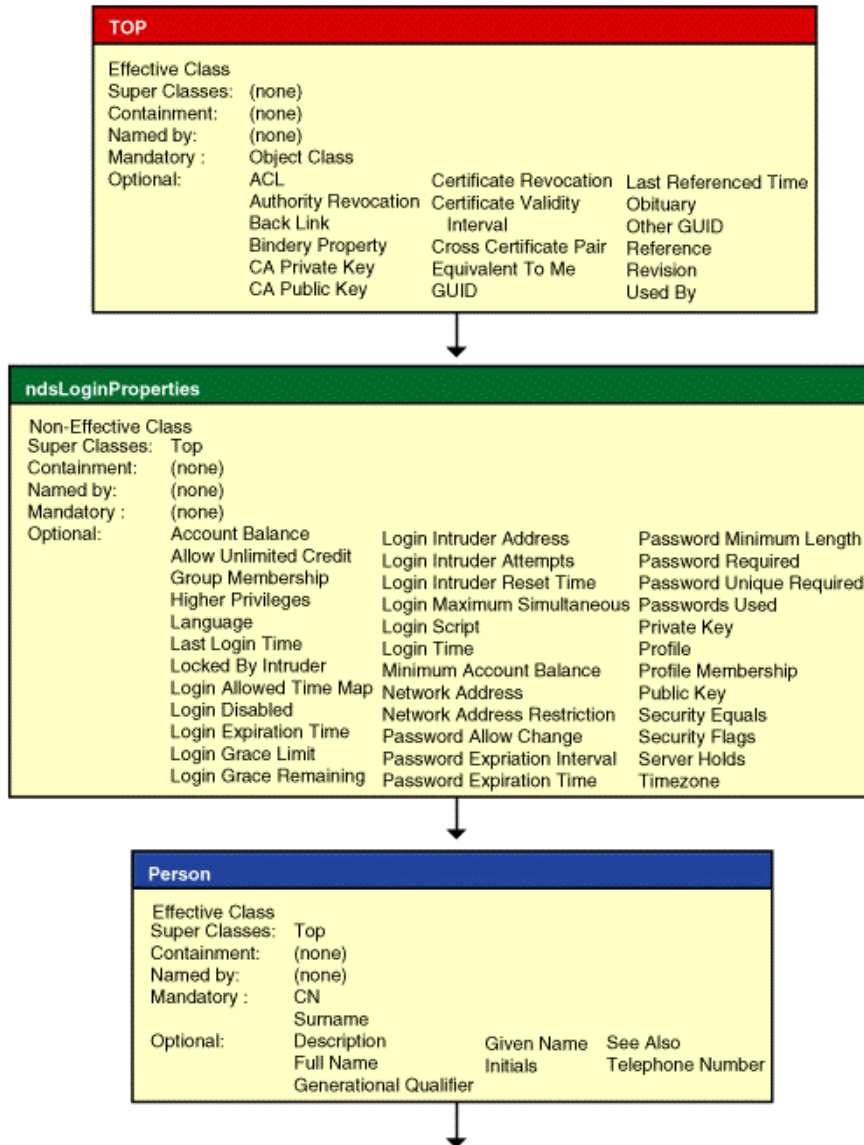


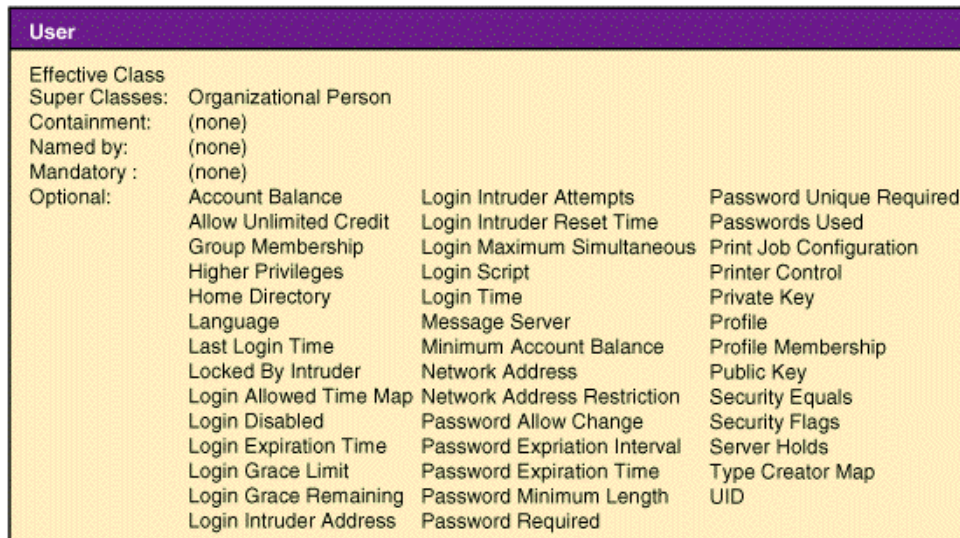
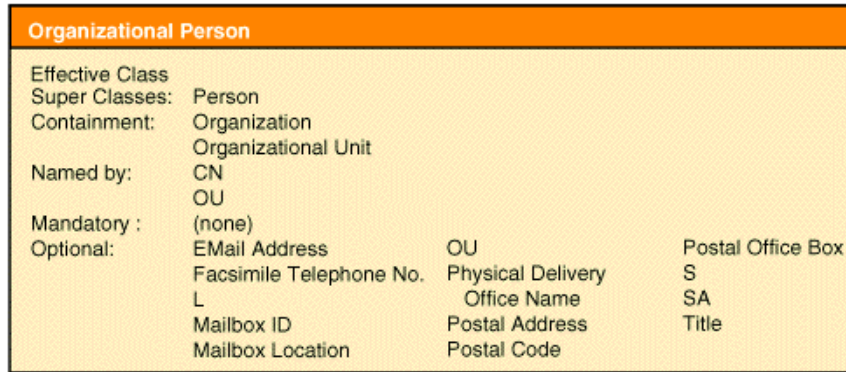
Organization	
Effective Class	
Super Classes:	Top
Containment:	Country
	Locality
	Top
	Tree Root
	(Nothing)
Named by:	O
Mandatory :	O
Optional:	Description
	Detect Intruder
	Email Address
	Facsimile
	Telephone No.
	Intruder Attempt
	Reset Interval
	Intruder Lockout
	Reset Interval
	L
	Lockout After
	Detection
	Login Intruder
	Limit
	Login Script
	Mailbox ID
	Mailbox Location
	NNS Domain
	Physical Delivery
	Office Name
	Postal Address
	Postal Code
	Postal Office Box
	Print Job
	Configuration
	Printer Control
	S
	SA
	See Also
	Telephone Number

Organizational Unit	
Effective Class	
Super Classes:	Top
Containment:	Locality
	Organization
	Organizational Unit
Named by:	OU
Mandatory :	OU
Optional:	Description
	Detect Intruder
	Email Address
	Facsimile
	Telephone No.
	Intruder Attempt
	Reset Interval
	Intruder Lockout
	Reset Interval
	L
	Lockout After
	Detection
	Login Intruder
	Limit
	Login Script
	Mailbox ID
	Mailbox Location
	NNS Domain
	Physical Delivery
	Office Name
	Postal Address
	Postal Code
	Postal Office Box
	Print Job
	Configuration
	Printer Control
	S
	SA
	See Also
	Telephone Number

4.7 ndsLoginProperties, Person, Organizational Person, and User

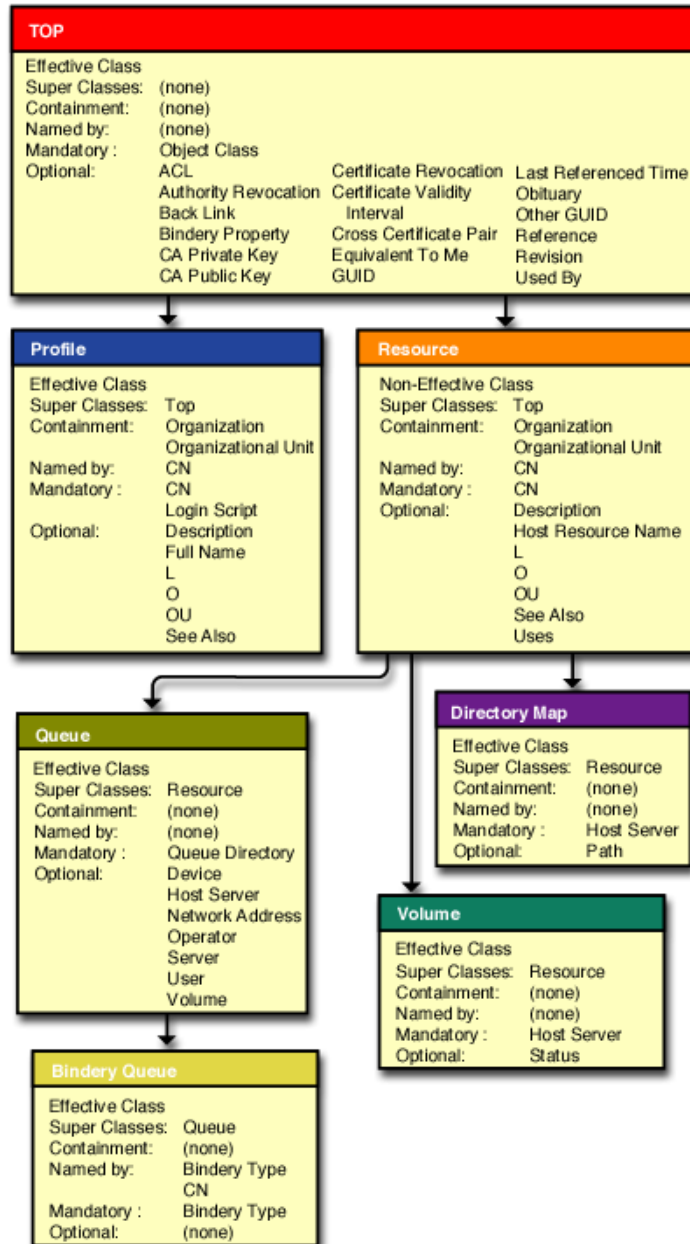
Figure 4-7 Graphical View of *ndsLoginProperties*, *Person*, *Organizational Person*, and *User* Class Inheritance





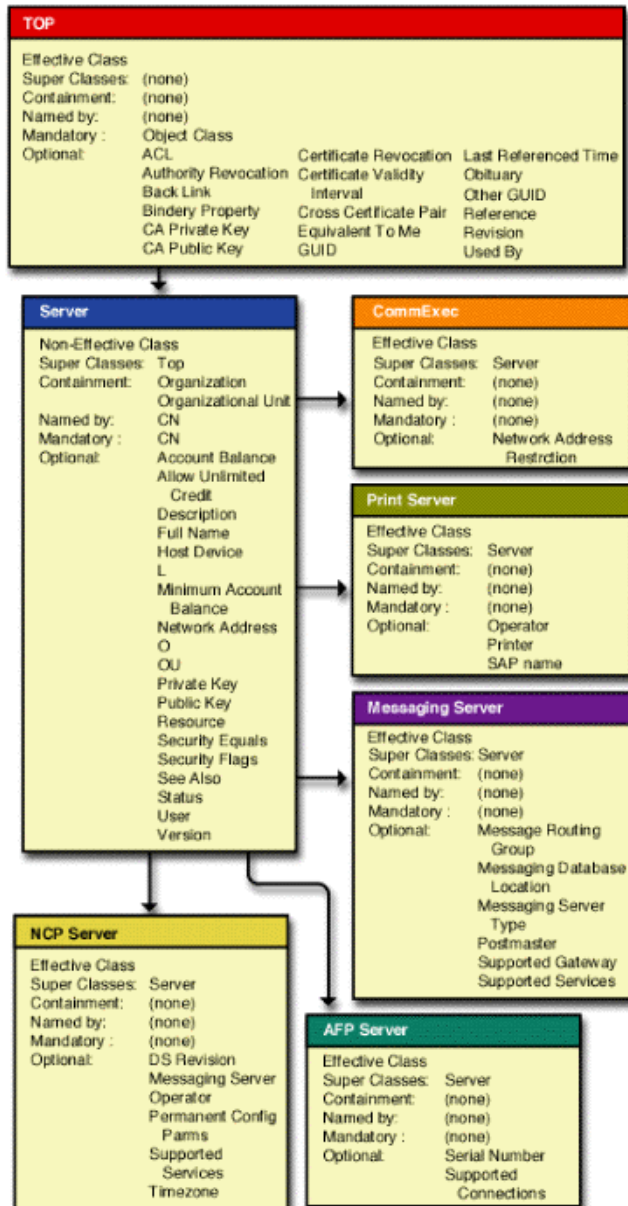
4.8 Directory Map, Profile, Queue, Resource, and Volume

Figure 4-8 Graphical View of Directory Map, Profile, Queue, Resource, and Volume Class Inheritance



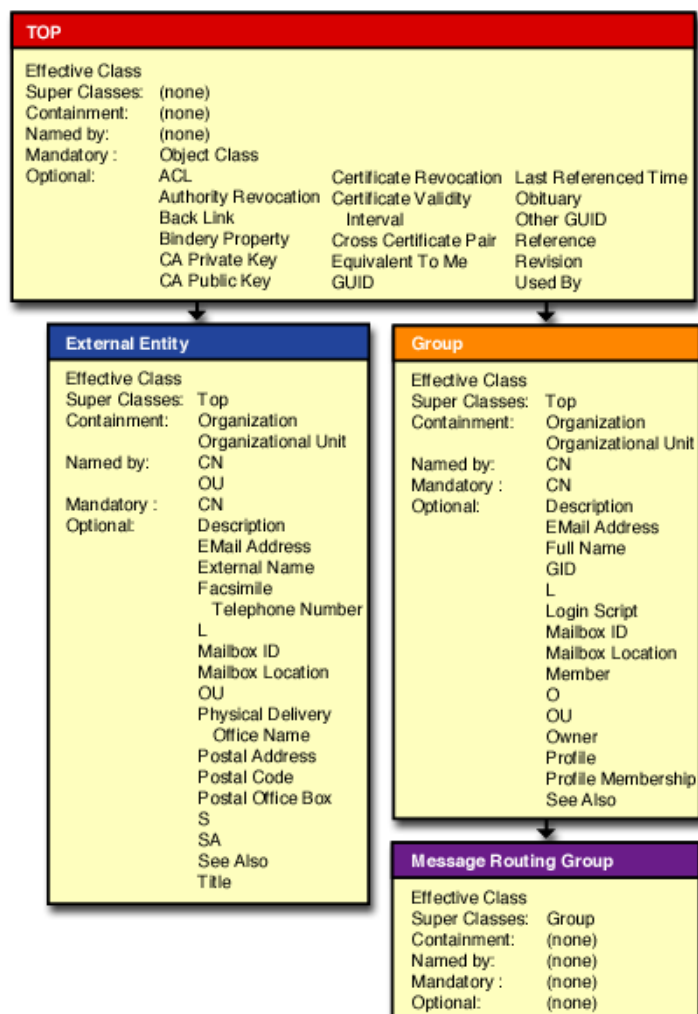
4.9 Servers (AFP, Messaging, NCP, Print) and CommExec

Figure 4-9 Graphical View of Server Class Inheritance



4.10 External Entity, Group, and Message Routing Group

Figure 4-10 Graphical View of External Entity, Group, and Message Routing Group Class Inheritance



Base Attribute Definitions

5

This chapter lists alphabetically all the attribute definitions installed with Novell® eDirectory™.

- ♦ For the attribute definitions which are added during a default NetWare® installation or with the downloadable schema files, see [“Novell Attribute Extensions” on page 779](#).
- ♦ For LDAP operational attributes, see [“LDAP Operational Attributes” on page 953](#).
- ♦ For an explanation of the types of information included about each attribute, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Aliased Object Name

Assigned to alias objects in the eDirectory tree. The aliased object is the object to which the alias points.

NDS Operational: Yes

LDAP Name

aliasedObjectName

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.1

Used In

[Alias \(page 63\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For Alias class objects, this attribute is mandatory.

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

accessCardNumber

Identifies the security card assigned to the employee.

Added: NDS eDirectory 8.5

LDAP Name

accessCardNumber

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.21

Used In

[Person \(page 212\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

Account Balance

Specifies the amount of credit (or money) the user has to spend on the purchase of network services. If the server has accounting rules activated, services are refused to the user when the user's account balance drops below a specified minimum balance.

NDS Operational: Yes

Syntax

[Counter \(page 978\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.1

Used In

[Server \(page 239\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Counter syntax.

ACL

Contains access control information for the object and its attributes.

NDS Operational: Yes

Syntax

[Object ACL \(page 997\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SPARSE_REQUIRED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.2

Used In

[Top \(page 249\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Allow Unlimited Credit

Allows the user to access and use all network services he or she has rights to, without maintaining a minimum account balance.

NDS Operational: Yes

Syntax

Boolean (page 966)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.4

Used In

Server (page 239)

User (page 255)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

assistant

Holds the distinguished name of a person's assistant.

Added: NDS eDirectory 8.5

LDAP Name

assistant

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.2

Used In

[Person \(page 212\)](#)

[Template \(page 246\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

assistantPhone

Holds the phone number of a person's assistant.

Added: NDS eDirectory 8.5

LDAP Name

assistantPhone

Syntax

[Telephone Number \(page 1014\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.3

Used In

[Person \(page 212\)](#)

[Template \(page 246\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

associatedName

Holds the distinguished name of the entry's associated object.

LDAP Name

associatedName

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

0.9.2342.19200300.100.1.38

Used In

[domain \(page 114\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

attributeCertificate

Specifies an attribute certificate.

LDAP Name

attributeCertificate

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_PUBLIC_READ

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.58

Used In

[pkiCA \(page 216\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is used by Certificate Authorities (Novell and third party).

Audit:A Encryption Key

Not currently used.

Syntax

Octet String (page 1001)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.12.4.1.0

Used In

Audit:File Object (page 69)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

Audit:B Encryption Key

Not currently used.

Syntax

Octet String (page 1001)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.12.4.2.0

Used In

Audit:File Object (page 69)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

Audit:Contents

Contains no useful data.

Syntax

Integer (page 988)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.12.4.3.0

Used In

Audit:File Object (page 69)

Remarks

NDS rights to this attribute determine the rights to the physical audit file. For example, the Write right to the attribute allows the submitting of audit records; the Read right allows the reading of audit records.

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

Audit:Current Encryption Key

Not currently used.

Syntax

Octet String (page 1001)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.12.4.5.0

Used In

Audit:File Object (page 69)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

Audit:File Link

Contains the link to the Audit:File Object object associated with this audited object.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.12.4.6.0

Used In

[Top \(page 249\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Audit:Link List

Contains a list of objects that can submit audit records.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.12.4.7.0

Used In

[Audit:File Object \(page 69\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Audit:Path

Specifies the volume on which an audit file is stored.

Syntax

[Path \(page 1004\)](#)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.12.4.8.0

Used In

[Audit:File Object \(page 69\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Audit:Policy

Stores all the policy related information for an audited object.

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.12.4.9.0

Used In

[Audit:File Object \(page 69\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

Audit:Type

Specifies the type of audit records an Audit:File Object is currently accepting.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.12.4.4.0

Used In

[Audit:File Object \(page 69\)](#)

Remarks

Audit:File Objects can accept the following types of audit records:

Value	Type
0	Volume
1	Container
2	External

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

authorityRevocationList

Specifies an authentication revocation list for certificate management.

LDAP Name

authorityRevocationList
authorityRevocationList;binary

Syntax

Octet String (page 1001)

Constraints

DS_PUBLIC_READ
DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.38

Used In

certificationAuthority (page 78)
cRLDistributionPoint (page 92)
pkiCA (page 216)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

This attribute is used by Certificate Authorities (Novell and third party).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

Authority Revocation

Contains a time-stamped list of revoked public keys of all Certificate Authorities known and certified by the Certificate Authority.

NDS Operational: Yes

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_READ_ONLY_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.5

Used In

[Partition \(page 209\)](#)

[Top \(page 249\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the octet string syntax.

AuxClass Object Class Backup

Allows auxiliary class information to be stored on an eDirectory server not running NDS 8.

NDS Operational: Yes

Syntax

[Class Name \(page 976\)](#)

Constraints

DS_OPERATIONAL
DS_READ_ONLY_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.507

Used In

(Special)

Remarks

The name has a maximum size of 32 characters.

When an NDS 8 server must send object information that includes auxiliary class attributes to a server running an earlier version of NDS, the NDS 8 server copies the values in the Object Class attribute to the AuxClass Object Class Backup attribute and changes the object's class to Unknown.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

auxClassCompatibility

Used by eDirectory to provide auxillary class compatibility with older servers.

NDS Operational: Yes

LDAP Name

auxClassCompatibility

Syntax

[Class Name \(page 976\)](#)

Constraints

DS_SYNC_IMMEDIATE
DS_PUBLIC_READ
DS_NONREMOVABLE_ATTR
DS_READ_ONLY_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.525

Used In

[Top \(page 249\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Auxiliary Class Flag

Indicates that the class is an auxiliary class.

NDS Operational: Yes

Syntax

Unknown (page 1022)

Constraints

DS_OPERATIONAL
DS_READ_ONLY_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.503

Used In

(Special)

Remarks

When the schema definition for an auxiliary class is sent to an NDS server that is running a version of NDS previous to NDS 8, the NDS 8 server adds this attribute to the auxiliary class, removes the auxiliary class flag, and then sends the definition to the server. The NDS server running a version of NDS previous to NDS 8 can then store the definition as a standard class definition.

If an NDS 8 server receives a class definition with this attribute, it knows that the class is an auxiliary class and adds the definition to its schema as an auxiliary class.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Back Link

In NetWare 4.x, attached to any object for which an external reference is required by a remote server.

NDS Operational: Yes

Syntax

[Back Link \(page 964\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_READ_ONLY_ATTR
DS_SERVER_READ
DS_SPARSE_REQUIRED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.6

Used In

[Top \(page 249\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute contains the set of servers that store an external reference to an associated object. The attribute is used to notify such servers of changes in the status of the object. For NetWare 5.x, see the Used By attribute.

LDAP clients cannot access this attribute because the LDAP server does not currently support the Back Link syntax.

Bindery Object Restriction

Contains a single-valued integer attribute used by bindery objects. It consists of an error code that indicates the reason the bindery object cannot be represented as an NDS object.

NDS Operational: Yes

Syntax

[Integer \(page 988\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_READ_ONLY_ATTR

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.7

Used In

[Bindery Object \(page 72\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For the Bindery Object class, this attribute is mandatory.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Bindery Property

Emulates bindery properties that cannot be represented with other attribute types.

NDS Operational: Yes

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_READ_ONLY_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.8

Used In

[Top \(page 249\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

In the bindery, properties of any name and data structure can be attached to objects. This is not the case with NDS. Bindery Property attributes hold the information stored in bindery properties through the bindery API and the Bindery Services.

Any object can have a bindery property through inheritance from Top, but only Users, Groups, Queues, Print Servers, Profiles, and Bindery Objects can be accessed through bindery service calls. Bindery Property attributes can only be added through bindery service calls. So even though it may be legal in the schema, in practice, no other objects will ever have bindery properties.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Octet String syntax.

Bindery Restriction Level

Restricts the rights granted to objects that are security equivalent to the bindery SUPERVISOR.

NDS Operational: Yes

Syntax

Integer (page 988)

Constraints

DS_NONREMOVABLE_ATTR

DS_OPERATIONAL

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.179

Used In

(None)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is new in NetWare 5.x and must be added to the class definition of Organization or Organizational Unit. Once added to the class, the attribute can be stored on a container that is part of the bindery context path of a server.

If the attribute is present and the value is nonzero, objects which are equivalent to the server object are restricted to the rights the objects obtain through normal NDS rights inheritance. If this attribute is set to zero or not present, objects which are security equivalent the server object and to the bindery SUPERVISOR are granted all rights to the server object.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Bindery Type

Associates a bindery object type with an object of class Bindery Object.

NDS Operational: Yes

Syntax

[Numeric String \(page 995\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_READ_ONLY_ATTR

DS_SINGLE_VALUED_ATTR

DS_STRING_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.9

Used In

[Bindery Object \(page 72\)](#)

[Bindery Queue \(page 75\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For the Bindery Object and Bindery Queue classes, this attribute is mandatory.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

businessCategory

Specifies the kind of business performed by an organization.

LDAP Name

businessCategory

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SIZED_ATTR (1..128)

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.15

Used In

[inetOrgPerson \(page 271\)](#)

[NSCP:groupOfCertificates \(page 181\)](#)

[Organizational Person \(page 201\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An LDAP schema query requires extensions to return the NDS attribute constraints.

C (Country Name)

Specifies the name of a country.

NDS Operational: Yes

LDAP Name

c
countryName

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SIZED_ATTR (2, 2)
DS_STRING_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.6

Used In

[Country \(page 90\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For the Country class, this attribute is mandatory.

When used as a component of an NDS name, a country name identifies the country in which the named object is either physically located or associated with in some other important way. An attribute value for country name is a string chosen from ISO 3166, which is a list of 2-character country abbreviations for all the countries in the world.

A non-extended LDAP schema query returns only the single-valued constraint.

cACertificate

Specifies a certificate authority certificate for certificate management.

LDAP Name

cACertificate

cACertificate;binary

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_PUBLIC_READ

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.37

Used In

[certificationAuthority \(page 78\)](#)

[cRLDistributionPoint \(page 92\)](#)

[pkiCA \(page 216\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is used by Certificate Authorities (Novell and third party).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

CA Private Key

Contains the Certificate Authority private key.

NDS Operational: Yes

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_HIDDEN_ATTR
DS_NONREMOVABLE_ATTR
DS_READ_ONLY_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.11

Used In

[Partition \(page 209\)](#)

[Top \(page 249\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Applications cannot access this attribute since it is a hidden attribute.

This attribute signs public keys that are produced for objects. The attribute contains the private key encrypted with the Certificate Authority’s password.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Octet String syntax.

CA Public Key

Contains the Certificate Authority public key.

NDS Operational: Yes

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_PUBLIC_READ

DS_READ_ONLY_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.12

Used In

[Partition \(page 209\)](#)

[Top \(page 249\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute verifies public keys that are produced for objects subordinate to the Certificate Authority. The attribute contains the public key along with the certificate information.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Octet String syntax.

Cartridge

Contains a list of font cartridges present on the printer.

NDS Operational: Yes

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_STRING_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.10

Used In

[Printer \(page 223\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

certificateRevocationList

Specifies a certificate revocation list for certificate management.

LDAP Name

certificateRevocationList
certificateRevocationList;binary

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_PUBLIC_READ
DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.39

Used In

[certificationAuthority \(page 78\)](#)
[cRLDistributionPoint \(page 92\)](#)
[pkiCA \(page 216\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is used by Certificate Authorities (Novell and third party).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

Certificate Revocation

Contains a time-stamped list of all public keys revoked by the Certificate Authority.

NDS Operational: Yes

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_READ_ONLY_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.13

Used In

[Partition \(page 209\)](#)

[Top \(page 249\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Octet String syntax.

Certificate Validity Interval

Specifies the amount of time that a certificate is valid.

NDS Operational: Yes

Syntax

[Interval \(page 991\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SIZED_ATTR (60..-1)

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.123

Used In

[Top \(page 249\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The length of time is specified when the certificate is made.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

children

Holds the names of the employee's children.

Added: NDS eDirectory 8.5

LDAP Name

children

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.27

Used In

[homeInfo \(page 137\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

city

Holds the name of the city where the employee works.

Added: NDS eDirectory 8.5

LDAP Name

city

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.4

Used In

[Person \(page 212\)](#)

[Template \(page 246\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

CO

Holds the name of the country.

Added: NDS eDirectory 8.5

LDAP Name

co

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

0.9.2342.19200300.100.1.43

Used In

[Person \(page 212\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

company

Holds the name of the company where the employee works.

Added: NDS eDirectory 8.5

LDAP Name

company

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.5

Used In

[Person \(page 212\)](#)

[Template \(page 246\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

costCenter

Holds the accounting code assigned to the employee.

Added: NDS eDirectory 8.5

LDAP Name

costCenter

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.14

Used In

[Person \(page 212\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

costCenterDescription

Holds the name of the cost center which this employee is assigned to.

Added: NDS eDirectory 8.5

LDAP Name

costCenterDescription

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.15

Used In

[Person \(page 212\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

crossCertificatePair

Specifies a cross certificate pair for certificate management.

LDAP Name

crossCertificatePair
crossCertificatePair;binary

Syntax

Octet String (page 1001)

Constraints

DS_PUBLIC_READ
DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.40

Used In

certificationAuthority (page 78)
cRLDistributionPoint (page 92)
pkiCA (page 216)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

This attribute is used by Certificate Authorities (Novell and third party).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

CN (Common Name)

Specifies an identifier of an object. A common name is not a complete NDS name; it is a name by which an object is commonly known in a particular context, such as within an organization.

NDS Operational: Yes

LDAP Name

cn
commonName

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SIZED_ATTR (1..64)
DS_STRING_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.3

Used In

[applicationEntity \(page 65\)](#)
[applicationProcess \(page 67\)](#)
[Bindery Object \(page 72\)](#)
[Bindery Queue \(page 75\)](#)
[cRLDistributionPoint \(page 92\)](#)
[Entrust:CRLDistributionPoint \(page 270\)](#)
[External Entity \(page 129\)](#)
[Group \(page 134\)](#)
[inetOrgPerson \(page 271\)](#)
[LDAP Server \(page 141\)](#)
[List \(page 144\)](#)
[NSCP:groupOfCertificates \(page 181\)](#)
[Organizational Role \(page 204\)](#)
[NSCP:Nginfo \(page 303\)](#)
[NSCP:Nginfo2 \(page 304\)](#)
[Person \(page 212\)](#)
[Profile \(page 226\)](#)

[Resource \(page 231\)](#)

[Server \(page 239\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For all the object classes that this attribute is defined for, this attribute is mandatory. Through inheritance, this attribute becomes mandatory for all classes subordinated to these classes.

The user, typically the administrator, who creates the object chooses the value for this attribute, subject to the guidelines the organization defines for naming new objects. By default, an object does not have rights to rename itself; thus, an object has no control over its own name. A common name is not necessarily unique in an NDS tree and can admit ambiguity within its limited scope.

Common names are usually derived from the object’s complete name. For example, a typical complete name for a person in an English-speaking country may comprise a personal title (Mr., Ms., Dr., Professor, Sir, Lord, and so on), a first name, middle names, a last name, a generational qualifier (Jr., Sr., and so on) and decorations and awards. This type of person would have a complete name that looks like the following:

Mr. Robin Lachlan Smith BSc (Hons) CEng MIEE

Often the first initial of the first name and the last name are used to create the person’s common name. Using this convention, Mr. Robin Smith might have the common name of rsmith.

Common names are leaf object names, are usually short, and conform to the naming conventions of the country or culture with which they are associated. The User object class has attributes for the components of the complete name. See the following attributes: Full Name, Generational Qualifier, Given Name, Initials, Surname, Title.

Variant names are associated with a named object as separate and alternative attribute values. Common variant names should be made available (for example, the use of a middle name as a preferred first name or the use of “Bill” in place of “William”).

An LDAP schema query requires extensions to return the NDS attribute constraints.

Convergence

Indicates how persistent a partition should be in attempting to keep its replicas up to date.

NDS Operational: Yes

Syntax

Integer (page 988)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SIZED_ATTR (0,1)
DS_SPARSE_REQUIRED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.15

Used In

Partition (page 209)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The possible values of this attribute and their meanings are:

0	Low	Do not propagate updates as they come in. Rather, wait for a periodic synchronization to update any replicas. Synchronizations can be done at a low frequency to save resources. Partitions with low convergence and pending updates should be synchronized at least once every 24 hours. See the Low Convergence Sync Interval and Low Convergence Reset Time attributes for details on setting the convergence cycle.
1	High	Make one attempt to propagate an update to all replicas when it comes in. If this fails, schedule a synchronization for the next interval time.

High is the default for this attribute.

creatorsName

Contains the name of the user that created this entry.

NDS Operational: Yes

Added: NDS eDirectory 8.5

LDAP Name

creatorsName

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_READ_ONLY_ATTR
DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE
DS_STRING_ATTR

ASN1 ID

2.5.18.3

Used In

[Top \(page 249\)](#)

Remarks

This attribute is accessible through LDAP and NDAP.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Cross Certificate Pair

Contains a pair of public keys that allow public key verification to circumvent the normal certification hierarchy. This provides a shorter certification path.

NDS Operational: Yes

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.17

Used In

[Partition \(page 209\)](#)

[Top \(page 249\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Octet String syntax.

dc

Contains the domain name for an object.

NDS Operational: Yes

LDAP Name

dc

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SIZED (1..64)

DS_STRING_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

0.9.2342.19200300.100.1.25

Used In

[domain \(page 114\)](#)

[dcObject \(page 94\)](#)

Remarks

The attribute holds one component of a domain name. For more information, see RFC 2247.

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Default Queue

Specifies a queue where jobs submitted to the specified printer go unless a different queue is specified.

NDS Operational: Yes

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SERVER_READ
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.18

Used In

[Printer \(page 223\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

deltaRevocationList

Specifies a delta revocation list for certificate management.

LDAP Name

deltaRevocationList;binary
deltaRevocationList

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_PUBLIC_READ
DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.53

Used In

[cRLDistributionPoint \(page 92\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is used by Certificate Authorities (Novell and third party).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

departmentNumber

Contains the object's department number.

LDAP Name

departmentNumber

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113730.3.1.2

Used In

[inetOrgPerson \(page 271\)](#)

[Person \(page 212\)](#)

[Template \(page 246\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute was added for Netscape support.

Description

Specifies text that describes the associated object.

NDS Operational: Yes

LDAP Name

description

multiLineDescription

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SIZED_ATTR (1..1024)

DS_STRING_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.13

Used In

[applicationEntity \(page 65\)](#)

[applicationProcess \(page 67\)](#)

[Country \(page 90\)](#)

[Device \(page 96\)](#)

[External Entity \(page 129\)](#)

[Group \(page 134\)](#)

[List \(page 144\)](#)

[Locality \(page 146\)](#)

[NSCP:groupOfCertificates \(page 181\)](#)

[Organization \(page 198\)](#)

[Organizational Role \(page 204\)](#)

[Organizational Unit \(page 206\)](#)

[Person \(page 212\)](#)

[Profile \(page 226\)](#)

[Resource \(page 231\)](#)

[Server \(page 239\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An attribute value for the Description attribute is a string in human-readable format. For example, the object “Standards Interest” might have the associated description “distribution list for exchange of information about intracompany standards development.”

An LDAP schema query requires extensions to return the NDS attribute constraints.

destinationIndicator

Specifies an attribute used in telegram service.

LDAP Name

destinationIndicator

Syntax

[Printable String \(page 1008\)](#)

Constraints

DS_SIZED_ATTR (1..128)

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.27

Used In

[Organizational Person \(page 201\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

Detect Intruder

Indicates a desire to identify suspicious login attempts.

NDS Operational: Yes

Syntax

Boolean (page 966)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.20

Used In

Organization (page 198)

Organizational Unit (page 206)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Device

Contains a list of all printers that service the specified queue.

NDS Operational: Yes

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.21

Used In

[Queue \(page 228\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

dgIdentity

Holds the dynamic group identity.

Added: NDS 8.5

LDAP Name

dgIdentity

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

DS_WRITE_MANAGED

ASN.1 ID

2.16.840.1.113719.1.1.4.1.303

Used In

[dynamicGroup \(page 123\)](#)

[dynamicGroupAux \(page 126\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

dgTimeOut

Holds the dynamic group time out value.

Added: NDS 8.5

LDAP Name

dgTimeOut

Syntax

[Integer \(page 988\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.304

Used In

[dynamicGroup \(page 123\)](#)

[dynamicGroupAux \(page 126\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

dgAllowUnknown

Determines whether or not to allow unknown member in a dynamic group.

Added: NDS 8.5

LDAP Name

dgAllowUnknown

Syntax

Boolean (page 966)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.306

Used In

dynamicGroup (page 123)

dynamicGroupAux (page 126)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

dgAllowDuplicates

Specifies whether or not to allow duplicates in the dynamic group.

Added: NDS 8.5

LDAP Name

dgAllowDuplicates

Syntax

Boolean (page 966)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.27.4.

Used In

dynamicGroup (page 123)

dynamicGroupAux (page 126)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

excludedMember

Holds a list of dynamic group members to be excluded from the dynamic member result set.

LDAP Name

excludedMember

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.302

Used In

[dynamicGroup \(page 123\)](#)

[dynamicGroupAux \(page 126\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

digitalMeID

Holds the user's digital Me identification.

Added: NDS eDirectory 8.5

LDAP Name

digitalMeID

Syntax

[Path \(page 1004\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.1

Used In

(none)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

directReports

Holds a person's direct reports.

Added: NDS eDirectory 8.5

LDAP Name

directReports

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.6

Used In

[Person \(page 212\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

DirXML-ApplicationSchema

Holds the XML file that describes the external application's schema.

Syntax

Stream (page 1012)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.14.4.1.29

Used In

DirXML-Driver (page 102)

Remarks

The schema-def element in the nds.dtd defines the format of this document. See [schema-def](http://developer.novell.com/ndk/doc/dirxml/index.html?page=/ndk/doc/dirxml/dirxmlbk/data/a5b9tp2.html) (http://developer.novell.com/ndk/doc/dirxml/index.html?page=/ndk/doc/dirxml/dirxmlbk/data/a5b9tp2.html).

DirXML-Associations

Holds the information that links an eDirectory object with an object in an external application.

NDS Operational: Yes

Syntax

[Path \(page 1004\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SPARSE_REQUIRED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.14.4.1.4

Used In

[Top \(page 249\)](#)

Remarks

This is a multi-valued attribute, so objects can have associations with multiple DirXML drivers. However, an object cannot have multiple associations with a single driver.

The Path syntax contains three fields. DirXML uses the volume field to hold distinguished name of the DirXML driver. The name space (integer) field holds the state of the association. The path field (string) contains a identifier used by the external application that uniquely identifies an object in that application.

Since all object in the eDirectory database inherit from Top, all objects have the potential for an association with an object in an external application.

DirXML-CreateRule

Contains the distinguished name of the rule object which contains the create rules.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.14.4.1.22

Used In

[DirXML-Publisher \(page 106\)](#)

[DirXML-Subscriber \(page 112\)](#)

Remarks

Create rules specify the conditions under which a new object can be created in eDirectory or the external application.

The referenced rule object can be a DirXML-Rule object with XML data or a DirXML-StyleSheet object with XSLT data.

DirXML-DriverCacheLimit

Contains the maximum size, in kilobytes, of the driver's cache file.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_PER_REPLICA

DS_PUBLIC_READ

DS_READ_ONLY_ATTR

DS_SCHEDULE_SYNC_NEVER

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.14.4.1.24

Used In

[DirXML-Driver \(page 102\)](#)

Remarks

A value of zero allows an unlimited size.

DirXML-DriverFilter

Contains the filter specifying what data will pass to and from eDirectory and the external application.

Syntax

[Stream \(page 1012\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.14.4.1.11

Used In

[DirXML-Publisher \(page 106\)](#)

[DirXML-Subscriber \(page 112\)](#)

DirXML-DriverSetDN

References the container that holds the driver's definitions that are to be run on any given server.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.14.4.1.12

DirXML-DriverStartOption

Indicates how the driver should be initialized.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_PER_REPLICA
DS_PUBLIC_READ
DS_READ_ONLY_ATTR
DS_SCHEDULE_SYNC_NEVER
DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.14.4.1.13

Used In

[DirXML-Driver \(page 102\)](#)

Remarks

Currently, three values are defined for the drivers.

Value	Description
0	Disabled. Cannot start until set to Manual or Auto.
1	Manual. Start manually through the ConsoleOne interface.
2	Auto. Start automatically when eDirectory is initialized.

DirXML-DriverStorage

Holds any required information in XML format that a driver may need between invocations.

Syntax

[Stream \(page 1012\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_PER_REPLICA
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.14.4.1.30

Used In

[DirXML-Driver \(page 102\)](#)

Remarks

The driver is responsible for storing and retrieving this information in an XML format that it understands.

DirXML-DriverTraceLevel

Contains the maximum level of DirXML trace message to output for drivers in the Driver Set.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.14.4.1.25

Used In

[DirXML-DriverSet \(page 104\)](#)

Remarks

This attribute supports the following values:

Value	Description
0	No tracing
1	Displays informational messages about DirXML
2	Displays messages and dumps the XML that the driver is sending and returning

DirXML-EventTransformationRule

Contains the distinguished name of the DirXML-StyleSheet object which contains the event transformation rules.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.14.4.1.23

Used In

[DirXML-Publisher \(page 106\)](#)

[DirXML-Subscriber \(page 112\)](#)

Remarks

Event transformation rules convert events from one type to another. For example, they can be used to convert a <delete> element to a <remove-association> element.

This is an optional method for converting between systems. A DirXML driver is not required to supply such a rule.

DirXML-InputTransform

Contains the distinguished name of the DirXML-StyleSheet object which contains transformation rules for data sent by the DirXML driver to the DirXML engine.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.14.4.1.17

Used In

[DirXML-Driver \(page 102\)](#)

Remarks

DirXML-StyleSheet object contains XSL commands for XSLT processing. These commands can be used for data format mapping such as changing a 15.2.1965 date format to a 2/15/65 format.

This is an optional method for converting between systems. A DirXML driver is not required to supply such a style sheet.

DirXML-JavaDebugPort

Contains whether the driver is using a debugging port on the Java Virtual Machine.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.14.4.1.27

Used In

[DirXML-DriverSet \(page 104\)](#)

Remarks

This attribute supports the following values:

Value	Description
0	Don't use a debugging port
-1	Auto select a debugging port

DirXML-JavaModule

Holds the name of the Java class that must be loaded with the DirXML driver.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.14.4.1.10

Used In

[DirXML-Driver \(page 102\)](#)

Remarks

The Java class must implement the com.novell.nds.dirxml.driver.SubscriptionShim interface.

DirXML-JavaTraceFile

Specifies where all Java System.out and System.err output can be logged.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.14.4.1.28

Used In

[DirXML-DriverSet \(page 104\)](#)

Remarks

This attribute contains the name and path of a file that logs the output.

DirXML-MappingRule

Contains the distinguished name of the object which contains the mapping rules.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.14.4.1.19

Used In

[DirXML-Driver \(page 102\)](#)

Remarks

Mapping rules map eDirectory class and attribute names to their corresponding names in the external application.

The referenced rule object can be a DirXML-Rule object with XML data or a DirXML-StyleSheet object with XSLT data.

DirXML-MatchingRule

Contains the distinguished name of a rule object which contains the matching rules.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.14.4.1.21

Used In

[DirXML-Publisher \(page 106\)](#)

[DirXML-Subscriber \(page 112\)](#)

Remarks

Matching rules specify how eDirectory and the external application discover that an eDirectory object corresponds to an external application entry. The rules specify which attribute values must match to create an association.

The referenced rule object can be a DirXML-Rule object with XML data or a DirXML-StyleSheet object with XSLT data.

DirXML-NativeModule

Holds the name of the DLL, NLM, or shared library that should be loaded with the driver.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.14.4.1.9

Used In

[DirXML-Driver \(page 102\)](#)

Remarks

The subscriber channel of the driver must supply a number of well defined entry points for the DirXML engine.

DirXML-OutputTransform

Contains the distinguished name of the DirXML-StyleSheet object which contains transformation rules for data send from the DirXML engine to the DirXML driver.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.14.4.1.18

Used In

[DirXML-Driver \(page 102\)](#)

Remarks

DirXML-StyleSheet object contains XSL commands for XSLT processing. These commands can be used for data format mapping such as changing a 15.2.1965 date format to a 2/15/65 format.

This is an optional method for converting between systems. A DirXML driver is not required to supply such a style sheet.

DirXML-PlacementRule

Contains the distinguished name of an object which contains the placement rules.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.14.4.1.20

Used In

[DirXML-Publisher \(page 106\)](#)

[DirXML-Subscriber \(page 112\)](#)

Remarks

Placement rules define where newly created objects are located. For the publisher, the rules define in which eDirectory containers objects can be created. For the subscriber, the rules define where newly created objects are located in the external application.

The referenced rule object can be a DirXML-Rule object with XML data or a DirXML-StyleSheet object with XSLT data.

DirXML-ShimAuthID

Holds the identity that the DirXML driver passes to the external application for authentication.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_PER_REPLICA
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.14.4.1.5

Used In

[DirXML-Driver \(page 102\)](#)

Remarks

The identity can be a name or a unique identifying number, in the format required by the external application to identify an administrator of the application.

DirXML-ShimAuthPassword

Holds the password that the DirXML driver passes to the external application for authentication.

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_PER_REPLICA
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.14.4.1.6

Used In

[DirXML-Driver \(page 102\)](#)

DirXML-ShimAuthServer

Holds information about the server hosting the external application which the DirXML driver requires for authentication.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_PER_REPLICA
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.14.4.1.7

Used In

[DirXML-Driver \(page 102\)](#)

Remarks

This is an optional attribute. If all you need to authenticate to the external application is a name and a password, then this attribute does not need a value. If the external application requires a server name or server address, this information should be store in this attribute.

DirXML-ShimConfigInfo

Holds configuration information for the DirXML driver.

Syntax

[Stream \(page 1012\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_PER_REPLICA
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.14.4.1.8

Used In

[DirXML-Driver \(page 102\)](#)

Remarks

All configuration information is optional. This attribute allows drivers to have configuration options for the driver, the publisher, and the subscriber. The information is read when the DirXML engine initializes the driver.

DirXML-ServerList

Contains the distinguished names of the servers that are using the driver set.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.14.4.1.15

Used In

[DirXML-DriverSet \(page 104\)](#)

DirXML-State

Contains the current status of the driver or the modification state of the publisher or subscriber filter.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_PER_REPLICA
DS_PUBLIC_READ
DS_READ_ONLY_ATTR
DS_SCHEDULE_SYNC_NEVER
DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.14.4.1.14

Used In

[DirXML-Driver \(page 102\)](#)

[DirXML-Publisher \(page 106\)](#)

[DirXML-Subscriber \(page 112\)](#)

Remarks

DirXML-Driver objects support the following states for the driver.

State	Description
0	Stopped
1	Starting
2	Running
3	Shutdown pending
11	Driver get schema

DirXML-Subscriber and DirXML-Publisher objects support the following states for the filter.

State	Description
0	Current
1	Modified

DirXML-Timestamp

Contains a timestamp that allows a driver to know when the external application was last synchronized with eDirectory.

Syntax

[Timestamp \(page 1018\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_PUBLIC_READ

DS_PER_REPLICA

DS_READ_ONLY_ATTR

DS_SCHEDULE_SYNC_NEVER

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.14.4.1.16

Used In

[DirXML-Subscriber \(page 112\)](#)

DirXML-XSLTraceLevel

Contains the maximum level of XSL trace messages to output for the XSL processor.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.14.4.1.26

Used In

[DirXML-DriverSet \(page 104\)](#)

Remarks

This attribute supports the following values:

Value	Description
0	No tracing
1	Displays source node processing
2	Displays the above messages and rule instantiation messages
3	Displays the above messages and temple instantiation messages
4	Displays the above messages and rule matching and select expression messages

dmdName

Specifies a directory management domain (DMD).

LDAP Name

dmdName

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SIZED_ATTR (1..32768)

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.54

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The DMD is the administrative authority which operates the directory server. For more information, see RFC 2256.

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

dn

Specifies a distinguished name.

LDAP Name

distinguishedName

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.49

Used In

None

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute was added for general LDAP support.

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

dnQualifier

Specifies information which makes an object unique when information is being merged from multiple sources and objects could have the same RDNs.

LDAP Name

dnQualifier

Syntax

Printable String (page 1008)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.46

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Each source should use the same value for the dnQualifier for all objects. For more information, see RFC 2256.

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

DS Revision

Contains the internal revision number of the NDS agent that is running on a NetWare server.

NDS Operational: Yes

LDAP Name

dsRevision

Syntax

Integer (page 988)

Constraints

DS_NONREMOVABLE_ATTR
DS_PUBLIC_READ
DS_SINGLE_VALUED_ATTR
DS_SPARSE_REQUIRED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.172

Used In

NCP Server (page 157)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

EMail Address

Contains the e-mail address of the user. The name must conform to the established conventions for e-mail names. Note that [Internet EMail Address \(page 467\)](#) is more commonly used, as it contains the e-mail address displayed in ConsoleOne and used with LDAP.

NDS Operational: Yes

Syntax

[EMail Address \(page 983\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_PUBLIC_READ

DS_SYNC_IMMEDIATE

ASN.1 ID

0.9.2342.19200300.100.1.3

Used In

[External Entity \(page 129\)](#)

[Group \(page 134\)](#)

[Organization \(page 198\)](#)

[Organizational Person \(page 201\)](#)

[Organizational Role \(page 204\)](#)

[Organizational Unit \(page 206\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

Mail Applications

The information stored in this attribute is application specific. The syntax supports a type field and an address field. The mail application defines the type and the format of the address. NDS does not verify the information; it only stores the information.

MHS Mail Applications

For MHS applications, the e-mail address for a non-MHS user is stored in the EMail Address attribute. The e-mail address for an MHS user is stored in the Mailbox Location and Mailbox ID attributes.

E-Mail Address is used to specify a user's mailbox that resides in a non-MHS E-mail system. For example, an NDS user can choose to have his or her e-mail delivered to a UNIX machine that supports the SMTP messaging protocol. This user's SMTP address in the UNIX machine is placed in the E-Mail Address attribute. (In this case, the user's Mailbox Location and Mailbox ID attributes are not used.)

E-Mail Address can also specify a user's e-mail alias as known in a foreign messaging system. A non-MHS messaging system can use the alias to send mail to an MHS user. For example, an MHS user (whose mailbox is in an MHS messaging server) can have an X400 alias so that X400 users can use this alias to send mail to the MHS user.

A user can have more than one e-mail alias, one for each non-MHS system. The E-Mail Address attribute information is stored in an E-Mail_Address_T structure. The convention for storing non-MHS E-mail addresses and aliases in the structure is as follows:

- ♦ **Non-MHS E-mail Address.** If the type field of the structure is set to zero, the data structure contains an E-mail address, in the following form:

non-MHS_Email_Protocol:non-MHS_Email_Address

The *non_MHS_Email_Protocol* is a 1-8 character string, and the *non-MHS_Email_Address* is a string for the actual address value.

Example: SMTP:JohnD@Novell.Com

- ♦ **Alias.** If the type field of the structure is set to one, the data structure contains an e-mail alias, in the following form:

non-MHS_Email_Protocol:non-MHS_Email_Alias.

The *non_MHS_Email_Protocol* is a 1-8 character string, and the *non-MHS_Email_Address* is a string for the actual alias value.

Example: SMTP:JohnD@Novell.Com

employeeType

Identifies what type of employee the object is, for example, full time or part time.

LDAP Name

employeeType

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113730.3.1.4

Used In

[inetOrgPerson \(page 271\)](#)

[Person \(page 212\)](#)

[Template \(page 246\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute was added for Netscape support.

employeeStatus

Holds the employment status of the person, for example, active, on leave, paid leave, suspended, deceased, terminated, or retired.

Added: NDS eDirectory 8.5

LDAP Name

employeeStatus

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.13

Used In

[Person \(page 212\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

enhancedSearchGuide

Specifies a search filter used by X.500 users.

LDAP Name

enhancedSearchGuide

Syntax

Octet String (page 1001)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.47

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

For more information, see RFC 2256.

Equivalent To Me

Specifies a list of objects that are security equivalent to the object containing the attribute.

NDS Operational: Yes

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SERVER_READ

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.174

Used In

[Top \(page 249\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

extensionInfo

Extensions supported by the ldap server.

Added: NDS eDirectory 8.5

LDAP Name

extensionInfo

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_PUBLIC_READ

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.27.4.42

Used In

[LDAP Server \(page 141\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

External Name

Specifies the name of the external entity in the form used by that service.

NDS Operational: Yes

Syntax

Octet String (page 1001)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.164

Used In

External Entity (page 129)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

The External Name attribute is used to hold names that will not be interpreted by NDS. These names should not be translated.

MHS uses External Name to include users from non-NDS directories, in order to provide an integrated address book for sending mail.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Octet String syntax.

External Synchronizer

Is reserved for future use.

NDS Operational: Yes

Syntax

Octet String (page 1001)

Constraints

DS_NONREMOVABLE_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.124

Used In

(None)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Octet String syntax.

Facsimile Telephone Number

Specifies the telephone number and, optionally, the parameters for a facsimile terminal associated with an object.

NDS Operational: Yes

LDAP Name

facsimileTelephoneNumber

Syntax

[Facsimile Telephone Number \(page 985\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_STRING_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.23

Used In

[External Entity \(page 129\)](#)

[Organization \(page 198\)](#)

[Organizational Person \(page 201\)](#)

[Organizational Role \(page 204\)](#)

[Organizational Unit \(page 206\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An attribute value for the facsimile telephone number is a string that complies with the internationally agreed format for showing international telephone numbers, E.123, (for example "+81 3 347 7418") and an optional bit string (formatted according to Recommendation T.30).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

federationBoundaryType

Holds the type of federation being made.

Added: NDS 8.5

LDAP Name

federationBoundaryType

Syntax

[Integer \(page 988\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

DS_READ_ONLY_ATTR

ASN.1 ID

2.16.840.1.113719.1.141.4.1

Used In

[federationBoundary \(page 132\)](#)

Remarks

Possible values for this entry are as follows:

Value	Description
0	FEDERATION_NORMAL. Accepts schema extensions, and subordinate partitions can be split off.
3	FEDERATION_FIXED_SCHEMA. Schema cannot be extended and subordinate partitions cannot be split off.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

federationControl

Holds the federation information.

Added: NDS 8.5

LDAP Name

federationControl

Syntax

[Path \(page 1004\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.141.4.4

Used In

[federationBoundary \(page 132\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

federationDNSName

Attaches the dnsTreeProxy name to the root object of independent trees.

Added: NDS 8.5

LDAP Name

federationDNSName

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

DS_PUBLIC_READ

ASN.1 ID

2.16.840.1.113719.1.141.4.3

Used In

[federationBoundary \(page 132\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

federationSearchPath

Holds a list of federation search paths.

Added: NDS 8.5

LDAP Name

federationSearchPath

Syntax

[Case Ignore List \(page 970\)](#)

Constraints

DS_SYNC_IMMEDIATE
DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.141.4.2

Used In

[federationBoundary \(page 132\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

filteredReplicaUsage

Indicates whether or not to use a filtered for an ldap search.

Added: NDS eDirectory 8.5

LDAP Name

filteredReplicaUsage

Syntax

[Integer \(page 988\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.27.4.21

Used In

[LDAP Server \(page 141\)](#)

Remarks

The following table lists possible values for filteredReplicaUsage entries:

Value	Description
0	do not use filtered replica
1	use filtered replica

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Full Name

Specifies the full name of an object.

NDS Operational: Yes

LDAP Name

fullName

Syntax

Case Ignore String (page 972)

Constraints

DS_NONREMOVABLE_ATTR

DS_SIZED_ATTR (0..127)

DS_STRING_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.120

Used In

Group (page 134)

List (page 144)

Person (page 212)

Profile (page 226)

Server (page 239)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

Full names conform to the naming conventions of the country or culture they are associated with. For example a typical full name for a person in an English speaking country might comprise a personal title, a first name, a middle name, a last name, generational qualifier, and decorations and awards.

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

Generational Qualifier

Specifies the generation of an object.

NDS Operational: Yes

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_PUBLIC_READ
DS_SINGLE_VALUED_ATTR
DS_SIZED_ATTR (1..8)
DS_STRING_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.170

Used In

[Person \(page 212\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Junior, Jr., Senior, Sr., and II are examples of generational qualifiers.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

generationQualifier

Specifies the generation of the object, which is usually the suffix.

LDAP Name

generationQualifier

Syntax

Case Ignore String (page 972)

Constraints

DS_SIZED_ATTR (1.32768)

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.44

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

Examples of generation qualifiers are Junior, Jr., Senior, Sr., and III. For more information, see RFC 2256.

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

GID (Group ID)

Specifies a unique group ID for use by UNIX[®] clients.

NDS Operational: Yes

LDAP Name

groupID

Syntax

Integer (page 988)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.24

Used In

Group (page 134)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

The LDAP server maps requests for the groupOfNames and group attributes to this attribute.

Given Name

Specifies the given name of an object.

NDS Operational: Yes

LDAP Name

givenName

Syntax

Case Ignore String (page 972)

Constraints

DS_NONREMOVABLE_ATTR

DS_PUBLIC_READ

DS_SIZED_ATTR (1..32)

DS_STRING_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.42

Used In

inetOrgPerson (page 271)

Person (page 212)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

In the American culture, Given Name is the first name of a person. It does not include the family name.

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

Group Membership

Contains a list of the groups to which the object belongs.

NDS Operational: Yes

LDAP Name

groupMembership

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SYNC_IMMEDIATE

DS_WRITE_MANAGED

ASN.1 ID

2.16.840.1.113719.1.1.4.1.25

Used In

[External Entity \(page 129\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

GUID

Contains a guaranteed unique value for any object in the NDS tree.

NDS Operational: Yes

Syntax

Octet String (page 1001)

Constraints

DS_NONREMOVABLE_ATTR

DS_OPERATIONAL

DS_PUBLIC_READ

DS_READ_ONLY_ATTR

DS_SINGLE_VALUED

DS_SIZED_ATTR (16, 16)

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.501

Used In

Top (page 249)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

This attribute is new in NetWare 5.x. The internal format of the globally unique ID (GUID) is defined by the SGUID NLM of the NetWare operating system. To generate the GUIDs, this NLM uses the policies described for UUIDs and GUIDs done by the Network Working Group.

GUID has been added as an optional attribute to the Top class so that all objects can (and eventually will) have a GUID.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Octet String syntax.

High Convergence Sync Interval

Contains the interval at which a partition synchronization will occur if no events have caused synchronization to occur.

NDS Operational: Yes

Syntax

[Interval \(page 991\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SPARSE_REQUIRED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.117

Used In

[Partition \(page 209\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

When high convergence is in effect, synchronization of partition information is event-driven. When a partition's information is changed, an immediate synchronization with other replicas is initiated. If no update activity occurs within the high convergence synchronization interval, synchronization will be initiated. The default for this interval is 60 minutes.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Higher Privileges

Specifies an alternative set of security access privileges.

NDS Operational: Yes

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SERVER_READ

DS_SYNC_IMMEDIATE

DS_WRITE_MANAGED

ASN.1 ID

2.16.840.1.113719.1.1.4.1.116

Used In

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is not currently implemented. When implemented, it will allow a person to activate a certain set of privileges, then deactivate them when desired. This avoids the need to log in as user Admin to perform certain functions. You can activate the higher privileges, perform the desired function, and then deactivate the privileges.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Home Directory

Contains the initial value for a client's current working directory.

NDS Operational: Yes

LDAP Name

homeDirectory

Syntax

[Path \(page 1004\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SIZED_ATTR (1..255)

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.26

Used In

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The Home Directory attribute is intended for use primarily by UNIX clients. UNIX clients maintain their configuration information in the client's home directory. The Home Directory attribute should contain a legal name in the UNIX name space of the Host Server defined for the client.

For DOS clients logging in using bindery mode, this attribute sets a default directory location.

DOS and OS/2 clients use login scripts to provide their initial configuration information, and MAC clients have other means for storing configuration information.

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Path syntax.

Home Directory Rights

Specifies the rights the User objects will have to their home directories when the Users are created with this Template object.

Syntax

[Integer \(page 988\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113719.1.62.4.1.1

Used In

[Template \(page 246\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

homeCity

Identifies the city where the employee lives.

Added: NDS eDirectory 8.5

LDAP Name

homeCity

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.22

Used In

[homeInfo \(page 137\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

homeEmailAddress

Holds the email address that the employee uses when at home.

Added: NDS eDirectory 8.5

LDAP Name

homeEmailAddress

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.23

Used In

[homeInfo \(page 137\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

homeFax

Holds the FAX number which the employee uses when at home.

Added: NDS eDirectory 8.5

LDAP Name

homeFax

Syntax

[Telephone Number \(page 1014\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

1.3.6.1.4.1.1466.101.120.31

Used In

[homeInfo \(page 137\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

homePhone

Contains the object's home phone number.

LDAP Name

homePhone

Syntax

[Telephone Number \(page 1014\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

0.9.2342.19200300.100.1.20

Used In

[inetOrgPerson \(page 271\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

homePostalAddress

Contains the object's home address for mail.

LDAP Name

homePostalAddress

Syntax

[Postal Address \(page 1006\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

0.9.2342.19200300.100.1.39

Used In

[inetOrgPerson \(page 271\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

homeState

Identifies the state or providence where the employee lives.

Added: NDS eDirectory 8.5

LDAP Name

homeState

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.24

Used In

[homeInfo \(page 137\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

homeZipCode

Holds the zip code of the employee's home.

Added: NDS eDirectory 8.5

LDAP Name

homeZipCode

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.25

Used In

[homeInfo \(page 137\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

houseIdentifier

Identifies a building within a location.

LDAP Name

houseIdentifier

Syntax

Case Ignore String (page 972)

Constraints

DS_SIZED_ATTR (1..32768)

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.51

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

For more information, see RFC 2256.

Host Device

Contains the distinguished name of the device with which the object is associated.

NDS Operational: Yes

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.27

Used In

[Printer \(page 223\)](#)

[Server \(page 239\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Host Resource Name

Contains the name by which the resource is known on the local host.

NDS Operational: Yes

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_STRING_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.28

Used In

[Resource \(page 231\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is used when a resource is locally known by a different name on the host server. For example, a volume’s global name might be:

```
'Tools.Development.Acme.US'
```

That volume’s local name on the server might be SYS.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Host Server

Identifies the server with which an object is associated.

NDS Operational: Yes

LDAP Name

hostServer

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.29

Used In

[Directory Map \(page 99\)](#)

[Queue \(page 228\)](#)

[Volume \(page 263\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For Volume class objects, this attribute is mandatory.

indexDefinition

Holds the information for an index.

Added: NDS eDirectory 8.5

LDAP Name

indexDefinition

Syntax

[Case Ignore List \(page 970\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113719.1.1.4.1.512

Used In

[NCP Server \(page 157\)](#)

Remarks

Each value of this attribute contains the information for a single index in the following format:

<version>\$<indexName>\$<state>\$<rule>\$<type>\$1\$<attributeName>

Version

Version contains the version value for an index. Set this value to 0 for eDirectory 8.5.

IndexName

IndexName is the descriptive name of the index.

State

State is a read-only value that defines the current state of the index. It must be one of the following:

State Value	Description
0	Online
1	Suspend. When an index is in this state it is not used in queries nor is it updated.

State Value	Description
2	Bringing Online (Low). Indicates an index is waiting to be created the next time the background process runs.
3	Bringing Online (High). Indicates an index is waiting to be created the next time the background process runs. Note that in the high priority mode the CPU load is increased dramatically while the index is being built.
4	Creating. Indicates that the index is in an intermediate state during creation.

When defining an index, the state value is almost always set to 2. Only set this value to 3 if you absolutely require the high priority index build and can handle the CPU load. The background process automatically changes the state once the process has begun.

The online and creating states are reserved for internal use. Attempts to set the state to these values are ignored.

Rule

Rule defines the matching rule to be used by the index and must be one of the following:

Value	Description
0	Value
1	Presence
2	Ends with or contains substring

Type

The type defines what type the index is, and can be one of the following values:

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Value	Description
0	User defined
1	Added when an attribute was created
2	Needed for system operation (system created)
3	Other system created index

When defining an index, set they type to 0.

AttributeName

This specifies the name of the attribute to be indexed.

Inherited ACL

Contains a summary of access control information inherited from a superior partition.

NDS Operational: Yes

Syntax

[Object ACL \(page 997\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_READ_ONLY_ATTR
DS_SPARSE_REQUIRED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.30

Used In

[Partition \(page 209\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The information in this attribute is used to optimize effective rights calculations within a partition. The attribute lists all access control information inherited from objects superior to the partition object.

The LDAP server does not currently support the Object ACL syntax. LDAP clients cannot access this attribute.

instantMessagingID

Holds the person's instant messaging ID name.

Added: NDS eDirectory 8.5

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.9

Used In

[Person \(page 212\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Initials

Specifies the initials of an object.

NDS Operational: Yes

LDAP Name

initials

Syntax

Case Ignore String (page 972)

Constraints

DS_NONREMOVABLE_ATTR

DS_PUBLIC_READ

DS_SIZED_ATTR (1..8)

DS_STRING_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.43

Used In

inetOrgPerson (page 271)

Person (page 212)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

For example, the initials for John Steven Doe are JSD.

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

internationaliSDNNNumber

Specifies an international ISDN (Integrated Services Digital Network) number used in voice, video, and data transmissions.

LDAP Name

internationaliSDNNNumber

Syntax

[Numeric String \(page 995\)](#)

Constraints

DS_SIZED_ATTR (1..16)

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.25

Used In

[Organizational Person \(page 201\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

For more information, see RFC 2256.

Internet EMail Address

Specifies an Internet e-mail address.

LDAP Name

mail

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_PUBLIC_READ

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.216

Used In

[NSCP:mailGroup5 \(page 302\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

LDAP Services for NDS uses this attribute to store an Internet e-mail address. A value is not required, but if supplied, the address is delivered to the LDAP client when a user’s e-mail address is requested.

LDAP added this attribute for Netscape support. LDAP maps requests for the mail attribute to this attribute.

Intruder Attempt Reset Interval

Designates the time frame in which to monitor consecutive failed login attempts.

NDS Operational: Yes

Syntax

[Interval \(page 991\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.31

Used In

[Organization \(page 198\)](#)

[Organizational Unit \(page 206\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

If the number of consecutive failed attempts to log in exceeds the Login Intruder Limit, the user’s account is locked to prevent further login attempts. The Intruder Attempt Reset Interval is the amount of time in which consecutive login attempts must fall. For example, assume the interval is 30 minutes and the limit is 3 login attempts. If a user attempted to log in every 20 minutes, the user would never be locked out. If the user attempted to log in every minute, a lock would be implemented after the third attempt.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Intruder Lockout Reset Interval

Identifies the amount of time a user remains locked out once an intruder detection lock has been applied.

NDS Operational: Yes

Syntax

[Interval \(page 991\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.32

Used In

[Organization \(page 198\)](#)

[Organizational Unit \(page 206\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

isManager

Determines whether a person is a manager or not.

Syntax

[Boolean \(page 966\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.32

Used In

[Person \(page 212\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

jackNumber

Holds the telephone jack number of the office assigned to the employee.

Added: NDS eDirectory 8.5

LDAP Name

jackNumber

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.19

Used In

[Person \(page 212\)](#)

[Template \(page 246\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

jobCode

Holds the code assigned to the type of job the person performs.

Added: NDS eDirectory 8.5

LDAP Name

jobCode

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.11

Used In

[Person \(page 212\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

knowledgeInformation

Specifies a standard LDAP attribute.

LDAP Name

knowledgeInformation

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SIZED_ATTR (0..32768)

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.2

Used In

[dSA \(page 120\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute was added for backwards compatibility. LDAP no longer uses this attribute. For more information, see RFC 2256.

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

L (Locality Name)

Specifies a physical or geographical location.

NDS Operational: Yes

LDAP Name

1

localityName

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SIZED_ATTR (1..128)

DS_STRING_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.7

Used In

[applicationEntity \(page 65\)](#)

[applicationProcess \(page 67\)](#)

[Device \(page 96\)](#)

[External Entity \(page 129\)](#)

[Group \(page 134\)](#)

[List \(page 144\)](#)

[Locality \(page 146\)](#)

[Organization \(page 198\)](#)

[Organizational Person \(page 201\)](#)

[Organizational Role \(page 204\)](#)

[Organizational Unit \(page 206\)](#)

[Profile \(page 226\)](#)

[Resource \(page 231\)](#)

[Server \(page 239\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

When used as a component of an NDS name, a locality name identifies a geographical area or locality in which the named object is physically located or with which it is associated in some other important way. An attribute value for L is a string, (for example, L = Edinburgh).

An LDAP schema query requires extensions to return the NDS attribute constraints.

Language

Contains an ordered list of languages.

NDS Operational: Yes

Syntax

[Case Ignore List \(page 970\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.34

Used In

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is intended for use by applications to determine which language display the object desires.

Last Login Time

Contains the login time of the session previous to the current session.

NDS Operational: Yes

Syntax

[Time \(page 1016\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_READ_ONLY_ATTR

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.35

Used In

[Organizational Unit \(page 206\)](#)

[pkiCA \(page 216\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For the time of the current login session, see the [Login Time \(page 545\)](#) attribute.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Last Referenced Time

Specifies the last time the object was referenced.

NDS Operational: Yes

Syntax

[Timestamp \(page 1018\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_PER_REPLICA

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.167

Used In

[Top \(page 249\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The LDAP server does not currently support the Timestamp syntax.

LDAP ACL v11

Defines access control restrictions for LDAP clients.

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.210

Used In

[inetOrgPerson \(page 271\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is an LDAP Services for NDS configuration parameter. LDAP ACLs allow an additional layer of security between LDAP clients and NDS.

LDAP Allow Clear Text Password

Specifies whether LDAP clients can use clear text passwords to authenticate to NDS.

Syntax

Boolean (page 966)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.213

Used In

inetOrgPerson (page 271)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

This attribute is an LDAP Services for NDS configuration parameter.

The default is FALSE, which forces all LDAP clients with passwords to use encryption over an SSL connection. Anonymous binds and proxy users can still authenticate or bind because they do not use passwords.

LDAP Anonymous Identity

Specifies which NDS user account is used for LDAP anonymous binds.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.214

Used In

[inetOrgPerson \(page 271\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is an LDAP Services for NDS configuration parameter.

If this attribute has no value, LDAP uses the NDS [Public] object for anonymous binds.

If an NDS user account is specified as the value, the account must be configured so that it does not require a password or require password changes. It also should not allow the user to create or change the password. LDAP anonymous binds do not have passwords, so any bind that includes both a user and a password is treated as an NDS user bind.

LDAP Attribute Map v11

Defines how LDAP attribute names are mapped to NDS attribute names.

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.211

Used In

[inetOrgPerson \(page 271\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is an LDAP Services for NDS configuration parameter. To avoid corrupting the data in this attribute, use the option in NetWare Administrator to change any mappings.

This attribute allows the LDAP server to expose NDS attributes in LDAP format. When an LDAP client requests an LDAP attribute from the LDAP server, the server returns the corresponding NDS attribute.

LDAP Backup Log Filename

Specifies the path and name of the file that is used when the LDAP log file reaches the maximum size.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SINGLE_VALUED_ATTR
DS_STRING_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.205

Used In

[LDAP Server \(page 141\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is an LDAP Services for NDS configuration parameter. The backup log file is stored in the SYS:\ETC directory.

This attribute works in conjunction with the LDAP Log Filename attribute. If a log filename is configured and the log file reaches the maximum size, the log file is renamed to the name specified in this attribute. All new log data continues to be stored in the log file.

If no backup log filename is specified, old data is lost whenever the log file reaches the maximum file size.

LDAPChainSecureRequired

If the attribute ldapChainSecureRequired is enabled the chaining to other eDirectory will be over secure NCP.

Added: NDS 8.7

Syntax

Boolean (page 966)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.27.4.80

Used In

LDAP Server (page 141)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

LDAP Class Map v11

Defines how LDAP class names are mapped to NDS class names.

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.212

Used In

[inetOrgPerson \(page 271\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is an LDAP Services for NDS configuration parameter. To avoid corrupting the data in this attribute, use the option in NetWare Administrator to change any mappings.

This attribute allows the LDAP server to expose NDS classes in LDAP format. When an LDAP client requests an LDAP class from the LDAP server, the server returns the corresponding NDS class.

LDAPDerefAlias

Enables dereferencing of aliases in operations.

Added: NDS 8.7

LDAP Name

LDAPDerefAlias

Syntax

Boolean (page 966)

Constraints

DS_SYNC_IMMEDIATE
DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.27.4.71

Used In

LDAP Server (page 141)

Remarks

For help in understanding the attribute definition template, see [Section 1.11.5, “Reading NDS Attribute Type Definitions,”](#) on page 51

LDAP Enable SSL

Is reserved.

Syntax

Boolean (page 966)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.200

Used In

LDAP Server (page 141)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

LDAP Enable TCP

Is reserved.

Syntax

Boolean (page 966)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.198

Used In

LDAP Server (page 141)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

LDAP Enable UDP

Is reserved.

Syntax

Boolean (page 966)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.199

Used In

LDAP Server (page 141)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

TRUE indicates that the LDAP server is configured for UDP.

For the LDAP server to function, this attribute must always be TRUE.

LDAP Group

Specifies the LDAP group object that contains the configuration settings for this LDAP server.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.191

Used In

[LDAP Server \(page 141\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is an LDAP Services for NDS configuration parameter.

LDAP Host Server

Specifies the name of the NetWare server that is hosting the LDAP Services for NDS.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.190

Used In

[LDAP Server \(page 141\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is an LDAP Services for NDS configuration parameter. The host server is the NetWare server that is running the NLDAP NLM.

LDAP Log Filename

Specifies the name of the LDAP log file.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_STRING_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.204

Used In

[LDAP Server \(page 141\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is an LDAP Services for NDS configuration parameter.

The default is no log file. When a name is specified, logging is enabled and the log file is stored in the SYS:\ETC directory on the LDAP server.

LDAP Log Level

Specifies the type of messages that are recorded in the LDAP log file.

Syntax

Integer (page 988)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SIZED_ATTR (0..32768)

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.1.192

Used In

LDAP Server (page 141)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

This attribute is an LDAP Services for NDS configuration parameter. LDAP Services for NDS uses the following values for message levels.

Value	Description
1	Trace function calls
4	LDAP requests
8	Connection information
16	BER decoding
32	Search filter processing
64	Configuration processing
128	LDAP ACL processing
256	Client request summary
512	Search response summary
4096	Error messages from all options
8192	Server console messages generated by LDAP

Value	Description
65535	All messages

The values, except for the last one (65535), can be added together to select more than one kind of message. The default value is 8192.

LDAP Log Size Limit

Specifies the maximum size, in bytes, of the LDAP log file.

Syntax

Integer (page 988)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SIZED_ATTR (2048..4294967295)
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.206

Used In

LDAP Server (page 141)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

This attribute is an LDAP Services for NDS configuration parameter.

When the log file reaches the maximum size, it is renamed to the name specified in the LDAP Backup Log Filename attribute. All new data continues to be stored in the file specified by the LDAP Log Filename attribute.

A log size of zero specifies an unlimited file size. The default is 100000.

LDAP Referral

Specifies the URL of an alternate LDAP server that is to handle any requests for objects that are not found within any of the subtrees known to the current LDAP server.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_STRING_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.208

Used In

[inetOrgPerson \(page 271\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is an LDAP Services for NDS configuration parameter.

Referrals use the following format:

ldap://hostname

To limit subtrees known to an LDAP server, see the [LDAP Suffix \(page 506\)](#) attribute.

LDAP Screen Level

Specifies the type of messages that are sent to the console of an LDAP server.

Syntax

Integer (page 988)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SIZED_ATTR (0..32768)

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.193

Used In

LDAP Server (page 141)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

This attribute is an LDAP Services for NDS configuration parameter. LDAP Services for NDS uses the following values for message levels.

Value	Description
1	Trace function calls
4	LDAP requests
8	Connection information
16	BER decoding
32	Search filter processing
64	Configuration processing
128	LDAP ACL processing
256	Client request summary
512	Search response summary
4096	Error messages from all options
8192	Server console messages generated by LDAP

Value	Description
65535	All messages

The values, except for the last one (65535), can be added together to select more than one kind of message. The default value is 8192.

LDAP Search Size Limit

Specifies the maximum number of objects about which an LDAP server will return data.

Syntax

Integer (page 988)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SIZED_ATTR (1..2147483647)
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.194

Used In

LDAP Server (page 141)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

This attribute is an LDAP Services for NDS configuration parameter.

LDAP Services for NDS returns object data until the object number exceeds the value of this attribute. The LDAP server then stops sending object data and considers the request complete. The default value is 500.

LDAP Search Time Limit

Specifies the maximum amount of time, in milliseconds, that the LDAP server can use to return data.

Syntax

Integer (page 988)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SIZED_ATTR (1..2147483647
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.195

Used In

LDAP Server (page 141)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

This attribute is an LDAP Services for NDS configuration parameter. The default is 3600 seconds.

The LDAP server continues processing the request until the search time has expired. It then returns an error reporting that the search time was exceeded. The LDAP server considers the request complete.

LDAP Server

Specifies the name of the LDAP server that is running on the NetWare server.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.215

Used In

[NCP Server \(page 157\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is an LDAP Services for NDS configuration parameter.

LDAP Server Bind Limit

Specifies the maximum number of simultaneous LDAP binds or connections the LDAP server allows.

Syntax

Integer (page 988)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SIZED_ATTR (0..4294967295)
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.196

Used In

LDAP Server (page 141)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

This attribute is an LDAP Services for NDS configuration parameter.

If the bind limit is set to zero, there is no limit on the number of binds. This is the default value.

If the bind limit is set to a number other than zero, the LDAP server accepts binds until the bind limit is reached. It then rejects additional binds until the total number of binds drops below the bind limit.

LDAP Server Idle Timeout

Specifies the maximum amount of time, in seconds, that an LDAP connection can be inactive before the connection is destroyed.

Syntax

Integer (page 988)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SIZED_ATTR (0..4294967295)
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.197

Used In

LDAP Server (page 141)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

This attribute is an LDAP Services for NDS configuration parameter.

The LDAP server requires that this attribute’s value be set to zero or a multiple of 10 (for example, 10, 150, or 900).

If the value is set to zero, there is no time limit on idle connections. This is the default.

If the value is set to a number other than zero, the LDAP server disconnects inactive connections after the specified number of seconds have elapsed.

LDAP Server List

Specifies which LDAP servers can use the configuration information stored in the LDAP group object.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.209

Used In

[inetOrgPerson \(page 271\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is an LDAP Services for NDS configuration parameter.

LDAP SSL Port

Specifies the SSL port for LDAP Services for NDS.

Syntax

Integer (page 988)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SIZED_ATTR (0..65535)

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.203

Used In

LDAP Server (page 141)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

This attribute is an LDAP Services for NDS configuration parameter. The default value is 636, a well-known SSL port for LDAP services.

LDAP Suffix

Defines the subtrees that LDAP Services for NDS makes available to LDAP clients.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.207

Used In

[inetOrgPerson \(page 271\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is an LDAP Services for NDS configuration parameter.

If this attribute has no value, the LDAP server makes all subtrees from the root of the NDS tree available to LDAP clients. Otherwise, only objects that are contained below the suffixes can be accessed.

LDAP TCP Port

Specifies the port number that the LDAP server uses for TCP packets.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SIZED_ATTR (0..65535)

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.201

Used In

[LDAP Server \(page 141\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is an LDAP Services for NDS configuration parameter. The default value is 389, a well-known port address for LDAP services.

LDAP UDP Port

Specifies the port number that the LDAP server uses for UDP packets.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SIZED_ATTR (0..65535)

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.202

Used In

[LDAP Server \(page 141\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is an LDAP Services for NDS configuration parameter. The default value is 389, a well-known port address for LDAP services.

LDAP:bindCatalog

Is reserved for future use.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.238

Used In

[LDAP Server \(page 141\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

LDAP:bindCatalogUsage

Is reserved for future use.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.237

Used In

[LDAP Server \(page 141\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

LDAP:keyMaterialName

Specifies the Key Material object for storing the SSL certificate used in SSL connections for this LDAP server.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_STRING_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.291

Used In

[LDAP Server \(page 141\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is an LDAP Services for NDS configuration parameter. A value specified in this attribute enables SSL connections.

LDAP:otherReferralUsage

Not currently used.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.294

Used In

[inetOrgPerson \(page 271\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

LDAP:searchCatalog

Specifies the catalog that the LDAP server can use for searches.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.236

Used In

[LDAP Server \(page 141\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is an LDAP Services for NDS configuration parameter.

LDAP:searchCatalogUsage

Specifies the type of searches which the LDAP server can use the catalog for.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.235

Used In

[LDAP Server \(page 141\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is an LDAP Services for NDS configuration parameter. The LDAP server uses the following values.

Value	Description
First Bit	The LDAP server doesn't search the catalog but uses the NDS database for all searches.
Second Bit	The LDAP server doesn't search the NDS database but uses the catalog for all searches.
First and Second Bit	If the attribute type is not in the catalog, the LDAP server searches the NDS database. This is the default at installation.

LDAP:searchReferralUsage

Specifies the LDAP search referral option.

Syntax

Integer (page 988)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.293

Used In

inetOrgPerson (page 271)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

An LDAP Group object can be configured to handle referrals in the following ways:

- ♦ Always traverse the NDS tree (default option). This causes the request to use the referrals to search out information on other NDS servers.
- ♦ Always refer. This causes the request to return referrals and allows the caller to determine whether or not to traverse the NDS tree for the information.
- ♦ Refer if possible. This allows referrals to NDS 8 servers to be returned. This option is used in trees which contain a mix of NDS 8 and previous versions of NDS. Previous versions of the LDAP server do not register in the referral list, and therefore cannot be returned.

IdapAttributeList

Holds the list of ldap attributes.

Added: NDS 8.5

LDAP Name

IdapAttributeList

Syntax

[Case Ignore List \(page 970\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.27.4.52

Used In

[LDAP Group \(page 139\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

ldapBindRestrictions

Sets the LDAP bind restrictions on the LDAP client.

Added: NDS 8.5

LDAP Name

ldapBindRestrictions.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_SYNC_IMMEDIATE
DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.27.4.75

Used In

[LDAP Server \(page 141\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

IdapChainSecureRequired

If the attribute IdapChainSecureRequired is enabled the chaining to other eDirectory will be over secure NCP.

Added: NDS 8.7

LDAP Name

IdapChainSecureRequired

Syntax

Boolean (page 966)

Constraints

DS_SYNC_IMMEDIATE
DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.27.4.80

Used In

LDAP Server (page 141)

Remarks

For help in understanding the attribute definition template, see [Section 1.11.5, “Reading NDS Attribute Type Definitions,”](#) on page 51

IdapClassList

Holds the list of ldap classes.

Added: NDS 8.5

LDAP Name

ldapClassList

Syntax

[Case Ignore List \(page 970\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.27.4.53

Used In

[LDAP Group \(page 139\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

IdapConfigVersion

Holds the configuration version of the LDAP server.

Added: NDS 8.7

LDAP Name

IdapConfigVersion

Syntax

[Integer \(page 988\)](#)

Constraints

DS_SYNC_IMMEDIATE

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.27.4.70

Used In

[LDAP Group \(page 139\)](#)

[LDAP Server \(page 141\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

LdapEnableMonitorEvents

Specifies whether or not ldap clients can register to monitor events.

Added: NDS 8.5

LDAP Name

LdapEnableMonitorEvents

Syntax

Boolean (page 966)

Constraints

DS_SYNC_IMMEDIATE
DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.27.4.66

Used In

LDAP Server (page 141)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

ldapEnablePSearch

Specifies whether or not to allow ldap clients to perform persistent searches.

Added: NDS 8.5

LDAP Name

ldapEnablePSearch

Syntax

Boolean (page 966)

Constraints

DS_SYNC_IMMEDIATE

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.27.4.62

Used In

LDAP Server (page 141)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

IdapIgnorePSearchLimitsForEvents

Determines whether or not to ignore the value of [IdapMaximumPSearchOperations](#) when monitoring events.

Added: NDS 8.5

LDAP Name

IdapIgnorePSearchLimitsForEvents

Syntax

[Boolean \(page 966\)](#)

Constraints

DS_SYNC_IMMEDIATE
DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.27.4.64

Used In

[LDAP Server \(page 141\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

ldapInterfaces

Used to store the IP address of the interface on which LDAP Server will Listen(both clear text as well as Secure).

Added: NDS 8.5

LDAP Name

ldapInterfaces.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.27.4.79

Used In

[LDAP Server \(page 141\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

LdapMaximumMonitorEventsLoad

Holds maximum load values for the ldap event system.

Added: NDS 8.5

LDAP Name

LdapMaximumMonitorEventsLoad

Syntax

[Integer \(page 988\)](#)

Constraints

DS_SYNC_IMMEDIATE

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.27.4.67

Used In

[LDAP Server \(page 141\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

LdapMaximumPSearchOperations

Holds the maximum number of concurrent ldap searches allowed.

Added: NDS 8.5

LDAP Name

ldapMaximumPSearchOperations

Syntax

[Integer \(page 988\)](#)

Constraints

DS_SYNC_IMMEDIATE

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.27.4.63

Used In

[LDAP Server \(page 141\)](#)

Remarks

0 indicates no limit on the number of persistent search operations.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

ldapNonStdAllUserAttrsMode

Enables or disables the non standard, all user, and operational attributes

Added: NDS 8.7

LDAP Name

ldapNonStdAllUserAttrsMode

Syntax

Boolean (page 966)

Constraints

DS_SYNC_IMMEDIATE
DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.27.4.72

Used In

LDAP Server (page 141)

Remarks

For help in understanding the attribute definition template, see [Section 1.11.5, “Reading NDS Attribute Type Definitions,”](#) on page 51

IdapStdCompliance

Setting the value will make the LDAP Server return referrals for sub-ordinate on ONE level search..

Added: NDS 8.5

LDAP Name

IdapStdCompliance.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_SYNC_IMMEDIATE

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.27.4.82

Used In

[LDAP Server \(page 141\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

ldapTLSRequired

Specifies whether or not TLS(SSL) connections are required for clients attempting connection to the ldap server.

Added: NDS 8.5

LDAP Name

ldapTLSRequired

Syntax

Boolean (page 966)

Constraints

DS_SYNC_IMMEDIATE
DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.27.4.68

Used In

LDAP Server (page 141)

Remarks

Setting this value to FALSE means any information clients transfer to the ldap server (including passwords) will be sent in clear text. This should only be FALSE in secure environments or for development and testing purposes.

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

IdapTLSTrustedRootContainer

Holds the distinguished name of the TLS(SSL) trusted certificate root container.

Added: NDS 8.5

LDAP Name

IdapTLSTrustedRootContainer

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.27.4.65

Used In

[LDAP Server \(page 141\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

IdapTLSVerifyClientCertificate

Determines whether or not the ldap server requires client based certificate authentication before allowing a connection.

Added: NDS 8.5

LDAP Name

IdapTLSVerifyClientCertificate

Syntax

[Integer \(page 988\)](#)

Constraints

DS_SYNC_IMMEDIATE
DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.27.4.69

Used In

[LDAP Server \(page 141\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Locked By Intruder

Specifies that an object has been disabled due to intruder detection.

NDS Operational: Yes

Syntax

Boolean (page 966)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.37

Used In

User (page 255)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

In the case of a User object, if TRUE this attribute indicates the user cannot log in to the network because too many sequential attempts to log in have been denied. This usually happens when a person does not know the correct password and tries to guess it too many times.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Lockout After Detection

Indicates that users should be kept from attempting to log in once they are identified as an intruder.

NDS Operational: Yes

Syntax

Boolean (page 966)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.38

Used In

Organization (page 198)

Organizational Unit (page 206)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

Monitoring attempts of users to log in can occur without actually enforcing any restrictions on logging in. If this attribute is set to TRUE, it indicates that users should be locked out once the limits of tolerance have been exceeded. Those tolerable limits are designated using other attribute values.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Login Allowed Time Map

Specifies the allowed login time periods for an account for each day of the week to a precision of one-half hour.

NDS Operational: Yes

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SIZED_ATTR (42, 42)
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.39

Used In

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Octet String syntax.

Login Disabled

Informs the user that the account has been disabled.

NDS Operational: Yes

Syntax

Boolean (page 966)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.40

Used In

User (page 255)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

When this attribute is set to True, it disables the user account. This is used for explicit permanent disabling of an account. This attribute can only be manually set and cleared.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Login Expiration Time

Specifies a date and time after which a client cannot log in and authenticate as an object.

NDS Operational: Yes

Syntax

[Time \(page 1016\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.41

Used In

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Login Grace Limit

Specifies the total number of times an old password can be used (after the old password has expired) to access the account.

NDS Operational: Yes

Syntax

Integer (page 988)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.42

Used In

User (page 255)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Login Grace Remaining

Specifies how many grace logins are left before the account is locked.

NDS Operational: Yes

Syntax

Counter (page 978)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.43

Used In

User (page 255)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Counter syntax.

Login Intruder Address

Specifies the address of the node that caused the intruder detection lockout.

NDS Operational: Yes

LDAP Name

loginIntruderAddress

Syntax

[Net Address \(page 993\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.44

Used In

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

Login Intruder Attempts

Specifies the number of failed login attempts that have occurred in the current interval.

NDS Operational: Yes

Syntax

[Counter \(page 978\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.45

Used In

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Counter syntax.

Login Intruder Limit

Specifies the number of failed login attempts allowed before an account is locked due to intruder detection.

NDS Operational: Yes

Syntax

[Integer \(page 988\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.46

Used In

[Organization \(page 198\)](#)

[Organizational Unit \(page 206\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Login Intruder Reset Time

Specifies the next time that the intruder attempts variable will be reset.

NDS Operational: Yes

Syntax

[Time \(page 1016\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.47

Used In

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Time syntax.

Login Maximum Simultaneous

Specifies the number of authenticated login sessions an object can initiate simultaneously.

NDS Operational: Yes

Syntax

Integer (page 988)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.48

Used In

User (page 255)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Login Script

Contains the object's login script.

NDS Operational: Yes

Syntax

[Stream \(page 1012\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.49

Used In

[Group \(page 134\)](#)

[Organization \(page 198\)](#)

[Organizational Unit \(page 206\)](#)

[Profile \(page 226\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For the Profile class, the Login Script attribute is mandatory.

The Login Script attribute contains the login script for Organization and Organization Unit containers. When a user logs in, the LOGIN program searches one level above (to either the Organization or Organizational Unit) and runs its script. The LOGIN program then runs the specified profile script (if any) and the user's login script (if any).

If a login script has been created for a group, the group login script is executed only if it is called from either the container or the profile login script.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Stream syntax.

Login Time

Specifies the login time of the current session.

NDS Operational: Yes

Syntax

Time (page 1016)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.50

Used In

Organizational Unit (page 206)

pkiCA (page 216)

User (page 255)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Time syntax.

Low Convergence Reset Time

Specifies the time at which to start the low convergence synchronization cycle.

NDS Operational: Yes

Syntax

[Time \(page 1016\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SPARSE_REQUIRED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.118

Used In

[Partition \(page 209\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This reset time is implemented only if the Convergence attribute of the partition specifies low convergence. The time stored in this attribute is the time of day at which a synchronization occurs and the interval counter is reset (or initialized). The next synchronization will occur after the low synchronization interval has lapsed.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Time syntax.

Low Convergence Sync Interval

Specifies the amount of time (in seconds) that must pass from the start of one partition synchronization to the next.

NDS Operational: Yes

Syntax

[Interval \(page 991\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SPARSE_REQUIRED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.104

Used In

[Partition \(page 209\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This synchronization interval is implemented only if the Convergence attribute specifies low convergence.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Mailbox ID

Contains a unique ID associated with the object's mailbox and messaging server.

NDS Operational: Yes

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_PUBLIC_READ
DS_SINGLE_VALUED_ATTR
DS_SIZED_ATTR (1..8)
DS_STRING_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.163

Used In

[External Entity \(page 129\)](#)

[Group \(page 134\)](#)

[List \(page 144\)](#)

[Organization \(page 198\)](#)

[Organizational Person \(page 201\)](#)

[Organizational Role \(page 204\)](#)

[Organizational Unit \(page 206\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Mailbox Location

Contains the name of the Messaging Server that services the object's mailbox.

NDS Operational: Yes

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.162

Used In

[External Entity \(page 129\)](#)

[Group \(page 134\)](#)

[List \(page 144\)](#)

[Organization \(page 198\)](#)

[Organizational Person \(page 201\)](#)

[Organizational Role \(page 204\)](#)

[Organizational Unit \(page 206\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

mailstop

Holds the location of the employee's mail box.

Added: NDS eDirectory 8.5

LDAP Name

mailstop

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.7

Used In

[Person \(page 212\)](#)

[Template \(page 246\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

manager

Contains the name of the object's manager.

LDAP Name

manager

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

0.9.2342.19200300.100.1.10

Used In

[inetOrgPerson \(page 271\)](#)

[Person \(page 212\)](#)

[Template \(page 246\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute was added for Netscape support.

managerWorkforceID

Holds the ID assigned to the manager of this employee.

Added: NDS eDirectory 8.5

LDAP Name

managerWorkforceID

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.18

Used In

[Person \(page 212\)](#)

[Template \(page 246\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

masvAuthorizedRange

Contains a list of clearances that the object is authorized to use during login and authentication.

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_PUBLIC_READ

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.31.4.2.6

Used In

[Top \(page 249\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The session clearance requested during log in and authentication must be within the list of clearances defined by this attribute.

masvClearanceNames

Defines session clearance names.

Added: NDS eDirectory 8.5

LDAP Name

masvClearanceNames

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_PUBLIC_READ

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.31.4.1.8

Used In

[MASV:Security Policy \(page 148\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

masvDefaultRange

Defines the session clearance to assign if one is not specified during login and authentication.

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_PUBLIC_READ
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.31.4.2.5

Used In

[Top \(page 249\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This value must be within the list of authorized clearances as specified in the MASV:Authorized Range attribute.

masvDomainPolicy

Defines security policy information which is global to an NDS tree.

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_PUBLIC_READ
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.31.4.2.7

Used In

[MASV:Security Policy \(page 148\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The global policy information includes default classifications for resources and default clearances for logged-in objects. These default values are used only if classifications and clearances are not explicitly defined for an object.

masvLabel

Defines the classification of all NDS objects contained on the partition.

Syntax

Octet String (page 1001)

Constraints

DS_PUBLIC_READ
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.31.4.2.3

Used In

Partition (page 209)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

Once a label is explicitly assigned, the partition label cannot be modified.

masvLabelIntegrityLevelNames

Added: NDS eDirectory 8.5

LDAP Name

masvLabelIntegrityLevelNames

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_PUBLIC_READ

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.31.4.1.12

Used In

[MASV:Security Policy \(page 148\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

masvLabelIntegrityCategoryNames

Contains MASV security information.

Added: NDS eDirectory 8.5

LDAP Name

masvLabelIntegrityCategoryNames

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_PUBLIC_READ

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.31.4.1.13

Used In

[MASV:Security Policy \(page 148\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

masvLabelNames

Contains MASV security information.

Added: NDS eDirectory 8.5

LDAP Name

masvLabelNames

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_PUBLIC_READ

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.31.4.1.9

Used In

[MASV:Security Policy \(page 148\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

masvLabelSecrecyCategoryNames

Contains MASV security information.

Added: NDS eDirectory 8.5

LDAP Name

masvLabelSecrecyCategoryNames

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_PUBLIC_READ

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.31.4.1.11

Used In

[MASV:Security Policy \(page 148\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

masvLabelSecrecyLevelNames

Contains MASV security information.

Added: NDS eDirectory 8.5

LDAP Name

masvLabelSecrecyLevelNames

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_PUBLIC_READ

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.31.4.1.10

Used In

[MASV:Security Policy \(page 148\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

masvPolicyUpdate

Contains MASV security information.

Added: NDS eDirectory 8.5

LDAP Name

masvPolicyUpdate

Syntax

Integer (page 988)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.31.4.1.14

Used In

MASV:Security Policy (page 148)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

masvPolicyDN

Contains MASV security information.

Added: NDS eDirectory 8.5

LDAP Name

masvPolicyDN

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.31.4.1.15

Used In

[SAS:Security \(page 234\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

masvProposedLabel

Defines the classification to be assigned to a partition that is to be created by splitting an existing partition.

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_PUBLIC_READ
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.31.4.2.4

Used In

[Top \(page 249\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

A proposed label is not a label, but rather a value that will be assigned when the partition is split to create a new subordinate partition. If a proposed label is not assigned when a partition is created, the label of the new partition is set to the parent partition's label. The masvProposedLabel attribute may be modified up until the new partition is created.

Member

Lists objects associated with a group or list.

NDS Operational: Yes

LDAP Name

member
uniqueMember

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.31 (member)
2.5.4.50 (uniqueMember)

Used In

[Group \(page 134\)](#)
[List \(page 144\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

memberQuery

Contains information on the members of a dynamic group.

Added: NDS 8.5

LDAP Name

memberQuery

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.301

Used In

[dynamicGroup \(page 123\)](#)

[dynamicGroupAux \(page 126\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

Members Of Template

Specifies the names of the User objects that have been created with this Template object.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113719.1.59.4.1.1

Used In

[Template \(page 246\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Memory

Specifies the amount of printer memory (in kilobytes).

NDS Operational: Yes

Syntax

Integer (page 988)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.52

Used In

Printer (page 223)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

Currently the Memory attribute is used only for printers, but it is not limited to printers. In the future, it could be used for other devices.

Message Routing Group

Specifies the name of the Message Routing Group objects to which a messaging server can belong.

NDS Operational: Yes

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.126

Used In

[Messaging Server \(page 153\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Message Server

Specifies the name of a server object that stores and forwards broadcast-type messages.

NDS Operational: Yes

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.127

Used In

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Messaging Database Location

Contains the location of the messaging file-directory structure.

NDS Operational: Yes

LDAP Name

messagingDatabaseLocation

Syntax

Path (page 1004)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.125

Used In

Messaging Server (page 153)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An example for a messaging directory is "\mhs".

MHS messaging servers use a file-system subtree to (1) receive messages from applications or other messaging servers and gateways, (2) store messages while they are being routed, (3) store internal control files, and (4) extract files.

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Path syntax.

Messaging Server

Identifies a Messaging Server object that is running on the NCP Server object.

NDS Operational: Yes

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.53

Used In

[NCP Server \(page 157\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Messaging Server Type

Identifies the type of a Messaging Server.

NDS Operational: Yes

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SIZED_ATTR (1..32)

DS_STRING_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.166

Used In

[Messaging Server \(page 153\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Examples of messaging server types are MHS, GMHS, and X400.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Minimum Account Balance

Specifies the minimum amount of credit (or money) a user must have in his or her account to access specified services.

NDS Operational: Yes

Syntax

[Integer \(page 988\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.54

Used In

[Server \(page 239\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

mobile

Contains the phone number of the object's cellular or mobile phone.

LDAP Name

mobile

Syntax

[Telephone Number \(page 1014\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

0.9.2342.19200300.100.1.41

Used In

[inetOrgPerson \(page 271\)](#)

[Person \(page 212\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute was added for Netscape support.

modifiersName

Contains the distinguished name of the last user that modified this entry.

NDS Operational: Yes

Added: NDS eDirectory 8.5

LDAP Name

modifiersName

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_READ_ONLY_ATTR
DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE
DS_STRING_ATTR

ASN1 ID

2.5.18.4

Used In

[Top \(page 249\)](#)

Remarks

This attribute is accessible through LDAP and NDAP.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

ndsPredicate

Contains monitored NDS predicates.

Added: NDS eDirectory 8.5

LDAP Name

ndsPredicate

Syntax

[Net Address \(page 993\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.27.4.35

Used In

[ndsPredicateStats \(page 166\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

ndsPredicateState

Indicates whether or not predicates are captured.

Added: NDS eDirectory 8.5

LDAP Name

ndsPredicateState

Syntax

Boolean (page 966)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.27.4.36

Used In

ndsPredicateStats (page 166)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

ndsPredicateFlush

Indicates whether or not changes should be recorded.

Added: NDS eDirectory 8.5

LDAP Name

ndsPredicateFlush

Syntax

Boolean (page 966)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.27.4.37

Used In

ndsPredicateStats (page 166)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

ndsPredicateTimeout

Holds the time the NDS predicate process will wait before synchronizing predicates to the [ndsPredicate](#) attribute.

LDAP Name

ndsPredicateTimeout

Syntax

[Integer \(page 988\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SIZED_ATTR (0 ... 2147483647)

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.27.4.38

Used In

[ndsPredicateStats \(page 166\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

ndsPredicateUseValues

Indicates whether or not the predicate process should capture predicates only or predicates and their values.

Added: NDS eDirectory 8.5

LDAP Name

ndsPredicateUseValues

Syntax

Boolean (page 966)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.27.4.39

Used In

ndsPredicateStats (page 166)

Remarks

If set to false, predicates will contain operator, attribute, and the value syntax. If set to TRUE, predicates will contain operator, attribute, value syntax, and the actual value.

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

ndsPredicateStatsDN

Contains the distinguished name of the ndsPredicateStats object.

Added: NDS eDirectory 8.5

LDAP Name

ndsPredicateStatsDN

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.27.4.40

Used In

[NCP Server \(page 157\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

NDSPKI:Certificate Chain

Defines a multi-valued attribute that contains all the public key certificates that chain back to the root authority.

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_PUBLIC_READ
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.48.4.1.4

Used In

[NDSPKI:Certificate Authority \(page 168\)](#)

[NDSPKI:Key Material \(page 170\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Two bytes of chaining data preceding each certificate.

- ♦ If the first byte is nonzero, the certificate is the root certificate. If it is zero, the certificate is nested in the chain.
- ♦ The second byte contains an index that specifies where the current certificate belongs in the chain. One indicates the first certificate; two, the second; etc.

NDSPKI:Given Name

Contains the distinguished name of the NDSPKI:Key Material object when it is created.

Syntax

Case Ignore String (page 972)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.48.4.1.11

Used In

NDSPKI:Key Material (page 170)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

The syntax for this attribute is a case ignore, which means that this name does not change when the NDSPKI:Key Material object is renamed. Such an object should never be renamed, and this attribute allows the original name to be preserved.

NDSPKI:Key File

Contains all the key material in Terisa format.

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.48.4.1.7

Used In

[NDSPKI:Key Material \(page 170\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute contains all the information that would normally be found in a Terisa system key file. Only Terisa software can process the information.

NDSPKI:Key Material DN

Contains the distinguished names of the NDSPKI:Key Material objects that belong to the server that owns the SAS:Service object.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.48.4.1.9

Used In

[SAS:Service \(page 236\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

NDSPKI:Keystore

Contains wrapped private keys.

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_HIDDEN_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.48.4.1.105

Used In

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

NDSPKI:Not After

Contains a validity period for a certificate. The certificate cannot be used after this period.

Syntax

Case Ignore String (page 972)

Constraints

DS_PUBLIC_READ
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.48.4.1.15

Used In

NDSPKI:Trusted Root Object (page 179)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

NDSPKI:Not Before

Contains a validity period for a certificate. The certificate cannot be used before this period.

Syntax

Case Ignore String (page 972)

Constraints

DS_PUBLIC_READ
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.48.4.1.14

Used In

NDSPKI:Trusted Root Object (page 179)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

NDSPKI:Parent CA

Indicates who is the parent of the NDSPKI:Certificate Authority object.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.48.4.1.5

Used In

[NDSPKI:Certificate Authority \(page 168\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Currently, the parent is a hard-coded string because only one NDSPKI:Certificate Authority object can exist in an NDS tree.

NDSPKI:Parent CA DN

Not currently used.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.48.4.1.6

Used In

[NDSPKI:Certificate Authority \(page 168\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

NDSPKI:Private Key

Contains the private key associated with the object.

Syntax

Octet String (page 1001)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.48.4.1.2

Used In

NDSPKI:Certificate Authority (page 168)

NDSPKI:Key Material (page 170)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

Private keys are encrypted by the server's Key Storage Key. Only the server that created the public/private key pair can use the key.

NDSPKI:Public Key

Contains the public key associated with the object.

Syntax

Octet String (page 1001)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.48.4.1.1

Used In

NDSPKI:Certificate Authority (page 168)

NDSPKI:Key Material (page 170)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

Public keys are not encrypted and can be read by anyone.

NDSPKI:Public Key Certificate

Holds the public key certificate associated with the object.

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.48.4.1.3

Used In

[NDSPKI:Certificate Authority \(page 168\)](#)

[NDSPKI:Key Material \(page 170\)](#)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

A public key certificate binds a public key to a given entity, making that entity the owner of the public key.

NDSPKI:SD Key Cert

Not currently used.

Syntax

Octet String (page 1001)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.48.4.1.103

Used In

NDSPKI:SD Key List (page 175)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

NDSPKI:SD Key ID

Not currently used.

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.48.4.1.104

Used In

[NCP Server \(page 157\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

NDSPKI:SD Key Server DN

Contains the distinguished name of the server that can be contacted to get a copy of a security domain key.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SERVER_READ
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.48.4.1.101

Used In

[NDSPKI:SD Key List \(page 175\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

NDSPKI:SD Key Struct

Not currently used.

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.48.4.1.102

Used In

[NCP Server \(page 157\)](#)

[NDSPKI:SD Key List \(page 175\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

NDSPKI:Subject Name

Contains the subject name of the owner of the associated key pair and public key certificate.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.48.4.1.8

Used In

[NDSPKI:Key Material \(page 170\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The NDSPKI:Subject Name attribute specifies who owns the key. Usually, this is the Internet name service (DNS) name of the server.

NDSPKI:Tree CA DN

Contains the distinguished name of the Certificate Authority for the NDS tree.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.48.4.1.10

Used In

[SAS:Security \(page 234\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Each NDS tree contains only one CA, a NDSPKI:Certificate Authority object.

NDSPKI:Trusted Root Certificate

Contains a certificate from a Certificate Authority.

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.48.4.1.13

Used In

[NDSPKI:Trusted Root Object \(page 179\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

NDSPKI:userCertificateInfo

Contains information that links a certificate in a user certificate attribute to a private key in the NDSPKI:Keystore attribute.

Syntax

[Path \(page 1004\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.48.4.1.12

Used In

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Besides the link information, this attribute can contain additional information about the certificate.

Network Address

Contains one or more network addresses of the associated object.

NDS Operational: Yes

LDAP Name

networkAddress

Syntax

[Net Address \(page 993\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.55

Used In

[Device \(page 96\)](#)

[Organizational Unit \(page 206\)](#)

[pkiCA \(page 216\)](#)

[Queue \(page 228\)](#)

[Server \(page 239\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute specifies the type of the underlying transport. The attribute can have multiple values.

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

Network Address Restriction

Restricts objects to specific network or node addresses.

NDS Operational: Yes

LDAP Name

networkAddressRestriction

Syntax

[Net Address \(page 993\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.56

Used In

[CommExec \(page 82\)](#)

[Printer \(page 223\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute specifies the type of the underlying transport. The attribute can have multiple values.

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

New Object's DS Rights

Specifies which NDS objects the User objects are granted NDS rights to when the User objects are created with this Template object.

Syntax

[Object ACL \(page 997\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113719.1.55.4.1.1

Used In

[Template \(page 246\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

New Object's FS Rights

Specifies the file, directory, or volume path and the rights to which the User objects are granted when created with this Template object.

Syntax

[Path \(page 1004\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113719.1.56.4.1.1

Used In

[Template \(page 246\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

New Object's Self Rights

Specifies the NDS rights that a User object is granted to its own object when the User object is created with this Template object.

Syntax

[Object ACL \(page 997\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113719.1.63.4.1.1

Used In

[Template \(page 246\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

NLS:Licenses Used

Contains the path to licenses used by an entry.

Added: NDS 8.5

Syntax

[Path \(page 1004\)](#)

Constraints

none

ASN.1 ID

2.16.840.1.113719.1.51.4.5.6

Used In

[Top \(page 249\)](#)

NNS Domain

Specifies the name of the NetWare Name Service (NNS) Domain that has been upgraded from NetWare 3.x into the container.

NDS Operational: Yes

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SIZED_ATTR (1.128)
DS_STRING_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.119

Used In

[Organization \(page 198\)](#)

[Organizational Unit \(page 206\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

nonStdClientSchemaCompatMode

Holds the flag that determines whether schema requests from old LDAP clients can be processed correctly.

Added: NDS eDirectory 8.5

LDAP Name

nonStdClientSchemaCompatMode

Syntax

Boolean (page 966)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.27.4.45

Used In

LDAP Server (page 141)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

If schema requests for attribute, class, or syntax information from an LDAP client fail, this flag should be turned on so that the LDAP server will reformat the request from an old format to the standard format.

Notify

Specifies a list of objects that are to be notified when a specified event occurs.

NDS Operational: Yes

LDAP Name

notify

Syntax

Typed Name (page 1020)

Constraints

DS_NONREMOVABLE_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.57

Used In

Printer (page 223)

Remarks

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

NSCP:administratorContactInfo

Specifies Netscape administrator information.

LDAP Name

administratorContactInfo

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113730.3.1.74

Used In

[NSCP:NetscapeServer5 \(page 191\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

LDAP added this attribute for Netscape support. For more information, see the documentation for the Netscape schema.

NSCP:adminURL

Specifies a Netscape administrator URL.

LDAP Name

adminURL

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113730.3.1.75

Used In

[NSCP:NetscapeServer5 \(page 191\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

LDAP added this attribute for Netscape support. For more information, see the documentation for the Netscape schema.

NSCP:MailAccessDomain

Specifies a Netscape mail access domain.

LDAP Name

mailAccessDomain

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113730.3.1.12

Used In

[NSCP:mailRecipient \(page 186\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

In NDS 8, LDAP adds this attribute for auxiliary class support. For more information, see the documentation for the Netscape schema.

NSCP:AmailAlternateAddress

Specifies an alternate mail address used by Netscape.

LDAP Name

mailAlternateAddress

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113730.3.1.13

Used In

[NSCP:mailGroup5 \(page 302\)](#)

[NSCP:mailRecipient \(page 186\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

In NDS 8, LDAP adds this attribute for auxiliary class support. For more information, see the documentation for the Netscape schema.

NSCP:MailAutoReplyMode

Specifies a Netscape auto reply mode for mail.

LDAP Name

mailAutoReplyMode

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113730.3.1.14

Used In

[NSCP:mailRecipient \(page 186\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

In NDS 8, LDAP adds this attribute for auxiliary class support. For more information, see the documentation for the Netscape schema.

NSCP:MailAutoReplyText

Specifies a text message used by Netscape for auto reply.

LDAP Name

mailAutoReplyText

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113730.3.1.15

Used In

[NSCP:mailRecipient \(page 186\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

In NDS 8, LDAP adds this attribute for auxiliary class support. For more information, see the documentation for the Netscape schema.

NSCP:MailDeliveryOption

Specifies a delivery option used by Netscape.

LDAP Name

mailDeliveryOption

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113730.3.1.16

Used In

[NSCP:mailRecipient \(page 186\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

In NDS 8, LDAP adds this attribute for auxiliary class support. For more information, see the documentation for the Netscape schema.

NSCP:MailForwardingAddress

Specifies a forwarding address used by Netscape.

LDAP Name

mailForwardingAddress

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113730.3.1.17

Used In

[NSCP:mailGroup5 \(page 302\)](#)

[NSCP:mailRecipient \(page 186\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

In NDS 8, LDAP adds this attribute for auxiliary class support. For more information, see the documentation for the Netscape schema.

NSCP:AmailHost

Specifies a mail host used by Netscape.

LDAP Name

mailHost

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113730.3.1.18

Used In

[NSCP:mailGroup5 \(page 302\)](#)

[NSCP:mailRecipient \(page 186\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

In NDS 8, LDAP adds this attribute for auxiliary class support. For more information, see the documentation for the Netscape schema.

NSCP:AmailMessageStore

Specifies a message store used by Netscape.

LDAP Name

mailMessageStore

Syntax

[Case Exact String \(page 968\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113730.3.1.19

Used In

[NSCP:mailRecipient \(page 186\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

In NDS 8, LDAP adds this attribute for auxiliary class support. For more information, see the documentation for the Netscape schema.

NSCP:AmailProgramDeliveryInfo

Specifies delivery information used by Netscape.

LDAP Name

mailProgramDeliveryInfo

Syntax

[Case Exact String \(page 968\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113730.3.1.20

Used In

[NSCP:mailRecipient \(page 186\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

In NDS 8, LDAP adds this attribute for auxiliary class support. For more information, see the documentation for the Netscape schema.

NSCP:AmailQuota

Specifies a mail quota used by Netscape.

LDAP Name

mailQuota

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113730.3.1.21

Used In

[NSCP:mailRecipient \(page 186\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

In NDS 8, LDAP adds this attribute for auxiliary class support. For more information, see the documentation for the Netscape schema.

NSCP:AnsLicenseEndTime

Specifies an end time for a Netscape license.

LDAP Name

nsLicenseEndTime

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113730.3.1.38

Used In

[NSCP:nsLicenseUser \(page 196\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

In NDS 8, LDAP adds this attribute for auxiliary class support. For more information, see the documentation for the Netscape schema.

NSCP:AnsLicensedFor

Specifies a Netscape license.

LDAP Name

nsLicensedFor

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113730.3.1.36

Used In

[NSCP:nsLicenseUser \(page 196\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

In NDS 8, LDAP adds this attribute for auxiliary class support. For more information, see the documentation for the Netscape schema.

NSCP:AnsLicenseStartTime

Specifies a start time for a Netscape license.

LDAP Name

nsLicenseStartTime

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113730.3.1.37

Used In

[NSCP:nsLicenseUser \(page 196\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

In NDS 8, LDAP adds this attribute for auxiliary class support. For more information, see the documentation for the Netscape schema.

NSCP:employeeNumber

Specifies an ID that has been assigned to an employee.

LDAP Name

employeeNumber

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113730.3.1.3

Used In

[inetOrgPerson \(page 271\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is used by Netscape products.

NSCP:installationTimeStamp

Specifies a Netscape installation time stamp.

LDAP Name

installationTimeStamp

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113730.3.1.73

Used In

[NSCP:NetscapeServer5 \(page 191\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

LDAP added this attribute for Netscape support. For more information, see the documentation for the Netscape schema.

NSCP:mailRoutingAddress

Specifies a mail routing address used by Netscape.

LDAP Name

mailRoutingAddress

Syntax

Case Ignore String (page 972)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113730.3.1.47

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The LDAP server adds this attribute for Netscape support. For more information, see the documentation for the Netscape schema.

NSCP:memberCertificateDesc

Specifies a member certificate description for Netscape products.

LDAP Name

memberCertificateDescription

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113730.3.1.199

Used In

[NSCP:groupOfCertificates \(page 181\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

NDS supports only 32 characters in an attribute name. This attribute maps to Netscape's memberCertificateDescription attribute.

NSCP:mgrpRFC822mailmember

Specifies mail members used by Netscape.

LDAP Name

mgrpRFC822mailmember

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113730.3.1.30

Used In

[NSCP:mailGroup5 \(page 302\)](#)

[NSCP:mailGroup5 \(page 302\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

LDAP added this attribute for Netscape support. For more information, see the documentation for the Netscape schema.

In NDS 8 and above, this attribute has a syntax of case ignore string. In some previous versions of NDS, this attribute is defined with a syntax of case exact string.

NSCP:ngcomponentCIS

Specifies a Netscape component.

LDAP Name

ngcomponent

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113730.3.1.196

Used In

[NSCP:Nginfo2 \(page 304\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

In NDS 8, LDAP adds this attribute for Netscape support. For more information, see the documentation for the Netscape schema.

The attribute has been redefined in NDS 8 because the NSCP:ngComponent attribute defined in NetWare 5 uses the wrong syntax.

NSCP:nsaclrole

Specifies an ACL role used by Netscape.

LDAP Name

nsaclrole

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113730.3.1.192

Used In

[NSCP:Nginfo \(page 303\)](#)

[NSCP:Nginfo2 \(page 304\)](#)

[NSCP:Nginfo2 \(page 304\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

LDAP added this attribute for Netscape support. For more information, see the documentation for the Netscape schema.

NSCP:nscreator

Specifies a Netscape creator.

LDAP Name

nscreator

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113730.3.1.195

Used In

[NSCP:Nginfo \(page 303\)](#)

[NSCP:Nginfo2 \(page 304\)](#)

[NSCP:Nginfo2 \(page 304\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

LDAP added this attribute for Netscape support. The LDAP server maps requests for the nscreator attribute to this attribute. For more information, see the documentation for the Netscape SuiteSpot schema.

NSCP:nsflags

Specifies Netscape flags.

LDAP Name

nsflags

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113730.3.1.194

Used In

[NSCP:Nginfo \(page 303\)](#)

[NSCP:Nginfo2 \(page 304\)](#)

[NSCP:Nginfo2 \(page 304\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

LDAP added this attribute for Netscape support. For more information, see the documentation for the Netscape schema.

NSCP:nsnewsACL

Specifies an ACL for Netscape news.

LDAP Name

nsnewsACL

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113730.3.1.191

Used In

[NSCP:Nginfo \(page 303\)](#)

[NSCP:Nginfo2 \(page 304\)](#)

[NSCP:Nginfo2 \(page 304\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

LDAP added this attribute for Netscape support. For more information, see the documentation for the Netscape schema.

NSCP:nsprettyname

Specifies a Netscape name.

LDAP Name

nsprettyname

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113730.3.1.193

Used In

[NSCP:Nginfo \(page 303\)](#)

[NSCP:Nginfo2 \(page 304\)](#)

[NSCP:Nginfo2 \(page 304\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

LDAP added this attribute for Netscape support. For more information, see the documentation for the Netscape schema.

NSCP:serverHostName

Specifies a host name server used by Netscape.

LDAP Name

serverHostName

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113730.3.1.76

Used In

[NSCP:NetscapeServer5 \(page 191\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

LDAP added this attribute for Netscape support. For more information, see the documentation for the Netscape schema.

NSCP:serverProductName

Specifies a server product name used by Netscape.

LDAP Name

serverProductName

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113730.3.1.71

Used In

[NSCP:NetscapeServer5 \(page 191\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

LDAP added this attribute for Netscape support. For more information, see the documentation for the Netscape schema.

NSCP:serverRoot

Specifies a server root used by Netscape.

LDAP Name

serverRoot

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113730.3.1.70

Used In

[NSCP:NetscapeServer5 \(page 191\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

LDAP added this attribute for Netscape support. For more information, see the documentation for the Netscape schema.

NSCP:serverVersionNumber

Specifies a server version number used by Netscape.

LDAP Name

serverVersionNumber

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113730.3.1.72

Used In

[NSCP:NetscapeServer5 \(page 191\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

LDAP added this attribute for Netscape support. For more information, see the documentation for the Netscape schema.

NSCP:subtreeACI

Specifies a subtree ACI used by Netscape.

LDAP Name

subtreeACI

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113730.3.1.69

Used In

[NSCP:Nginfo \(page 303\)](#)

[NSCP:Nginfo2 \(page 304\)](#)

[NSCP:Nginfo2 \(page 304\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

LDAP added this attribute for Netscape support. For more information, see the documentation for the Netscape schema.

O (Organization Name)

Specifies the name of an organization.

NDS Operational: Yes

LDAP Name

o
organizationName

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SIZED_ATTR (1..64)
DS_STRING_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.10

Used In

[applicationEntity \(page 65\)](#)
[Device \(page 96\)](#)
[Group \(page 134\)](#)
[List \(page 144\)](#)
[NSCP:groupOfCertificates \(page 181\)](#)
[Organization \(page 198\)](#)
[Profile \(page 226\)](#)
[Resource \(page 231\)](#)
[Server \(page 239\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For the Organization class, this attribute is mandatory.

When used as a component of an NDS name, an organization name identifies an organization with which the named object is affiliated. An attribute value for O is a string chosen by the organization

(for example, O=Scottish Telecommunications plc). Any variant's name should be associated with the named organization as separate and alternative attribute values.

An LDAP schema query requires extensions to return NDS attribute constraints.

Obituary

Used to avoid name collisions during certain operations.

NDS Operational: Yes

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_READ_ONLY_ATTR
DS_SPARSE_REQUIRED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.114

Used In

[Top \(page 249\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is used internally by NDS. The DS_READ_ONLY_ATTR constraint restricts access to the NDS server. Obituaries provide a unique identification, other than the object name, that may be required in order to resolve certain functions.

In a distributed database, each server receives updated information through synchronization. Because the servers do not receive updates simultaneously, the server might not hold the same information at a given time. For this reason, each server holds on to the old information until all the other servers receive updates. NDS uses obituaries to keep track of such information.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Octet String syntax.

Obituary Notify

Added to a partition root when an object, which is referenced in the partition but not resident on the partition, has its RDN modified or is renamed, deleted, moved, or restored.

NDS Operational: Yes

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_READ_ONLY_ATTR
DS_SPARSE_REQUIRED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.500

Used In

[Partition \(page 209\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The attribute is new in NetWare 5.x and works in conjunction with the Used By attribute. For example, if object A has a Used By attribute referencing partition root B, then deleting object A would cause an Obituary Notify attribute to be placed on B. This will cause partition B to clean up all references to object A in its partition.

The format of the octet string is internal to NDS.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Octet String syntax.

Object Class

Contains an unordered list of object classes. These classes are the fully expanded set of super classes for the object to which this attribute is assigned.

NDS Operational: Yes

LDAP Name

objectClass

Syntax

[Class Name \(page 976\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_PUBLIC_READ
DS_SPARSE_REQUIRED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.0

Used In

[Top \(page 249\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For the Top class and all of its subordinate classes, this attribute is mandatory.

When an object is created, a single initial value for object class must be specified. When the server creates the object, it expands the value set of the object class attribute to include all of the super classes of the initially specified class.

Auxiliary classes are added to or removed from an object class by modifying the Object Class attribute.

An LDAP schema query requires extensions to return the NDS attribute constraints.

objectVersion

Holds object information.

Added: NDS 8.5

NDS Operational: Yes

LDAP Name

objectVersion

Syntax

[Timestamp \(page 1018\)](#)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE
DS_PUBLIC_READ
DS_NONREMOVABLE_ATTR
DS_READ_ONLY_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.602

Used In

[Top \(page 249\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Operator

Specifies an object with operator privileges.

NDS Operational: Yes

LDAP Name

operator

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SERVER_READ

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.59

Used In

[Computer \(page 85\)](#)

[NCP Server \(page 157\)](#)

[Print Server \(page 220\)](#)

[Printer \(page 223\)](#)

[Queue \(page 228\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

Other GUID

Contains recovered GUIDs.

NDS Operational: Yes

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_OPERATIONAL

DS_PUBLIC_READ

DS_SIZED (16, 16)

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.502

Used In

[Top \(page 249\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is used to manage the case where an object loses its GUID, has another one generated, and then the old GUID is recovered or restored. This attribute will store the recovered GUIDs so that an object can be accessed by the new one (stored in the GUID attribute) and the recovered one (stored in this attribute).

The octet string is sized at 16 octets and has the same format as the GUID attribute.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Octet String syntax.

otherPhoneNumber

Holds an optional phone number for the employee.

Added: NDS eDirectory 8.5

LDAP Name

otherPhoneNumber

Syntax

[Telephone Number \(page 1014\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.17

Used In

[Person \(page 212\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

OU (Organizational Unit Name)

Specifies the name of an organizational unit.

NDS Operational: Yes

LDAP Name

ou

organizationalUnitName

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SIZED_ATTR (1..64)

DS_STRING_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.11

Used In

[applicationEntity \(page 65\)](#)

[applicationProcess \(page 67\)](#)

[Device \(page 96\)](#)

[External Entity \(page 129\)](#)

[Group \(page 134\)](#)

[List \(page 144\)](#)

[NSCP:groupOfCertificates \(page 181\)](#)

[Organizational Person \(page 201\)](#)

[Organizational Role \(page 204\)](#)

[Organizational Unit \(page 206\)](#)

[Profile \(page 226\)](#)

[Resource \(page 231\)](#)

[Server \(page 239\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For the Organizational Unit class, this attribute is mandatory.

When used as a component of an NDS name, an organizational unit name identifies a unit of an organization with which the named object is affiliated. The unit is understood to be part of an organization designated by an O (Organization Name) attribute assigned to the same object. It follows that if an OU (Organizational Unit Name) attribute is used in an NDS name, it must be associated with an O (Organization Name) attribute.

An attribute value for OU (Organizational Unit Name) is a string chosen by the organization to which the unit belongs. An example of an organizational unit name is

OU=Technology Division

An LDAP schema query requires extensions to return NDS attribute constraints.

Owner

Specifies the name of an object that has some responsibility for the associated object.

NDS Operational: Yes

LDAP Name

owner

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.32

Used In

[Device \(page 96\)](#)

[Group \(page 134\)](#)

[List \(page 144\)](#)

[NSCP:groupOfCertificates \(page 181\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An attribute value for this attribute is a distinguished name, which could represent a group. This attribute can have multiple values.

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

Page Description Language

Identifies the page description languages (PDLs) supported by a printer. Multiple PDLs should be represented as multiple values.

NDS Operational: Yes

Syntax

[Printable String \(page 1008\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SIZED_ATTR (1..64)
DS_STRING_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.63

Used In

[Printer \(page 223\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An example of an attribute value for this attribute is

Page Description Language=PostScript

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

pager

Contains the phone number of the object's pager.

LDAP Name

pager

Syntax

[Telephone Number \(page 1014\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

0.9.2342.19200300.100.1.42

Used In

[inetOrgPerson \(page 271\)](#)

[Person \(page 212\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute was added for Netscape support.

Partition Control

Contains the states of split and join operations.

NDS Operational: Yes

LDAP Name

partitionControl

Syntax

[Typed Name \(page 1020\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_PUBLIC_READ
DS_READ_ONLY_ATTR
DS_SPARSE_REQUIRED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.121

Used In

[Partition \(page 209\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The Typed Name syntax has three fields: entry ID, level, and interval. The partition operation (PC_IDLE, PC_JOINING_UP, PC_JOINING_DOWN, PC_MOVE_SUBTREE_DEST, PC_MOVE_SUBTREE_SCR, etc.) is stored in the level field. The partition state which uses the same values defined for replica states is stored the interval field.

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

Partition Creation Time

Identifies the particular incarnation of the list of replicas of a partition.

NDS Operational: Yes

Syntax

Timestamp (page 1018)

Constraints

DS_NONREMOVABLE_ATTR
DS_PUBLIC_READ
DS_READ_ONLY_ATTR
DS_SINGLE_VALUED_ATTR
DS_SPARSE_REQUIRED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.64

Used In

Partition (page 209)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Partition Creation Time is also known as the partition’s “epoch.” An epoch is defined by explicit management intervention to recover from the hard failure of a replica that prevents synchronizations from completing.

The LDAP server does not currently support the Timestamp syntax. LDAP clients cannot access this attribute.

Partition Status

Provides information on the success or failure of the last synchronization cycle.

NDS Operational: Yes

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_OPERATIONAL
DS_PER_REPLICA
DS_PUBLIC_READ
DS_READ_ONLY_ATTR
DS_SPARSE_REQUIRED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.176

Used In

[Partition \(page 209\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Octet String syntax.

To decode the data part of the octet string, you can use the following structure:

```
uint32 version (0)
uint32 flags (0: local error; 1: remote error; 2: in sync)
uint32 syncTime
uint32 replicaNumber (0: reserved)
uint32 error (0: success)
uint32 reserved
uint32 serverNameLength
unicode serverName[MAX_DN_CHARS]
uint32 reserved[...]
```


Password Allow Change

Determines whether the person logged in under an account can change the password for that account.

NDS Operational: Yes

Syntax

Boolean (page 966)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.66

Used In

User (page 255)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Password Expiration Interval

Specifies the time interval a password can remain active. When the interval expires, the current password is marked expired.

NDS Operational: Yes

Syntax

[Interval \(page 991\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.67

Used In

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Password Expiration Interval uses a syntax definition (SYN_INTERVAL) that is a 32-bit integer. The time is stored in seconds. NWAdmin divides the value by 86400 (seconds per day) and displays it in days.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Password Expiration Time

Specifies when the password will expire.

NDS Operational: Yes

Syntax

[Time \(page 1016\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.68

Used In

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Password Management

Allows an object to be granted password management rights for all objects in a container or subtree without having full supervisor rights.

NDS Operational: Yes

Syntax

Unknown (page 1022)

Constraints

DS_NONREMOVABLE_ATTR
DS_OPERATIONAL
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.185

Used In

(None)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is new in NetWare 5.x and has been defined specifically for password management, and as such, can never be added to any class definition. It is a special attribute to be used in ACLs. When referenced in an ACL, it grants rights to modify the password of the object the ACL belongs to, or if inheritance is set on the ACL, to all subordinate objects.

To grant permission to change the password, NDS now looks for either write rights on the ACL attribute (original behavior) or write rights to the Password Management attribute (new behavior).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Password Minimum Length

Establishes the minimum length for an object's clear-text password.

NDS Operational: Yes

Syntax

Integer (page 988)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.69

Used In

User (page 255)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Password Required

Establishes that a password is required for the object to log in.

NDS Operational: Yes

Syntax

Boolean (page 966)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.70

Used In

User (page 255)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Password Unique Required

Establishes that when an object's password is changed, it must be different from those in the Passwords Used attribute.

NDS Operational: Yes

Syntax

Boolean (page 966)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.71

Used In

User (page 255)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Passwords Used

Specifies old (previously used) passwords.

NDS Operational: Yes

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_HIDDEN_ATTR

DS_NONREMOVABLE_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.65

Used In

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Applications cannot access this attribute since it is a hidden attribute.

The Passwords Used attribute is maintained internally if Unique Passwords Required is set to True. When a password is changed, the old password value is stored in this attribute. Before a new password is accepted, this list is searched to see if the new password is already in the list. Old passwords are purged from the list when the password timestamp is older than 8 times the password expiration interval.

Path

Specifies the physical location of a file system directory.

NDS Operational: Yes

LDAP Name

path

Syntax

[Path \(page 1004\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.72

Used In

[Directory Map \(page 99\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

Permanent Config Parm

Holds the permanent configuration parameters.

NDS Operational: Yes

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_OPERATIONAL

DS_PUBLIC_READ

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.177

Used In

[NCP Server \(page 157\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Octet String syntax.

personalMobile

Holds the phone number of the employee's personal mobile phone.

Added: NDS eDirectory 8.5

LDAP Name

personalMobile

Syntax

[Telephone Number \(page 1014\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.26

Used In

[homeInfo \(page 137\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

personalTitle

Holds the business title of the person.

Added: NDS eDirectory 8.5

LDAP Name

personalTitle

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

0.9.2342.19200300.100.1.40

Used In

[Person \(page 212\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

photo

Holds a picture of the person.

Added: NDS eDirectory 8.5

LDAP Name

photo

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

0.902342.19200300.100.1.7

Used In

[Person \(page 212\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The picture file cannot exceed 64K.

Physical Delivery Office Name

Specifies the name of the city, village, or place, where a physical delivery office is located.

NDS Operational: Yes

LDAP Name

physicalDeliveryOfficeName

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SIZED_ATTR (1..128)

DS_STRING_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.19

Used In

[External Entity \(page 129\)](#)

[Organization \(page 198\)](#)

[Organizational Person \(page 201\)](#)

[Organizational Role \(page 204\)](#)

[Organizational Unit \(page 206\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

Postal Address

Specifies the address information required for the physical delivery of postal messages to a named object.

NDS Operational: Yes

LDAP Name

postalAddress

Syntax

[Postal Address \(page 1006\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.16

Used In

[External Entity \(page 129\)](#)

[Organization \(page 198\)](#)

[Organizational Person \(page 201\)](#)

[Organizational Role \(page 204\)](#)

[Organizational Unit \(page 206\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

A value for this attribute is typically composed of selected attributes from the MHS Unformatted Postal O/R Address version 1, according to Recommendation F.401. The address is limited to 6 lines of 30 characters each, including a Postal Country Name.

Normally the information contained in such an address could include an addressee’s name, street address, city, state or province, postal code and possibly a Post Office Box number, depending on the specific requirements of the named object.

NetWare administrative utilities will link the postal address value to the following attributes: Physical Delivery Office Name, Postal Code, Postal Office Box, and Street Address.

The postal address uses the following as default values:

Line 1: The object's RDN

Line 2: Street Address or Post Office Box Number

Line 3: (no default value)

Line 4: Physical Delivery Office Name, State or Province Name

Line 5: Postal Code

Line 6: Country Name (from the object's DN)

The second line of the postal address will default to the post office box, if present, or otherwise to the street address. The third line of the postal address should be presented in the utility as the second line of both the post office box and street address. Each line of the postal address is limited to 30 characters. Attribute values are truncated to 30 characters when used in the postal address.

Developers are encouraged to follow these guidelines.

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

Postal Code

Specifies the postal code of the named object. If this attribute value is present, it is part of the object's postal address.

NDS Operational: Yes

LDAP Name

postalCode

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SIZED_ATTR (0..40)
DS_STRING_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.17

Used In

[External Entity \(page 129\)](#)
[Organization \(page 198\)](#)
[Organizational Person \(page 201\)](#)
[Organizational Role \(page 204\)](#)
[Organizational Unit \(page 206\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

Postal Office Box

Specifies the post office box at which the object receives physical postal delivery.

NDS Operational: Yes

LDAP Name

postOfficeBox

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SIZED_ATTR (0..40)

DS_STRING_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.18

Used In

[External Entity \(page 129\)](#)

[Organization \(page 198\)](#)

[Organizational Person \(page 201\)](#)

[Organizational Role \(page 204\)](#)

[Organizational Unit \(page 206\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

Postmaster

Specifies one or more users who have the privileges to manage a messaging server.

NDS Operational: Yes

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.128

Used In

[Messaging Server \(page 153\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Postmasters have the required rights to remove mailboxes. They also receive messages about special events in the messaging server, such as messages not being processed.

preferredDeliveryMethod

Specifies the preferred delivery method for a message.

LDAP Name

preferredDeliveryMethod

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.28

Used In

[Organizational Person \(page 201\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

A non-extended LDAP schema query returns only the single-valued constraint.

For more information, see RFC 2256.

preferredName

Holds the name the person prefers to be known by.

Added: NDS eDirectory 8.5

LDAP Name

preferredName

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.10

Used In

[Person \(page 212\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

presentationAddress

Specifies an OSI presentation layer address.

LDAP Name

presentationAddress

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.29

Used In

[applicationEntity \(page 65\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

A non-extended LDAP schema query returns only the single-valued constraint.

For more information, see RFC 2256.

Print Job Configuration

Contains information on the specified print job configuration.

NDS Operational: Yes

Syntax

[Stream \(page 1012\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.80

Used In

[Organization \(page 198\)](#)

[Organizational Unit \(page 206\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Print Server

Designates an object as the host server for a specific printer.

NDS Operational: Yes

LDAP Name

printServer

Syntax

[Typed Name \(page 1020\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.81

Used In

[Printer \(page 223\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

Printer

Contains a list of printer object names that are serviced by the print server.

NDS Operational: Yes

LDAP Name

printer

Syntax

[Typed Name \(page 1020\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.77

Used In

[Print Server \(page 220\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

Printer Configuration

Contains information on the specified printer configuration.

NDS Operational: Yes

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.78

Used In

[Printer \(page 223\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Octet String syntax.

Printer Control

Contains the NDS counterpart of the DOS printer definition file, NET\$PRN.DAT.

NDS Operational: Yes

Syntax

[Stream \(page 1012\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.79

Used In

[Organization \(page 198\)](#)

[Organizational Unit \(page 206\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Stream syntax.

Private Key

Contains an RSA private key.

NDS Operational: Yes

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_HIDDEN_ATTR
DS_NONREMOVABLE_ATTR
DS_READ_ONLY_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.82

Used In

[Organizational Unit \(page 206\)](#)

[pkiCA \(page 216\)](#)

[Server \(page 239\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Your applications cannot access this attribute since it is a hidden attribute.

This attribute is used to produce signed authentication information that can be used to verify the identity of an object.

The Private Key attribute contains an RSA private key encrypted with the password of the object.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Octet String syntax.

Profile

Identifies the login profile to be used if the user doesn't specify one at login time.

NDS Operational: Yes

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.83

Used In

[Group \(page 134\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Profile Membership

Contains a list of profiles that the object can use.

NDS Operational: Yes

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SYNC_IMMEDIATE

DS_WRITE_MANAGED

ASN.1 ID

2.16.840.1.113719.1.1.4.1.171

Used In

[Group \(page 134\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute allows objects to have multiple profiles. This is useful for NNS users who are brought into the NDS tree, since NNS allows users to have multiple domains.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

protocolInformation

Specifies information which is used with the presentationAddress attribute for the OSI network service layer.

LDAP Name

protocolInformation

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.48

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

For more information, see RFC 2256.

Public Key

Contains a certified RSA public key.

NDS Operational: Yes

Syntax

Octet String (page 1001)

Constraints

DS_NONREMOVABLE_ATTR
DS_PUBLIC_READ
DS_READ_ONLY_ATTR
DS_SINGLE_VALUED_ATTR
DS_SPARSE_REQUIRED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.84

Used In

Organizational Unit (page 206)
pkiCA (page 216)
Server (page 239)
User (page 255)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

This attribute verifies authentication information produced with the corresponding private key.

The attribute contains the public key, along with information that certifies the integrity of the public/private key pair. Certification information is necessary to prevent legitimate key pairs from being replaced by illicit key pairs.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Octet String syntax.

Purge Vector

Contains a publicly available attribute that can be used by NDS management utilities (such as NDS Manager) to determine the synchronization status of a given partition.

NDS Operational: Yes

Syntax

[Timestamp \(page 1018\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_OPERATIONAL
DS_PUBLIC_READ
DS_READ_ONLY_ATTR
DS_PER_REPLICA
DS_SCHEDULE_SYNC_NEVER
DS_SPARSE_REQUIRED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.183

Used In

[Partition \(page 209\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is new in NetWare 5.x. It gives the time since the last successful synchronization cycle that allowed NDS to purge old information because it has now been seen by all other interested servers.

The LDAP server does not currently support the Timestamp syntax.

Queue

Contains the distinguished name of the queue with which the object is associated.

NDS Operational: Yes

LDAP Name

queue

Syntax

[Typed Name \(page 1020\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.85

Used In

[Printer \(page 223\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The attribute contains the queue’s Distinguished Name and the queue’s priority.

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

Queue Directory

Contains the name of the subdirectory where the queue's files are stored.

NDS Operational: Yes

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SERVER_READ
DS_SINGLE_VALUED_ATTR
DS_SIZED_ATTR (1..255)
DS_STRING_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.86

Used In

[Queue \(page 228\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The subdirectory name should include the local volume designation along with the subdirectory name. The subdirectory name should be a valid DOS name.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

rbsAssignedRoles

Contains roles that are assigned to a particular object.

Added: NDS 8.5

LDAP Name

rbsAssignedRoles

Syntax

[Typed Name \(page 1020\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.135.4.30

Used In

[Top \(page 249\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

rbsOwnedCollections

Holds rbs collections owned by an entry.

Added: NDS 8.5

LDAP Name

rbsOwnedCollections

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.135.4.35

Used In

[Top \(page 249\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

Received Up To

Specifies the last time the replica has received any updates.

NDS Operational: Yes

Syntax

Timestamp (page 1018)

Constraints

DS_NONREMOVABLE_ATTR

DS_PUBLIC_READ

DS_READ_ONLY_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.87

Used In

Partition (page 209)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

The LDAP server does not currently support the Timestamp syntax. LDAP clients cannot access this attribute.

Reference

Contains a list of objects referenced by the owner of this attribute.

NDS Operational: Yes

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_HIDDEN_ATTR
DS_NONREMOVABLE_ATTR
DS_READ_ONLY_ATTR
DS_PER_REPLICA
DS_SPARSE_REQUIRED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.115

Used In

[Top \(page 249\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Applications cannot access to this attribute since it is a hidden attribute.

This attribute is kept only on the replica in which it originated. It is not skulked or updated to other replicas. It is used to make it easier to find the objects that have a reference to a certain object. If objects A, B, C, and D all have privileges granted to object X (through use of the ACL attribute), the Reference attribute of object X will contain the object names of A, B, C, and D.

This attribute is also used to list bindery object relations in Bindery Services.

registeredAddress

Specifies a postal address for the delivery of telegrams or expedited documents which require the receiver to accept delivery.

LDAP Name

registeredAddress

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.26

Used In

[Organizational Person \(page 201\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

For more information, see RFC 2256.

Replica

Identifies the NDS servers that store replicas of a partition.

NDS Operational: Yes

Syntax

[Replica Pointer \(page 1010\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_PUBLIC_READ
DS_READ_ONLY_ATTR
DS_SPARSE_REQUIRED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.88

Used In

[Partition \(page 209\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is multivalued. It is present and nonNULL in every partition entry and cannot be directly modified. The attribute is updated as a side-effect of the operations that create, destroy, or change the replication of a partition.

The LDAP server does not currently support the Replica Pointer syntax. LDAP clients cannot access this attribute.

Replica Up To

Identifies the changes the object has sent out to other replicas of a partition.

NDS Operational: Yes

Syntax

Octet String (page 1001)

Constraints

DS_NONREMOVABLE_ATTR
DS_PER_REPLICA
DS_PUBLIC_READ
DS_READ_ONLY_ATTR
DS_SPARSE_REQUIRED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.175

Used In

Partition (page 209)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Octet String syntax.

Resource

Contains a list of resources associated with the object.

NDS Operational: Yes

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.89

Used In

[Server \(page 239\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute lists resources that are managed by the server.

Revision

Specifies the revision number of the object.

NDS Operational: Yes

LDAP Name

revision

Syntax

[Counter \(page 978\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_OPERATIONAL
DS_PUBLIC_READ
DS_READ_ONLY_ATTR
DS_SINGLE_VALUED_ATTR
DS_SCHEDULE_SYNC_NEVER

ASN.1 ID

2.16.840.1.113719.1.1.4.1.122

Used In

[Top \(page 249\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

Role Occupant

Specifies the name of an object that fulfills an organizational role.

NDS Operational: Yes

LDAP Name

roleOccupant

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.33

Used In

[Organizational Role \(page 204\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

roomNumber

Specifies a room number.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

0.9.2342.19200300.100.1.6

Used In

[inetOrgPerson \(page 271\)](#)

[Organizational Person \(page 201\)](#)

[Person \(page 212\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

Run Setup Script

Specifies whether a setup script is to be run when the User objects are created with this Template object.

Syntax

Boolean (page 966)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.58.4.1.1

Used In

Template (page 246)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

S (State or Province Name)

Specifies the name of a state or province.

NDS Operational: Yes

LDAP Name

st
stateOrProvinceName

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SIZED_ATTR (1..128)
DS_STRING_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.8

Used In

[External Entity \(page 129\)](#)
[Locality \(page 146\)](#)
[Organization \(page 198\)](#)
[Organizational Person \(page 201\)](#)
[Organizational Role \(page 204\)](#)
[Organizational Unit \(page 206\)](#)
[Person \(page 212\)](#)
[Template \(page 246\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

When used as a component of an NDS name, a state or province name identifies a geographical subdivision in which the named object is either physically located in, or associated with, in some other important way.

An LDAP schema query requires extensions to return the NDS attribute constraints.

SA (Street Address)

Specifies a site for local distribution and physical delivery of mail in the form of a postal address (that is, the street name, place, avenue, and house number).

NDS Operational: Yes

LDAP Name

street

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SIZED_ATTR (1..128)
DS_STRING_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.9

Used In

[External Entity \(page 129\)](#)
[Locality \(page 146\)](#)
[Organization \(page 198\)](#)
[Organizational Person \(page 201\)](#)
[Organizational Role \(page 204\)](#)
[Organizational Unit \(page 206\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

When used as a component of an NDS name, a street address identifies the address at which the named object is either located in, or associated with, in some other important way. The attribute value for street address is a string (for example, "Amulfstrae 60").

An LDAP schema query requires extensions to return the NDS attribute constraints.

SAP Name

Contains the name used by a print server when advertising itself using the NetWare Service Advertising Protocol (SAP).

NDS Operational: Yes

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SIZED_ATTR (1..47)
DS_STRING_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.91

Used In

[Print Server \(page 220\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

SAS:PKIStore:Keys

Holds the PKI store keys.

Added: NDS eDirectory 8.5

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_HIDDEN_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.39.4.1.6

Used In

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

SAS:SecretStore

Contains SAS security information.

Added: NDS eDirectory 8.5

Syntax

[Boolean \(page 966\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.39.4.1.3

Used In

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

SAS:SecretStore:Data

Holds the contents of the SAS secret store.

Added: NDS eDirectory 8.5

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_HIDDEN_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.39.4.1.5

Used In

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

SAS:SecretStore:Key

Holds the SecretStore key.

Added: NDS eDirectory 8.5

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_HIDDEN_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.39.4.1.4

Used In

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

SAS:Security DN

In NetWare 5.x, identifies the distinguished name of the security container.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SERVER_READ

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.39.4.1.1

Used In

[Tree Root \(page 251\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

SAS:Service DN

Identifies the SAS:Service object that belongs to the NCP Server object.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SERVER_READ

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.39.4.1.2

Used In

[NCP Server \(page 157\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute on the NCP Server works in conjunction with the Host Server attribute on the SAS:Service object. If you know the NCP Server object, then you can use the SAS:Service DN attribute to find the SAS:Service object. If you know the SAS:Service object, you can use the Host Server attribute to find the NCP Server object.

searchGuide

Specifies an attribute used in a search filter.

LDAP Name

searchGuide

Syntax

Octet String (page 1001)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.14

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

This attribute was added for backwards compatibility and has been replaced by the [enhancedSearchGuide \(page 428\)](#) attribute. For more information, see RFC 2256.

searchSizeLimit

Specifies the maximum number of objects that an LDAP search can return.

Syntax

Integer (page 988)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SIZED_ATTR (0..2147483647)
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.194

Used In

LDAP Server (page 141)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

This attribute was redefined for NDS 8 to allow a 0 value to represent unlimited searches.

LDAP Services for NDS returns object data until the object number exceeds the value of this attribute. The LDAP server then stops sending object data and considers the request complete. The default value is 500.

searchTimeLimit

Specifies the maximum number of milliseconds that an LDAP search can take before returning.

Syntax

Integer (page 988)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SIZED_ATTR (0..2147483647)
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.195

Used In

LDAP Server (page 141)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

This attribute is an LDAP Services for NDS configuration parameter. The default is 3600 seconds. It was redefined for NDS 8 to allow a 0 value to represent an unlimited time.

The LDAP server continues processing the request until the search time has expired. It then returns an error reporting that the search time was exceeded. The LDAP server considers the request complete.

Security Equals

Specifies group membership and security equivalences of an object.

NDS Operational: Yes

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SERVER_READ

DS_SYNC_IMMEDIATE

DS_WRITE_MANAGED

ASN.1 ID

2.16.840.1.113719.1.1.4.1.92

Used In

[Server \(page 239\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Security Flags

Specifies the NCP Packet Signature level of the object.

NDS Operational: Yes

Syntax

Integer (page 988)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.165

Used In

Server (page 239)

User (page 255)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

NCP Packet Signature uses the following four security flags:

0 = No signing

1 = Signing allowed

2 = Signing preferred

3 = Signing mandatory

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

See Also

Specifies the names of NDS objects that can reflect other aspects of the same real world object.

NDS Operational: Yes

LDAP Name

seeAlso

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.34

Used In

[applicationEntity \(page 65\)](#)

[applicationProcess \(page 67\)](#)

[Device \(page 96\)](#)

[External Entity \(page 129\)](#)

[Group \(page 134\)](#)

[List \(page 144\)](#)

[Locality \(page 146\)](#)

[NSCP:groupOfCertificates \(page 181\)](#)

[Organization \(page 198\)](#)

[Organizational Role \(page 204\)](#)

[Organizational Unit \(page 206\)](#)

[Person \(page 212\)](#)

[Profile \(page 226\)](#)

[Resource \(page 231\)](#)

[Server \(page 239\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

Serial Number

Specifies the serial number of a device.

NDS Operational: Yes

LDAP Name

serialNumber

Syntax

Printable String (page 1008)

Constraints

DS_NONREMOVABLE_ATTR

DS_SIZED_ATTR (1..64)

DS_STRING_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.5

Used In

AFP Server (page 60)

Device (page 96)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

An LDAP schema query requires extensions to return the NDS attribute constraints.

Server

Specifies a list of servers.

NDS Operational: Yes

LDAP Name

server

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SERVER_READ

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.95

Used In

[Computer \(page 85\)](#)

[Queue \(page 228\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

Server Holds

Contains the number of accounting charges pending while a server performs a chargeable action.

NDS Operational: Yes

Syntax

[Hold \(page 987\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.96

Used In

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The Server Holds attribute is used when NetWare Accounting is active. Each time a server is about to perform an action that will be charged against a user’s account, the server makes sure the account has a sufficient balance. To do this, the server places a hold against an object’s balance, which is an estimate of what the final charge will be. If the hold is successful, meaning sufficient balance remains, the action is performed. When the action is completed, the hold is cancelled and a true charge for the actual amount is made against the object’s balance.

Up to 16 different servers can have holds pending against a user’s balance simultaneously. When a hold is pending, this attribute contains the name of the server requesting the hold and the total hold amount.

The LDAP server does not currently support the Hold syntax. LDAP clients cannot access this attribute.

Set Password After Create

Determines whether the network administrator is prompted to create a password for the User when the User object is created with this Template object.

Syntax

Boolean (page 966)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.61.4.1.1

Used In

Template (page 246)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

Setup Script

Specifies a setup script that can be used to configure the User objects created with this Template object.

Syntax

[Stream \(page 1012\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113719.1.57.4.1.1

Used In

[Template \(page 246\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

siteLocation

Holds the name of the location where the person works.

Added: NDS eDirectory 8.5

LDAP Name

siteLocation

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.12

Used In

[Person \(page 212\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

spouse

Holds the name of the employee's spouse.

Added: NDS eDirectory 8.5

LDAP Name

spouse

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.28

Used In

[homeInfo \(page 137\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

Status

Specifies the operational state of the specified object.

NDS Operational: Yes

LDAP Name

status

Syntax

Integer (page 988)

Constraints

DS_NONREMOVABLE_ATTR
DS_PUBLIC_READ
DS_SINGLE_VALUED_ATTR
DS_SPARSE_REQUIRED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.98

Used In

Computer (page 85)
Printer (page 223)
Server (page 239)
Volume (page 263)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Operational state values for Status might be Up (1) and Down (0). The values vary with the object.

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

supportedAlgorithms

Specifies supported algorithms in binary format.

LDAP Name

supportedAlgorithms

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.52

Used In

[userSecurityInformation \(page 261\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

For more information, see RFC 2256.

supportedApplicationContext

Specifies the identifiers for the OSI application contexts in the application layer.

LDAP Name

supportedApplicationContext

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.30

Used In

[applicationEntity \(page 65\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

For more information, see RFC 2256.

Supported Connections

Identifies the number of concurrent connections a server allows.

NDS Operational: Yes

Syntax

Integer (page 988)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.100

Used In

AFP Server (page 60)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Supported Gateway

Contains a list of gateways supported by the associated object.

NDS Operational: Yes

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVEABLE_ATTR

DS_SIZED_ATTR (1..4096)

DS_STRING_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.173

Used In

[Messaging Server \(page 153\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute provides messaging connectivity between the MHS messaging system and external messaging systems. This attribute supports existing third-party gateway products.

The gateway names consist of two sub-attributes: gateway name and gateway protocol type. The gateway names have the convention of eight or fewer characters, followed by "/", followed by another eight or fewer characters.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Supported Services

Contains a list of services that the associated object supports.

NDS Operational: Yes

LDAP Name

supportedServices

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SIZED_ATTR (1..64)

DS_STRING_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.101

Used In

[Messaging Server \(page 153\)](#)

[NCP Server \(page 157\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

Supported Typefaces

Identifies the typefaces supported by a printer. Multiple typefaces should be represented as multiple values.

NDS Operational: Yes

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SIZED_ATTR (1..64)
DS_STRING_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.102

Used In

[Printer \(page 223\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An example of a value for this attribute is

Supported Typefaces=computer modern, American modern, CM, AM

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Surname

Specifies the name an individual inherits from a parent (or assumes by marriage) and by which the individual is commonly known.

NDS Operational: Yes

LDAP Name

sn
surname

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_PUBLIC_READ
DS_SIZED_ATTR (1..64)
DS_STRING_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.4

Used In

[Person \(page 212\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The value depends upon the culture. For example, in the American name “Robert Jones,” “Jones” is the surname. However, in the Chinese name “Sun Yat-sen,” “Sun” is the surname.

An LDAP schema query requires extensions to return NDS attribute constraints.

In NDS 8 and above, Surname is multi-valued. In previous releases of NDS, Surname is single-valued.

Synchronization Tolerance

Determines how old the timestamps in the partition's Purge Vector can be and still allow the partition to be considered synchronized with the other replicas of the partition.

NDS Operational: Yes

Syntax

Timestamp (page 1018)

Constraints

DS_NONREMOVABLE_ATTR
DS_OPERATIONAL
DS_PUBLIC_READ
DS_SPARSE_REQUIRED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.184

Used In

Partition (page 209)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

This attribute is new in NetWare 5.x.

The LDAP server does not currently support the Timestamp syntax. LDAP clients cannot access this attribute.

Synchronized Up To

Contains a list of time stamps that indicate the last time all servers holding a copy of the specified replica were synchronized.

NDS Operational: Yes

Syntax

[Timestamp \(page 1018\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_PUBLIC_READ
DS_READ_ONLY_ATTR
DS_PER_REPLICA
DS_SPARSE_REQUIRED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.33

Used In

[Partition \(page 209\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The LDAP server does not currently support the Timestamp syntax. LDAP clients cannot access this attribute.

sslEnableMutualAuthentication

Determines whether or not mutual authentication is enabled on the ldap server.

Added: NDS eDirectory 8.5

LDAP Name

sslEnableMutualAuthentication

Syntax

Boolean (page 966)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.27.4.46

Used In

LDAP Server (page 141)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

T (Tree Name)

Specifies the name of a Tree Root object.

NDS Operational: Yes

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_OPERATIONAL

DS_SIZED_ATTR (1..32)

DS_STRING_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.181

Used In

[Tree Root \(page 251\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is new in NetWare 5.x. For the Tree Root class, this attribute is mandatory. A tree name can be 1 to 32 characters long.

Telephone Number

Specifies a telephone number associated with an object.

NDS Operational: Yes

LDAP Name

telephoneNumber

Syntax

[Telephone Number \(page 1014\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_STRING_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.20

Used In

[Organization \(page 198\)](#)

[Organizational Role \(page 204\)](#)

[Organizational Unit \(page 206\)](#)

[Person \(page 212\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

A value for this attribute is a string that complies with the internationally agreed format for showing international telephone numbers, Recommendation E.123 (for example, "+ 44 582 10101").

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

telexNumber

Specifies a telex number.

LDAP Name

telexNumber

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.21

Used In

[Organizational Person \(page 201\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

For more information, see RFC 2256.

telexTerminalIdentifier

Specifies an identifier for a telex terminal.

LDAP Name

telexTerminalIdentifier

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.22

Used In

[Organizational Person \(page 201\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

For more information, see RFC 2256.

Timezone

Used to set the time zone offset for a user (or other objects that log in) so that the login restrictions can maintain appropriate login time restrictions by adjusting to daylight saving and time zone differences.

NDS Operational: Yes

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_OPERATIONAL
DS_PUBLIC_READ
DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.178

Used In

[Server \(page 239\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Title

Specifies the designated position or function of an object within an organization.

NDS Operational: Yes

LDAP Name

title

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SIZED_ATTR (1..64)

DS_STRING_ATTR

DS_SYNC_IMMEDIATE

Used In

[External Entity \(page 129\)](#)

[Organizational Person \(page 201\)](#)

ASN.1 ID

2.5.4.12

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An attribute value for this attribute is a string. For example:

"Manager, Distributed Applications."

An LDAP schema query requires extensions to return the NDS attribute constraints.

tollFreePhoneNumber

Holds a toll free phone number, for example in the United States, a 1-800 phone number.

Added: NDS eDirectory 8.5

LDAP Name

tollFreePhoneNumber

Syntax

[Telephone Number \(page 1014\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.16

Used In

[Person \(page 212\)](#)

[Template \(page 246\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

TransitionGroupDN

Contains the distinguished name of the transition group.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.27.4.56

Used In

[LDAP Group \(page 139\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

Transitive Vector

Used on partition root objects so NDS can manage the synchronization process and determine what needs to be sent to other replicas.

NDS Operational: Yes

Syntax

Octet String (page 1001)

Constraints

DS_NONREMOVABLE_ATTR
DS_OPERATIONAL
DS_PUBLIC_READ
DS_READ_ONLY_ATTR
DS_SCHEDULE_SYNC_NEVER
DS_SPARSE_REQUIRED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.180

Used In

Partition (page 209)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

In NDS 6.xx and 7.xx, this attribute has the following flags: DS_SYNC_IMMEDIATE and DS_PER_REPLICA. In NDS 8 and above, these flags have been removed.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Octet String syntax.

Trustees Of New Object

Specifies which NDS objects have NDS rights to the User objects created with this Template object.

Syntax

[Object ACL \(page 997\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113719.1.54.4.1.1

Used In

[Template \(page 246\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Type Creator Map

Identifies an object as a Macintosh file-system client.

NDS Operational: Yes

Syntax

[Stream \(page 1012\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.107

Used In

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is used internally by “NetWare for Macintosh” to identify clients that should be given type and creator descriptions when file information is requested.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

UID (User ID)

Specifies a unique user ID for use by UNIX clients.

NDS Operational: Yes

Syntax

[Integer \(page 988\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.108

Used In

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

uniqueID

Contains an RDN-type name that can be used to create a unique name in the NDS tree.

NDS Operational: Yes

LDAP Name

uid

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_PUBLIC_READ

DS_SIZED (1...64)

DS_STRING_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

0.9.2342.19200300.100.1.1

Used In

[inetOrgPerson \(page 271\)](#)

[Organizational Person \(page 201\)](#)

[Person \(page 212\)](#)

Remarks

LDAP applications generate uniqueID names and ensure their uniqueness.

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Unknown

Contains an attribute value for an attribute that is no longer defined by the schema.

NDS Operational: Yes

Syntax

Unknown (page 1022)

Constraints

DS_NONREMOVABLE_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.109

Used In

(Special)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is provided for use by the server in restoring objects. If an attribute definition has been deleted and an object that is being restored has a value of the deleted attribute type, the now undefined attribute will be restored as Unknown.

Unknown Auxiliary Class

Stores the name of an unknown auxiliary class.

NDS Operational: Yes

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_READ_ONLY_ATTR

DS_SIZED (1...32)

DS_STRING_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.504

Used In

[Top \(page 249\)](#)

Remarks

When NDS declares an object unknown that contains attributes from what appears to be an auxiliary class, NDS adds this attribute to the object and stores the names of the auxiliary classes in this attribute.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Unknown Base Class

Stores the class an object was before it was changed to an unknown class.

NDS Operational: Yes

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SIZED_ATTR (1..32)

DS_STRING_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.110

Used In

[Top \(page 249\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons.

Used By

Contains the new Distributed Reference Links that NetWare 5.x uses instead of back links.

NDS Operational: Yes

Syntax

[Path \(page 1004\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_OPERATIONAL
DS_READ_ONLY_ATTR
DS_SERVER_READ
DS_SPARSE_REQUIRED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.186

Used In

[Top \(page 249\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Distributed Reference Links manage references throughout the NDS tree and are automatically maintained by NDS. These links identify a partition root, and that specified partition contains an object that references the object with the Used By attribute. The Path syntax contains three uint32 fields and a data field. The Used By attribute uses only the first two fields. The first field identifies whether the attribute points to a partition (0) or to a volume (1). The second field is the partition root ID.

For LDAP clients to access this attribute, the LDAP server must be configured to map the attribute to a name without spaces or colons. The LDAP server in NDS eDirectory supports the Path syntax.

User

Contains a list of users associated with the object.

NDS Operational: Yes

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SERVER_READ

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.111

Used In

[Queue \(page 228\)](#)

[Server \(page 239\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute contains a list specifying which users are authorized to use the queue or server.

userCertificate

Specifies a certificate for certificate management.

LDAP Name

userCertificate

userCertificate;binary

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_PUBLIC_READ

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.36

Used In

[inetOrgPerson \(page 271\)](#)

[pkiUser \(page 218\)](#)

[strongAuthenticationUser \(page 242\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is used by Certificate Authorities (Novell and third party).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

userPassword

Allows an entry's password to be set or changed by LDAP clients.

NDS Operational: Yes

LDAP Name

userPassword

Syntax

Octet String (page 1001)

ASN.1 ID

2.5.4.35

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is accessible only through LDAP and is a write-only attribute.

Passwords in NDS are stored as a RSA public and private key pairs. The Novell LDAP server uses the userPassword attribute to generate these key pairs for an LDAP client.

- ♦ NDS 8.17 or higher is required for users to change their passwords.
- ♦ NDS 7.xx and higher is required for an administrator to change user passwords.

To change a password for a user, administrators are required only to submit a new value for the userPassword attribute.

For a user to change his or her own password, the user must submit a delete request for the userPassword attribute with the current value and an add request for the userPassword attribute with the new value.

When creating a user, a value must be set for the userPassword attribute in order for the user to log in to the directory.

When using an LDAP compare function to verify a userPassword value, the function can return true and the client can still be locked out of the account. NDS uses the following attributes, not just the userPassword attribute, to control access to an account:

- ♦ [Locked By Intruder \(page 532\)](#)
- ♦ [Login Allowed Time Map \(page 534\)](#)
- ♦ [Login Disabled \(page 535\)](#)
- ♦ [Login Expiration Time \(page 536\)](#)
- ♦ [Login Maximum Simultaneous \(page 543\)](#)

- ♦ [Password Expiration Interval \(page 662\)](#)
- ♦ [Password Required \(page 666\)](#)

If the password is verified as valid, these other attributes should be checked to determine why the client cannot access the account.

Uses

Indicates when a resource is referencing another object outside the NDS tree.

NDS Operational: Yes

Syntax

[Path \(page 1004\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_OPERATIONAL

DS_READ_ONLY_ATTR

DS_SERVER_READ

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.187

Used In

[Resource \(page 231\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is new in NetWare 5.x and is similar to the Used By attribute, but is managed by external resource agents rather than NDS. The Volume agent uses this attribute.

vehicleInformation

Identifies the car assigned to the employee.

Added: NDS eDirectory 8.5

LDAP Name

vehicleInformation

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.20

Used In

[Person \(page 212\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

vendorName

Holds the name of the company that supplied the contract worker.

Added: NDS eDirectory 8.5

LDAP Name

vendorName

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.29

Used In

[contingentWorker \(page 88\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

vendorAddress

Holds the address of the company that supplied the contract worker.

Added: NDS eDirectory 8.5

LDAP Name

vendorAddress

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.

Used In

[contingentWorker \(page 88\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

vendorPhoneNumber

Holds the telephone number of the company that supplied the contract worker.

Added: NDS eDirectory 8.5

LDAP Name

vendorPhoneNumber

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.

Used In

[contingentWorker \(page 88\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

Version

Contains a string that describes the version identifier of the software associated with the object.

NDS Operational: Yes

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_PUBLIC_READ
DS_SINGLE_VALUED_ATTR
DS_SIZED_ATTR (1..64)
DS_STRING_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.112

Used In

[inetOrgPerson \(page 271\)](#)

[LDAP Server \(page 141\)](#)

[Server \(page 239\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

Volume

Contains the distinguished name of a volume on which a queue is located.

NDS Operational: Yes

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_NONREMOVABLE_ATTR

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.1.4.1.113

Used In

[Queue \(page 228\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Volume Space Restrictions

Specifies the location and the amount of the space restrictions that are assigned to the User objects created with this Template object.

Syntax

[Path \(page 1004\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113719.1.60.4.1.1

Used In

[Template \(page 246\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

WANMAN:Cost

Contains the traffic cost that a range of network addresses uses.

Syntax

[Octet String \(page 1001\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113719.1.38.4.1.3

Used In

[NCP Server \(page 157\)](#)

[WANMAN:LAN Area \(page 266\)](#)

Remarks

This attribute contains three fields:

- ♦ Cost.
Specifies the cost of traffic on the range of addresses. The network administrator enters this value, which can be expressed in time, money, or some other measurement.
- ♦ Start Address.
Specifies the beginning range of the network address. This field also keeps track of the type of address (for example, IPX or IP).
- ♦ Stop Address.
Specifies the ending range of the network address. This address can be the same as the Start Address, indicating that the cost applies only to a single network.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

WANMAN:Default Cost

Identifies the cost for networks when the network address is not found in the WANMAN:Cost attribute.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.38.4.1.4

Used In

[NCP Server \(page 157\)](#)

[WANMAN:LAN Area \(page 266\)](#)

Remarks

This attribute allows the network administrator to set a default cost value for all networks that do not require a unique cost value.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

WANMAN:LAN Area Membership

Identifies the LAN area group that this server belongs to.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.38.4.1.2

Used In

[NCP Server \(page 157\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

WANMAN:WAN Policy

Contains a WAN policy that is used to determine when traffic should be sent.

Syntax

[Octet List \(page 999\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113719.1.38.4.1.1

Used In

[NCP Server \(page 157\)](#)

[WANMAN:LAN Area \(page 266\)](#)

Remarks

When this attribute is assigned to an NCP Server object, the policy applies just to that server. When the attribute is assigned to the WANMAN:LAN Area object, the policy applies to a group of servers.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

workforceID

Holds the person's workforce ID.

Added: NDS eDirectory 8.5

LDAP Name

workforceID

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.8.4.8

Used In

[Person \(page 212\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

XmlData

Holds XML encoded data.

Syntax

[Stream \(page 1012\)](#)

Constraints

DS_NONREMOVABLE_ATTR
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.14.4.1.3

Used In

[DirXML-Rule \(page 108\)](#)

[DirXML-StyleSheet \(page 110\)](#)

x121Address

Specifies an address used in electronic data exchange.

LDAP Name

x121Address

Syntax

[Numeric String \(page 995\)](#)

Constraints

DS_SIZED_ATTR (1..15)

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.24

Used In

[Organizational Person \(page 201\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

For more information, see RFC 2256.

x500UniqueIdentifier

Specifies an identifier to use in distinguishing between objects when a DN has been reused.

LDAP Name

x500UniqueIdentifier

Syntax

Octet String (page 1001)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.5.4.45

Used In

inetOrgPerson (page 271)

Organizational Person (page 201)

User (page 255)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

An LDAP schema query requires extended terms (X_NDS) to return the NDS attribute constraints.

Novell Attribute Extensions

6

This chapter lists alphabetically all the attribute definitions that extend the schema in a default NetWare® installation or from the downloadable [schema files \(http://www.novell.com/products/edirectory/schema/\)](http://www.novell.com/products/edirectory/schema/). It also includes the obsolete attributes that have extended the schema in NDS releases previous to NDS eDirectory™ 8.5.

- ♦ For attribute definitions that are installed with eDirectory, see “[Base Attribute Definitions](#)” on [page 327](#).
- ♦ For an explanation of the types of information included about each attribute, see “[Reading NDS Attribute Type Definitions](#)” on [page 51](#).

audio

Contains an audio file in binary format.

LDAP Name

audio

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

0.9.2342.19200300.100.1.55

Used In

[inetOrgPerson \(page 271\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute was added for Netscape support.

carLicense

Contains the license plate number of the object's car.

LDAP Name

carLicense

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113730.3.1.1

Used In

[inetOrgPerson \(page 271\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute was added for Netscape support.

Client Install Candidate

Indicates that the PSetup utility should be used to install the printer on the workstation.

Syntax

Boolean (page 966)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.4.2.2.0.10

Used In

NDPS Printer (page 281)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

Color Supported

Indicates that the printer supports color.

Syntax

[Boolean \(page 966\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.4.0.3.2.24

Used In

[NDPS Printer \(page 281\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

Database Dir Path

Contains some of the information required to locate the Printer Manager's Managed Object Database (MODB).

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SIZED_ATTR (1..128)

ASN.1 ID

2.16.840.1.113719.1.4.2.1.0.4

Used In

[NDPS Manager \(page 278\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

See the Database Volume Name attribute for the other information required to locate the MODB.

Database Volume Name

Contains some of the information required to locate the Printer Manager's Managed Object Database (MODB).

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.4.2.1.0.2

Used In

[NDPS Manager \(page 278\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

See the Database Dir Path attribute for the other information required to locate the MODB.

Datapool Location

Defines the volume object where spooling for the printer takes place.

Syntax

[Typed Name \(page 1020\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.4.2.2.0.30

Used In

[NDPS Printer \(page 281\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Datapool Locations

Defines the volume objects where spooling for each printer takes place.

Syntax

[Typed Name \(page 1020\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113719.1.4.2.1.0.1

Used In

[NDPS Manager \(page 278\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Delivery Methods Installed

Defines the notification method NLMs that are loaded with the Notification Service.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_PUBLIC_READ

DS_SIZED_ATTR (1..128)

ASN.1 ID

2.16.840.1.113719.1.4.2.1.1.0

Used In

[NDPS Broker \(page 275\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

displayName

Contains the object's preferred name for displaying in a list of objects.

LDAP Name

displayName

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113730.3.1.241

Used In

[inetOrgPerson \(page 271\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute was added for Netscape support. Since the CN attribute is multi-valued, CN cannot be used to set a name preference.

Employee ID

Specifies an ID that has been assigned to an employee.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_STRING_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

Reserved

Used In

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For NetWare 5.0, LDAP added this attribute for Netscape support. LDAP maps requests for the employeeNumber attribute to this attribute. For more information, see the documentation for the Netscape SuiteSpot schema.

In NDS 8, LDAP no longer uses this attribute. See NCP:employeeNumber.

Entrust:AttributeCertificate

Replaced by [attributeCertificate](#) (page 336).

Entrust:User

Specifies an Entrust user.

Syntax

[Case Exact String \(page 968\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113719.1.1.4.1.254

Used In

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

LDAP added this attribute for Entrust support. The LDAP server maps requests for the `entrustUser` attribute to this attribute. For more information, see the documentation for the Entrust schema.

GW API Gateway Directory Path

Defines the GroupWise API Gateway's directory path.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SIZED_ATTR (1..128)

ASN.1 ID

2.16.840.1.113719.1.4.2.1.1.12

Used In

[NDPS Broker \(page 275\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

GW API Gateway Directory Volume

Defines the GroupWise API Gateway's volume.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SINGLE_VALUE_ATTR

ASN.1 ID

2.16.840.1.113719.1.4.2.1.1.13

Used In

[NDPS Broker \(page 275\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

IPP URI

Defines the Internet Printing Protocol's Uniform Resource Identifier list.

Syntax

[Case Ignore List \(page 970\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.4.2.2.0.34

Used In

[NDPS Printer \(page 281\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute contains the printer's name in the IPP environment.

IPP URI Security Scheme

Defines the Internet Printing Protocol's security schemes that correspond to each Uniform Resource Identifier in the IPP URL.

Syntax

[Case Ignore List \(page 970\)](#)

Constraints

DS_PUBLIC_READ
DS_SINGLE_VALUE_ATTR

ASN.1 ID

2.16.840.1.113719.1.4.2.2.0.35

Used In

[NDPS Printer \(page 281\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

jpegPhoto

Contains a JPEG photo of the object.

LDAP Name

jpegPhoto

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

0.9.2342.19200300.100.1.60

Used In

[inetOrgPerson \(page 271\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute was added for Netscape support. In eDirectory, the JPEG file cannot be larger than 64 K.

labeledUri

Contains the object's Uniform Resource Identifier (URI).

LDAP Name

labeledUri

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

0.9.2342.19200300.100.1.57

Used In

[inetOrgPerson \(page 271\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute was added for Netscape support. Currently, Netscape expects the URI to be a URL.

LDAP Class Map

Is reserved.

Syntax

[Stream \(page 1012\)](#)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

None

Used In

None

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

IdapPhoto

Contains a photo of the object in binary format.

LDAP Name

photo

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

0.9.2342.19200300.100.1.7

Used In

[inetOrgPerson \(page 271\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute was added for Netscape support.

In eDirectory, the photo file cannot be larger than 64 K.

LDAPUserCertificate

Replaced by [userCertificate](#) (page 759).

LDAP:ARL

Replaced by [authorityRevocationList](#) (page 346).

LDAP:caCertificate

Replaced by [cACertificate](#) (page 358).

LDAP:CRL

Replaced by [certificateRevocationList](#) (page 362).

LDAP:crossCertificatePair

Replaced by [crossCertificatePair](#) (page 371).

Login Time

Specifies the login activation time of the attribute.

Syntax

Time (page 1016)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

DS_OPERATIONAL

ASN.1 ID

2.16.840.1.113719.1.1.4.1.296

Used In

ndsLoginProperties (page 163)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

Maximum Speed

Represents the maximum printing speed of the printer's engine.

Syntax

Integer (page 988)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

DS_SIZED_ATTR (1..10000)

ASN.1 ID

2.16.840.1.113719.1.4.0.3.2.44

Used In

NDPS Printer (page 281)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

The Maximum Speed Units attribute defines the speed units.

Maximum Speed Units

Represents a value which is interpreted as a rate of printing.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

DS_SIZED (1..1000000)

ASN.1 ID

2.16.840.1.113719.1.4.0.3.2.43

Used In

[NDPS Printer \(page 281\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The speed unit can represent a value such as pages per minute or characters per second.

MHS Send Directory Path

Defines the MHS Send directory path

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SIZED_ATTR (1..128)

ASN.1 ID

2.16.840.1.113719.1.4.2.1.1.1

Used In

[NDPS Broker \(page 275\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

MHS Send Directory Volume

Defines the MHS Send directory volume.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.4.2.1.1.2

Used In

[NDPS Broker \(page 275\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

NDPS Accountant Role

Identifies who has accountant rights to the printer object.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SIZED_ATTR (1..128)

ASN.1 ID

2.16.840.1.113719.1.4.2.2.0.33

Used In

[NDPS Printer \(page 281\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

When rights to this attribute are granted to a User or container object, then the User or the users in the container become accountants on the NDPS printer that owns this attribute.

NDPS Control Flags

Controls the automatic printer installation features of NDPS.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

DS_SIZED_ATTR (0..4294967295)

ASN.1 ID

2.16.840.1.113719.1.4.2.3.7

Used In

[Organization \(page 198\)](#)

[Organizational Unit \(page 206\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

NDPS Database Saved Timestamp

Records the time of the last backup of the NDPS database.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_SINGLE_VALUE_ATTR

DS_SIZED_ATTR (0..4294967295)

ASN.1 ID

2.16.840.1.113719.1.4.2.1.0.5

Used In

[NDPS Manager \(page 278\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

A complete backup of the NDPS database includes the backup of the two NDPS stream attributes: the NDPS Database Saved Data Image attribute and the NDPS Database Saved Index Image attribute.

NDPS Database Saved Data Image

Contains the last backup of the NDPS database and is paired with the NDPS Database Saved Index Image attribute.

Syntax

[Stream \(page 1012\)](#)

Constraints

DS_SINGLE_VALUE_ATTR

DS_SIZED_ATTR (0..4294967295)

ASN.1 ID

2.16.840.1.113719.1.4.2.1.0.6

Used In

[NDPS Manager \(page 278\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

NDPS Database Saved Index Image

Contains the index of the last backup of the database and is paired with the NDPS Database Saved Data Image attribute.

Syntax

[Stream \(page 1012\)](#)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SIZED_ATTR (0..4294967295)

ASN.1 ID

2.16.840.1.113719.1.4.2.1.0.7

Used In

[NDPS Manager \(page 278\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

NDPS Default Printer

Controls the behavior of the automatic printer installation features of NDPS.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.4.2.3.1

Used In

[Organization \(page 198\)](#)

[Organizational Unit \(page 206\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

NDPS Default Public Printer

Controls the behavior of the automatic printer installation features of NDPS.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

DS_SIZED_ATTR (1..128)

ASN.1 ID

2.16.840.1.113719.1.4.2.3.2

Used In

[Organization \(page 198\)](#)

[Organizational Unit \(page 206\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

NDPS Job Configuration

Contains named job configurations that can be used to affect (jobs submitted to) installed, controlled-access printers.

Syntax

[Stream \(page 1012\)](#)

Constraints

DS_PUBLIC_READ
DS_SINGLE_VALUED_ATT

ASN.1 ID

2.16.840.1.113719.1.4.2.2.0.23

Used In

[NDPS Printer \(page 281\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

NDPS Manager Status

Contains a status in the form of an OID which represents the current status of the NDPS Manager object.

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.4.2.1.0.3

Used In

[NDPS Manager \(page 278\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

NDPS Operator Role

Indicates who has operator rights to the printer in question.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SIZED_ATTR (1..128)

ASN.1 ID

2.16.840.1.113719.1.4.2.2.0.0

Used In

[NDPS Printer \(page 281\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

When rights to this attribute are granted to a User or a container object, then the User or the users in the container become operators on the NDSP printer that owns this attribute.

NDPS Printer Install List

Controls the behavior of the automatic printer installation features of NDPS.

Syntax

[Typed Name \(page 1020\)](#)

Constraints

DS_PULIC_READ

ASN.1 ID

2.16.840.1.113719.1.4.2.3.3

Used In

[Organization \(page 198\)](#)

[Organizational Unit \(page 206\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

NDPS Printer Install Timestamp

Controls the behavior of the automatic printer installation features of NDPS.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.4.2.3.5

Used In

[Organization \(page 198\)](#)

[Organizational Unit \(page 206\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

NDPS Printer Queue List

Describes the QMS queues which are serviced by the NDPS Printer object which owns this attribute.

Syntax

[Typed Name \(page 1020\)](#)

Constraints

DS_PUBLIC_READ

ASN.1 ID

2.16.840.1.113719.1.4.2.2.0.26

Used In

[NDPS Printer \(page 281\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

NDPS Printer Siblings

Identifies other NDPS Printer objects which are used to allow access to a particular piece of printer hardware.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_PUBLIC_READ

ASN.1 ID

2.16.840.1.113719.1.4.2.2.0.31

Used In

[NDPS Printer \(page 281\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute allows multiple printer objects to share the same piece of printer hardware. This feature allows the configurations and limitations of one printer object to be isolated from those of another while allowing diverse groups of people to share the same printer.

NDPS Public Printer Install List

Controls the behavior of the automatic printer installation features of NDPS.

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_PUBLIC_READ

ASN.1 ID

2.16.840.1.113719.1.4.2.3.4

Used In

[Organization \(page 198\)](#)

[Organizational Unit \(page 206\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

NDPS Replace All Client Printers

Controls the behavior of the automatic printer installation features of NDPS.

Syntax

[Boolean \(page 966\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.4.2.3.6

Used In

[Organization \(page 198\)](#)

[Organizational Unit \(page 206\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

NDPS SMTP Server

Identifies the mail server through which to send notification when the SMTP method is used.

Syntax

[Case Exact String \(page 968\)](#)

Constraints

DS_SIZED_ATTR (1..2000)

ASN.1 ID

2.16.840.1.113719.1.4.2.1.1.17

Used In

[NDPS Broker \(page 275\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

NDPS User Role

Identifies who can use the printer.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SIZED_ATTR (1..128)

ASN.1 ID

2.16.840.1.113719.1.4.2.2.0.1

Used In

[NDPS Printer \(page 281\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

When rights to this attribute are granted to a User, Group, or container object, then the User or the users in the Group or container object can use the NDPS Printer object that owns this attribute.

NDSCat:Actual All Attributes

Specifies whether the catalog dredger finished its dredge operation.

Syntax

Boolean (page 966)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.255

Used In

NDSCat:Catalog (page 284)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

If TRUE, all attributes of the objects found in dredge are stored in the catalog.

NDSCat:Actual Attribute Count

Specifies the number of attributes found and stored in the catalog.

Syntax

Integer (page 988)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.256

Used In

NDSCat:Catalog (page 284)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

NDSCat:Actual Attributes

Specifies the names of the attributes stored in the catalog if the value of NDSCat:All Attributes is FALSE.

Syntax

Case Exact String (page 968)

Constraints

None

ASN.1 ID

2.16.840.1.113719.1.1.4.1.257

Used In

NDSCat:Catalog (page 284)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

NDSCat:Actual Base Object

Lists all the entries that were searched.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113719.1.1.4.1.258

Used In

[NDSCat:Catalog \(page 284\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

A base object is a entry that indicates where a search should start. It can be any container or leaf object in the eDirectory tree.

NDSCat:Actual Catalog Size

Specifies the size of the catalog in bytes.

Syntax

Integer (page 988)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.259

Used In

NDSCat:Catalog (page 284)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

NDSCat:Actual End Time

Specifies the time that the dredge completed.

Syntax

[Time \(page 1016\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.260

Used In

[NDSCat:Catalog \(page 284\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

NDSCat:Actual Filter

Specifies the filter that the dredger used to created the last completed catalog.

Syntax

[Case Exact String \(page 968\)](#)

Constraints

DS_SINGLE_VALUED_ATTR
DS_STRING_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.261

Used In

[NDSCat:Catalog \(page 284\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

NDSCat:Actual Object Count

Specifies the number of objects added to the catalog database.

Syntax

Integer (page 988)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.262

Used In

NDSCat:Catalog (page 284)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

NDSCat:Actual Return Code

Specifies the return code from the last completed dredge.

Syntax

Integer (page 988)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.263

Used In

NDSCat:Catalog (page 284)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

A zero (0) return code indicates a completed dredge with no errors.

NDSCat:Actual Scope

Specifies the scope used for the last dredge.

Syntax

Integer (page 988)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.264

Used In

NDSCat:Catalog (page 284)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

eDirectory Catalog Services uses the following values in this attribute:

- 0 = search a single object
- 1 = search the immediate subordinates of an object, but not the object
- 2 = search the object and all of its subordinates

NDSCat:Actual Search Aliases

Specifies whether aliases were dereferenced during the last completed dredge.

Syntax

Boolean (page 966)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.265

Used In

NDSCat:Catalog (page 284)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

When set to TRUE, eDirectory Catalog Services dereferences aliases and places them in the catalog with the name of the object they reference.

NDSCat:Actual Start Time

Specifies the time the last dredge started.

Syntax

[Time \(page 1016\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.266

Used In

[NDSCat:Catalog \(page 284\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

NDSCat:Actual Value Count

Specifies the number of values added to the catalog database during the last completed dredge.

Syntax

Integer (page 988)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.267

Used In

NDSCat:Catalog (page 284)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

NDSCat:All Attributes

Specifies whether the dredger should include all attributes or only those stored in NDSCat:Attributes.

Syntax

Boolean (page 966)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.273

Used In

NDSCat:Master Catalog (page 287)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

The default value for this attribute is FALSE, indicating to the dredger to store only the attributes listed in [NDSCat:Attributes](#) (page 844).

NDSCat:AttrDefTbl

Specifies a list, in table format, of all the attributes and their assigned identification numbers which have been defined to be included in the catalog.

Syntax

[Octet List \(page 999\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113719.1.1.4.1.268

Used In

[NDSCat:Catalog \(page 284\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

NDSCat:Attributes

Contains a list of the attributes the dredger should store in the catalog database.

Syntax

Case Exact String (page 968)

Constraints

DS_STRING_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.274

Used In

NDSCat:Master Catalog (page 287)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

If no attributes are listed and NDSCat:All Attributes is set to FALSE, the dredger still stores the following about all objects in the eDirectory database:

- ♦ eDirectory Canonical Name (the slash format of the distinguished name)
- ♦ Object class of the entry
- ♦ Distinguished name of the entry in dot format

The dredger stores the following about the attributes that have been selected from the eDirectory database:

- ♦ Attribute name
- ♦ Attribute syntax
- ♦ Attribute value

NDSCat:Auto Dredge

Specifies whether the dredger uses the NDSCat:Start Time and NDSCat:Dredge Interval attributes to determine when the next dredge occurs.

Syntax

Boolean (page 966)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.275

Used In

NDSCat:Master Catalog (page 287)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

When set to TRUE, the dredger schedules its next dredge according to the NDSCat:Start Time and NDSCat:Dredge Interval attributes.

When set to FALSE, the dredger has no schedule for dredging and waits until the NDSCat:Auto Dredge attribute is set to TRUE.

NDSCat:Base Object

Contains a list of distinguished names of the containers or subtrees to search.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113719.1.1.4.1.276

Used In

[NDSCat:Master Catalog \(page 287\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

If this attribute has no value, the dredger searches the entire eDirectory tree.

NDSCat:CatalogDB

Contains the catalog database written out on the last completed dredge.

Syntax

[Stream \(page 1012\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.269

Used In

[NDSCat:Catalog \(page 284\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

NDSCat:Catalog List

Contains the list of catalog databases maintained by a specified server.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113719.1.1.4.1.288

Used In

[NCP Server \(page 157\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This is a multi-valued attribute that provides the distinguished names of the catalogs maintained by a specified server. The DSCat NLM accesses this list when creating or updating a catalog.

NDSCat:Dredge Interval

Specifies the number of seconds between dredges.

Syntax

[Interval \(page 991\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.277

Used In

[NDSCat:Master Catalog \(page 287\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

If the dredge interval is smaller than the time required to perform a dredge, the dredger uses the value in the NDSCat:Start Time attribute to schedule the next dredge.

NDSCat:Filter

Contains the string that specifies the query parameters.

Syntax

[Case Exact String \(page 968\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_STRING_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.278

Used In

[NDSCat:Master Catalog \(page 287\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

NDSCat:IndexDefTbl

Contains a table of all indexes for the given catalog with their assigned index numbers.

Syntax

[Octet List \(page 999\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113719.1.1.4.1.270

Used In

[NDSCat:Catalog \(page 284\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The first field is the index name, and the second field is the index number stored in hi-lo order.

NDSCat:Indexes

Contains a list of indexes to be used in the creation of the catalog database.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_STRING_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.279

Used In

[NDSCat:Master Catalog \(page 287\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

By default, three indexes are always created:

- ♦ DSOBJECTNAME - the fully distinguished name of the object in dot format, from the leaf to the root container
- ♦ DSCANONICALNAME - the fully distinguished name of the object in slash format, from the leaf to the root container
- ♦ DSBASECLASS - the object class

NDSCat:Label

Specifies when the first dredge starts.

Syntax

[Case Ignore List \(page 970\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113719.1.1.4.1.271

Used In

[NDSCat:Catalog \(page 284\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute allows users to configure the catalog to dredge during off-hour cycles.

NDSCat:Log

Contains a running log of information returned by the dredger for one or more dredges.

Syntax

[Stream \(page 1012\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.272

Used In

[NDSCat:Catalog \(page 284\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

NDSCat:Master Catalog

Specifies the name of the object containing the source catalog database.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.287

Used In

[NDSCat:Slave Catalog \(page 290\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The slave catalog is an exact duplicate of the master catalog. After the dredger writes the master catalog, it writes any specified slave catalogs. Slave catalogs can be located any where in the eDirectory tree, including local partitions for performance enhancement.

NDSCat:Max Log Size

Specifies the maximum size a log file can attain before being truncated.

Syntax

Integer (page 988)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.280

Used In

NDSCat:Master Catalog (page 287)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

The dredger inspects the size of the log file it maintains locally and the size of the log file maintained on the catalog object. If the sum of these two sizes is greater than the NDSCat:Max Log Size attribute, the dredger truncates the catalog’s log file before writing out the log file of the last dredge.

NDSCat:Max Retries

Specifies the number of retries the dredger attempts to obtain information on any container.

Syntax

Integer (page 988)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.281

Used In

NDSCat:Master Catalog (page 287)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

NDSCat:Max Threads

Specifies the maximum number of threads in the dredger thread pool.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SIZED_ATTR (1..20)

ASN.1 ID

2.16.840.1.113719.1.1.4.1.290

Used In

[NCP Server \(page 157\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute limits how much server bandwidth the dredger can use.

NDSCat:Retry Interval

Specifies the amount of time between retries.

Syntax

[Interval \(page 991\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.282

Used In

[NDSCat:Master Catalog \(page 287\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

NDSCat:Scope

Specifies whether the search is to include the object, the object's immediate subordinates, or the entire subtree.

Syntax

Integer (page 988)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.283

Used In

NDSCat:Master Catalog (page 287)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The default value for this attribute is to search the subtree.

eDirectory Catalog Services uses the following values in this attribute:

0 = search a single object

1 = search the immediate subordinates of an object, but not the object

2 = search the object and all of its subordinates

NDSCat:Search Aliases

Specifies whether the dredger dereferences aliases.

Syntax

Boolean (page 966)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.284

Used In

NDSCat:Master Catalog (page 287)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

If set to TRUE, the dredger dereferences aliases.

NDSCat:Slave Catalog List

Contains a list of slave catalogs the dredger is to write to when the dredge is completed for the master catalog.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113719.1.1.4.1.285

Used In

[NDSCat:Master Catalog \(page 287\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

NDSCat:Start Time

Specifies the time the dredger begins the first dredge.

Syntax

Time (page 1016)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.286

Used In

NDSCat:Master Catalog (page 287)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

This attribute allows the user to schedule the dredger to create the catalog during off-hour cycles. The value is modified at the end of each dredge to indicate the next dredge time.

NDSCat:Synch Interval

Specifies how often the dredger refreshes its internal list of catalogs.

Syntax

[Interval \(page 991\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.1.4.1.289

Used In

[NDSCat:Master Catalog \(page 287\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

When this interval expires, the dredger reads its own internal list of catalog objects and compares it with the list in the NDSCat:Catalog List attribute. If any discrepancies exist, the dredger updates its own list. The dredger also refreshes its list of catalog object attributes, including information concerning both master and slave catalogs.

NLS:Common Certificate

Contains the certificate's usage, its assignment, and activation key.

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_PUBLIC_READ

ASN.1 ID

2.16.840.1.113719.1.51.4.1.5

Used In

[NLS:License Certificate \(page 295\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

NLS:Current Installed

Contains the actual number of licenses installed.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.51.4.2.9

Used In

[NLS:Product Container \(page 300\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

NLS:Current Peak Installed

Contains the peak number of license certificates installed during the current hour.

Syntax

Integer (page 988)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.51.4.2.7

Used In

NLS:Product Container (page 300)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

NLS:Current Peak Used

Contains the peak number of license certificates used during the current hour.

Syntax

Integer (page 988)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.51.4.2.6

Used In

NLS:Product Container (page 300)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

NLS:Current Used

Contains the actual number of licenses being used.

Syntax

Integer (page 988)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.51.4.2.8

Used In

NLS:Product Container (page 300)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

NLS:Hourly Data Size

Specifies how big the NLS:Peak Used Data and NLS:Peak Installed Data attributes can be.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.51.4.2.3

Used In

[NLS:Product Container \(page 300\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The default value is 109020 which allows 15 months of data to be stored in the attributes.

NLS:License Database

Not currently used.

Syntax

[Boolean \(page 966\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.51.4.1.6

Used In

[NLS:License Server \(page 297\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

NLS:License ID

Contains an identifier for the license certificate.

Syntax

[Case Exact String \(page 968\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.51.4.1.3

Used In

[NLS:License Certificate \(page 295\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This identifier can be unique, but it is not required to be unique.

This attribute is a naming attribute for the NLS:License Certificate object.

NLS:License Service Provider

Contains the distinguished name of the NLS:License Server object that contains the NLS licensing configuration information.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_PUBLIC_READ
DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.51.4.3.2

Used In

[NCP Server \(page 157\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

NLS:LSP Revision

Contains the revision number of the NLSLSP NLM.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.51.4.3.1

Used In

[NLS:License Server \(page 297\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

NLS:Owner

Not currently used.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.51.4.1.4

Used In

[NLS:License Certificate \(page 295\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

NLS:Peak Installed Data

Contains the peak number of installed license certificates, for each hour, for the last 15 months.

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.51.4.2.5

Used In

[NLS:Product Container \(page 300\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

NLS:Peak Used Data

Contains the peak number of used certificates, for each hour, for the last 15 months.

Syntax

Octet String (page 1001)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.51.4.2.4

Used In

NLS:Product Container (page 300)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

NLS:Product

Contains the name of the product which is using the license certificates.

Syntax

Case Exact String (page 968)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.51.4.1.1

Used In

NLS:Product Container (page 300)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

This attribute is a naming attribute for the NLS:Product Container object.

NLS:Publisher

Contains the name of the company which publishes the software that is using the license certificates.

Syntax

Case Exact String (page 968)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.51.4.1.0

Used In

NLS:Product Container (page 300)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

This attribute is a naming attribute for the NLS:Product Container object.

NLS:Revision

Contains the revision of the data.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.51.4.3.0

Used In

[NLS:License Certificate \(page 295\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute supplies information that allows for backwards compatibility between revisions of data format. NetWare 5.0 has a revision number of 34.

NLS:Search Type

Specifies the range of the search.

Syntax

Integer (page 988)

Constraints

DS_PUBLIC_READ
DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.51.4.2.0

Used In

NLS:License Server (page 297)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

Two search types have been defined:

0	Indicates a search from the user's context to the root of the eDirectory tree. This is the default value.
1	Indicates a search from the user's context to the root of the partition.

NLS:Summary Update Time

Contains when the NLS:Product Container object was last updated.

Syntax

[Time \(page 1016\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.51.4.2.2

Used In

[NLS:Product Container \(page 300\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The NLS:Product Container object is updated when licenses are added, deleted, or assigned.

NLS:Summary Version

Not currently used.

Syntax

Integer (page 988)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.51.4.2.1

Used In

NLS:Product Container (page 300)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

NLS:Transaction Database

Indicates whether transaction information is stored in a database.

Syntax

[Boolean \(page 966\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.51.4.1.7

Used In

[NLS:License Server \(page 297\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The transaction database stores events such as who received a license, who released a license, and who added a license.

NLS:Transaction Log Name

Contains the name of the database which stores NLS transactions.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.51.4.1.8

Used In

[NLS:License Server \(page 297\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

NLS:Transaction Log Size

Specifies the maximum size of the transaction log file.

Syntax

Integer (page 988)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.51.4.1.9

Used In

NLS:License Server (page 297)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

NLS:Version

Contains the version of the product which is using the license certificates.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.51.4.1.2

Used In

[NLS:Product Container \(page 300\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute is a naming attribute for the NLS:Product Container object.

Notification Consumers

Identifies each User object to notify.

Syntax

[Typed Name \(page 1020\)](#)

Constraints

None

ASN.1 ID

2.16.840.1.113719.1.4.2.2.0.21

Used In

[NDPS Printer \(page 281\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The User object is tied to a unique identifier that indicates the user's notification profile. The notification profile is used for notifications which are persistent.

Notification Profile

Contains a set of notification profiles which are tied through IDs to the Notification Consumers attribute.

Syntax

[Stream \(page 1012\)](#)

Constraints

DS_SINGLE-VALUE_ATTR

ASN.1 ID

2.16.840.1.113719.1.4.0.0.2.0

Used In

[NDPS Printer \(page 281\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Notification Service Enabled

Defines the state of the notification service as the Broker NLM is loaded.

Syntax

Boolean (page 966)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.4.2.1.1.3

Used In

NDPS Broker (page 275)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

Notification Srv Net Addr

Contains the advertising address that can be used to contact the notification service.

Syntax

[Net Address \(page 993\)](#)

Constraints

DS_PUBLIC_READ

ASN.1 ID

2.16.840.1.113719.1.4.2.1.1.14

Used In

[NDPS Broker \(page 275\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The Broker NLM starts the notification service. For NDPS v 2.0 or higher, it can advertise the IP address and port, the IPX address and socket, or both.

Notification Srv Net Address

Contains the advertising IPX address that can be used to contact the notification service.

Syntax

[Net Address \(page 993\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.4.2.1.1.9

Used In

[NDPS Broker \(page 275\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

NRD:Registry Data

Holds the NetWare Registry Database.

Syntax

[Stream \(page 1012\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.15.4.1

Used In

[User \(page 255\)](#)

Remarks

This attribute is used by NetWare Administrator and ZENworks to store Windows-type registry information.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

NRD:Registry Index

Contains the index to the NetWare Registry Database.

Syntax

[Stream \(page 1012\)](#)

Constraints

DS_SINGLE-VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.15.4.2

Used In

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

NSCP:mailAccessDomain

Replaced by [NSCP:AmailAccessDomain \(page 615\)](#).

NSCP:mailAlternateAddress

Replaced by [NSCP:AmailAlternateAddress \(page 616\)](#).

NSCP:mailAutoReplyMode

Replaced by [NSCP:AmailAutoReplyMode \(page 617\)](#).

NSCP:mailAutoReplyText

Replaced by [NSCP:AmailAutoReplyText \(page 618\)](#).

NSCP:mailDeliveryOption

Replaced by [NSCP:AmailDeliveryOption \(page 619\)](#).

NSCP:mailForwardingAddress

Replaced by [NSCP:AmailForwardingAddress](#) (page 620).

NSCP:mailHost

Replaced by [NSCP:AmailHost](#) (page 621).

NSCP:mailMessageStore

Replaced by [NSCP:AmailMessageStore \(page 622\)](#).

NSCP:mailProgramDeliveryInfo

Replaced by [NSCP:AmailProgramDeliveryInfo](#) (page 623).

NSCP:mailQuota

Replaced by [NSCP:AmailQuota \(page 624\)](#).

NSCP:ngComponent

Replaced by [NSCP:ngcomponentCIS \(page 633\)](#).

NSCP:nsLicenseEndTime

Replaced by [NSCP:AnsLicenseEndTime \(page 625\)](#).

NSCP:nsLicensedFor

Replaced by [NSCP:AnsLicensedFor \(page 626\)](#).

NSCP:nsLicenseStartTime

Replaced by [NSCP:AnsLicenseStartTime \(page 627\)](#).

Page Description Languages

Identifies the different page description languages supported by the NDPS printer.

Syntax

Integer (page 988)

Constraints

DS_PUBLIC_READ

ASN.1 ID

2.16.840.1.113719.1.4.0.3.2.42

Used In

NDPS Printer (page 281)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

This attribute indicates whether the printer supports such page description languages as PCL or PostScript.

preferredLanguage

Contains the object's preference for written or spoken language.

LDAP Name

preferredLanguage

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113730.3.1.39

Used In

[inetOrgPerson \(page 271\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute was added for Netscape support.

Primary Notification Service

Identifies the NDPS Broker object that contains the notification service the printer can use.

Syntax

[Typed Name \(page 1020\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.4.0.3.2.38

Used In

[NDPS Printer \(page 281\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Primary Resource Service

Identifies the NDPS Broker object that contains the resource management service that the printer can use.

Syntax

[Typed Name \(page 1020\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.4.0.3.2.39

Used In

[NDPS Printer \(page 281\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

Printer Agent Name

Contains the Unicode name of the Printer Agent that was converted into this object.

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.4.0.3.2.51

Used In

[NDPS Printer \(page 281\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Printer Manufacturer

Contains the name of manufacturer of the printer.

Syntax

Case Ignore String (page 972)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

DS_SIZED (1..128)

ASN.1 ID

2.16.840.1.113719.1.4.0.3.2.21

Used In

NDPS Printer (page 281)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

This attribute contains the name of a company that manufactured the printer, a company such as Epson, Hewlett Packard, Lexmark, or Xerox.

Printer Mechanism Types

Represents the printer's mechanism for printing, such as laser or ink jet.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_P[UBLIC_READ
DS_SIZED_ATTR (1..2147483647

ASN.1 ID

2.16.840.1.113719.1.4.0.3.2.69

Used In

[NDPS Printer \(page 281\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

Printer Model

Contains the model name of the printer.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

DS_SIZED_ATTR (1..128)

ASN.1 ID

2.16.840.1.113719.1.4.0.3.0.3

Used In

[NDPS Printer \(page 281\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

Printer Status

Contains the status in the form of an OID that represents the current status of the printer.

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.4.2.2.0.3

Used In

[NDPS Printer \(page 281\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

Printer to PA ID Mappings

Contains the mappings between NDPS Printer objects and their internal printer agent IDs that the NDPS Printer Manager objects use.

Syntax

[Typed Name \(page 1020\)](#)

ASN.1 ID

2.16.840.1.113719.1.4.2.1.0.0

Used In

[NDPS Manager \(page 278\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

PSM Name

Identifies the NDPS Printer Manager object that manages this printer.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.4.0.3.2.14

Used In

[NDPS Printer \(page 281\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

Registry Advertising Name

Contains the SAP name for the service registry service which this NDPS Broker object is running.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

DS_SIZED_ATTR (1..48)

ASN.1 ID

2.16.840.1.113719.1.4.2.1.1.4

Used In

[NDPS Broker \(page 275\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

Registry Service Enabled

Defines the state of the service registry service as the Broker NLM is loaded.

Syntax

Boolean (page 966)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.4.2.1.1.5

Used In

NDPS Broker (page 275)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

Registry Srv Net Addr

Contains the advertising address that can be used to contact the service registry service.

Syntax

[Net Address \(page 993\)](#)

Constraints

DS_PUBLIC_READ

ASN.1 ID

2.16.840.1.113719.1.4.2.1.1.15

Used In

[NDPS Broker \(page 275\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

For NDPS v2.0 or higher, this attribute can contain the IP address and port, the IPX address and socket number, or both.

Registry Srv Net Address

Contains the IPX address and socket number that is advertised so that the service registry service can be contacted.

Syntax

[Net Address \(page 993\)](#)

Constraints

DS_PUBLIC_READ
DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.4.2.1.1.10

Used In

[NDPS Broker \(page 275\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

Resolution

Defines the dots-per-inch value which the printer is capable of.

Syntax

Integer (page 988)

Constraints

DS_PUBLIC_READ
DS_SINGLE_VALUED_ATTR
DS_SIZED_ATTR (1..1000000)

ASN.1 ID

2.16.840.1.113719.1.0.1.1.52

Used In

NDPS Printer (page 281)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

Resource Mgmt Srv Net Addr

Contains the advertising address used to contact the resource management service started by the NDPS Broker NLM.

Syntax

Net Address (page 993)

Constraints

DS_PUBLIC_READ

ASN.1 ID

2.16.840.1.113719.1.0.1.1.53

Used In

NDPS Broker (page 275)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

In NDPS v2.0 or higher, the address can be an IP address and port, an IPX address and socket number, or both.

Resource Mgmt Srv Net Address

Contains the advertising IPX address and socket that can be used to contact the resource management service started by the NDPS Broker NLM.

Syntax

[Net Address \(page 993\)](#)

Constraints

DS_PUBLIC_READ
DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.0.1.1.54

Used In

[NDPS Broker \(page 275\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

Resource Mgmt Service Enabled

Defines the state of the resource management service when the Broker NLM is loaded.

Syntax

Boolean (page 966)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.0.1.1.55

Used In

NDPS Broker (page 275)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

Resource Mgr Database Path

Defines the path to the root directory for all the file resources which the resource management service manages.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SIZED_ATTR (1..128)

ASN.1 ID

2.16.840.1.113719.1.4.2.1.1.7

Used In

[NDPS Broker \(page 275\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

Resource Mgr Database Volume

Defines the volume for the root directory for all file resources which the resource management service manages.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.4.2.1.1.8

Used In

[NDPS Broker \(page 275\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

secretary

Contains the name of the object's secretary or administrative assistant.

LDAP Name

secretary

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

0.9.2342.19200300.100.1.21

Used In

[inetOrgPerson \(page 271\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute was added for Netscape support.

Sides Supported

Defines how many sides of the paper the printer can print on.

Syntax

Integer (page 988)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

DS_SIZED_ATTR (1..100)

ASN.1 ID

2.16.840.1.113719.1.4.0.3.2.59

Used In

NDPS Printer (page 281)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

SLP Attribute

Contains the names of SLP attributes assigned to the SLP Service object.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_PUBLIC_READ
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.49.4.1.11

Used In

[SLP Service \(page 310\)](#)

Remarks

For a list of defined SLP attributes, see RFC 2165. A typical attribute has the following format:

```
(svcname_ws:fileserver_name)
```

Multiple SLP attributes can be stored in a single string because the SLP Directory Agent understands the SLP attribute syntax.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

SLP Cache Limit

Currently not used.

Syntax

Integer (page 988)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.49.4.1.5

Used In

SLP Directory Agent (page 308)

Remarks

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

SLP DA Back Link

Contains the distinguished name of the NCP Server object which the SLP Directory Agent is running on.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_PUBLIC_READ
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.49.4.1.6

Used In

[SLP Directory Agent \(page 308\)](#)

Remarks

See also the [SLP Directory Agent DN \(page 935\)](#) attribute, which links the NCP Server object to the SLP Directory Agent object.

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

SLP Directory Agent DN

Contains the distinguished name of the SLP Directory Agent object.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.49.4.1.16

Used In

[NCP Server \(page 157\)](#)

Remarks

When the SLP Directory Agent is started, it uses this attribute to find the SLP Directory Agent object that stores its configuration information. For the attribute that contains the link from the SLP Directory Agent to the NCP Server, see the [SLP DA Back Link \(page 934\)](#) attribute.

For help in understanding the attribute definition template, see “[Reading NDS Attribute Type Definitions](#)” on page 51.

SLP Language

Contains the language used by an SLP Service object.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.49.4.1.12

Used In

[SLP Service \(page 310\)](#)

Remarks

For a list of language strings defined for SLP, see RFC 2165.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

SLP Lifetime

Specifies how long an SLP Service object should remain in the service list of the SLP Directory Agent.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_PUBLIC_READ
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.49.4.1.13

Used In

[SLP Service \(page 310\)](#)

Remarks

SLP supports lifetimes of 1 second to 17 hours.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

SLP Scope Name

Contains the name of the SLP scope.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

ASN.1 ID

2.16.840.1.113719.1.49.4.1.2

Used In

[SLP Scope Unit \(page 305\)](#)

Remarks

SLP uses scope as a method for scaling a network. It is similar to domains in UNIX and zones in AppleTalk.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

SLP Scope Unit DN

Contains the distinguished name of the SLP Scope Unit object.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_PUBLIC_READ

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.49.4.1.9

Used In

[SLP Directory Agent \(page 308\)](#)

Remarks

This is a multivalued attribute since SLP Directory Agents can be assigned to multiple SLP scopes.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

SLP Start Purge Hour

Contains the time to purge SLP Service objects which have not updated their lifetimes.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_PUBLIC_READ
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.49.4.1.8

Used In

[SLP Directory Agent \(page 308\)](#)

Remarks

When a SLP Service object lets its lifetime expire, the SLP Directory Agent removes it from the list service objects used to answer service queries, but the service object is not removed from the master list. When the purge hour arrives, the SLP Directory Agent removes the service objects with expired lifetimes from the master list.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

SLP Status

Contains the status of the SLP Directory Agent object.

Syntax

[Integer \(page 988\)](#)

Constraints

DS_PUBLIC_READ
DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.49.4.1.7

Used In

[SLP Directory Agent \(page 308\)](#)

Remarks

The SLP Directory Agent object uses the following values for status:

- ♦ 0 down
- ♦ 1 up

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

SLP SU Back Link

Contains the distinguished name of the SLP Directory Agent object.

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_PUBLIC_READ

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.49.4.1.4

Used In

[SLP Scope Unit \(page 305\)](#)

Remarks

Each SLP Scope Unit object is associated with an SLP Directory Agent object, and this attribute contains that assignment.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

SLP SU Type

Contains all of the registered service types.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_PUBLIC_READ
DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.49.4.1.3

Used In

[SLP Scope Unit \(page 305\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

SLP Type

Contains the type of service provided by an SLP Service object.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.49.4.1.15

Used In

[SLP Service \(page 310\)](#)

Remarks

SLP does not define strings for various services. The service defines its type and then registers it with the SLP Directory Agent.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

SLP URL

Contains the URL address of an SLP Service object.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_PUBLIC_READ

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.49.4.1.10

Used In

[SLP Service \(page 310\)](#)

Remarks

A typical URL address has the following format:

```
Service:Bindery.Novell:///fileserver_name
```

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

SMS Protocol Address

Contains the network address of the SMS SMDR object.

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.50.4.1.2

Used In

[SMS SMDR Class \(page 312\)](#)

Remarks

This attribute contains the list of protocols that the SMDR can use and the network address for each supported protocol.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

SMS Registered Service

Contains the list of services for which the SMS SMDR object has registered.

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.50.4.1.1

Used In

[SMS SMDR Class \(page 312\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

SU

Contains the name of the SLP Scope Unit object.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_SIZED_ATTR (1..27)

DS_STRING_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113719.1.49.4.1.1

Used In

[SLP Scope Unit \(page 305\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

SvcInfo

Contains miscellaneous information about the program that registers the service.

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_SINGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

None

Used In

[Device \(page 96\)](#)
[Server \(page 239\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

SvcType

Contains the service type name.

Syntax

[Case Ignore String \(page 972\)](#)

Constraints

DS_INGLE_VALUED_ATTR
DS_SYNC_IMMEDIATE

ASN.1 ID

None

Used In

[Device \(page 96\)](#)
[Server \(page 239\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51.](#)

SvcTypeID

Contains the globally unique identifier that is associated with the service type.

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_SINGLE_VALUED_ATTR

DS_SYNC_IMMEDIATE

ASN.1 ID

None

Used In

[Device \(page 96\)](#)

[NetSvc \(page 293\)](#)

[Server \(page 239\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

userSMIMECertificate

Contains the object's certificate for Netscape Communicator for S/MIME.

LDAP Name

userSMIMECertificate

Syntax

[Octet String \(page 1001\)](#)

Constraints

DS_SYNC_IMMEDIATE

ASN.1 ID

2.16.840.1.113730.3.1.40

Used In

[inetOrgPerson \(page 271\)](#)

[User \(page 255\)](#)

Remarks

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

This attribute was added for Netscape support.

LDAP Operational Attributes

7

This chapter lists alphabetically all the LDAP operational attribute definitions that are in the base schema for Novell[®] eDirectory[™].

- ♦ For base schema attribute definitions, see [“Base Attribute Definitions” on page 327](#).
- ♦ For the attribute definitions which become part of the standard schema during a default installation, see [“Novell Attribute Extensions” on page 779](#).
- ♦ For an explanation of the types of information included about each attribute, see [“Reading NDS Attribute Type Definitions” on page 51](#).

The information contained in the LDAP operational attributes is read-only. Clients cannot modify the attribute values. All of these operational attributes except creatorsName and ModifiersName are available only through LDAP (see the DSI flags for equivalent information through NDAP). CreatorsName and modifiersName are available through LDAP and NDAP.

They are not returned in search results unless explicitly requested by name. They can be requested for all entries in an NDS directory.

createTimeStamp

Contains when the entry was created.

Added: NDS eDirectory 8.5

LDAP Name

createTimeStamp

Syntax

Timestamp (page 1018)

Constraints

DS_OPERATIONAL

DS_READ_ONLY_ATTR

DS_SINGLE_VALUED_ATTR

ASN1 ID

2.5.18.1

Remarks

This attribute is accessible only through LDAP. Through NDAP, this information is available with the NWDSGetObjectNameAndInfo function which accesses the DCK_DSI_FLAGS.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

entryFlags

Contains information about the entry's state, for example, whether the entry is an alias, partition, or a container.

Added: NDS eDirectory 8.5

LDAP Name

entryFlags

Syntax

Integer (page 988)

Constraints

DS_OPERATIONAL
DS_READ_ONLY_ATTR
DS_SINGLE_VALUED_ATTR

ASN1 ID

2.16.840.1.113719.1.27.4.48

Remarks

This attribute is accessible only through LDAP. Through NDAP, this information is available with the NWDSGetObjectNameAndInfo function which accesses the DSI_ENTRY_FLAGS through the DCK_DSI_FLAGS key.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

federationBoundary

Contains where the federation boundary begins.

Added: NDS eDirectory 8.5

LDAP Name

federationBoundary

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_OPERATIONAL

DS_READ_ONLY_ATTR

DS_SINGLE_VALUED_ATTR

ASN1 ID

2.16.840.1.113719.1.27.4.51

Remarks

This attribute is accessible only through LDAP.

The tree name for all DNS-rooted trees is T=DNS. This attribute returns the full context for a DNS-rooted tree, and the full context contains the external references, such as dc=novell, dc=com. The namingcontexts attribute on the root DSE will also contain the federation boundary.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

localEntryID

Contains the record number for the entry in the server's local database.

Added: NDS eDirectory 8.5

LDAP Name

localEntryID

Syntax

Integer (page 988)

Constraints

DS_OPERATIONAL

DS_READ_ONLY_ATTR

DS_SINGLE_VALUED_ATTR

ASN1 ID

2.16.840.1.113719.1.27.4.50

Remarks

This attribute is accessible only through LDAP, and through LDAP, it is only accessible if you know the name. This attribute is not returned in a call to read the schema.

In an LDAP search, the localEntryID can be used in place of the dn to request information about a specific entry.

Through NDAP, this information is available with the NWDSGetObjectNameAndInfo function which accesses the DCK_DSI_FLAGS key.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

modifyTimeStamp

Contains when the entry was last modified.

Added: NDS eDirectory 8.5

LDAP Name

modifyTimeStamp

Syntax

Timestamp (page 1018)

Constraints

DS_OPERATIONAL

DS_READ_ONLY_ATTR

DS_SINGLE_VALUED_ATTR

ASN1 ID

2.5.18.2

Remarks

This attribute is accessible only through LDAP. Through NDAP, this information is available with the NWDSGetObjectNameAndInfo function which accesses the DCK_DSI_FLAGS.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

structuralObjectClass

Contains the base class of the entry.

Added: NDS eDirectory 8.5

LDAP Name

structuralObjectClass

Syntax

[Class Name \(page 976\)](#)

Constraints

DS_OPERATIONAL

ASN1 ID

2.5.21.9

Remarks

This attribute is accessible only through LDAP. Through NDAP, this information is available with the NWDSGetObjectNameAndInfo function which accesses the DCK_DSI_FLAGS.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

subordinateCount

Contains the number of entries immediately subordinate to this entry.

Added: NDS eDirectory 8.5

LDAP Name

subordinateCount

Syntax

Integer (page 988)

Constraints

DS_OPERATIONAL

ASN1 ID

2.16.840.1.113719.1.27.4.49

Remarks

This attribute does not contain the count of entries for an entire subtree. It contains the count for only the nodes below this entry. For leaf entries, it returns zero.

This attribute is accessible only through LDAP. Through NDAP, this information is available with the NWDSGetObjectNameAndInfo function which accesses the DCK_DSI_FLAGS.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

subschemaSubentry

Contains the LDAP name for the schema.

Added: NDS eDirectory 8.5

LDAP Name

subschemaSubentry

Syntax

[Distinguished Name \(page 980\)](#)

Constraints

DS_OPERATIONAL

ASN1 ID

2.5.18.10

Remarks

This attribute is accessible only through LDAP. It returns the same value as the subschemaSubentry on the root DSE.

For help in understanding the attribute definition template, see [“Reading NDS Attribute Type Definitions” on page 51](#).

Attribute Syntax Definitions

8

This chapter lists alphabetically all the attribute syntax definitions that are in the operational schema.

For the NWDS functions and those built on top of them, the `nwdsdefs.h` file contains an enumerated data type for each syntax. The last member of the structure is `SYNTAX_COUNT`, which is not syntax type, but a count that returns the number of syntaxes defined in the enumeration.

For LDAP, the syntax types use the following data types that are specific to LDAP. UTF8 (Universal Transformation Format) is a method for converting 16-bit Unicode characters into 8-bit characters.

Data Type	Description
<code>dstring</code>	A UTF8 encoded string.
<code>distinguishedname</code>	LDAP string format of the distinguished name (CN=Kim, OU=Sales, O=Widget, Inc.). See RFC 2253 for more information.
<code>LDAPDN</code>	LDAP format of the distinguished name (CN=Kim, OU=Sales, O=Widget, Inc.), BER encoded
<code>LDAPString</code>	A type and length preceded string, BER encoded
<code>octetstring</code>	Opaque data in an application-defined format
<code>unit16string</code>	A numeric string with an upper bound of 65535
<code>uint32string</code>	A numeric string with an upper bound of 429467295

For an explanation of the types of information included about each syntax, see [“Reading Syntax Definitions” on page 53](#).

Back Link

Is used for the Back Link attribute, which Novell® eDirectory™ uses for its internal management.

Syntax ID

```
#define SYN_BACK_LINK 23
```

LDAP Name

Tagged Name

ASN1.ID

2.16.840.1.113719.1.1.5.1.23

API Data Structure

```
typedef struct
{
    uint32    remoteID;
    pnsr8     objectName;
} Back_Link_T;
```

Transfer Format

```
uint32      Length
uint32      remoteID
unicode     Distinguished Name
```

LDAP Format

String

```
taggedName = uint32string "#" distinguishedname
```

Binary

```
taggedName ::= SEQUENCE {
    name      LDAPDN,
    number    uint32
}
```

Matching Rules

Equality

Approximate—Not currently supported through LDAP

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

The remoteID field identifies the back linked object on the server, and the objectName field identifies the server holding an external reference.

eDirectory verifies the DN field and must therefore contain a DN, but the number field can be used to hold any application specific value.

Used In

[Back Link \(page 351\)](#)

Boolean

Is used for attributes whose values represent true (1) or false (0).

Syntax ID

```
#define SYN_BOOLEAN 7
```

LDAP Name

Boolean

ASN1.ID

1.3.6.1.4.1.1466.115.121.1.7

API Data Structure

```
typedef uint8 Boolean_T;
```

Transfer Format

```
uint32      Length = 1  
BYTE        Content
```

LDAP Format

```
boolean = "TRUE" / "FALSE"
```

Matching Rules

Equality

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

Two boolean attributes match for equality if they are both TRUE or both FALSE.

TRUE is represented as one (1), while FALSE is represented as zero (0).

Any attribute defined using this syntax is single-valued.

Used In

[Allow Unlimited Credit \(page 332\)](#)

[Detect Intruder \(page 384\)](#)

LDAP Allow Clear Text Password (page 480)
LDAP Enable SSL (page 487)
LDAP Enable TCP (page 488)
LDAP Enable UDP (page 489)
Locked By Intruder (page 532)
Lockout After Detection (page 533)
Login Disabled (page 535)
NDSCat:Actual All Attributes (page 829)
NDSCat:Actual Search Aliases (page 839)
NDSCat:All Attributes (page 842)
NDSCat:Auto Dredge (page 845)
NDSCat:Search Aliases (page 861)
NLS:License Database (page 871)
NLS:Transaction Database (page 884)
Password Allow Change (page 661)
Password Required (page 666)
Password Unique Required (page 667)
Run Setup Script (page 707)
Set Password After Create (page 726)

Case Exact String

Is used in attributes whose values are strings for which the case (upper or lower) is significant when performing comparisons.

Syntax ID

```
#define SYN_CE_STRING 2
```

LDAP Name

IA5 String

ASN1.ID

1.3.6.1.4.1.1466.115.121.1.26 (LDAP)
2.16.840.1.113719.1.1.5.1.2 (NDAP)

API Data Structure

```
typedef pustr8 CE_String_T;
```

Transfer Format

```
uint32      Length  
unicode     String
```

LDAP Format

```
string
```

Matching Rules

Equality
Substrings

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

Attributes using this syntax can set size limits.

Two case exact strings match for equality when they are of same length and their corresponding characters are identical. For example, “Dundee” and “DUNDEE” do not match.

In comparing case exact strings, the following spaces are not significant:

- ♦ Leading spaces (precede the first printing character)

- ♦ Trailing spaces (follow the last printing character)
- ♦ Multiple consecutive internal spaces (equivalent to a single space character)

In matching attributes that conform to this syntax, eDirectory omits those spaces that are not significant (as defined above). eDirectory stores insignificant spaces with the attribute value.

Used In

Entrust:User (page 792)
NDSCat:Actual Attributes (page 831)
NDSCat:Actual Filter (page 835)
NDSCat:Attributes (page 844)
NDSCat:Filter (page 850)
NLS:License ID (page 872)
NLS:Product (page 878)
NLS:Publisher (page 879)
NSCP:mailMessageStore (page 902)
NSCP:mailProgramDeliveryInfo (page 903)
NSCP:mailMessageStore (page 902)
NSCP:mailProgramDeliveryInfo (page 903)
NSCP:mgrpRFC822mailmember (page 632)

Case Ignore List

Is used for attributes whose values are ordered sequences of strings for which the case (upper or lower) is not significant when performing comparisons.

Syntax ID

```
#define SYN_CI_LIST 6
```

LDAP Name

Case Ignore List

ASN1.ID

2.16.840.1.113719.1.1.5.1.6

API Data Structure

```
typedef struct _ci_list
{
    struct _ci_list N_FAR *next;
    pnstr8 s;
} CI_List_T;
```

Transfer Format

```
uint32    Length of attribute value
uint32    Number of strings
```

```
/* For each string */
Align4
unicode   String
```

LDAP Format

String

```
caseIgnorelist = dstring *( "$" dstring)
```

Binary

```
caseIgnorelist ::= SEQUENCE OF LDAPString
```

Matching Rules

Equality
Approximate

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

Two case ignore lists match for equality if, and only if, the number of strings in each is the same, and all corresponding strings match. For two corresponding strings in the list to match, they must be the same length and their corresponding characters must be identical (according to the rules for case ignore strings).

When comparing the strings in case ignore lists, the following spaces are regarded as not significant:

- ♦ Leading spaces (precede the first printing character)
- ♦ Trailing spaces (follow the last printing character)
- ♦ Multiple consecutive internal spaces (equivalent to a single space character).

In matching attributes that conform to this syntax, eDirectory omits those spaces that are not significant (as defined above). eDirectory stores insignificant spaces with the attribute value.

The NWDSGetAttrVal function places successive CI_LIST elements in consecutive memory locations. The value parameter of the NWDSGetAttrVal function should point to enough memory to contain both the NULL-terminated strings along with a CI_List_T structure per list element. (The required length of value can be determined by calling the NWDSComputeValSize function.)

Used In

[Language \(page 476\)](#)

[NDSCat:Label \(page 853\)](#)

Case Ignore String

Is used in attributes whose values are strings for which the case (upper or lower) is not significant when performing comparisons.

Syntax ID

```
#define SYN_CI_STRING 3
```

LDAP Name

Directory String

ASN1.ID

1.3.6.1.4.1.1466.115.121.1.15

API Data Structure

```
typedef pustr8 CI_String_T;
```

Transfer Format

```
uint32      Length  
unicode     String
```

LDAP Format

UTF-8 encoded string

Matching Rules

Equality
Substrings

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

Attributes using this syntax can set size limits.

Two case ignore strings match for equality when they are of the same length and their corresponding characters are identical in all respects except that of case. For example, as case ignore strings, “Dundee” and “DUNDEE” would be equal.

When comparing case ignore strings, the following spaces are not significant:

- ♦ Leading spaces (precede the first printing character)
- ♦ Trailing spaces (follow the last printing character)

- ♦ Multiple consecutive internal spaces (equivalent to a single space character)

In matching attributes that conform to this syntax, eDirectory omits those spaces that are not significant (as defined above). eDirectory stores insignificant spaces with the attribute value.

Used In

[businessCategory \(page 356\)](#)
[C \(Country Name\) \(page 357\)](#)
[Cartridge \(page 361\)](#)
[CN \(Common Name\) \(page 372\)](#)
[dc \(page 377\)](#)
[Description \(page 381\)](#)
[dmdName \(page 420\)](#)
[Employee ID \(page 790\)](#)
[Full Name \(page 439\)](#)
[generationQualifier \(page 441\)](#)
[Generational Qualifier \(page 440\)](#)
[Given Name \(page 443\)](#)
[Host Resource Name \(page 459\)](#)
[houseIdentifier \(page 457\)](#)
[Initials \(page 465\)](#)
[Internet EMail Address \(page 467\)](#)
[knowledgeInformation \(page 473\)](#)
[L \(Locality Name\) \(page 474\)](#)
[LDAP Backup Log Filename \(page 483\)](#)
[LDAP Log Filename \(page 492\)](#)
[LDAP Referral \(page 496\)](#)
[LDAP:keyMaterialName \(page 511\)](#)
[Mailbox ID \(page 548\)](#)
[Messaging Server Type \(page 574\)](#)
[NDSCat:Indexes \(page 852\)](#)
[NDSPKI:Given Name \(page 585\)](#)
[NDSPKI:Parent CA \(page 591\)](#)
[NDSPKI:Subject Name \(page 600\)](#)
[NLS:Transaction Log Name \(page 885\)](#)
[NLS:Version \(page 887\)](#)
[NNS Domain \(page 610\)](#)
[NSCP:administratorContactInfo \(page 613\)](#)
[NSCP:adminURL \(page 614\)](#)
[NSCP:mailAccessDomain \(page 895\)](#)
[NSCP:mailAlternateAddress \(page 896\)](#)
[NSCP:mailAutoReplyMode \(page 897\)](#)
[NSCP:mailAutoReplyText \(page 898\)](#)
[NSCP:mailDeliveryOption \(page 899\)](#)

NSCP:mailForwardingAddress (page 900)
NSCP:mailHost (page 901)
NSCP:mailQuota (page 904)
NSCP:nsLicenseEndTime (page 906)
NSCP:nsLicensedFor (page 907)
NSCP:nsLicenseStartTime (page 908)
NSCP:employeeNumber (page 628)
NSCP:installationTimeStamp (page 629)
NSCP:mailAccessDomain (page 895)
NSCP:mailAlternateAddress (page 896)
NSCP:mailAutoReplyMode (page 897)
NSCP:mailAutoReplyText (page 898)
NSCP:mailDeliveryOption (page 899)
NSCP:mailForwardingAddress (page 900)
NSCP:mailHost (page 901)
NSCP:mailQuota (page 904)
NSCP:memberCertificateDesc (page 631)
NSCP:ngComponent (page 905)
NSCP:nsaclrole (page 634)
NSCP:nscreator (page 635)
NSCP:nsflags (page 636)
NSCP:nsLicenseEndTime (page 906)
NSCP:nsLicensedFor (page 907)
NSCP:nsLicenseStartTime (page 908)
NSCP:nsnewsACL (page 637)
NSCP:nsprettyname (page 638)
NSCP:serverHostName (page 639)
NSCP:serverProductName (page 640)
NSCP:serverRoot (page 641)
NSCP:serverVersionNumber (page 642)
NSCP:subtreeACI (page 643)
O (Organization Name) (page 644)
OU (Organizational Unit Name) (page 653)
Physical Delivery Office Name (page 674)
Postal Code (page 677)
Postal Office Box (page 678)
Queue Directory (page 695)
registeredAddress (page 700)
roomNumber (page 706)
S (State or Province Name) (page 708)
SA (Street Address) (page 709)
SAP Name (page 710)
SLP Attribute (page 932)
SLP Language (page 936)

SLP Scope Name (page 938)
SLP SU Type (page 943)
SLP Type (page 944)
SLP URL (page 945)
SU (page 948)
supportedApplicationContext (page 732)
Supported Gateway (page 734)
Supported Services (page 735)
Supported Typefaces (page 736)
Surname (page 737)
SvcType (page 950)
Title (page 746)
uniqueID (page 753)
Unknown Auxiliary Class (page 755)
Unknown Base Class (page 756)
Version (page 767)

Class Name

Is used for attributes whose values represent object class names.

Syntax ID

```
#define SYN_CLASS_NAME 20
```

LDAP Name

OID

ASN1.ID

1.3.6.1.4.1.1466.115.121.1.38

API Data Structure

```
typedef pnstr8 Class_Name_T
```

Transfer Format

```
uint32      Length  
unicode     String
```

LDAP Format

```
string
```

Matching Rules

Equality

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

The matching rule for values of Class Name are the same as those for Case Ignore String. That is, two Class Names match for equality when their lengths and corresponding characters are identical in all respects except that of case and spaces as described below.

In comparing attributes using the Class Name syntax, the following white space (spaces, tabs, etc.) is not significant:

- ♦ Leading spaces (those preceding the first printable character)
- ♦ Trailing spaces (those following the last printable character)
- ♦ Multiple consecutive internal spaces (these are taken as equivalent to a single space character)

In matching attributes that conform to this syntax, eDirectory omits those spaces that are not significant (as defined above). eDirectory stores insignificant spaces with the attribute value.

In eDirectory, an object class name can be 32 characters long, and must be unique within its super class structure. Although eDirectory allows spaces and non-alphanumeric characters in the name, you should conform to LDAP naming conventions.

In LDAP, the name can be an alpha string with one hyphen (-) or a numeric string with a period (.) separating numbers. Spaces are not allowed. LDAP specifications recommend using an alpha string such as locality rather than a numeric string such as 2.5.6.3.

Used In

[AuxClass Object Class Backup \(page 348\)](#)

[Object Class \(page 648\)](#)

Counter

Is used for attributes whose values are signed integers.

Syntax ID

```
#define SYN_COUNTER 22
```

LDAP Name

Counter

ASN1.ID

2.16.840.1.113719.1.1.5.1.22

API Data Structure

```
typedef uint32 Counter_T;
```

Transfer Format

```
uint32    Length = 4
uint32    Content
```

LDAP Format

String

numeric string

Binary

counter ::=uint32

Matching Rules

Equality

Ordering

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

Any attribute defined using this syntax is single-valued. This syntax differs from Integer in that any value added to an attribute of this syntax is arithmetically added to the total, and any value deleted is arithmetically subtracted from the total.

Used In

Account Balance (page 330)

Login Grace Remaining (page 538)

Login Intruder Attempts (page 540)

Revision (page 704)

Distinguished Name

Is used for attributes whose values are the names of objects in the eDirectory tree.

Syntax ID

```
#define SYN_DIST_NAME 1
```

LDAP Name

DN

ASN1.ID

1.3.6.1.4.1.1466.115.121.1.12

API Data Structure

```
typedef pnstr8 DN_T;
```

Transfer Format

```
uint32      Length
unicode     String
```

LDAP Format

```
string
```

Matching Rules

Equality

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

In NDAP, a Distinguished Name (DN) is transmitted on the wire as a Unicode string. The largest supported DN is 256 Unicode characters, not including the terminating NULL character. Distinguished Names are not case sensitive, even if one of the naming attributes is case sensitive.

NDAP supports a number of formats for the distinguished name:

- ♦ Typeful or typeless
- ♦ Back slashes or periods as delimiters

For example, NDAP supports the following:

\XYZ_tree\ACME\HR\JRoss
\XYZ_tree\O=ACME\OU=HR\CN=JRoss
JRoss.HR.ACME
CN=JRoss.OU=HR.O=Acme

LDAP supports only one format for a distinguished name: typeful with commas as the delimiter, for example:

CN=JRoss, OU=HR, O=Acme

Used In

[Aliased Object Name \(page 328\)](#)
[Audit:File Link \(page 341\)](#)
[Audit:Link List \(page 342\)](#)
[Default Queue \(page 378\)](#)
[Device \(page 385\)](#)
[dn \(page 421\)](#)
[Equivalent To Me \(page 429\)](#)
[Group Membership \(page 444\)](#)
[Higher Privileges \(page 447\)](#)
[Host Device \(page 458\)](#)
[Host Server \(page 460\)](#)
[LDAP Anonymous Identity \(page 481\)](#)
[LDAP Group \(page 490\)](#)
[LDAP Host Server \(page 491\)](#)
[LDAP Server \(page 501\)](#)
[LDAP Server List \(page 504\)](#)
[LDAP Suffix \(page 506\)](#)
[LDAP:bindCatalog \(page 509\)](#)
[LDAP:searchCatalog \(page 513\)](#)
[Mailbox Location \(page 549\)](#)
[Member \(page 566\)](#)
[Members Of Template \(page 568\)](#)
[Message Routing Group \(page 570\)](#)
[Message Server \(page 571\)](#)
[Messaging Server \(page 573\)](#)
[NDSCat:Actual Base Object \(page 832\)](#)
[NDSPKI:Key Material DN \(page 587\)](#)
[NDSPKI:Parent CA DN \(page 592\)](#)
[NDSPKI:Tree CA DN \(page 601\)](#)
[NSCP:ngComponent \(page 905\)](#)
[NDSCat:Base Object \(page 846\)](#)
[NDSCat:Catalog List \(page 848\)](#)
[NDSCat:Master Catalog \(page 855\)](#)
[NDSCat:Slave Catalog List \(page 862\)](#)

NLS:License Service Provider (page 873)
NLS:Owner (page 875)
Operator (page 650)
Owner (page 655)
Postmaster (page 679)
Profile (page 689)
Profile Membership (page 690)
Reference (page 699)
Resource (page 703)
Role Occupant (page 705)
SAS:Security DN (page 715)
SAS:Service DN (page 716)
Security Equals (page 720)
See Also (page 722)
Server (page 724)
SLP DA Back Link (page 934)
SLP Directory Agent DN (page 935)
SLP Scope Unit DN (page 939)
SLP SU Back Link (page 942)
User (page 758)
Volume (page 768)
WANMAN:LAN Area Membership (page 772)

Email Address

Is used for attributes whose values represent e-mail addresses.

Syntax ID

```
#define SYN_EMAIL_ADDRESS 14
```

LDAP Name

Tagged String

ASN1.ID

2.16.840.1.113719.1.1.5.1.14

API Data Structure

```
typedef struct
{
    uint32      type;
    pstr8       address;
} EMail_Address_T;
```

Transfer Format

```
uint32      Length = N
BYTE [N]    Content
```

LDAP Format

String

```
taggedString = uint32string "#" IA5String
```

Binary

```
taggedString ::= SEQUENCE {
    number    uint32,
    string    IA5String
}
```

Matching Rules

Equality

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

Two EMail Addresses match for equality when their lengths and corresponding characters are identical in all respects except that case is ignored and extra spaces as described below.

In comparing attributes using the EMail Address syntax, the following white space (spaces, tabs, etc.) is not significant:

- ♦ Leading spaces (those preceding the first printable character)
- ♦ Trailing spaces (those following the last printable character)
- ♦ Multiple consecutive internal spaces (these are taken as equivalent to a single space character)

In matching attributes that conform to this syntax, eDirectory omits those spaces that are not significant (as defined above). eDirectory stores insignificant spaces with the attribute value.

eDirectory makes no assumption about the internal structure of the address field or the values in the type field.

Used In

[EMail Address \(page 424\)](#)

Facsimile Telephone Number

Specifies a string that complies with the internationally agreed format for showing international telephone numbers, E.123, and an optional bit string formatted according to Recommendation T.30.

Syntax ID

```
#define SYN_FAX_NUMBER 11
```

LDAP Name

Facsimile Telephone Number

ASN1.ID

1.3.6.1.4.1.1466.115.121.1.22

API Data Structure

```
typedef struct
{
    pnsr8      telephoneNumber;
    Bit_String_T parameters;
} Fax_Number_T;
```

Transfer Format

```
uint32      Length
unicode     Telephone number
Align4
uint32      Bit Count = B
uint32      Bit String Length = M
BYTE (M)    Bit String
```

LDAP Format

```
fax-number    = printablestring [ "$" faxparameters ]
faxparameters = faxparm / ( faxparm "$" faxparameters )
faxparm = "twoDimensional" / "fineResolution" / "unlimitedLength" /
          "b4Length" / "a3Width" / "b4Width" / "uncompressed"
```

The first printable string is the telephone number, and the faxparm tokens represent fax parameters.

Matching Rules

Equality

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

Facsimile Telephone Number values are matched based on the telephone number field. The rules for matching fax telephone numbers are identical to those for the Case Exact syntax except that all space and hyphen (-) characters are skipped during the comparison.

This syntax combines a telephone number with an optional bit string. On the wire, the bit string is represented using an integral number of bytes, with padding bits (if needed) at the least-significant end of the final byte. The value M is the number of bytes needed to hold B bits, where the value B indicates the number of bits in the bit string. That is, the value of M is $B/8$ rounded up to the nearest integer.

Used In

[Facsimile Telephone Number \(page 433\)](#)

Hold

Is used for attributes whose values represent an object name/level pair.

Syntax ID

```
#define SYN_HOLD 26
```

API Data Structure

```
typedef struct
{
    pnstr8      objectName;
    nuint32     amount;
} Hold_T;
```

Transfer Format

```
uint32      Length
uint32      Amount
unicode     Subject
```

LDAP Format

```
taggedString = unit32string '#' distinguishedname
```

Matching Rules

Equality

Approximate—Not currently supported through LDAP

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

This syntax is an accounting quantity, which is an amount tentatively held against a subject’s credit limit, pending completion of a transaction. In the wire format, the Subject field is the Distinguished Name of the object.

eDirectory treats the Hold amount similarly to the Counter syntax, with new values added to or subtracted from the base total. If the evaluated Hold amount goes to 0 (zero), the Hold record is deleted.

This syntax is not supported in LDAP.

Used In

[Server Holds \(page 725\)](#)

Integer

Is used for attributes whose values are signed integers.

Syntax ID

```
#define SYN_INTEGER 8
```

LDAP Name

INTEGER

ASN1.ID

1.3.6.1.4.1.1466.115.121.1.27

API Data Structure

```
typedef nint32 Integer_T;
```

Transfer Format

```
uint32    Length = 4  
uint32    Content
```

LDAP Format

numeric string

Matching Rules

Equality
Ordering

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

Attributes using this syntax can set size limits.

The attributes for two integers match for equality if they are the same. The comparison for ordering uses signed integer rules.

Used In

[Audit:Contents \(page 339\)](#)

[Audit:Type \(page 345\)](#)

Bindery Object Restriction (page 352)
Convergence (page 374)
DS Revision (page 423)
GID (Group ID) (page 442)
Home Directory Rights (page 449)
LDAP Log Level (page 493)
LDAP Log Size Limit (page 495)
LDAP Screen Level (page 497)
LDAP Search Size Limit (page 499)
LDAP Search Time Limit (page 500)
LDAP Server Bind Limit (page 502)
LDAP Server Idle Timeout (page 503)
LDAP SSL Port (page 505)
LDAP TCP Port (page 507)
LDAP UDP Port (page 508)
LDAP:bindCatalogUsage (page 510)
LDAP:otherReferralUsage (page 512)
LDAP:searchCatalogUsage (page 514)
LDAP:searchReferralUsage (page 515)
Login Grace Limit (page 537)
Login Intruder Limit (page 541)
Login Maximum Simultaneous (page 543)
Memory (page 569)
Minimum Account Balance (page 575)
NDSCat:Actual Attribute Count (page 830)
NDSCat:Actual Catalog Size (page 833)
NDSCat:Actual Object Count (page 836)
NDSCat:Actual Return Code (page 837)
NDSCat:Actual Scope (page 838)
NDSCat:Actual Value Count (page 841)
NDSCat:Max Log Size (page 856)
NDSCat:Max Retries (page 857)
NDSCat:Max Threads (page 858)
NDSCat:Scope (page 860)
NLS:Current Installed (page 866)
NLS:Current Peak Installed (page 867)
NLS:Current Peak Used (page 868)
NLS:Current Used (page 869)
NLS:Hourly Data Size (page 870)
NLS:LSP Revision (page 874)
NLS:Revision (page 880)
NLS:Search Type (page 881)
NLS:Summary Version (page 883)
NLS:Transaction Log Size (page 886)

[Password Minimum Length \(page 665\)](#)
[searchSizeLimit \(page 718\)](#)
[searchTimeLimit \(page 719\)](#)
[Security Flags \(page 721\)](#)
[SLP Cache Limit \(page 933\)](#)
[SLP Lifetime \(page 937\)](#)
[SLP Start Purge Hour \(page 940\)](#)
[SLP Status \(page 941\)](#)
[Status \(page 730\)](#)
[Supported Connections \(page 733\)](#)
[UID \(User ID\) \(page 752\)](#)
[WANMAN:Default Cost \(page 771\)](#)

Interval

Is used for attributes whose values represent intervals of time in seconds.

Syntax ID

```
#define SYN_INTERVAL 27
```

LDAP Name

INTEGER

ASN1.ID

1.3.6.1.4.1.1466.115.121.1.27

API Data Structure

```
typedef nint32 Integer_T;
```

Transfer Format

```
uint32    Length = 4
uint32    Content
```

LDAP Format

numeric string

Matching Rules

Equality
Ordering

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

Attributes using this syntax can set size limits.

The attributes for two intervals match for equality if they are the same. The comparison for ordering uses signed integer rules.

The Interval value is the number of seconds in a time interval.

Used In

[Certificate Validity Interval \(page 364\)](#)

High Convergence Sync Interval (page 446)
Intruder Attempt Reset Interval (page 468)
Intruder Lockout Reset Interval (page 469)
Low Convergence Sync Interval (page 547)
NDSCat:Dredge Interval (page 849)
NDSCat:Retry Interval (page 859)
NDSCat:Synch Interval (page 864)
Password Expiration Interval (page 662)

Net Address

Is used for an internal number assigned by the network that specifies where a device (such as a server or workstation) can be located in the network cabling system. The address type indicates the type of communications protocol used (IPX, IP, etc.).

Syntax ID

```
#define SYN_NET_ADDRESS 12
```

LDAP Name

Tagged Data

ASN.1 ID

2.16.840.1.113719.1.1.5.1.12

API Data Structure

```
typedef struct
{
    nuint32      addressType;
    nuint32      addressLength;
    pnuint8      address;
} Net_Address_T;
```

Transfer Format

```
uint32      Length
uint32      Transport Type
uint32      Address Length = M
BYTE [M]    Address
```

LDAP Format

String

```
taggedData = uint32string "#" octetstring
```

Binary

```
taggedData ::= SEQUENCE {
    type    unit32,
    data    OCTET STRING
}
```

Matching Rules

Equality

For two values of Net Address to match, the type, address length, and value of the address must match. The address length is the number of bytes. The address itself is stored as a binary string. This string is the literal value of the address. To display it as a hexadecimal value, you must convert each 4-bit nibble to the correct character (0,1,2,3,...F).

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

The address or transport type indicates the type of communications protocol used. For a list of flags defined for type, see [“Network Address Types” \(NDK: Novell eDirectory Core Services\)](#).

For IPX, the Address Length is 12. It includes the network number, host number, and socket, in that order. The address is in binary (not displayable) format.

Used In

[Login Intruder Address \(page 539\)](#)

[Network Address \(page 604\)](#)

[Network Address Restriction \(page 605\)](#)

Numeric String

Is used for attributes whose values are numeric strings as defined in CCITT X.208.

Syntax ID

```
#define SYN_NU_STRING 5
```

LDAP Name

Numeric String

ASN1.ID

1.3.6.1.4.1.1466.115.121.1.36

API Data Structure

```
typedef pustr8 NU_String_T;
```

Transfer Format

```
uint32      Length  
unicode     String
```

LDAP Format

```
string
```

Matching Rules

Equality
Substrings

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

For two numeric strings to match for equality, the strings must be the same length and their corresponding characters must be identical. The following characters are in the numeric string character set:

- ♦ 0..9 digits
- ♦ Space character

When comparing numeric strings, the following spaces are not significant:

- ♦ Leading spaces (precede the first printing character)

- ♦ Trailing spaces (follow the last printing character)
- ♦ Multiple consecutive internal spaces (equivalent to a single space character)

In matching attributes that conform to this syntax, eDirectory omits those spaces that are not significant (as defined above). eDirectory stores insignificant spaces with the attribute value.

Used In

[Bindery Type \(page 355\)](#)

[internationaliSDNNumber \(page 466\)](#)

[x121Address \(page 776\)](#)

Object ACL

Is used for attributes whose values represent ACL entries.

Syntax ID

```
#define SYN_OBJECT_ACL 17
```

LDAP Name

NDS ACL

ASN.1 ID

2.16.840.1.113719.1.1.5.1.17

API Data Structure

```
typedef struct
{
    pnsr8      protectedAttrName;
    pnsr8      subjectName;
    nuint32    privileges;
} Object_ACL_T;
```

Transfer Format

```
uint32      Length
unicode     Name of Protected Attribute
Align4
unicode     Subject Name
Align4
uint32      Privileges
```

LDAP Format

String

```
ndsAcl = privileges "#" scope "#" subjectname "#"
        protectedattrname
```

```
privileges = uint32string
```

```
scope = "entry" / "subtree"
```

```
subjectname = distinguishedname / "[Self]" / "[Creator]" /
        "[Public]" / "[Inheritance Mask]" / "[Root]"
```

```
protectedAttrName = caseignorestring / "[Entry Rights]" /  
                  "[All Attribute Rights]"
```

Binary

```
ndsAcl ::= SEQUENCE {  
    privileges      uint32,  
    subjectName     LDAPDN,  
    protectedAttrName LDAPString  
}
```

Matching Rules

Approximate

Equality

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

An Object ACL value can protect either an object or an attribute. The protected object is always the one that contains the ACL attribute. If an ACL entry is to apply to the object as a whole, the protected attribute name should be left empty (NULL). If a specific attribute is to be protected, it should be named in the ACL entry.

You can match an ACL value against either a subject (trustee) or a privilege set, or both. If the subject name is not to be considered in the comparison, specify it as NULL. If the privilege set is not to be considered in the comparison, specify an “approximate match” with a privilege set value of zero.

The Object ACL syntax supports both matching for equality and approximate matching. The difference between matching for equality and approximate matching concerns the privileges field of the comparison value. When matching for equality, the privilege set must match exactly for the comparison to succeed. When approximate matching has been selected, any bits in the privilege field in the filter that are set must also be set in the target. Any other bits in the target are ignored.

Values with the same protectedAttrName and subjectName fields are considered to be duplicate, and so are not permitted.

For information on bit mask for the privileges field and on the special values available for protectedAttrName and subjectName fields, see the [“Object_ACL_T” structure \(NDK: Novell eDirectory Core Services\)](#).

Used In

[ACL \(page 331\)](#)

[Inherited ACL \(page 463\)](#)

[New Object's DS Rights \(page 606\)](#)

[New Object's Self Rights \(page 608\)](#)

[Trustees Of New Object \(page 750\)](#)

Octet List

Is used to describe an ordered sequence of octet strings.

Syntax ID

```
#define SYN_OCTET_LIST 13
```

LDAP Name

Octet List

ASN.1 ID

2.16.840.1.113719.1.1.5.1.13

API Data Structure

```
typedef struct _octet_list
{
    struct _octet_list N_FAR *next;
    nuint32                length;
    pnuint8                data;
} Octet_List_T;
```

Transfer Format

```
uint32    Length
uint32    Number of strings

/*For each string */
Align4
uint32    Component Length = K
BYTE[K]   Component Data
```

LDAP Format

This syntax can only be transmitted in binary form.

Binary

```
octetList ::= SEQUENCE OF OCTET STRING
```

Matching Rules

Approximate—one string in the list matches

Equality—number of strings is the same and each string matches

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

A presented octet list matches a stored list if the presented list is a subset of the stored list. Octet strings are so designated because they are not interpreted by eDirectory. They are simply a series of bits with no Unicode implications.

Approximate matching rules apply because when comparing two octet lists, only one octet string in the list needs to match.

The length is the number of bits divided by 8 and rounded to the nearest integer. Thus each octet represents eight bits of data. The number of data bits will always be evenly divisible by 8.

Used In

[NDSCat:AttrDefTbl \(page 843\)](#)

[NDSCat:IndexDefTbl \(page 851\)](#)

[WANMAN:WAN Policy \(page 773\)](#)

Octet String

Used for attributes whose values are byte strings and are not interpreted by eDirectory.

Syntax ID

```
#define SYN_OCTET_STRING 9
```

LDAP Name

Octet String

ASN1.ID

1.3.6.1.4.1.1466.115.121.1.40

API Data Structure

```
typedef struct
{
    nuint32      length;
    pnuint8      data;
} Octet_String_T;
```

Transfer Format

```
uint32      Length = N
BYTE[N]     Content
```

LDAP Format

This syntax can only be transmitted in binary form.

Matching Rules

Equality
Ordering

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

Attributes using this syntax can set size limits. Octet strings are not Unicode strings.

For two octet strings to match, they must be the same length and the corresponding bit sequence (octets) must be identical. When comparing two strings, the first pair of octets that do not match are used to determine the order of the strings.

Used In

attributeCertificate (page 336)
Audit:A Encryption Key (page 337)
Audit:B Encryption Key (page 338)
Audit:Current Encryption Key (page 340)
Audit:Policy (page 344)
authorityRevocationList (page 346)
Authority Revocation (page 347)
Bindery Property (page 353)
cACertificate (page 358)
CA Private Key (page 359)
CA Public Key (page 360)
certificateRevocationList (page 362)
Certificate Revocation (page 363)
crossCertificatePair (page 371)
Cross Certificate Pair (page 376)
deltaRevocationList (page 379)
enhancedSearchGuide (page 428)
Entrust:AttributeCertificate (page 791)
External Name (page 431)
External Synchronizer (page 432)
GUID (page 445)
LDAP ACL v11 (page 479)
LDAP Attribute Map v11 (page 482)
LDAP Class Map v11 (page 485)
LDAPUserCertificate (page 801)
LDAP:ARL (page 802)
LDAP:caCertificate (page 803)
LDAP:CRL (page 804)
LDAP:crossCertificatePair (page 805)
Login Allowed Time Map (page 534)
masvAuthorizedRange (page 553)
masvDefaultRange (page 555)
masvDomainPolicy (page 556)
masvLabel (page 557)
masvProposedLabel (page 565)
NDSPKI:Certificate Chain (page 584)
NDSPKI:Key File (page 586)
NDSPKI:Private Key (page 593)
NDSPKI:Public Key (page 594)
NDSPKI:Public Key Certificate (page 595)
NLS:Common Certificate (page 865)
NLS:Peak Installed Data (page 876)
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Obituary (page 646)
Obituary Notify (page 647)
Other GUID (page 651)
Partition Status (page 660)
Passwords Used (page 668)
preferredDeliveryMethod (page 680)
presentationAddress (page 682)
Printer Configuration (page 686)
Private Key (page 688)
protocolInformation (page 691)
Public Key (page 692)
Replica Up To (page 702)
searchGuide (page 717)
SMS Protocol Address (page 946)
SMS Registered Service (page 947)
supportedAlgorithms (page 731)
SvcInfo (page 949)
SvcTypeID (page 951)
telexNumber (page 743)
telexTerminalIdentifier (page 744)
Timezone (page 745)
TransitionGroupDN (page 748)
userCertificate (page 759)
WANMAN:Cost (page 770)
x500UniqueIdentifier (page 777)

Path

Is used for attributes that represent a file system path.

Syntax ID

```
#define SYN_PATH 15
```

LDAP Name

Tagged Name And String

ASN.1 ID

2.16.840.1.113719.1.1.5.1.15

API Data Structure

```
typedef struct
{
    nuint32    nameSpaceType;
    pnstr8     volumeName;
    pnstr8     path;
} Path_T;
```

Transfer Format

```
uint32      Length
uint32      Name Space
unicode     Volume
Align4
unicode     Path
```

LDAP Format

String

```
taggedNameAndString = distinguishedname "#" uint32string "#"
                        dstring
```

Binary

```
taggedNameAndString ::= SEQUENCE {
    objectName    LDAPDN,
    number        uint32,
    string        LDAPString
}
```


Matching Rules

Equality

Substrings

Approximate—Not currently supported through LDAP

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

Attributes using this syntax can set size limits.

The string represented by the path field is compared for equality using the same rules that [Case Exact String \(page 968\)](#) uses. That is, two Paths match for equality when their lengths and corresponding characters, including case, are identical.

In comparing two Paths, the following white space (spaces, tabs, etc.) is not significant:

- ♦ Leading spaces (those preceding the first printable character)
- ♦ Trailing spaces (those following the last printable character)
- ♦ Multiple consecutive internal spaces (these are taken as equivalent to a single space character)

In matching attributes that conform to this syntax, eDirectory omits those spaces that are not significant (as defined above). eDirectory stores insignificant spaces with the attribute value.

The volumeName field must refer to a distinguished name of an object that exists in the eDirectory tree. eDirectory verifies that this field refers to an existing object, but does not ensure that the object is a volume object. Thus, this syntax can be used to refer to any type of object in the eDirectory tree.

When this syntax is used to specify a path to a file system object, the volumeName field must refer to a volume object that already exists in the eDirectory tree. In searches and comparisons, the path field can specify a path, or you can set the path to “*” to match any path on the volume.

For information about the fields in the structure, see the [“Path_T” structure \(NDK: Novell eDirectory Core Services\)](#).

Used In

[Audit:Path \(page 343\)](#)

[Home Directory \(page 448\)](#)

[Messaging Database Location \(page 572\)](#)

[New Object's FS Rights \(page 607\)](#)

[Path \(page 669\)](#)

[Used By \(page 757\)](#)

[Uses \(page 762\)](#)

[Volume Space Restrictions \(page 769\)](#)

Postal Address

Is used for attributes whose values are postal addresses.

Syntax ID

```
#define SYN_PO_ADDRESS 18
```

LDAP Name

Postal Address

ASN.1 ID

1.3.6.1.4.1.1466.115.121.1.41

API Data Structure

```
typedef pnstr8 Postal_Address_T[6];
```

Transfer Format

```
uint32    Length of attribute value
uint32    Number of strings

/* For each string */
Align4
unicode   String
```

LDAP Format

```
dstring *5 ($ dstring)
```

Matching Rules

Equality

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

An attribute value for Postal Address will be typically composed of selected attributes from the MHS Unformatted Postal O/R Address version 1 according to Recommendation F.401. The value is limited to 6 lines of 30 characters each, including a Postal Country Name. Normally the information contained in such an address could include a name, street address, city, state or province, postal code and possibly a postal office box number, depending on the specific requirements of the named object.

eDirectory requires 6 strings; blank strings must include at least a space. LDAP supports 1 to 6 strings, and the Novell LDAP server handles the differences between eDirectory and LDAP.

The matching rules for values of this type are the same as those for the [Case Ignore List \(page 970\)](#) attribute. That is, two postal addresses match for equality if, and only if, the number of strings in each is the same and all corresponding strings match. For two corresponding strings in the list to match, they must be the same length and their corresponding characters must be identical (see the matching rules for the [Case Ignore List \(page 970\)](#) attribute).

When comparing the strings in a Postal Address, the following white space (spaces, tabs, etc.) is regarded as not significant:

- ♦ Leading spaces (those preceding the first printable character)
- ♦ Trailing spaces (those following the last printable character)
- ♦ Multiple consecutive internal spaces (these are taken as equivalent to a single space character)

In matching attributes that conform to this syntax, eDirectory omits those spaces that are not significant (as defined above). eDirectory stores insignificant spaces with the attribute value.

Used In

[Postal Address \(page 675\)](#)

Printable String

Is used in attributes whose values are printable strings as defined in CCITT X.208. The case (upper or lower) is significant when comparing printable strings.

Syntax ID

```
#define SYN_PR_STRING 4
```

LDAP Name

Printable String

ASN.1 ID

1.3.6.1.4.1.1466.115.121.1.44

API Data Structure

```
typedef pustr8 PR_String_T;
```

Transfer Format

```
uint32      Length  
unicode     String
```

Matching Rules

Equality
Substrings

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

Attributes using this syntax can set size limits.

The following characters are in the printable string character set:

A..Z	upper case alphabetic characters
a..z	lower case alphabetic characters
0..9	digits
	space character
'	apostrophe

"	quotation
(left parenthesis
)	right parenthesis
+	plus sign
,	comma
-	hyphen
.	full stop (period)
/	solidus (slash)
:	colon
=	equal sign
?	question mark

Two printable strings match for equality when they are the same length and their corresponding characters are identical. Case (upper or lower) is significant when comparing printable strings. For example, as printable strings, “Dundee” and “DUNDEE” do not match.

When comparing printable strings, the following spaces are not significant:

- ♦ Leading spaces (precede the first printing character)
- ♦ Trailing spaces (follow the last printing character)
- ♦ Multiple consecutive internal spaces (equivalent to a single space character)

In matching attributes that conform to this syntax, eDirectory omits those spaces that are not significant (as defined above). eDirectory stores insignificant spaces with the attribute value.

Used In

[destinationIndicator \(page 383\)](#)

[dnQualifier \(page 422\)](#)

[Page Description Language \(page 656\)](#)

[Serial Number \(page 723\)](#)

Replica Pointer

Is used for attributes whose values represent partition replicas.

Syntax ID

```
#define SYN_REPLICA_POINTER 16
```

LDAP Name

NDS Replica Pointer

ASN.1 ID

2.16.840.1.113719.1.1.5.1.16

API Data Structure

```
typedef struct
{
    pnstr8          serverName;
    nint32          replicaType;
    nint32          replicaNumber;
    nuint32         count;
    Net_Address_T   replicaAddressHint[1];
} Replica_Pointer_T;
```

Transfer Format

```
uint32          Length
unicode         Server Name
Align4
uint16          Replica Type
uint16          Replica State
uint32          Replica Number
uint32          Number of Addresses = N
Address Record[N]  Addresses

/* For each address record */
Align 4
uint32          Transport Type
uint32          Address Length = M
BYTE [M]        Address Value
```

LDAP Format

This syntax can only be transmitted in binary form.

Binary

```
ndsReplicaPointer ::= SEQUENCE {
    serverName          LDAPDN,
    replicaType         uint16,
    replicaState        uint16,
    replicaRootID       uint32,
    replicaNumber       uint32,
    replicaAddressHint  SEQUENCE OF NetAddress
}

NetAddress ::= SEQUENCE {
    transportType  uint32,
    addressValue   OCTET STRING
}
```

Matching Rules

Equality

Approximate—Not currently supported through LDAP

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

Each value of this syntax is composed of five parts:

- ♦ The complete name of the server that stores the replica.
- ♦ A value describing the capabilities of this copy of the partition: master, secondary, read-only, subordinate reference. For constants defined for C, see [“Replica Types” in NDK: Novell eDirectory Core Services](#).
- ♦ A value indicating the current state of the replica (new, dying, locked, changing state, splitting, joining, moving). For constants defined for C, see [“Replica States” in NDK: Novell eDirectory Core Services](#).
- ♦ A number representing the replica. All replicas of a partition have different numbers which are assigned when the replicas are created.
- ♦ A referral which contains a count of the addresses and then one or more network addresses that hint at the node at which the server probably resides. Since servers are accessible over different protocols, the server may have an address for each supported protocol.

The matching rules for values of Replica Pointer are based on the replica server name field only, and are the same as those for [Distinguished Name \(page 980\)](#).

The length of the replicaAddressHint structure is variable and cannot be calculated in a block, because address types are not all the same length. For more information, see the [“Net_Address_T” structure \(NDK: Novell eDirectory Core Services\)](#).

Used In

[Replica \(page 701\)](#)

Stream

Is used for login scripts and other stream attributes.

Syntax ID

```
#define SYN_STREAM 21
```

LDAP Name

Binary

ASN.1 ID

1.3.6.1.4.1.1466.115.121.1.5

API Data Structure

```
typedef Octet_String_T    Stream_T;
```

Transfer Format

```
uint32      Length = N  
BYTE[N]     Content
```

LDAP Format

BER-encoded

Matching Rules

None

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

Streams are files of information. The data stored in a stream file has no syntax enforcement of any kind. It is purely arbitrary data, defined by the application that created and uses it.

Any attribute defined with this syntax is single-valued. When you try to read an attribute of this type or search on it, the value behaves like an empty string. That is, when you return from read or search, it returns an empty octet string. When you try to add a value, the request is ignored.

You must read or write attributes of this syntax by calling the NWDSOpenStream function, followed by calling standard file Read and Write functions.

Used In

[LDAP Class Map \(page 799\)](#)

[Login Script \(page 544\)](#)

[NDSCat:CatalogDB \(page 847\)](#)

[NDSCat:Log \(page 854\)](#)

[NRD:Registry Data \(page 893\)](#)

[NRD:Registry Index \(page 894\)](#)

[Print Job Configuration \(page 683\)](#)

[Printer Control \(page 687\)](#)

[Setup Script \(page 727\)](#)

Telephone Number

Is used for attributes whose values are telephone numbers.

Syntax ID

```
#define SYN_TEL_NUMBER 10
```

LDAP Name

Telephone Number

ASN.1 ID

1.3.6.1.4.1.1466.115.121.1.50

API Data Structure

```
typedef pustr8 TN_String_T;
```

Transfer Format

```
uint32      Length  
unicode     String
```

LDAP Format

```
printable string
```

Matching Rules

Equality
Substrings

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

Attributes using this syntax can set size limits. The length of telephone number strings must be between 1 and 32.

The rules for matching telephone numbers are identical to those for the Case Exact String attribute syntax except that all space and hyphen (-) characters are skipped during the comparison.

Two telephone numbers match for equality when their lengths and corresponding characters, including case, are identical.

In comparing case exact strings, the following spaces are not significant:

- ♦ Leading spaces (precede the first printing character)
- ♦ Trailing spaces (follow the last printing character)
- ♦ Multiple consecutive internal spaces (equivalent to a single space character)

In matching attributes that conform to this syntax, eDirectory omits those spaces that are not significant (as defined above). eDirectory stores insignificant spaces with the attribute value.

Used In

[Telephone Number \(page 742\)](#)

Time

Is used for attributes whose values represent time.

Syntax ID

```
#define SYN_TIME 24
```

LDAP Name

Generalized Time

ASN.1 ID

1.3.6.1.4.1.1466.115.121.1.24

API Data Structure

```
typedef nint32 Integer_T;
```

LDAP Format

printable string

Transfer Format

```
uint32    Length = 4
uint32    Content
```

Matching Rules

Equality

Ordering

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

In eDirectory, the time is stored as an integer. Zero equals 12:00 midnight, January 1, 1970, UTC, and the value equals the number of whole seconds since that time.

The LDAP server converts the eDirectory time to the LDAP format specified by X.208 which includes the year, month, day, hour, minute, optionally seconds, and time zone (GMT is recommended for the time zone and uses Z as its symbol). An attribute with an LDAP time syntax would have a value similar to the following:

199412161032Z or 19941216103200Z

Two Time values are compared by comparing the Integer_T values.

Used In

Last Login Time (page 477)
Login Expiration Time (page 536)
Login Intruder Reset Time (page 542)
Login Time (page 545)
Low Convergence Reset Time (page 546)
NDSCat:Actual End Time (page 834)
NDSCat:Actual Start Time (page 840)
NDSCat:Start Time (page 863)
NLS:Summary Update Time (page 882)
Password Expiration Time (page 663)

Timestamp

Is used for attributes whose values mark the time when a particular event occurred or will occur.

Syntax ID

```
#define SYN_TIMESTAMP 19
```

LDAP Name

NDS Timestamp

ASN.1 ID

2.16.840.1.113719.1.1.5.1.19

API Data Structure

```
typedef struct
{
    nuint32    wholeSeconds;
    nuint16    replicaNum;
    nuint16    eventID;
} TimeStamp_T;
```

Transfer Format

```
uint32                Length = 8
TIMESTAMP              Timestamp Value

/* The Timestamp Value is represented as follows */

uint32    Seconds
uint16    Replica Number
uint16    Event
```

LDAP Format

String

```
ndsTimestamp = wholeseconds "#" replicanum "#" event

wholeseconds = uint32string ; 0 = 12:00 midnight Jan 01 1970, UTC

replicanum = uint16string

event = uint16string
```

Binary

```
ndsTimestamp ::= SEQUENCE {  
    wholeSeconds    uint32,  
    replicaNum      uint16,  
    eventID         uint16  
}
```

Matching Rules

Equality

Ordering

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

A timestamp value has three components:

- ♦ The wholeSeconds field consists of the whole number of seconds, where zero equals 12:00 midnight, January 1, 1970, UTC.
- ♦ The replicaNum field identifies the server that created the timestamp. A replica number is assigned whenever a replica is created on a server.
- ♦ The eventID field is an integer that orders events occurring within the same whole-second interval. The event number restarts at one for each new second.

The initial NULL value of a timestamp has seconds=1 and event=0. Values can be skipped, but must not be reused. An “unknown” event is coded as 0xFFFF.

Time stamps can be compared for equality and for ordering. Two Timestamp values are matched for equality by comparing the whole Seconds fields and then the Event fields. If the whole Seconds fields are unequal, order is determined by that field alone. If the Seconds fields are equal and the Event fields are unequal, order is determined by the Event fields. If both fields are equal, the time stamps are equal. For ordering comparisons, the Timestamp value is treated as a 64-bit unsigned integer, with Seconds as the most significant.

Used In

[Replica Up To \(page 702\)](#)

[Partition Creation Time \(page 659\)](#)

[Purge Vector \(page 693\)](#)

[Received Up To \(page 698\)](#)

[Synchronization Tolerance \(page 738\)](#)

[Synchronized Up To \(page 739\)](#)

Typed Name

Is used for attributes whose values represent a level and an interval associated with an object.

Syntax ID

```
#define SYN_TYPED_NAME 25
```

LDAP Name

Typed Name

ASN.1 ID

2.16.840.1.113719.1.1.5.1.25

API Data Structure

```
typedef struct
{
    pustr8      objectName;
    nuint32     level;
    nuint32     interval;
} Typed_Name_T;
```

Transfer Format

```
uint32      Length
uint32      Level
uint32      Interval
unicode     Distinguished Name
```

LDAP Format

String

```
typedname = objectname "#" level "#" interval
```

```
objectname = distinguishedname
```

```
level = uint32string
```

```
interval = uint32string
```

Binary

```
typedName ::= SEQUENCE {
    LDAPDN      objectName,
    uint32      level,
```



```
uint32      interval
}
```

Matching Rules

Equality

Approximate—Not currently supported through LDAP

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

This syntax names an eDirectory object and attaches two numeric values to it:

- ♦ The level of the attribute indicates the priority.
- ♦ The interval indicates the frequency of reference.

The objectName or Distinguished Name identifies the eDirectory object referred to by the Typed Name and must refer to a distinguished name of an object that exists in the eDirectory tree. eDirectory verifies that this field refers to an existing object.

The values of level and interval are user-assigned and relative. eDirectory does not check their values and thus applications can use them to order, enforce priorities, or implement iterative intervals.

In comparisons and searches using equality, all three parts of the field must be equal for attributes to be equal.

In comparisons and searches using eDirectory approximate matching, the level and interval fields are ignored and only the objectName fields must be equal.

Used In

[Notify \(page 612\)](#)

[Partition Control \(page 658\)](#)

[Print Server \(page 684\)](#)

[Printer \(page 685\)](#)

[Queue \(page 694\)](#)

Unknown

Is used for attributes whose attribute definition was deleted from the schema.

Syntax ID

```
#define SYN_UNKNOWN 0
```

LDAP Name

Unknown

ASN.1 ID

2.16.840.1.113719.1.1.5.1.0

API Data Structure

```
typedef struct
{
    pnsr8      attrName;
    nuint32    syntaxID;
    nuint32    valueLen;
    nptr       value;
} Unknown_Attr_T;
```

Transfer Format

```
uint32      Length = N
BYTE[N]     Content
```

Matching Rules

Equality

Ordering

Remarks

For help in understanding the syntax definition template, see [“Reading Syntax Definitions” on page 53](#).

Used In

[Auxiliary Class Flag \(page 350\)](#)

[Password Management \(page 664\)](#)

[Unknown \(page 754\)](#)

Revision History



The following table lists all changes made to the Novell® eDirectory™ Schema Reference:

June 2008	Added some information to Section 1.12, “Attribute Syntax Definitions,” on page 52 and some links for the values in Replica Pointer (page 1010) .
February 2007	Added the Novell Attribute Login Time (page 806) in the Chapter 6, “Novell Attribute Extensions,” on page 779 .
June 21, 2006	<p>Added the following attributes in the Chapter 5, “Base Attribute Definitions,” on page 327</p> <ul style="list-style-type: none">♦ LDAPDerefAlias (page 486)♦ ldapNonStdAllUserAttrsMode (page 527)♦ ldapBindRestrictions (page 517)♦ ldapInterfaces (page 524)♦ ldapChainSecureRequired (page 518)♦ ldapStdCompliance (page 528) <p>Updated the above attribute names in the section “Optional Attributes” on page 127 in Chapter 2, “Base Object Class Definitions,” on page 59</p>
March 1, 2006	Fixed formatting issues.
October 5, 2005	Updated the link to the downloadable schema at the start of Chapter 3, “Novell Object Class Extensions,” on page 269 and Chapter 6, “Novell Attribute Extensions,” on page 779 .
March 2005	<ul style="list-style-type: none">♦ Added the syntax for decoding the octet string for Partition Status attribute, Partition Status (page 660).♦ Updated the DirXML-DriverStartOption value DirXML-DriverStartOption (page 399).
February 2004	Renamed the product name from “NDS” to “Novell eDirectory” at relevant instances.
March 2003	Removed incorrect information stating that LDAP clients cannot access the Object ACL Statement attribute.
February 2001	Changed operational (attributes and classes) to base and base (attributes and classes) to standard to avoid confusion with LDAP operational attributes. Put the LDAP operational attributes in a separate chapter.
September 2000	Updated the schema registration link and added NDS version information to the Surname and Transitive Vector attributes.
July 2000	Added LDAP operational attributes and the LDAP userPassword attribute.
May 2000	Added LDAP names and OIDs to the NDS syntax definitions.

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2.16.840.1.113719.1.1.4.1.190 491	2.16.840.1.113719.1.1.4.1.264 838
2.16.840.1.113719.1.1.4.1.191 490	2.16.840.1.113719.1.1.4.1.265 839
2.16.840.1.113719.1.1.4.1.193 497	2.16.840.1.113719.1.1.4.1.266 840
2.16.840.1.113719.1.1.4.1.194 499, 718	2.16.840.1.113719.1.1.4.1.267 841
2.16.840.1.113719.1.1.4.1.195 500, 719	2.16.840.1.113719.1.1.4.1.268 843
2.16.840.1.113719.1.1.4.1.196 502	2.16.840.1.113719.1.1.4.1.269 847
2.16.840.1.113719.1.1.4.1.197 503	2.16.840.1.113719.1.1.4.1.27 458
2.16.840.1.113719.1.1.4.1.198 488	2.16.840.1.113719.1.1.4.1.270 851
2.16.840.1.113719.1.1.4.1.199 489	2.16.840.1.113719.1.1.4.1.271 853
2.16.840.1.113719.1.1.4.1.2 331	2.16.840.1.113719.1.1.4.1.272 854
2.16.840.1.113719.1.1.4.1.20 384	2.16.840.1.113719.1.1.4.1.273 842
2.16.840.1.113719.1.1.4.1.200 487	2.16.840.1.113719.1.1.4.1.274 844
2.16.840.1.113719.1.1.4.1.201 507	2.16.840.1.113719.1.1.4.1.275 845
2.16.840.1.113719.1.1.4.1.202 508	2.16.840.1.113719.1.1.4.1.276 846
2.16.840.1.113719.1.1.4.1.203 505	2.16.840.1.113719.1.1.4.1.277 849
2.16.840.1.113719.1.1.4.1.204 492	2.16.840.1.113719.1.1.4.1.278 850
2.16.840.1.113719.1.1.4.1.205 483, 484	2.16.840.1.113719.1.1.4.1.279 852
2.16.840.1.113719.1.1.4.1.206 495	2.16.840.1.113719.1.1.4.1.28 459
2.16.840.1.113719.1.1.4.1.207 506	2.16.840.1.113719.1.1.4.1.280 856
2.16.840.1.113719.1.1.4.1.208 496	2.16.840.1.113719.1.1.4.1.281 857
2.16.840.1.113719.1.1.4.1.209 504	2.16.840.1.113719.1.1.4.1.282 859
2.16.840.1.113719.1.1.4.1.21 385	2.16.840.1.113719.1.1.4.1.283 860
2.16.840.1.113719.1.1.4.1.210 479	2.16.840.1.113719.1.1.4.1.284 861
2.16.840.1.113719.1.1.4.1.211 482	2.16.840.1.113719.1.1.4.1.285 862
2.16.840.1.113719.1.1.4.1.212 485	2.16.840.1.113719.1.1.4.1.286 863

2.16.840.1.113719.1.1.4.1.287 855	2.16.840.1.113719.1.1.4.1.55 604
2.16.840.1.113719.1.1.4.1.288 848	2.16.840.1.113719.1.1.4.1.56 605
2.16.840.1.113719.1.1.4.1.289 864	2.16.840.1.113719.1.1.4.1.57 612
2.16.840.1.113719.1.1.4.1.29 460	2.16.840.1.113719.1.1.4.1.59 650
2.16.840.1.113719.1.1.4.1.290 858	2.16.840.1.113719.1.1.4.1.6 351
2.16.840.1.113719.1.1.4.1.291 511	2.16.840.1.113719.1.1.4.1.602 649
2.16.840.1.113719.1.1.4.1.293 515	2.16.840.1.113719.1.1.4.1.63 656
2.16.840.1.113719.1.1.4.1.294 512	2.16.840.1.113719.1.1.4.1.64 659
2.16.840.1.113719.1.1.4.1.30 463	2.16.840.1.113719.1.1.4.1.65 668
2.16.840.1.113719.1.1.4.1.301 567	2.16.840.1.113719.1.1.4.1.66 661
2.16.840.1.113719.1.1.4.1.302 390	2.16.840.1.113719.1.1.4.1.67 662
2.16.840.1.113719.1.1.4.1.303 386	2.16.840.1.113719.1.1.4.1.68 663
2.16.840.1.113719.1.1.4.1.304 387	2.16.840.1.113719.1.1.4.1.69 665
2.16.840.1.113719.1.1.4.1.306 388	2.16.840.1.113719.1.1.4.1.7 352
2.16.840.1.113719.1.1.4.1.31 468	2.16.840.1.113719.1.1.4.1.70 666
2.16.840.1.113719.1.1.4.1.32 469	2.16.840.1.113719.1.1.4.1.71 667
2.16.840.1.113719.1.1.4.1.33 739	2.16.840.1.113719.1.1.4.1.72 669
2.16.840.1.113719.1.1.4.1.34 476	2.16.840.1.113719.1.1.4.1.77 685
2.16.840.1.113719.1.1.4.1.35 477	2.16.840.1.113719.1.1.4.1.78 686
2.16.840.1.113719.1.1.4.1.37 532	2.16.840.1.113719.1.1.4.1.79 687
2.16.840.1.113719.1.1.4.1.38 533	2.16.840.1.113719.1.1.4.1.8 353
2.16.840.1.113719.1.1.4.1.39 534	2.16.840.1.113719.1.1.4.1.80 683
2.16.840.1.113719.1.1.4.1.4 332	2.16.840.1.113719.1.1.4.1.81 684
2.16.840.1.113719.1.1.4.1.40 535	2.16.840.1.113719.1.1.4.1.82 688
2.16.840.1.113719.1.1.4.1.41 536	2.16.840.1.113719.1.1.4.1.83 689
2.16.840.1.113719.1.1.4.1.42 537	2.16.840.1.113719.1.1.4.1.84 692
2.16.840.1.113719.1.1.4.1.43 538	2.16.840.1.113719.1.1.4.1.85 694
2.16.840.1.113719.1.1.4.1.44 539	2.16.840.1.113719.1.1.4.1.86 695
2.16.840.1.113719.1.1.4.1.45 540	2.16.840.1.113719.1.1.4.1.87 698
2.16.840.1.113719.1.1.4.1.46 541	2.16.840.1.113719.1.1.4.1.88 701
2.16.840.1.113719.1.1.4.1.47 542	2.16.840.1.113719.1.1.4.1.89 703
2.16.840.1.113719.1.1.4.1.48 543	2.16.840.1.113719.1.1.4.1.9 355
2.16.840.1.113719.1.1.4.1.49 544	2.16.840.1.113719.1.1.4.1.91 710
2.16.840.1.113719.1.1.4.1.5 347	2.16.840.1.113719.1.1.4.1.92 720
2.16.840.1.113719.1.1.4.1.50 545	2.16.840.1.113719.1.1.4.1.95 724
2.16.840.1.113719.1.1.4.1.500 647	2.16.840.1.113719.1.1.4.1.96 725
2.16.840.1.113719.1.1.4.1.501 445	2.16.840.1.113719.1.1.4.1.98 730
2.16.840.1.113719.1.1.4.1.502 651	2.16.840.1.113719.1.1.5.1.0 1022
2.16.840.1.113719.1.1.4.1.503 350	2.16.840.1.113719.1.1.5.1.12 993
2.16.840.1.113719.1.1.4.1.504 755	2.16.840.1.113719.1.1.5.1.13 999
2.16.840.1.113719.1.1.4.1.507 348	2.16.840.1.113719.1.1.5.1.14 983
2.16.840.1.113719.1.1.4.1.512 461	2.16.840.1.113719.1.1.5.1.15 1004
2.16.840.1.113719.1.1.4.1.52 569	2.16.840.1.113719.1.1.5.1.16 1010
2.16.840.1.113719.1.1.4.1.525 349	2.16.840.1.113719.1.1.5.1.17 997
2.16.840.1.113719.1.1.4.1.53 573	2.16.840.1.113719.1.1.5.1.19 1018
2.16.840.1.113719.1.1.4.1.54 575	2.16.840.1.113719.1.1.5.1.2 968

2.16.840.1.113719.1.1.5.1.22	978	2.16.840.1.113719.1.14.4.1.13	399
2.16.840.1.113719.1.1.5.1.23	964	2.16.840.1.113719.1.14.4.1.14	417
2.16.840.1.113719.1.1.5.1.25	1020	2.16.840.1.113719.1.14.4.1.15	416
2.16.840.1.113719.1.1.5.1.6	970	2.16.840.1.113719.1.14.4.1.16	418
2.16.840.1.113719.1.1.6.1.0	60	2.16.840.1.113719.1.14.4.1.17	403
2.16.840.1.113719.1.1.6.1.10	157	2.16.840.1.113719.1.14.4.1.18	410
2.16.840.1.113719.1.1.6.1.15	209	2.16.840.1.113719.1.14.4.1.19	407
2.16.840.1.113719.1.1.6.1.17	223	2.16.840.1.113719.1.14.4.1.20	411
2.16.840.1.113719.1.1.6.1.18	220	2.16.840.1.113719.1.14.4.1.21	408
2.16.840.1.113719.1.1.6.1.19	226	2.16.840.1.113719.1.14.4.1.22	395
2.16.840.1.113719.1.1.6.1.2	72	2.16.840.1.113719.1.14.4.1.23	402
2.16.840.1.113719.1.1.6.1.20	228	2.16.840.1.113719.1.14.4.1.24	396
2.16.840.1.113719.1.1.6.1.21	231	2.16.840.1.113719.1.14.4.1.25	401
2.16.840.1.113719.1.1.6.1.22	239	2.16.840.1.113719.1.14.4.1.26	419
2.16.840.1.113719.1.1.6.1.24	253	2.16.840.1.113719.1.14.4.1.27	404
2.16.840.1.113719.1.1.6.1.26	263	2.16.840.1.113719.1.14.4.1.28	406
2.16.840.1.113719.1.1.6.1.27	153	2.16.840.1.113719.1.14.4.1.29	393
2.16.840.1.113719.1.1.6.1.28	150	2.16.840.1.113719.1.14.4.1.3	775
2.16.840.1.113719.1.1.6.1.29	129	2.16.840.1.113719.1.14.4.1.30	400
2.16.840.1.113719.1.1.6.1.3	75	2.16.840.1.113719.1.14.4.1.4	394
2.16.840.1.113719.1.1.6.1.30	144	2.16.840.1.113719.1.14.4.1.5	412
2.16.840.1.113719.1.1.6.1.31	82	2.16.840.1.113719.1.14.4.1.6	413
2.16.840.1.113719.1.1.6.1.32	251	2.16.840.1.113719.1.14.4.1.7	414
2.16.840.1.113719.1.1.6.1.33	163	2.16.840.1.113719.1.14.4.1.8	415
2.16.840.1.113719.1.1.6.1.34	139	2.16.840.1.113719.1.14.4.1.9	409
2.16.840.1.113719.1.1.6.1.4	85	2.16.840.1.113719.1.141.4.1	434
2.16.840.1.113719.1.1.6.1.42	284	2.16.840.1.113719.1.141.4.2	437
2.16.840.1.113719.1.1.6.1.43	287	2.16.840.1.113719.1.141.4.3	436
2.16.840.1.113719.1.1.6.1.44	290	2.16.840.1.113719.1.141.4.4	435
2.16.840.1.113719.1.1.6.1.7	99	2.16.840.1.113719.1.15.4.1	893
2.16.840.1.113719.1.1.6.1.8	134	2.16.840.1.113719.1.15.4.2	894
2.16.840.1.113719.1.12.4.1.0	337	2.16.840.1.113719.1.27.4.21	438
2.16.840.1.113719.1.12.4.2.0	338	2.16.840.1.113719.1.27.4.35	578
2.16.840.1.113719.1.12.4.3.0	339	2.16.840.1.113719.1.27.4.36	579
2.16.840.1.113719.1.12.4.4.0	345	2.16.840.1.113719.1.27.4.37	580
2.16.840.1.113719.1.12.4.5.0	340	2.16.840.1.113719.1.27.4.38	581
2.16.840.1.113719.1.12.4.6.0	341	2.16.840.1.113719.1.27.4.39	582
2.16.840.1.113719.1.12.4.7.0	342	2.16.840.1.113719.1.27.4.40	583
2.16.840.1.113719.1.12.4.8.0	343	2.16.840.1.113719.1.27.4.42	430
2.16.840.1.113719.1.12.4.9.0	344	2.16.840.1.113719.1.27.4.45	611
2.16.840.1.113719.1.12.6.1.0	69	2.16.840.1.113719.1.27.4.46	740
2.16.840.1.113719.1.135.4.30	696	2.16.840.1.113719.1.27.4.48	955
2.16.840.1.113719.1.135.4.35	697	2.16.840.1.113719.1.27.4.49	960
2.16.840.1.113719.1.14.4.1.10	405	2.16.840.1.113719.1.27.4.50	957
2.16.840.1.113719.1.14.4.1.11	397	2.16.840.1.113719.1.27.4.51	956
2.16.840.1.113719.1.14.4.1.12	398	2.16.840.1.113719.1.27.4.52	516

2.16.840.1.113719.1.27.4.53 517, 519, 524, 528	2.16.840.1.113719.1.4.0.3.2.39 912
2.16.840.1.113719.1.27.4.56 748	2.16.840.1.113719.1.4.0.3.2.42 909
2.16.840.1.113719.1.27.4.62 522	2.16.840.1.113719.1.4.0.3.2.43 808
2.16.840.1.113719.1.27.4.63 526	2.16.840.1.113719.1.4.0.3.2.44 806, 807
2.16.840.1.113719.1.27.4.64 523	2.16.840.1.113719.1.4.0.3.2.51 913
2.16.840.1.113719.1.27.4.65 530	2.16.840.1.113719.1.4.0.3.2.59 931
2.16.840.1.113719.1.27.4.66 521	2.16.840.1.113719.1.4.0.3.2.69 915
2.16.840.1.113719.1.27.4.67 525	2.16.840.1.113719.1.4.2.1.0 278
2.16.840.1.113719.1.27.4.68 529	2.16.840.1.113719.1.4.2.1.0.0 918
2.16.840.1.113719.1.27.4.69 531	2.16.840.1.113719.1.4.2.1.0.1 787
2.16.840.1.113719.1.27.4.70 520	2.16.840.1.113719.1.4.2.1.0.2 785
2.16.840.1.113719.1.27.6.1 141	2.16.840.1.113719.1.4.2.1.0.3 819
2.16.840.1.113719.1.31.4.1.10 562	2.16.840.1.113719.1.4.2.1.0.4 784
2.16.840.1.113719.1.31.4.1.11 561	2.16.840.1.113719.1.4.2.1.0.5 813
2.16.840.1.113719.1.31.4.1.12 558	2.16.840.1.113719.1.4.2.1.0.6 814
2.16.840.1.113719.1.31.4.1.13 559	2.16.840.1.113719.1.4.2.1.0.7 815
2.16.840.1.113719.1.31.4.1.14 563	2.16.840.1.113719.1.4.2.1.1 275
2.16.840.1.113719.1.31.4.1.15 564	2.16.840.1.113719.1.4.2.1.1.0 788
2.16.840.1.113719.1.31.4.1.3 557	2.16.840.1.113719.1.4.2.1.1.1 809
2.16.840.1.113719.1.31.4.1.4 565	2.16.840.1.113719.1.4.2.1.1.10 923
2.16.840.1.113719.1.31.4.1.5 555	2.16.840.1.113719.1.4.2.1.1.12 793
2.16.840.1.113719.1.31.4.1.6 553	2.16.840.1.113719.1.4.2.1.1.13 794
2.16.840.1.113719.1.31.4.1.7 556	2.16.840.1.113719.1.4.2.1.1.14 891
2.16.840.1.113719.1.31.4.1.8 554	2.16.840.1.113719.1.4.2.1.1.15 922
2.16.840.1.113719.1.31.4.1.9 560	2.16.840.1.113719.1.4.2.1.1.17 827
2.16.840.1.113719.1.31.6.1.1 148	2.16.840.1.113719.1.4.2.1.1.2 810
2.16.840.1.113719.1.38.4.1.1 773	2.16.840.1.113719.1.4.2.1.1.3 890
2.16.840.1.113719.1.38.4.1.2 772	2.16.840.1.113719.1.4.2.1.1.4 920
2.16.840.1.113719.1.38.4.1.3 770	2.16.840.1.113719.1.4.2.1.1.5 921
2.16.840.1.113719.1.38.4.1.4 771	2.16.840.1.113719.1.4.2.1.1.7 928
2.16.840.1.113719.1.38.6.1.4 266	2.16.840.1.113719.1.4.2.1.1.8 929
2.16.840.1.113719.1.39.4.1.1 715	2.16.840.1.113719.1.4.2.1.1.9 892
2.16.840.1.113719.1.39.4.1.2 716	2.16.840.1.113719.1.4.2.2.0 281
2.16.840.1.113719.1.39.4.1.3 712	2.16.840.1.113719.1.4.2.2.0.0 820
2.16.840.1.113719.1.39.4.1.4 714	2.16.840.1.113719.1.4.2.2.0.1 828
2.16.840.1.113719.1.39.4.1.5 713	2.16.840.1.113719.1.4.2.2.0.10 782
2.16.840.1.113719.1.39.4.1.6 711	2.16.840.1.113719.1.4.2.2.0.21 888
2.16.840.1.113719.1.39.6.1.1 234	2.16.840.1.113719.1.4.2.2.0.23 818
2.16.840.1.113719.1.39.6.1.2 236	2.16.840.1.113719.1.4.2.2.0.26 823
2.16.840.1.113719.1.4.0.0.2.0 889	2.16.840.1.113719.1.4.2.2.0.3 917
2.16.840.1.113719.1.4.0.3.0.3 916	2.16.840.1.113719.1.4.2.2.0.30 786
2.16.840.1.113719.1.4.0.3.2.14 919	2.16.840.1.113719.1.4.2.2.0.31 824
2.16.840.1.113719.1.4.0.3.2.21 914	2.16.840.1.113719.1.4.2.2.0.33 811
2.16.840.1.113719.1.4.0.3.2.24 783	2.16.840.1.113719.1.4.2.2.0.34 795
2.16.840.1.113719.1.4.0.3.2.38 911	2.16.840.1.113719.1.4.2.2.0.35 796
	2.16.840.1.113719.1.4.2.3.1 816

2.16.840.1.113719.1.4.2.3.2 817	2.16.840.1.113719.1.49.4.1.9 939
2.16.840.1.113719.1.4.2.3.3 821	2.16.840.1.113719.1.49.6.1.1 305
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