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Lightweight Directory Access Protocol (LDAP) Schema for Supporting the Extensible Messaging and Presence Protocol (XMPP) in White Pages

Abstract

The Extensible Messaging and Presence Protocol (XMPP) identifies users by use of Jabber IDs (JIDs). The Lightweight Directory Access Protocol (LDAP) enables provision of a white pages service with a schema relating to users and support for Internet protocols. This specification defines a schema to enable XMPP JIDs to be associated with objects in an LDAP directory so that this information can be used with white pages applications.

Status of This Memo

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1. Introduction

Extensible Messaging and Presence Protocol (XMPP) [RFC6120] identifies users by use of Jabber IDs (JIDs). The Lightweight Directory Access Protocol (LDAP) [RFC4510] enables provision of a white pages service with a schema relating to users and support for Internet protocols defined in [RFC4519]. This specification defines a schema to enable XMPP JIDs to be associated with LDAP directory objects so that this information can be used with white pages applications.

The LDAP schema for storing JIDs is defined to enable JIDs to be associated with any object stored in the directory. This is done by associating the new JID Attribute with a new Auxiliary Object Class called JIDObject.

2. Conventions Used in This Document

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in BCP 14 [RFC2119] [RFC8174] when, and only when, they appear in all capitals, as shown here.

3. Schema Definition

This section defines the schema used to store JIDs in the directory.

3.1. Object Class

This section defines a new Auxiliary Object Class called JIDObject, which MAY be associated with any structural Object Class. This Object Class is used to augment entries for objects that act or may act as an XMPP client. The JID attribute is optional in order to enable configuring an object that is allowed to have an associated JID but does not currently have one.

```
( 1.3.6.1.1.23.1 NAME 'JIDObject'  
  AUXILIARY  
  MAY jid )
```

3.2. Attribute

This section defines the JID attribute referenced by the JIDObject Auxiliary Object Class. The syntax of the JID attribute MUST follow the rules of [RFC7622]. The JID stored MUST be a bare JID (e.g., a JID such as romeo@shakespeare.example.com representing a human user) and not a full JID (e.g., a JID such as romeo@shakespeare.example.com/AABBCC, which represents a specific XMPP client used by the human user and is identified by the resource AABBCC). Note that the LDAP directory server is not expected to enforce this syntax. The syntax rules are for LDAP clients setting this attribute, noting that human usage is a key target. Applications using this attribute should format that string in a manner appropriate to the application, and XMPP applications SHOULD apply [RFC7622] to the attribute. The directory service doesn't enforce the JID syntax, and values are compared according to the matching rules specified in the attribute definition.

Note that for the convenience of users and administrators as well as implementers, the Directory String syntax and the caseIgnoreMatch matching rule are chosen to allow entry and matching of values according to common rules used within the directory. As this syntax and matching rule differ from [RFC7622], false positives and false

negatives can possibly occur. This is not anticipated to cause operational issues (based on implementation experience with similar syntax/matching rule mismatches).

```
( 1.3.6.1.1.23.2 NAME 'jid'  
    EQUALITY caseIgnoreMatch  
    SUBSTR caseIgnoreSubstringsMatch  
    SYNTAX 1.3.6.1.4.1.1466.115.121.1.15 )
```

1.3.6.1.4.1.1466.115.121.1.15 refers to the Directory String syntax defined in [RFC4517].

4. IANA Considerations

The following registrations have been made in the "Lightweight Directory Access Protocol (LDAP) Parameters" registry <<https://www.iana.org/assignments/ldap-parameters>> in line with BCP 64 [RFC4520].

Object Identifier Registration

An object identifier has been assigned to support the registrations necessary for this specification by an entry in the Internet Directory Numbers (iso.org.dod.internet.directory [1.3.6.1.1.]) registry:

```
Decimal: 23  
Name: xmpp  
Description: LDAP schema for XMPP
```

Two object identifiers have been assigned:

'JIDObject' Descriptor Registration

```
Name: JIDObject  
Type: 0  
OID: 1.3.6.1.1.23.1
```

'jid' Descriptor Registration

```
Name: jid  
Type: A  
OID: 1.3.6.1.1.23.2
```

5. Security Considerations

XMPP JIDs are often personal identifiers enabling electronic communication and have similar considerations to email addresses. This schema enables publishing of this information in LDAP directories, which may be corporate or public services. Care should be taken to only publish JID information that is acceptable both to be linked to the LDAP object and to be made accessible to all LDAP users. The general LDAP security considerations specified in [RFC4510] also apply.

6. Normative References

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