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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

This document is not an Internet Standards Track specification; it is published for informational purposes.

This document is a product of the Internet Engineering Task Force (IETF). It represents the consensus of the IETF community. It has received public review and has been approved for publication by the Internet Engineering Steering Group (IESG). Not all documents approved by the IESG are a candidate for any level of Internet Standard; see Section 2 of RFC 7841.

Information about the current status of this document, any errata, and how to provide feedback on it may be obtained at https://www.rfc-editor.org/info/rfc8284.

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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@shakespare.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: O
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

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, DOI 10.17487/RFC2119, March 1997, <https://www.rfc-editor.org/info/rfc2119>.

[RFC4510] Zeilenga, K., Ed., "Lightweight Directory Access Protocol (LDAP): Technical Specification Road Map", RFC 4510, DOI 10.17487/RFC4510, June 2006, <https://www.rfc-editor.org/info/rfc4510>.

[RFC4517] Legg, S., Ed., "Lightweight Directory Access Protocol (LDAP): Syntaxes and Matching Rules", RFC 4517, DOI 10.17487/RFC4517, June 2006, <https://www.rfc-editor.org/info/rfc4517>.

[RFC4519] Sciberras, A., Ed., "Lightweight Directory Access Protocol (LDAP): Schema for User Applications", RFC 4519, DOI 10.17487/RFC4519, June 2006, <https://www.rfc-editor.org/info/rfc4519>.

[RFC4520] Zeilenga, K., "Internet Assigned Numbers Authority (IANA) Considerations for the Lightweight Directory Access Protocol (LDAP)", BCP 64, RFC 4520, DOI 10.17487/RFC4520, June 2006, <https://www.rfc-editor.org/info/rfc4520>.

[RFC6120] Saint-Andre, P., "Extensible Messaging and Presence Protocol (XMPP): Core", RFC 6120, DOI 10.17487/RFC6120, March 2011, <https://www.rfc-editor.org/info/rfc6120>.

[RFC7622] Saint-Andre, P., "Extensible Messaging and Presence Protocol (XMPP): Address Format", RFC 7622, DOI 10.17487/RFC7622, September 2015, <https://www.rfc-editor.org/info/rfc7622>.

[RFC8174] Leiba, B., "Ambiguity of Uppercase vs Lowercase in RFC 2119 Key Words", BCP 14, RFC 8174, DOI 10.17487/RFC8174, May 2017, <https://www.rfc-editor.org/info/rfc8174>.

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