

LDAP Subentry Schema

1. Status of this Memo

This document is an Internet-Draft and is in full conformance with all provisions of [Section 10 of RFC2026](#).

Internet-Drafts are working documents of the Internet Engineering Task Force (IETF), its areas, and its working groups. Note that other groups may also distribute working documents as Internet-Drafts.

Internet-Drafts are draft documents valid for a maximum of six months and may be updated, replaced, or obsoleted by other documents at any time. It is inappropriate to use Internet-Drafts as reference material or to cite them other than as "work in progress."

The list of current Internet-Drafts can be accessed at <http://www.ietf.org/ietf/1id-abstracts.txt>.

The list of Internet-Draft Shadow Directories can be accessed at <http://www.ietf.org/shadow.html>.

This Internet-Draft expires on May 5, 2001.

2. Abstract

This document describes an object class called ldapSubEntry which MAY be used to indicate operations and management related entries in the directory, called LDAP Subentries. To control the visibility of entries of type ldapSubEntry, a control, ldapSubentriesControl, is also defined.

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC 2119](#) [[RFC2119](#)]. The sections below reiterate these definitions and include some additional ones.

Expires May 5, 2001

INTERNET-DRAFT

5 November 2000

LDAP Subentry Schema

3. Definition

3.1 ldapSubEntry Class

```
( 2.16.840.1.113719.2.142.6.1.1 NAME 'ldapSubEntry'  
  DESC 'LDAP Subentry class, version 1'  
  SUP top STRUCTURAL  
  MAY ( cn ) )
```

The class ldapSubEntry is intended to be used as a super-class when defining other structural classes to be used as LDAP Subentries, and as the structural class to which Auxiliary classes may be added for application specific subentry information. Where possible, the use of Auxiliary classes to extend ldapSubEntries is strongly preferred.

The presence of ldapSubEntry in the list of super-classes of an entry in the directory makes that entry an LDAP Subentry. Object classes derived from ldapSubEntry are themselves considered ldapSubEntry classes, for the purpose of this discussion.

LDAP Subentries MAY be named by their commonName attribute [[LDAPv3](#)]. Other naming attributes are also permitted.

LDAP Subentries MAY be containers, unlike their [[X.501](#)] counterparts.

LDAP Subentries MAY be contained by, and will usually be located in the directory information tree immediately subordinate to, administrative points and/or naming contexts. Further (unlike X.500 subentries), LDAP Subentries MAY be contained by other LDAP Subentries (the way organizational units may be contained by other organizational units). Deep nestings of LDAP Subentries are discouraged, but not prohibited.

3.2 LdapSubentriesControl

This control is included in the searchRequest message as part of the controls field of the LDAPMessage, as defined in [Section 4.1.12 of \[RFC2251\]](#).

The controlType is set to "TBD". The criticality MAY be set

to either TRUE or FALSE. The controlValue is absent.

Reed

[Page 2]

Expires May 5, 2001

INTERNET-DRAFT

5 November 2000

LDAP Subentry Schema

There is no corresponding response control defined.

LDAP Subentries SHOULD be treated as "operational objects" in much the same way that "operational attributes" are not regularly provided in search results and read operations when only user attributes are requested).

In [\[X.511\]](#) a ServiceControl option is used to govern the visibility of X.500 subentries. The subentry ServiceControl option is a specific bit of a bitstring that, when set to TRUE in the common arguments of an X.500 Search or List operation, indicates that the operation is to access ONLY the subentries found in the context of the list or search. In fact, normal entries are explicitly NOT returned in the result of a list or search operation when the X.500 subentries ServiceControl is set. Entries which are not subentries may still be referenced in the base object of list and search operations where the subentries control is set. The [\[X.511\]](#) subentries ServiceControl has no meaning for operations other than Search and List (i.e., Read, Modify, Delete, etc.).

The ldapSubentriesControl is defined for LDAP to signal to LDAP Search operations that LDAP Subentries are to be included in the return set of entries for the Search (with scopes other than baseObject), provided other Search criteria (scope, filter) are satisfied.

For Search operations with a scope value of baseObject, the presence or absence of the ldapSubentriesControl MUST be ignored. Specifically, baseObject searches applied to ldapSubEntry entries MUST be evaluated as if the ldapSubentriesControl is present, even if it is not.

In addition, LDAP servers SHOULD implement the following special handling of ldapSubEntry entries: search operations which include a filter "objectclass=ldapSubEntry" MUST include entries derived from the ldapSubEntry class in the scope of their operations. This alternative method of requesting the operation to be applied to entries of ldapSubEntry class is intuitive, and is specified to maintain consistency with previous versions of this document.

Expires May 5, 2001

INTERNET-DRAFT

5 November 2000

LDAP Subentry Schema

4. Security Considerations

LDAP Subentries will frequently be used to hold data which reflects either the actual or intended behavior of the directory service. As such, permission to read such entries MAY need to be restricted to authorized users. More importantly, IF a directory service treats the information in an LDAP Subentry as the authoritative source of policy to be used to control the behavior of the directory, then permission to create, modify, or delete such entries MUST be carefully restricted to authorized administrators.

5. References

[LDAPv3] S. Kille, M. Wahl, and T. Howes, "Lightweight Directory Access Protocol (v3)", [RFC 2251](#), December 1997

[X.501] ITU-T Rec. X.501, "The Directory: Models", 1993 and subsequent versions

[X.511] ITU-T Rec. X.501, "The Directory: Abstract Service Definition", 1993 and subsequent versions.

6. Copyright Notice

Copyright (C) The Internet Society (2000). All Rights Reserved.

This document and translations of it may be copied and furnished to others, and derivative works that comment on or otherwise explain it or assist in its implementation may be prepared, copied, published and distributed, in whole or in part, without restriction of any kind, provided that the above copyright notice and this paragraph are included on all such copies and derivative works. However, this document itself may not be modified in any way, such as by removing the copyright notice or references to the Internet Society or other Internet organizations, except as needed for the purpose of developing Internet standards in which case the procedures for copyrights defined in the Internet

Standards process must be followed, or as required to
translate it into languages other than English.

Reed

[Page 4]

Expires May 5, 2001

INTERNET-DRAFT

5 November 2000

LDAP Subentry Schema

The limited permissions granted above are perpetual and will not be revoked by the Internet Society or its successors or assigns.

This document and the information contained herein is provided on an "AS IS" basis and THE INTERNET SOCIETY AND THE INTERNET ENGINEERING TASK FORCE DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION HEREIN WILL NOT INFRINGE ANY RIGHTS OR ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE."

7. Acknowledgements

The use of subEntry object class to store Replica and Replication Agreement information is due primarily to the lucid explanation by Mark Wahl, (then of Innosoft), of how they could be used and extended.

The IETF takes no position regarding the validity or scope of any intellectual property or other rights that might be claimed to pertain to the implementation or use of the technology described in this document or the extent to which any license under such rights might or might not be available; neither does it represent that it has made any effort to identify any such rights. Information on the IETF's procedures with respect to rights in standards-track and standards-related documentation can be found in [BCP-11](#). Copies of claims of rights made available for publication and any assurances of licenses to be made available, or the result of an attempt made to obtain a general license or permission for the use of such proprietary rights by implementers or users of this specification can be obtained from the IETF Secretariat.

The IETF invites any interested party to bring to its attention any copyrights, patents or patent applications, or other proprietary rights which may cover technology that may be required to practice this standard. Please address the information to the IETF Executive Director.

8. Author's Address

Edwards E. Reed
Reed-Matthews, Inc.
1064 E 140 North

Reed

[Page 5]

Expires May 5, 2001

INTERNET-DRAFT

5 November 2000

LDAP Subentry Schema

Lindon, UT 84042

USA

E-mail: eer@oncalldba.com

LDUP Mailing List: ietf-ldup@imc.org

LDAPEXT Mailing List: ietf-ldapext@netscape.com

Expires May 5, 2001