

INTERNET-DRAFT
Intended Category: Standard Track
Expires in six months

Kurt D. Zeilenga
OpenLDAP Foundation
10 February 2005

LDAP Absolute True and False Filters
<[draft-zeilenga-ldap-t-f-10.txt](#)>

Status of this Memo

This document is intended to be, after appropriate review and revision, submitted to the RFC Editor as a Standard Track document. Distribution of this memo is unlimited. Technical discussion of this document will take place on the IETF LDAP Extensions mailing list <ldapext@ietf.org>. Please send editorial comments directly to the author <Kurt@OpenLDAP.org>.

By submitting this Internet-Draft, I accept the provisions of [Section 4 of RFC 3667](#). By submitting this Internet-Draft, I certify that any applicable patent or other IPR claims of which I am aware have been disclosed, or will be disclosed, and any of which I become aware will be disclosed, in accordance with [RFC 3668](#).

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/1id-abstracts.html>

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

Copyright (C) The Internet Society (2005). All Rights Reserved.

Please see the Full Copyright section near the end of this document for more information.

Abstract

This document extends the Lightweight Directory Access Protocol (LDAP) to support absolute True and False filters based upon similar capabilities found in X.500 directory systems. The document also extends the String Representation of LDAP Search Filters to support these filters.

1. Background

The X.500 Directory Access Protocol (DAP) [[X.511](#)] supports absolute True and False assertions. An 'and' filter with zero elements always evaluates to True. An 'or' filter with zero elements always evaluates to False. These filters are commonly used when requesting DSA-specific Entries (DSEs) which do not necessarily have 'objectClass' attributes. That is, where "(objectClass=*)" may evaluate to False.

While LDAPv2 [[RFC1777](#)][RFC3494] placed no restriction on the number of elements in 'and' and 'or' filter sets, the LDAPv2 string representation [[RFC1960](#)][RFC3494] could not represent empty 'and' and 'or' filter sets. Due to this, absolute True or False filters were (unfortunately) eliminated from LDAPv3 [[Roadmap](#)].

This document extends LDAPv3 to support absolute True and False assertions by allowing empty 'and' and 'or' in Search filters [[Protocol](#)] and extends the filter string representation [[Filters](#)] to allow empty filter lists.

It is noted that certain search operations, such as those used to retrieve subschema information [[Models](#)], require use of particular filters. This document does not change these requirements.

This feature is intended to allow a more direct mapping between DAP and LDAP (as needed to implement DAP-to-LDAP gateways).

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 [BCP 14](#) [[RFC2119](#)].

2. Absolute True and False Filters

Implementations of this extension SHALL allow 'and' and 'or' choices with zero filter elements.

An 'and' filter consisting of an empty set of filters SHALL evaluate to True. This filter is represented by the string "(&)".

An 'or' filter consisting of an empty set of filters SHALL evaluate to False. This filter is represented by the string "(|)".

Servers supporting this feature SHOULD publish the Object Identifier 1.3.6.1.4.1.4203.1.5.3 as a value of the 'supportedFeatures' [[RFC3674](#)] attribute in the root DSE.

Clients supporting this feature SHOULD NOT use the feature unless they have knowledge the server supports it.

[3.](#) Security Considerations

The (re)introduction of absolute True and False filters is not believed to raise any new security considerations.

Implementors of this (or any) LDAPv3 extension should be familiar with general LDAPv3 security considerations [[Roadmap](#)].

[4.](#) IANA Considerations

Registration of this feature is requested [[BCP64bis](#)].

Subject: Request for LDAP Protocol Mechanism Registration
Object Identifier: 1.3.6.1.4.1.4203.1.5.3
Description: True/False filters
Person & email address to contact for further information:
 Kurt Zeilenga <kurt@openldap.org>
Usage: Feature
Specification: RFC XXXX
Author/Change Controller: IESG
Comments: none

This OID was assigned [[ASSIGN](#)] by OpenLDAP Foundation, under its IANA-assigned private enterprise allocation [[PRIVATE](#)], for use in this specification.

[5.](#) Author's Address

Kurt D. Zeilenga
OpenLDAP Foundation
<Kurt@OpenLDAP.org>

[6.](#) References

[[Note to the RFC Editor: please replace the citation tags used in referencing Internet-Drafts with tags of the form RFCnnnn where possible.]]

6.1. Normative References

- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#) (also [RFC 2119](#)), March 1997.
- [Roadmap] Zeilenga, K. (editor), "LDAP: Technical Specification Road Map", [draft-ietf-ldapbis-roadmap-xx.txt](#), a work in progress.
- [Protocol] Sermersheim, J. (editor), "LDAP: The Protocol", [draft-ietf-ldapbis-protocol-xx.txt](#), a work in progress.
- [Models] Zeilenga, K. (editor), "LDAP: Directory Information Models", [draft-ietf-ldapbis-models-xx.txt](#), a work in progress.
- [Filters] Smith, M. (editor), LDAPbis WG, "LDAP: String Representation of Search Filters", [draft-ietf-ldapbis-filter-xx.txt](#), a work in progress.
- [Features] Zeilenga, K., "Feature Discovery in LDAP", [RFC 3674](#), December 2003.

6.2. Informative References

- [RFC1777] Yeong, W., Howes, T., and S. Kille, "Lightweight Directory Access Protocol", [RFC 1777](#), March 1995.
- [RFC1960] Howes, T., "A String Representation of LDAP Search Filters", [RFC 1960](#), June 1996.
- [BCP64bis] Zeilenga, K., "IANA Considerations for LDAP", [draft-ietf-ldapbis-bcp64-xx.txt](#), a work in progress.
- [RFC3494] Zeilenga, K., "Lightweight Directory Access Protocol version 2 (LDAPv2) to Historic Status", [RFC 3494](#), March 2003.
- [X.500] International Telecommunication Union - Telecommunication Standardization Sector, "The Directory -- Overview of concepts, models and services," X.500(1993) (also ISO/IEC 9594-1:1994).

- [X.501] International Telecommunication Union -
Telecommunication Standardization Sector, "The Directory
-- Models," X.501(1993) (also ISO/IEC 9594-2:1994).
- [X.511] International Telecommunication Union -
Telecommunication Standardization Sector, "The
Directory: Abstract Service Definition", X.511(1993)
(also ISO/IEC 9594-3:1993).
- [ASSIGN] OpenLDAP Foundation, "OpenLDAP OID Delegations",
<http://www.openldap.org/foundation/oid-delegate.txt>.
- [PRIVATE] IANA, "Private Enterprise Numbers",
<http://www.iana.org/assignments/enterprise-numbers>.

Intellectual Property Rights

The IETF takes no position regarding the validity or scope of any Intellectual Property Rights 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; nor does it represent that it has made any independent effort to identify any such rights. Information on the procedures with respect to rights in RFC documents can be found in [BCP 78](#) and [BCP 79](#).

Copies of IPR disclosures made to the IETF Secretariat 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 on-line IPR repository at <http://www.ietf.org/ipr>.

The IETF invites any interested party to bring to its attention any copyrights, patents or patent applications, or other proprietary rights that may cover technology that may be required to implement this standard. Please address the information to the IETF at ietf-ipr@ietf.org.

Full Copyright

Copyright (C) The Internet Society (2005). This document is subject to the rights, licenses and restrictions contained in [BCP 78](#), and except as set forth therein, the authors retain all their rights.

This document and the information contained herein are provided on an "AS IS" basis and THE CONTRIBUTOR, THE ORGANIZATION HE/SHE REPRESENTS OR IS SPONSORED BY (IF ANY), THE INTERNET SOCIETY AND THE INTERNET ENGINEERING TASK FORCE DISCLAIM 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.