

**GSS-API Domain-Based Service Names and Name Type**  
**draft-ietf-kitten-gssapi-domain-based-names-02.txt**

Status of this Memo

By submitting this Internet-Draft, each author represents that any applicable patent or other IPR claims of which he or she is aware have been or will be disclosed, and any of which he or she becomes aware will be disclosed, in accordance with [Section 6 of BCP 79](#).

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 will expire on December 28, 2006.

Copyright Notice

Copyright (C) The Internet Society (2006).

Abstract

This document describes domainname-based service principal names and the corresponding name type for the Generic Security Service Application Programming Interface (GSS-API).

Domain-based service names are similar to host-based service names, but using a domain name (not necessarily an Internet domain name) instead of or in addition to a hostname. The primary purpose of domain-based service names is to provide a way to name clustered services after the domain which they service, thereby allowing their

clients to authorize the service's servers based on authentication of their names.

## Table of Contents

<a href="#">1.</a>	Conventions used in this document . . . . .	<a href="#">3</a>
<a href="#">2.</a>	Introduction . . . . .	<a href="#">4</a>
<a href="#">3.</a>	Name Type OID and Symbolic Name . . . . .	<a href="#">5</a>
<a href="#">4.</a>	Query and Display Syntaxes . . . . .	<a href="#">6</a>
<a href="#">5.</a>	Examples . . . . .	<a href="#">7</a>
<a href="#">6.</a>	Security Considerations . . . . .	<a href="#">8</a>
<a href="#">7.</a>	References . . . . .	<a href="#">9</a>
<a href="#">7.1.</a>	Normative . . . . .	<a href="#">9</a>
<a href="#">7.2.</a>	Informative . . . . .	<a href="#">9</a>
	Author's Address . . . . .	<a href="#">10</a>
	Intellectual Property and Copyright Statements . . . . .	<a href="#">11</a>

Williams

Expires December 28, 2006

[Page 2]

## **1. Conventions used in this document**

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 [[RFC2119](#)].

## **2. Introduction**

The use of hostbased principal names for domain-wide services presents the problem of how to distinguish between an instance of a hostbased service that is authorized to respond for a domain and one that isn't.

Consider LDAP. LDAP [[RFC3377](#)] with SASL [[RFC2222](#)] and the Kerberos V mechanism [[RFC1964](#)] for the GSS-API [[RFC2743](#)] uses a hostbased principal with a service name of "ldap", a reasonable approach, provided there is only one logical LDAP directory in a Kerberos realm's domain, and that all ldap servers in that realm serve that one LDAP directory. An network might have multiple, distinct LDAP services, but only one LDAP "name service"; if so then clients could not tell which LDAP service principals are authorized to serve which directory, not without assuming a secure method for finding LDAP servers (e.g., DNSSEC). This is a significant, and oft-unstated restriction on users of LDAP.

Domain based names can eliminate this problem: the use of domain-based names should imply that the given host is a server for the official LDAP name service of the given domain.

Notwithstanding the LDAP example the use of domain-based principal names for LDAP is not actually specified here and will be specified in a separate document.

A domain-based name consists of three required elements:

- o a service name
- o a domain name
- o a hostname



### **3. Name Type OID and Symbolic Name**

The new name type has an OID of

[NOTE: OID assignment to be made with IANA.]

```
{iso(1) org(3) dod(6) internet(1) security(5) nametypes(6) gss-  
domain-based(5)}
```

The recommended symbolic name for this GSS-API name type is  
"GSS\_C\_NT\_DOMAINBASED\_SERVICE".

#### **4. Query and Display Syntaxes**

There is a single name syntax for domain-based names.

The syntax is:

```
domain-based-name :=  
    | <service> '@' <domain> '@' <hostname>
```

Note that for Internet domain names the trailing '.' is not and MUST NOT be included in the domain name (or hostname) parts of the display form GSS-API domain-based MNs.



## **5. Examples**

- o ldap@example.tld@ds1.example.tld
- o kadmin@example.tld@kdc1.example.tld

## **6. Security Considerations**

Use of GSS-API domain-based names may not be negotiable by some GSS-API mechanisms, and some acceptors may not support GSS-API domain-based names. In such cases initiators are left to fallback on the use of hostbased names, in which case the initiators **MUST** also verify that the acceptor's hostbased name is authorized to provide the given service for the domain that the initiator had wanted.

The above security consideration also applies to all GSS-API initiators who lack support for domain-based service names.

## **7. References**

### **7.1. Normative**

- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), March 1997.
- [RFC2743] Linn, J., "Generic Security Service Application Program Interface Version 2, Update 1", [RFC 2743](#), January 2000.

### **7.2. Informative**

- [RFC1964] Linn, J., "The Kerberos Version 5 GSS-API Mechanism", [RFC 1964](#), June 1996.
- [RFC2222] Myers, J., "Simple Authentication and Security Layer (SASL)", [RFC 2222](#), October 1997.
- [RFC3377] Hodges, J. and R. Morgan, "Lightweight Directory Access Protocol (v3): Technical Specification", [RFC 3377](#), September 2002.



Author's Address

Nicolas Williams  
Sun Microsystems  
5300 Riata Trace Ct  
Austin, TX 78727  
US

Email: [Nicolas.Williams@sun.com](mailto:Nicolas.Williams@sun.com)

## Intellectual Property Statement

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](mailto:ietf-ipr@ietf.org).

## Disclaimer of Validity

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.

## Copyright Statement

Copyright (C) The Internet Society (2006). 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.

## Acknowledgment

Funding for the RFC Editor function is currently provided by the Internet Society.

