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Donald E. Eastlake 3rd
Motorola Laboratories
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DNS SRV Location of Higher Level Services
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Abstract

The DNS naming conventions specified in [RFC 2782](#) are extended to higher level services and a registry created for the tokens used.

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SRV Location of Higher Level Services

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1. Introduction

[RFC 2782](#) specifies a DNS SRV Resource Record for the location of services. In addition, it provides a DNS naming convention for the DNS nodes at which such SRV RRs are stored. That is the form

 _Service._Proto.name.example
as the name of the DNS node at which SRV RRs would be stored for obtaining the "Service" from "name.example".

While there are a variety of means for locating higher level application services, some such services may wish to use the SRV RR. Such higher level services would, typically, be provided over the sorts of services that the [RFC 2782](#) syntax is designed to specify. This document extends that syntax so that higher level protocols can be specified.

2. Specification

SRV RRs can be stored at nodes with names of the following form

 _Higher._Service._Proto.name.example
For example
 _iotp._http._tcp.example.net.

The definition of the "_Proto" DNS label is the same as in [RFC 2782](#).

For the use described in this document, the "_Service" DNS label is a port specifying token registered with IANA in Assigned Numbers (such as http or ldap), prefixed with an underscore character.

The DNS label "_Higher" is a token consisting from 1 to 12 ASCII letters and digits, registered as provided in [Section 4](#) below, and prefixed with an underscore character.

Higher level protocols sometimes have a number of services. To minimize the burden on the registration authority and maximize convenience to the protocol specifier, "Higher" MAY also consist of a token (as registered hereunder) followed by a hyphen character, followed by any characters allowed in connection with location of the higher level service. For example

_xkms-xkiss-soap._http._tcp.example.org.

Neither this specification nor registration hereunder implies over what services or protocols a higher level service can be used. Such limitations are specified in connection with that higher level service. For example, you need to look at the IOTP related specification for any information as to whether

_iotp._smtp._sctp.foo.example
could be useful.

Due to the case insensitive nature of DNS labels [RFC 1035, case], all of "_Higher", "_Service", and "_Proto" are case insensitive.

[3.](#) International Considerations

The fully qualified DNS names discussed in this document and the Higher, Service, and Proto tokens appearing therein will normally be program generated and not seen by users. Thus no internationalization provisions are made.

[4.](#) IANA Considerations

IANA will maintain a registry of higher level application designating tokens for use as specified in [Section 2](#) above. The initial contents of the registry will be the two tokens

IOTP - [RFC 2801, 2935bis]

XKMS - [XML XKMS]

Registration of additional tokens is based on the documentation of each token in an RFC or a similar free publicly accessible and reproducible document. To minimize the burden on the registry maintainer and maximize interoperability and convenience for the protocol specifier, such registration is to be taken as automatically incorporating later free publicly accessible and reproducible versions or amendments to the initial registration basis document by the entity with change control over the higher level service specification. To the extent reasonable, only a single token should be registered for a family of related higher level protocols or protocol versions that are under common control. The mechanism specified in [Section 2](#) for extending such a token should be used, where needed, to distinguish variations for location purposes.

Registration, control, and documentation of a higher level service token's extensions is not the concern of IANA unless an IESG approved RFC creates an IANA registration for that token's extensions.

[5](#). Security Considerations

The security considerations are essentially the same as in [RFC 2782](#).

D. Eastlake

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Normative References

[RFC 1035] - "Domain names - Implementation and Specification", Paul Mockapetris, November 1987.

[RFC 2782] - "A DNS RR for specifying the location of services (DNS SRV)", A. Gulbrandsen, P. Vixie, L. Esibov, February 2000.

[RFC case] - "Domain Name System (DNS) Case Insensitivity Clarification", [draft-ietf-dnsext-insensitive](#)

Informative References

[RFC 2801] - "Internet Open Trading Protocol - IOTP Version 1.0", D. Burdett, April 2000.

[RFC 2935bis] - [draft-ietf-trade-iotp-http2](#), "Internet Open Trading Protocol (IOTP) HTTP Supplement".

[XML XKMS] - "XML Key Management Specification (XKMS 2.0)", Phillip Hallam-Baker, August 2002,
<<http://www.w3.org/2001/XKMS/Drafts/XKMS/xkms-part-1.html>>

Authors Addresses

Donald E. Eastlake 3rd
Motorola Laboratories
155 Beaver Street
Milford, MA 01757 USA

Phone: +1-508-786-7554 (w)
+1-508-634-2066 (h)
Email: Donald.Eastlake@motorola.com

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