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Nameserver objects sharing the same name, support for the Registration Data Access Protocol (RDAP)
draft-lozano-rdap-nameservers-sharing-name-00

Abstract

This document describes a Registration Data Access Protocol (RDAP) extension that may be used to retrieve the registration information of a particular nameserver object sharing the name with other nameserver objects.

Status of This Memo

This Internet-Draft is submitted in full conformance with the provisions of BCP 78 and BCP 79.

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This Internet-Draft will expire on July 7, 2016.

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1. Introduction

The RDAP protocol described in RFCs 7480-7484 supports nameserver object lookup based on the name of the nameserver (see section 3.1.4 of [RFC7482]), therefore it may not be possible to retrieve the registration information of a particular nameserver object sharing the name with other nameserver objects.

This document describes a Registration Data Access Protocol (RDAP) extension that may be used to retrieve the registration information of a particular nameserver object sharing the name with other nameserver objects.

2. Terminology

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].

3. RDAP Conformance object

A server that conforms to this specification MUST include the string literal "rdap_nameservers_sharing_name" in the "rdapConformance" member of the topmost JSON object of all responses provided by the server.

An example of a rdapConformance data structure including this extension:

```
"rdapConformance" :
[
 "rdap_level_0",
 "rdap_nameservers_sharing_name"
]
```

4. Signaling the existence of nameservers sharing the same name

A server that conforms to this specification MUST include a "links" member in a nameserver object, if a different nameserver object in the central repository shares the same name.

The "links" array MUST include a "rel" of "collection", "type" of "application/rdap+json", and a "href" pointing to a nameserver search method by nameserver name.

The following is an example of a nameserver object that includes a links member in order to signal the existence of other nameserver objects sharing the same name.

```
{
 "objectClassName" : "nameserver",
 "handle" : "ROID123",
 "ldhName" : "ns1.foo.example",
 "status" : [ "active" ],
 "ipAddresses" :
 {
  "v4": [ "192.0.2.1", "192.0.2.2" ],
  "v6": [ "2001:db8::123" ]
 },
 "links" :
 [
  {
   "value" : "https://example.net/q/nameservers?name=ns1.foo.example",
   "rel" : "collection",
   "href" : "https://example.net/q/nameservers?name=ns1.foo.example",
   "type" : "application/rdap+json"
  }
 ],
 "events" :
 [
  {
   "eventAction" : "registration",
   "eventDate" : "1990-12-31T23:59:59Z"
  },
  {
   "eventAction" : "last changed",
   "eventDate" : "1991-12-31T23:59:59Z",
   "eventActor" : "joe@example.com"
  }
 ]
}
```

5. Nameserver search by nameserver name

An RDAP service that conforms to this specification MUST support nameserver search by nameserver name as described in section 3.2.2. of [RFC7482].

The following is an elided example of a response to a /nameservers?name search for a nameserver sharing the name with another nameserver object in the central repository.

```
{
 "rdapConformance" :
 [
  "rdap_level_0",
  "rdap_nameservers_sharing_name"
 ],
 ...
 "nameserverSearchResults" :
 [
  {
   "objectClassName" : "nameserver",
   "handle" : "ROID123",
   "ldhName" : "ns1.foo.example",
   "entities" :
   [
    {
     "objectClassName" : "entity",
     "handle" : "Rr1",
     "roles" : [ "registrar" ],
     ...
    },
    ...
   ],
   ...
  },
  {
   "objectClassName" : "nameserver",
   "handle" : "ROID321",
   "ldhName" : "ns1.foo.example",
   "entities" :
   [
    {
     "objectClassName" : "entity",
     "handle" : "Rr2",
     "roles" : [ "registrar" ],
     ...
    },
    ...
   ],
   ...
  }
 ]
}
```

6. Nameserver-by-handle path segment specification

A server that conforms to this specification MUST support lookup queries of nameserver objects by the handle of the nameserver using the custom path "handle_nameserver". The custom path "handle_nameserver" adhere to the extensibility mechanism described in Section 5 of [RFC7482].

The appropriated structure for a response to a "handle_nameserver" lookup query is the same as the structure used for a response to a nameserver lookup query defined in section 3.1.4 of [RFC7482].

Syntax: handle_nameserver/<handle>

The <handle> parameter represents a nameserver identifier whose syntax is specific to the registration provider.

The following URL would be used to find information for the nameserver associated with handle ROID123:

https://example.com/rdap/handle_nameserver/ROID123

7. Acknowledgements

TBD.

8. IANA Considerations

The following values have been registered in the IANA RDAP Extensions registry:

Extension identifier: rdap_nameservers_sharing_name
Registry operator: N/A
Specification: draft-lozano-rdap-nameservers-sharing-name
Contact: See Author's Address section in the specification
Intended Usage: This document describes a Registration Data Access Protocol (RDAP) extension that may be used to retrieve the registration information of a particular nameserver object sharing the name with other nameserver objects.

9. Security Considerations

The RDAP extension described in this document do not provide any security services beyond those described by RDAP (see RFCs 7480-7484), and protocol layers used by RDAP. The security considerations described in these other specifications apply to this specification as well.

10. 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, <http://www.rfc-editor.org/info/rfc2119>.

[RFC7482] Newton, A. and S. Hollenbeck, "Registration Data Access Protocol (RDAP) Query Format", RFC 7482, DOI 10.17487/RFC7482, March 2015, <http://www.rfc-editor.org/info/rfc7482>.

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