Registration Data Access Protocol (RDAP)

Manual

Contact

T +31 (0)26 352 5500

support@sidn.nl

www.sidn.nl

Offices

Meander 501

6825 MD Arnhem

The Netherlands

Mailing address

PO Box 5022

6802 EA Arnhem

The Netherlands

Date	Classification	Page
20 August 2019	Public	1/10
	Author	Status
	SIDN	Final

Date

Fout! Verwijzingsbron niet gevonden.

Classification

Public

Page

2/10

Table of Contents

Date

Fout! Verwijzingsbron niet gevonden.

Classification

Public

Page

3/10

1 Introduction

This document describes SIDN's support for the RDAP protocol.

RDAP was designed by the weirds working group of the Internet Engineering Task Force (*IETF*), in response to ICANN's request for the IETF to develop a replacement for Whois. RDAP returns data similar to that provided by the Whois service, but in a JSON-structured format.

With RDAP, you can look up the following object classes:

1. Domains
2. Name servers
3. Entities

RDAP is intended to address deficiencies in the Whois protocol [RFC3912] that have been identified over time, including:

Lack of standardised command structures

Lack of standardised output and error structures

Lack of support for internationalisation and localisation

Lack of support for user identification, authentication and access control

RDAP builds upon HTTP and the "REST" (REpresentational State Transfer) architectural style. RDAP servers are web servers, and RDAP clients are web clients (including web browsers). RDAP responses are encoded in JSON (JavaScript Object Notation) and are machine-readable rather than human-readable.

2   How to use RDAP

If you are developing an RDAP client, configure it to send HTTP requests.

GET	Domain name	Name Server	Entity (registrar)
HTTP Method	GET HEAD	GET HEAD	GET HEAD
HTTP Response: • Responses are in JSON format	See data output	See data output	See data output
HTTP:	https://rdap.nic. amsterdam/domain/ <domain name>	https://rdap.nic. amsterdam/nameserver/ <name server name>	https://rdap.nic. amsterdam/ entity/<handle>
	https://rdap.nic. politie/domain/ <domain name>	https://rdap.nic. politie/nameserver/ <name server name>	https://rdap.nic. politie/entity/ <handle>

2.1   HTTP Error Codes

- 400: Occurs when we receive an invalid request (malformed path, unsupported object type, TLD, etc).
- 401: Occurs when we cannot authorise the interface for the TLD <TLD>
- 404: #domainname# is free
- 404: #domainname# is excluded from registration (in case of NNDN)
- 404: Name server <nameservername> does not exist
- 404: Entity <IANA id> does not exist

2.2   RDAP Clients

As RDAP is a new protocol, client support is limited. However, a number of clients exist:

- CentralNic maintains the `Net::RDAP` library for the Perl programming language. This library is a full implementation of the complete RDAP specification. It can be installed from CPAN, and more information may be found at:

  https://gitlab.centralnic.com/centralnic/perl-net-rdap

- rdapper is a command-line program which uses `Net::RDAP` to implement an interface similar to traditional Whois clients. It can also be downloaded from CPAN, but more information may be found here:

  https://github.com/gbxyz/rdapper

Date
Fout! Verwijzingsbron niet gevonden.

Classification
Public

Page
5/10

2.3   Additional Services

- **ICANN-accredited registrars** – you can obtain RDAP records for all ICANN-accredited registrars at `https://registrars.rdap.org/entity/{NNNN}-iana` where {NNNN} is the IANA ID. These records are synthesised from data published by IANA and ICANN (Git repository).
- **Top-level domains** – each TLD has its own RDAP record at `https://root.rdap.org/domain/{TLD}`. This data is generated from the IANA Whois (Git repository).

2.4   References

- RFC7480: HTTP Usage in the Registration Data Access Protocol (RDAP)
- RFC7481: Security Services for the Registration Data Access Protocol (RDAP)
- RFC7482: Registration Data Access Protocol (RDAP) Query Format
- RFC7483: JSON Responses for the Registration Data Access Protocol (RDAP)
- RFC7484: Finding the Authoritative Registration Data (RDAP) Service
- RFC8056: Extensible Provisioning Protocol (EPP) and Registration Data Access Protocol (RDAP) Status Mapping

2.5   Future of Port 43 Whois

Once RDAP has been deployed, ICANN no longer requires gTLD registries to provide a port-43 Whois service. However, in order to reduce disruption to users, SIDN will carry out a phased sunset plan to give users time to upgrade their systems to use RDAP. We will provide more information about our plans to phase out the port-43 service in due course.

2.6   Feedback and questions

If you have any feedback or questions, please e-mail support@sidn.nl.

Date
Fout! Verwijzingsbron niet gevonden.

Classification
Public

Page
6/10

3   Roles

RDAP role	Details
registrant	The entity object instance is the registrant.
technical	The entity object instance is a technical contact for the registration.
administrative	The entity object instance is an administrative contact for the registration.
abuse	The entity object instance handles network abuse issues on behalf of the registrant.
billing	The entity object instance handles payment and billing issues on behalf of the registrant.
registrar	The entity object instance represents the authority responsible for the registration.
reseller	The entity object instance represents a third party through which the registration was conducted (i.e. neither the registry nor the registrar).
sponsor	The entity object instance represents a domain policy sponsor, such as an ICANN-approved sponsor.
proxy	The entity object instance represents a proxy for another entity object, such as a registrant.
notifications	An entity object instance designated to receive notifications about associated object instances.
noc	The entity object instance handles communications related to a network operations centre (NOC).

4   Statuses

Status	Details
validated	Signifies that the data regarding the object instance has been found to be accurate. This type of status is usually assigned to entity object instances to note the validity of identifying contact information.
renew prohibited	Renewal or reregistration of the object instance is forbidden.
update prohibited	Updates to the object instance are forbidden.
transfer prohibited	Transfers of the registration from one registrar to another are forbidden. This type of status normally applies to DNR domain names.
delete prohibited	Deletion of the registration of the object instance is forbidden. This type of status normally applies to DNR domain names.
proxy	The registration of the object instance has been performed by a third party. This is most commonly applied to entities.
private	The information regarding the object instance is not designated for public consumption. This is most commonly applied to entities.
removed	Some of the information regarding the object instance has not been made available and has been removed. This is most commonly applied to entities.
obscured	Some of the information regarding the object instance has been altered to prevent immediate disclosure. This is most commonly applied to entities.

associated	The object instance is associated with other object instances in the registry. This is most commonly used to signify that a name server is associated with a domain or that an entity is associated with a network resource or domain.
active	The object instance is in use. For domain names, it signifies that the domain name is published in the DNS. For network and autnum registrations, it signifies that they are allocated or assigned for use in operational networks. This maps to the "OK" status of the Extensible Provisioning Protocol (EPP) [RFC5730].
inactive	The object instance is not in use. See "active".
locked	Changes to the object instance, including the association of other object instances, cannot be made.
pending create	A request has been received for the creation of the object instance, but this action is not yet complete.
pending renew	A request has been received for the renewal of the object instance, but this action is not yet complete.
pending transfer	A request has been received for the transfer of the object instance, but this action is not yet complete.
pending update	A request has been received for the update or modification of the object instance, but this action is not yet complete.
pending delete	A request has been received for the deletion or removal of the object instance, but this action is not yet complete. For domains, this might mean that the name is no longer published in the DNS, but has not yet been purged from the registry database.

5   Data output

The output is in three parts, which can be requested separately:
- Domain name
- Registrar
- Name server

5.1   Domain name

Fields and responses for 'domain name'.

Field	RDAP response element
Domain name	ldhName
Registry Domain ID	handle
Registrar WHOIS Server (port43)	
Updated Date	events.eventAction "last changed"
Creation Date	events.eventAction "Registration"
Registry Expiry Data	events.eventAction "expiration"
Domain status	status object
Name server	nameservers.ldhname
DNSSEC	secureDNS object

Internationalized Domain Name	unicodeName
IP Adress	nameserver.ipAddresses
Last update of RDS Database	Events.eventAction "last update of RDAP database"
(sponsoring) Registrar	Entities.roles.registrar
(sponsoring) Registrar IANA ID	publicIDs.identifier
Registrar Registration Expiration Date	events.eventAction "registrar expiration"
Reseller	Entities.roles reseller
Registrar Abuse Contact Email	Entities.role abuse email
Registrar Abuse Contact Phone	Entities.role abuse phone
Registry Registrant ID	Entity.handle
Registrant Name	jCard "fn"
Registrant Organization	Org
Registrant Street	Grouped into adr member
Registrant City	
Registrant State/Province	
Registrant Postal Code	
Registrant Country	
Registrant Phone	Tel type parameter voice
Registrant Phone Ext	Ext
Registrant Fax	Tel type parameter fax
Registrant Fax Ext	Ext
Registrant Email	Email
Registry Admin ID	Entity.handle
Admin Name	jCard "fn"
Admin Organization	Org
Admin Street	Grouped into adr member
Admin State/Province	
Admin City	
Admin Postal Code	
Admin Country	
Admin Phone	Tel type parameter voice
Admin Phone Ext	Ext
Admin Fax	Tel type parameter Fax
Admin Fax Ext	Ext
Admin Email	Email
Registry Tech ID	entity.handle
Tech Name	jCard "fn"
Tech Organization	Org
Tech City	Grouped into adr member
Tech street	
Tech State/Province	
Tech Postal Code	
Tech Country	
Tech Phone	Tel type parameter voice
Tech Phone Ext	Ext

Tech Fax	Tel type parameter Fax
Tech Fax Ext	Ext
Tech Email	Email

5.2   Registrar

Field	RDAP response element
Registrar	jCard fn
Registrar IANA ID	entities.publicIDs.identifier
Street	Grouped into the adr member
City	
State/Province	
Country	
Phone Number	Tel with a type parameter voice
Phone Number Ext	
Fax Number	Tel with a type parameter fax
Fax Number Ext	
Email	email
Registrar URL	Referral URL
Admin Contact	jCard fn
Phone Number	Tel with a type parameter voice
Phone Number Ext	
Fax Number	Tel with a type parameter fax
Fax Number Ext	
Email	email
Technical Contact	jCard fn
Phone Number	Tel with a type parameter voice
Phone Number Ext	
Fax Number	Tel with a type parameter fax
Fax Number Ext	
Email	email
Last update of RDS Database	Events.eventAction "last update of RDAP database"

5.3   Name server

Field	RDAP response element
Server name	ldhName
IP Address	ipAddresses
Registrar	jcard fn
Registrar IANA ID	entities.publicIDs.identifier
Referral URL	
Last update of RDS Database	Events.eventAction "last update of RDAP database"

5.4   DNSSEC

DelegationSigned means that at least one DNSkey is associated with the domain name.

DelegationSigned?	DNSSEC status	Example
Yes	'true'	"secureDNS": {"delegationSigned": true}
No	'false'	"secureDNS": {"delegationSigned": false}

5.5   Auteursrechtvoorbehoud/Copyright notice