

# RDAP Response Profile

~~15 February 2019~~

[12 August 2022](#)

Version: 2.~~1~~[2](#)

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## I. Introduction

In 2012, The Internet Engineering Task Force (IETF) chartered in the WEIRDS (Web-Extensible Internet Registration Data Services) working group to replace the WHOIS protocol with a RESTful data service that supports internationalization, a formal data model, and differential services. This working group concluded in early 2015 with the publication of RFC7480, RFC7481, RFC7482, RFC7483, and RFC7484 that define the Registry Data Access Protocol

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## I. Introduction

The Registration Data Access Protocol (RDAP) provides "RESTful" web services to retrieve registration data from Domain Name registrars/registries and ~~as a standardized replacement for WHOIS. RDAP supports both~~ Regional Internet Registries (RIRs) and Domain Name Registries (DNRs). ~~Since 2015 other~~. The RDAP internet drafts and RFCs have been created including RFC8056, ~~draft-ietf-regext-rdap-object-tag,~~ and

~~draft-hollenbeck-regext-rdap-openid,~~ and ~~draft-lozano-rdap-nameservers-sharing-name-base~~ protocol is defined by IETF STD 95. The global set of RDAP RFCs and Internet Drafts are referred to as the RDAP Specifications. [See Appendix A for a listing.](#)

The purpose of this document is to encapsulate the operational requirements ~~specific to Registration Data Services (RDS) in a single document~~ for RDAP which, in conjunction with the RDAP Technical Implementation Guide ~~define a domain registry,~~ defines RDAP implementation ~~in an ICANN operating environment.~~ This document neither creates nor modifies existing policy,

rather it maps current policy requirements to the RDAP implementation with flexibility to incorporate future policy changes ~~with~~ [and the goal of](#) minimal reengineering.

~~Additionally, the process of creating these two documents has been memorialized in the RDAP Pilot Working Group Report, which is available for download on the page where this document is hosted. The Report contains important information about the process by which these specifications were developed including the rationale for certain decisions (both controversial and not), the consideration of public comments, input provided by ICANN Org, items where dissent was registered by participants, and areas for future consideration.~~

## II. Policy Mapping

This document specifies the RDAP Policy requirements ~~originating~~ from the ~~ICANN Temporary Specification for gTLD-Registration Data (the “Temporary Specification”)~~ [Policy](#) effective ~~25-May-2018~~ [\(date TBD\)](#) which builds upon ~~the existing legacy WhoisRDDS policy and contractual~~ requirements. For clarity, the ~~Temporary Specification~~ [Registration Data Policy](#) has precedence in any conflict between this document and the ~~Temporary Specification~~. ~~The following~~ [Registration Data Policy](#). ~~See Appendix C for a listing of~~ source material ~~forms additional basis for the policy mapping~~ used to create ~~the~~ [this](#) RDAP Response Profile.

~~gTLD Base Registry Agreement (RA):-~~

~~<https://newgtlds.icann.org/sites/default/files/agreements/agreement-approved-31jul17-en.pdf>~~

~~2013 Registrar Accreditation Agreement-~~

~~<https://www.icann.org/resources/pages/approved-with-specs-2013-09-17-en>~~

~~Additional Whois Information Policy (AWIP),-~~

~~<https://www.icann.org/resources/pages/policy-awip-2014-07-02-en>~~

~~Registry Registration Data Directory Services Consistent Labeling and Display Policy (CL&D),-~~

~~<https://www.icann.org/resources/pages/rdds-labeling-policy-2017-02-01-en>~~

~~Temporary Specification for gTLD-Registration Data—~~

~~<https://www.icann.org/en/system/files/files/gtld-registration-data-temp-spec-17may18-en.pdf>~~

## ~~III.~~ **Access Requirements**

The RDAP implementation based on ICANN's Temporary Specification assumes multiple layers

~~of access to RDS data. Based on the policy set forth by the Temporary Specification, the current implementation provides public access to certain registration data. Access to non-public data is out of scope for the current specification.~~

~~As specified in the Temporary Specification, data from the registration data set can optionally be provided in the public layer provided that certain conditions are met (e.g., a registrant consents to full publication, or the registrant is not in the European Economic Area and the registrar optionally publishes additional data).~~

Display

## ~~IV.~~III. **Response Requirements**

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [BCP 14 \[RFC2119\] \[RFC8174\]](#) when, and only when, they appear in all capitals, as shown here.

### 1. General

1.1. These requirements represent the minimum baseline for RDAP query responses. RDAP server operators MAY output additional RDDS fields, RDAP *events* or RDAP *roles* without further approval by ICANN.

1.2. A server MUST indicate compliance with this specification by including the literal string "icann\_rdap\_response\_profile\_1" in the rdapConformance member for all responses provided by the server.

#### ~~1.2.1.3.~~ RDAP extensions

~~1.2.1.3.1.~~ RDAP extensions to responses, if used, MUST be registered in the IANA's RDAP Extensions registry (<https://www.iana.org/assignments/rdap-extensions/rdap-extensions.xhtml>), as defined in [RFC7480](#).

~~1.2.2.1.3.2.~~ RDAP extensions MUST NOT add browser executable code (e.g., Javascript) to the response.

~~1.3. An RDAP server that conforms to this specification MUST include the string literal "icann\_rdap\_response\_profile" as a prefix in the "rdapConformance" member for all responses provided by the server and the suffix of "0", concatenated according to [RFC7483] section 4.1. For clarity, conformance to~~

~~the current document MUST be noted with a value of "icann\_rdap\_response\_profile\_0". Note: at the time of publication, "icann\_rdap\_response\_profile" is pending registration in the IANA RDAP Extensions Registry.~~

~~ISO 3166-1 alpha-2~~

~~1.4.~~ In

~~1.4.1.1.4. If the ISO 3166-1 alpha-2 parameter has been published in the vCard Properties registry defined in Section 10.3.1 of RFC 6350 [RFC6350], then the country name parameter of the adr structure in an entity object with an adr structure, the country name property MUST be empty and the ISO 3166-1 alpha-2 cc property MUST be populated according to the specification by a value from ISO 3166-1 alpha-2.~~

1.5. The topmost object in the RDAP response MUST contain an event of eventAction type last update of RDAP database with a value equal to the timestamp when the RDAP database was last updated.

1.6. Contact representation

1.6.1. An RDAP server MUST support the use of jCard [RFC7095] to represent contact information.

1.6.2. An RDAP server MAY use alternate formats to represent contact information if a mechanism that allows the RDAP client to request the alternate format is available. An RDAP server MUST only use the alternate format to represent contact information if the RDAP client requests the alternate format.

~~1.4.2. If the If the ISO 3166-1 alpha-2 parameter has not been published in the vCard Properties registry defined in Section 10.3.1 of RFC 6350 [RFC6350], then the country name parameter of the adr structure in an entity object MAY be populated with data if that data is an ISO 3166 country code~~

1.6.3. RDAP client does not request a supported contact representation, jCard MUST be the default representation for contact information.

## 2. Responses to Domain name RDAP queries

2.1. Domain Name - In response to a non-IDN domain query, the returned RDAP response MUST include a *domain* object and contain a *ldhName* member. In response to an IDN domain query, if the queried domain is an A-label, then the

returned RDAP response MUST include a domain object and MUST contain an *ldhName* member and MAY contain a *unicodeName* member. In response to an IDN domain query, if the queried domain is an U-label, then the returned RDAP response MUST include a domain object and MUST contain an *unicodeName* member and MAY contain a *ldhName* member.

- 2.2. Registry Domain ID - The *domain* object *handle* in the RDAP response MUST contain the Repository Object Identifier (ROID of the domain object, <*domain:roid*> as defined in [RFC5731](#))[RFC5731](#)) for the domain name object.

~~2.3. Event Actions (Updated, Creation, Registry Expiry, Registrar Registration-Expiry, Transfer dates)~~

2.3. Event and Event Actions - This section describes Events and Event Actions related to Domain name responses

- 2.3.1. The domain object in the RDAP response MUST contain the following events:

- 2.3.1.1. Event of *eventAction* type *registration*

- 2.3.1.2. Event of *eventAction* type *expiration*

~~2.3.1.3. Event of *eventAction* type *last update of RDAP database with a value equal to the timestamp when the RDAP database was last updated*~~

- 2.3.2. The domain object in the RDAP response MAY contain the following events:

- 2.3.2.1. An event of *eventAction* type *registrar expiration*.

- 2.3.2.2. Event of *eventAction* type *last changed* - The event of *eventAction* type *last changed* MUST be omitted [from the response](#) if the domain [nameobject](#) has not been updated since it was created.

- 2.3.2.3. An event of *eventAction* type *transfer*, with the last date and time that the domain was transferred; [\(for clarity: change of sponsoring registrar\)](#). The event of *eventAction* type *transfer* MUST be omitted [from the response](#) if the domain [nameobject](#) has not been transferred since it was created.

- 2.4. Registrar (Registrar Entity)

- 2.4.1. Registrar - The *domain* object in the RDAP response MUST contain an *entity* with the *registrar* role (called registrar entity in this section) and a valid *fn* member MUST be present.

- 2.4.2. Registrar IANA ID - The *handle* of the *entity* MUST be equal to the IANA Registrar ID.
  - 2.4.3. Registrar IANA ID - The *entity* with the *registrar* role in the RDAP response MUST contain a *publicIDs* member ~~[RFC7483]~~[RFC9083] to identify the IANA Registrar ID from the IANA's Registrar ID registry (<https://www.iana.org/assignments/registrar-ids/registrar-ids.xhtml>). The type value of the *publicID* object MUST be equal to IANA Registrar ID.
  - 2.4.4. Other members MAY be present in the *entity* (as specified in ~~RFC6350~~, RFC6350, the vCard Format Specification and its corresponding JSON mapping ~~RFC7095~~, RFC7095).
  - 2.4.5. Abuse Contact (email, phone) - An RDAP server MUST include an *entity* with the *abuse* role within the registrar *entity* which MUST include *tel* and *email* members, and MAY include other members.
- 2.5. Reseller - The returned *domain* object in the RDAP response MAY contain an *entity* with the *reseller* role, if the domain name was registered through a reseller.
- 2.6. Domain Status
- 2.6.1. The top-level domain object in the RDAP response MUST contain at least one *status* member ~~[RFC7483]~~[RFC9083] contained in the IANA RDAP JSON Values registry (<https://www.iana.org/assignments/rdap-json-values/rdap-json-values.xhtml>) of *status* type.
  - 2.6.2. The *status* member value MUST conform to the Extensible Provisioning Protocol (EPP) and Registration Data Access Protocol (RDAP) Status Mapping ~~[RFC8056]~~[RFC8056].
  - 2.6.3. A domain name RDAP response MUST contain a *notices* member with a *title* "Status Codes", a *description* containing the string "For more information on domain status codes, please visit <https://icann.org/epp>" and a *links* member with the <https://icann.org/epp> URL. ~~Note: at the time of publication, the aforementioned URL is expected to be updated by ICANN to include information on RDAP status codes.~~
- 2.7. Contacts

~~2.7.1. If the RDAP service is provided by a registry that does not support contacts (for example thin registries), then the contact entities described in this section are not REQUIRED.~~

~~2.7.2. Processing where subject to the GDPR is defined in the [Temporary Specification – Appendix A – Section 2](#) and processing where not subject to the GDPR is defined in the [Temporary Specification – Appendix B – Section 3](#).~~

~~2.7.1. Registrant, Administrative, Technical, Other – Subject to the Temporary Specification, the [The domain](#) object in the RDAP response **MUST** contain entities with the registrant, administrative and technical roles and **MAY** contain other entities with corresponding roles (such as billing) with a handle ([entity instances, each of which includes a role signifying the relationship to the domain object.](#))~~

~~2.7.2. The RDAP response by a registrar server to a domain query **MUST** contain an [entity with the registrar role.](#)~~

~~2.7.3. Except for the [entity](#) that includes the [registrar](#) role, the handle of an [entity](#) **MUST** be the ROID of the contact object, <contact:roid>, as ~~defined in RFC5733~~ and [defined in RFC5733.](#)~~

~~2.7.3.2.7.4. The entity that includes the registrant role **MAY** include valid members *fn*, *org*, *adr*, *tel*, and *email* (as specified in [RFC6350, the vCard Format Specification and its corresponding JSON mapping RFC7095](#)). Subject to the redaction requirements below, the following RDDS elements **MUST** be included in the *fn*, *org*, *adr*, *tel*, and *email* members based on the mappings defined in Appendix D when section 9.1 of the Registration Data Policy calls for the Publication of the RDDS element:~~

~~2.7.4.1. [The Registrant Name](#)~~

~~2.7.4.2. [Registrant Organization](#)~~

~~2.7.4.3. [Registrant Street](#)~~

~~2.7.4.4. [Registrant City](#)~~

~~2.7.4.5. [Registrant State/Province](#)~~

~~2.7.4.6. [Registrant Postal Code](#)~~

~~2.7.4.7. [Registrant Country](#)~~

~~2.7.4.8. [Registrant Phone](#)~~

~~2.7.4.9. [Registrant Email](#)~~

~~2.7.5. Subject to the redaction requirements below, the [entity](#) that includes the [registrar](#) role **MAY** include the following RDDS ~~fields~~[data](#)~~

elements:

2.7.5.1. Registrant Phone Ext

2.7.5.2. Registrant Fax

2.7.5.3. Registrant Fax Ext

~~2.7.3.1.~~ 2.7.6. The entity that includes the *technical* role MAY include valid members *fn*, *tel*, and *email*. Subject to the redaction requirements below, the following RDDS elements MUST be included in the RDAP response: Street, City, Country (complying with *fn*, *tel*, and *email* members based on the mappings defined in Appendix D when section 9.1.4 above). of the Registration Data Policy calls for the Publication of the RDDS element:

~~2.7.3.2. The following RDDS fields MUST be included in the RDAP response if the data exists: Organization, State/Province, Postal Code, Phone Ext, Fax, Fax Ext. If no data exists, the fields SHOULD NOT be included in the RDAP response.~~

~~2.7.4. Redaction~~

~~2.7.4.1. Registrant—Where processing is subject to the GDPR, the following MUST be omitted unless consent to publish has been provided and where processing is not subject to the GDPR MAY be omitted—the *handle*, *fn* and *tel* members of the (registrant) contact entity and the Street, City, Postal Code, Phone Ext, Fax and Fax Ext fields of the *adr* member in the RDAP response.~~

~~2.7.4.2. Administrative, Technical, Other—Where processing is subject to the GDPR, the following MUST be omitted unless consent to publish has been provided and where processing is not subject to the GDPR MAY be omitted—the *handle*, *fn* and *tel* members of the (administrative, technical, other) contact entity and the Organization, Street, City, State/Province, Postal Code, Country, Phone Ext, Fax and Fax Ext fields of the *adr* member in the RDAP response (complying with section 1.4 above).~~

~~2.7.4.3. In an RDAP response where elements of the contact entity have been omitted for privacy considerations, the contact entity MUST include a remarks element containing a *title* member with a value substantially similar to “REDACTED FOR PRIVACY” and a description member with a value “Some of the data in this object has been removed” and a *type* member with a value “object redacted due to authorization”.~~

2.7.6.1. Tech Name

2.7.6.2. Tech Phone

~~2.7.5.~~ 2.7.6.3. Tech Email—

~~2.7.5.1. The *email* property MUST be omitted~~

~~2.7.5.2. Email (Registrar Only)—the value of the CONTACT-URI member~~

in the entity object of the RDAP response MUST be an email address or link to a web form to facilitate email communication with the Registrant but MUST NOT identify the contact email address or the contact itself. Note: at the time of publication, the CONTACT-URI property is pending registration in the IANA vCard Elements Registry

- ~~2.7.5.3. Email (Registry Only) — The registry MUST include a *remarks* element containing a *title* member with a value “EMAIL-REDACTED FOR PRIVACY”, a *description* member with a value substantially similar to the following “Please query the RDDS service of the Registrar of Record identified in this output for information on how to contact the Registrant of the queried domain name” and a *type* member with a value “object redacted due to authorization”.~~

The RDAP server response to a Contact query MUST include an eventAction type “*last update of RDAP database*” with a value equal to the timestamp when the RDAP data source was last updated

~~2.7.6. —~~ When applying the

- ~~2.7.7. Notwithstanding~~ redaction requirements ~~stated in Section 2.7, registries and registrars MAY provide unredacted registration data as described in Temporary Specification for gTLD in the~~ Registration Data Policy, the redacted RDDS elements MUST be indicated using the Redacted Fields in the Registration Data Access Protocol (RDAP) Response (draft-ietf-regext-rdap-redacted, as defined by the Technical Implementation Guide 1.1.3) and using the redacted “name” member values included in Appendix E.

- 2.7.8. When applying the redaction requirements for an email address in the Registration Data Policy, the Registrar (1) MUST use the Redaction by Replacement Value Method in the Registration Data Access Protocol (RDAP) Response (draft-ietf-regext-rdap-redacted, as defined by the Technical Implementation Guide 1.1.3) for the email property, and (2) MUST comply with one of the following:

- 2.7.8.1. The email property MUST contain a syntactically valid email address as defined in RFC5322, and) the entity object MUST NOT contain a *contact-uri* member.

- 2.7.8.2. The value of the contact-uri member in the entity object MUST be a syntactically valid HTTP URL as defined in RFC9110, and) the entity object MUST NOT contain an *email* member.

- ~~2.8.2.7.9. Notwithstanding A, section 4 via RDAP~~ the redaction requirements in section 2.7.7 and 2.7.8 where the Registered Name Holder provides its consent to publish data that would otherwise be redacted, Registrar

MUST NOT redact such RDDS data elements.

2.9.2.8. Name Server(s) - The domain object in the RDAP response MUST contain the name servers of the domain in the *nameservers* member.

2.9.1.2.8.1. Each nameserver object MUST contain the following member:  
*ldhName*.

2.9.2.2.8.2. The following members are Optional: *ipAddresses* [~~RFC7483~~RFC9083], *unicodeName*, *handle* [~~RFC7483~~RFC9083] (ROID of the host object, <host:roid> as defined in ~~\_~~RFC5732), and *status*.

2.9.3.2.8.3. ~~In the case of a TLD~~This section 2.8.3 only applies to Registries in which name servers are ~~specified~~specified as domain attributes, ~~the.~~The nameserver object MUST NOT contain the following members: *handle* and *status*, but the nameserver object MUST contain an *ipAddresses* member listing all IPv4 and IPv6 glue records for the ~~nameserver.in-domain name server (see RFC 8499).~~

2.10.2.9. DNSSEC - The domain object in the RDAP response MUST contain a *secureDNS* member [~~RFC7483~~RFC9083] including at least a *delegationSigned* element. Other elements (e.g. *dsData*) of the *secureDNS* member MUST be included, if the domain name is signed and the elements are stored in the Registry or Registrar database, as the case may be.

2.11.2.10. RDDS Inaccuracy - A domain name RDAP response MUST contain a *notices* member with a title "RDDS Inaccuracy Complaint Form", a description containing the string "URL of the ICANN RDDS Inaccuracy Complaint Form:- ~~https://icann.org/wicf~~" and a ~~links~~ member with the ~~https://icann.org/wicf~~URL. https://icann.org/wicf and a *links* member with the https://icann.org/wicf URL.

2.12.2.11. Registrar-only requirements - the following requirements apply to registrars only.

2.12.1.2.11.1. A Registrar RDAP service MUST return an HTTP 404 response to a domain name request when the Registrar is not the Sponsoring Registrar for the domain name.

2.11.2. The domain object *handle* member in the RDAP response MUST contain the Repository Object Identifier (ROID of the domain object,- ~~2.12.2.~~ <domain:roid> as defined in RFC5731) for the Domain Name object. For example, a Registrar could obtain the ROID from the Registry via EPP and cache the information locally after creating or

gaining a domain name via a transfer.

~~2.12.3.~~2.11.3. The entity *handle member* in the RDAP response MUST contain the Repository Object Identifier (ROID of the contact object, <contact:roid>, as defined in RFC5733) for the Contact object. For example, a Registrar could obtain the ROID from the Registry via EPP and cache the information locally. The RAA 2013 defines that this information MUST be shown if available from the Registry. If this information is not available from the Registry (e.g., a "thin" Registry), the handle MUST contain the contact object's unique identifier within the Registrar.

~~2.12.4.~~2.11.4. The *eventAction* type *last changed* MUST reflect the date and time of the latest successful update known to the Registrar. Registrars are not required to constantly refresh this date from the Registry.

~~2.12.5.~~2.11.5. The *status* element MUST reflect the latest known set of statuses in the Registry. Registrars are not required to constantly refresh the statuses from the Registry.

### 3. Responses to Registrar Entity RDAP queries

This section only applies to Registries

- 3.1. Registrar (name, address, phone number, email) - In response to a query for a registrar queries entity, the returned RDAP response MUST be an *entity* with *registrar* role, with a *handle* and valid elements *fn*, *adr*, *tel*, *email*.
  - 3.1.1. Registrar (Street, City, Country) - The *adr* member in the RDAP response for a Registrar query MUST at least contain the following RDDS fields: Street, City, Country.
  - 3.1.2. Registrar (State/Province, Postal Code, Fax Number) - the following fields are optional in the *adr* member of the RDAP response: State/Province, Postal Code, Fax Number.
- 3.2. Contacts (Admin, Technical) - The RDAP response SHOULD contain at least two ~~entities~~entity objects, with the *administrative* and *technical* roles respectively within the *entity* with the *registrar* role. The *entities* with the *administrative* and *technical* roles MUST contain valid *fn*, *tel*, *email* members, and MAY contain a *handle* and a valid *adr* element.

~~3.3. The RDAP response to a [Appendix F](#) contains non-normative information to assist in the implementation of this section.~~

~~3.3. Registrar query MUST include an *eventAction* type *last update of RDAP database* with a value equal to the timestamp when the RDAP database was last updated.~~

## 4. Responses to Nameserver RDAP queries

This section only applies to Registries that support the host object model as described in RFC 5731.

4.1. Name Server (Name) - In response to a non-IDN Nameserver query the returned RDAP response MUST include a *nameserver* object and contain a *ldhName* member. In response to an IDN Nameserver query, if the queried Nameserver is an A-label, then the returned RDAP response MUST include a *nameserver* object and MUST contain an *ldhName* member and MAY contain a *unicodeName* member. In response to an IDN Nameserver query, if the queried Nameserver is an U-label, then the returned RDAP response MUST include a *nameserver* object and MUST contain an *unicodeName* member and MAY contain a *ldhName* member.

4.2. IP Address(es) - If the name server record includes IP addresses then the *nameserver* object MUST contain ~~a~~[an](#) *ipAddresses* member listing all IPv4 and IPv6 glue records for the [in-domain](#) Nameserver.

~~4.1.4.3.~~ Registrar (Name, IANA ID) - The Registrar RDDS field is Optional; if present in the response, it MUST be represented as an entity with the registrar role. The *handle* of the entity with the registrar role MUST be equal to the IANA Registrar ID. If the Registrar does not have an IANA ID then the *handle* of the entity with the registrar role MUST equal "not applicable". If the Registrar has an IANA ID, then the entity with the registrar role in the RDAP response MUST contain a *publicIDs* member with a *type* value equal to the IANA Registrar ID. ~~If the Registrar does not have an IANA ID then the RDAP response MUST NOT contain a *publicIDs* member.~~

~~Registrar does not have an IANA ID then the RDAP response MUST NOT contain a *publicIDs* member.~~

~~4.3. The RDAP response to a Name Server query MUST include an *eventAction* type~~

~~last update of RDAP database with a value equal to the timestamp when the RDAP database was last updated.~~

## Appendix A: RDAP IETF Standards

~~RDAP standards are a set of specifications, which together provide a complete RDAP service. Each specification is briefly described below.~~

~~RFC7480— HTTP Usage in the Registration Data Access Protocol (RDAP)~~

~~<https://www.rfc-editor.org/rfc/rfc7480.txt>~~

~~Describes usage of HTTP transport for RDAP, error messages, RDAP extensions, rate limiting and internationalization with URIs.~~

~~RFC7481— Security Services for the Registration Data Access Protocol (RDAP)~~

~~<https://www.rfc-editor.org/rfc/rfc7481.txt>~~

~~Covers access control, authentication, authorization, privacy, data confidentiality and RDAP services availability considerations.~~

~~RFC7482— Registration Data Access Protocol (RDAP) Query Format~~

~~<https://www.rfc-editor.org/rfc/rfc7482.txt>~~

~~Defines the URL patterns for networks, autonomous systems, reverse DNS, name servers, registrars and entities queries. Also covers help requests, search (wildcards) and internationalization in requests.~~

~~RFC7483— JSON Responses for the Registration Data Access Protocol (RDAP)~~

~~<https://www.rfc-editor.org/rfc/rfc7483.txt>~~

~~Defines JSON object classes for domains, name servers, entities, IP networks and autonomous system numbers. Describe answers to help queries, searches, JSON embedded error codes and truncated answers.~~

~~RFC7484— Finding the Authoritative Registration Data (RDAP) Service~~

~~<https://www.rfc-editor.org/rfc/rfc7484.txt>~~

~~Describes a method to find the authoritative server for RDAP data.~~

[STD 95 - RDAP](#)

<https://www.rfc-editor.org/refs/ref-std95.txt>

<https://www.rfc-editor.org/info/std95>

## ~~Appendix B: Other Technical References~~

~~RFC7485—Inventory and Analysis of WHOIS Registration Objects~~  
~~<https://www.rfc-editor.org/rfc/rfc7485.txt>~~

RFC8056 – Extensible Provisioning Protocol (EPP) and Registration Data Access Protocol (RDAP) Status Mapping

<https://tools.ietf.org/html/rfc8056>

<https://www.ietf.org/info/rfc8056>

Describes the mapping of the Extensible Provisioning Protocol (EPP) statuses with the statuses registered for us in the Registration Data Access Protocol (RDAP).

[jCard: The JSON Format for vCard](#)

<https://tools.ietf.org/html/rfc7095>

<https://www.rfc-editor.org/info/rfc7095>

[vCard Format Specification](#)

<https://tools.ietf.org/html/rfc6350>

<https://www.rfc-editor.org/info/rfc6350>

[EPP Status Code \(ICANN\)](#)

<https://www.icann.org/epp>

## Appendix B: Other Technical References

IANA RDAP JSON Values Registry

<https://www.iana.org/assignments/rdap-json-values/rdap-json-values.xhtml>

This registry defines valid values for RDAP JSON status, role, notices and remarks, event action, and domain variant relation, as defined in ~~RFC7483~~[RFC9083](#).

IANA Bootstrap Service Registry for Domain Name Space

<https://www.iana.org/assignments/rdap-dns/rdap-dns.xhtml>

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

~~<https://tools.ietf.org/html/draft-lozano-rdap-nameservers-sharing-name>~~

~~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.~~

~~draft-ietf-regext-rdap-object-tag—Registration Data Access Protocol (RDAP) Object Tagging  
<https://tools.ietf.org/html/draft-ietf-regext-rdap-object-tag>~~

~~Describes an update to RFC7484 by describing an operational practice that can be used to add structure to RDAP identifiers that makes it possible to identify the authoritative server for additional RDAP queries.~~

~~Federated Authentication for the Registration Data Access Protocol (RDAP) using OpenID-Connect <https://tools.ietf.org/html/draft-hollenbeck-regext-rdap-openid>~~

~~Describes a federated authentication system for RDAP based on OpenID Connect.~~

~~jCard: The JSON Format for vCard~~

~~<https://tools.ietf.org/html/rfc7095>~~

~~vCard Format Specification~~

~~<https://tools.ietf.org/html/rfc6350>~~

~~EPP Status Code (ICANN) <https://www.icann.org/epp>~~

Draft Final Report from the Expert Working Group on Internationalized Registration Data

<https://gnso.icann.org/en/issues/ird/ird-draft-final-10mar15-en.pdf>

Study to Evaluate Available Solutions for the Submission and Display of Internationalized Contact Data

<https://www.icann.org/en/system/files/files/transform-dnrd-02jun14-en.pdf>

Mozilla Included CA Certificate List

<https://wiki.mozilla.org/CA:IncludedCAs>

[Redacted Fields in the Registration Data Access Protocol \(RDAP\) Response](https://datatracker.ietf.org/doc/html/draft-ietf-regext-rdap-redacted-09)  
<https://datatracker.ietf.org/doc/html/draft-ietf-regext-rdap-redacted-09>  
Describes an RDAP extension for explicitly identifying redacted RDAP response fields, using JSONPath as the default expression language.

## Appendix C: Policy References

gTLD Base Registry Agreement

<https://newgtlds.icann.org/sites/default/files/agreements/agreement-approved-09jan14-en.htm>

2013 Registrar Accreditation Agreement

<https://www.icann.org/resources/pages/approved-with-specs-2013-09-17-en>

Registry Registration Data Directory Services Consistent Labeling and Display Policy (CL&D),

<https://www.icann.org/resources/pages/rdds-labeling-policy-2017-02-01-en>

Temporary Specification for gTLD Registration Data –

<https://www.icann.org/en/system/files/files/gtld-registration-data-temp-spec-17may18-en.pdf>

ICANN Advisories

<https://www.icann.org/resources/pages/advisories-2012-02-25-en>

Advisory: Clarifications to the Registry Agreement, and the 2013 Registrar Accreditation Agreement (RAA) regarding applicable Registration Data Directory Service (Whois) Specifications (RDDS clarification Advisory)

<https://www.icann.org/resources/pages/registry-agreement-raa-rdds-2015-04-27-en>

Advisory: Registrar Implementation of the 2013 RAA's Whois Requirements-

<https://www.icann.org/news/announcement-2013-07-31-en>

ICANN Consensus Policies

<https://www.icann.org/resources/pages/registrars/consensus-policies-en>

Additional Whois Information Policy

<https://www.icann.org/resources/pages/policy-awip-2014-07-02-en>

Final Report on the Thick Whois Policy Development Process

<https://gns0.icann.org/en/issues/whois/thick-final-21oct13-en.pdf>

ICANN Whois Marketing Restriction Policy

<https://www.icann.org/resources/pages/registrars/consensus-policies/wmrp-en>

[Registration Data Policy \(EPDP Phase 1\)](#)

[\[insert link once finalized\]](#)

## Appendix D: ~~RDDS Fields (data element mappings)~~ Data Element Mappings

In the The tables below, ~~all elements described as being an “RDDS Field” make reference to the output fields as defined in Specification 4 of the Base Registry Agreement, as amended from time to time. The inclusion of a field in this appendix defines show the mapping of the RDDS field to an between the data elements in the registration data policy and the RDAP response element. ~~Inclusion of Including a field data element in this appendix does not necessarily imply its inclusion in any RDAP response.~~~~

Domain Name Responses:

~~RDDS Field~~ ————— ~~RDAP Response Element~~

<u>Data Element</u>	<u>RDAP Response Element</u>
Domain Name	IdhName
<del>Domain ID</del>	
<del>Updated Date</del>	
<del>Creation Date</del>	
<del>Registry Expire Date</del>	
<del>Domain Status</del>	
<del>Name Server</del>	
DNSSEC	
Internationalized Domain Name	
<del>Last update of WHOIS Database</del>	

<b>Registrar</b>	
<del>Sponsoring Registrar</del>	
<a href="#">Registry Domain ID</a>	handle
<a href="#">Updated Date</a>	events.eventAction "last changed"
<a href="#">Creation Date</a>	events.eventAction "registration"
<a href="#">Registry Expiry Date</a>	events.eventAction "expiration"
<a href="#">Domain Status</a>	status object
<a href="#">Name Server</a>	nameservers.lhname
<a href="#">DNSSEC Elements</a>	secureDNS object
	<b>unicodeName</b>
<a href="#">Last update of RDDS</a>	Events.eventAction "last update of RDAP database"
<a href="#">Registrar</a>	<b>Entities.role registrar</b>
<a href="#">Registrar</a>	Entities.roles.registrar
<a href="#">Registrar IANA ID</a>	<a href="#">publicIDs.identifier</a>
<a href="#">Registrar Abuse Contact Email</a>	<a href="#">Entities.role abuse email</a>

Spansoring Registrar IANA ID	publicIDs.identifier
Registrar Abuse Contact Email	Entities.role-abuse-email
Registrar Abuse Contact Phone	Entities.role-abuse-phone
Registrar Registration Expiration Date	events.eventAction "registrar-expiration"
Registrar RDS Server	Links.object-with-rel:related
Reseller	Entities.roles-reseller
<b>Registrant</b>	<b>Entities.role-registrant</b>
Registrant ID	Entity.handle
Registrant Name	jCard "fn"
Registrant Organization	Org
Registrant Street	Grouped into adr member while complying with section 1.4 above
Registrant City	
Registrant State/Province	
Registrant Postal Code	
Registrant Country	
Registrant Phone Number	Tel type-parameter-voice
Registrant Phone Number Ext	Ext
Registrant Fax	Tel type-parameter-Fax
Registrant Fax Ext	Ext
Registrant email	Email

**Admin Contact****Entities.role Administrative**~~Admin ID~~

Entity.handle

~~Admin Name~~

jCard "fn"

~~Admin Organization~~

Org

~~Admin Street~~~~Grouped into adr member, while complying with section 1.4 above~~~~Admin City~~~~Admin State/Province~~~~Admin Postal Code~~~~Admin Country~~~~Admin Phone Number~~

Tel type parameter voice

~~Admin Phone Number Ext~~

Ext

~~Admin Fax~~

Tel type parameter Fax

~~Admin Fax Ext~~

Ext

~~Admin email~~

Email

**Technical Contact****Entities.role Technical**~~Tech ID~~

Entity.handle

~~Tech Name~~

jCard "fn"

~~Tech Organization~~

Org

~~Tech Street~~~~Grouped into adr member, while complying with section 1.4 above~~~~Tech City~~~~Tech State/Province~~~~Tech Postal Code~~~~Tech Country~~

Tech Phone Number	Tel type parameter voice
Tech Phone Number Ext	Ext
Tech Fax	Tel type parameter Fax
Tech Fax Ext	Ext
Tech email	Email

### Registrar Responses:

**RDDS Field** ————— **RDAP Response Element**

Registrar	<a href="#">jCard fn Entities.role abuse phone</a>
<del>Registrar Street</del>	
<del>Registrar City</del>	
<del>Registrar State/Province</del>	
<del>Registrar Postal Code</del>	
<del>Registrar Country</del>	
<del>Registrar Phone</del>	
<del>Registrar Fax</del>	
<del>Registrar Email</del>	
<del>Registrar admin/tech contact</del>	
<del>administrative/technical contact</del>	
<del><a href="#">Abuse Contact Phone Number</a></del>	
<del>Contact Fax Number</del>	
<del>Contact Email</del>	
<a href="#">Registrar Registration Expiration Date</a>	<a href="#">events.eventAction "registrar expiration"</a>

<a href="#">Reseller</a>	<a href="#">Entities.roles reseller</a>
<b><a href="#">Registrant</a></b>	<b><a href="#">Entities.role registrant</a></b>
<a href="#">Registry Registrant ID</a>	<a href="#">Entity.handle</a>
<a href="#">Registrant Name</a>	<a href="#">jCard "fn"</a>
<a href="#">Registrant Organization</a>	<a href="#">Org</a>
<a href="#">Registrant Street</a>	Grouped into <del>the</del> adr member, while complying with section 1.4 above
<a href="#">Registrant City</a>	
<a href="#">Registrant State/Province</a>	
<a href="#">Registrant Postal Code</a>	
<a href="#">Registrant Country</a>	
<a href="#">Registrant Phone</a>	Tel <del>with a</del> -type parameter voice
<a href="#">Registrant Phone Ext</a>	<a href="#">Ext</a>
<a href="#">Registrant Fax</a>	Tel <del>with a</del> -type parameter <del>fax</del> <a href="#">Fax</a>
<a href="#">Registrant Fax Ext</a>	<del>email</del> <a href="#">Ext</a>
<a href="#">Registrant Email</a>	<a href="#">Email</a>
<b><a href="#">Technical Contact</a></b>	<b><a href="#">Entities.role Technical</a></b>
<a href="#">Registry Tech ID</a>	Entity. <del>role administrative or technical</del> <a href="#">handle</a>
<a href="#">Tech Name</a>	<a href="#">jCard "fn"</a>
	<del>Tel with a type parameter voice</del>
	<del>Tel with a type parameter fax</del>

| | |  
email

~~WHOIS Server /Referral URL~~

n/a

<u>Tech Phone</u>	<u>Tel type parameter voice</u>
<u>Tech Email</u>	<u>Email</u>

Name Server Responses:

**RDDS Field** ————— **RDAP Response Element**

<del>Server Name</del> <u>Data Element</u>	<del>nameserver.IdhName</del> <u>RDAP Response Element</u>
<del>IP Address Registrar WHOIS Name Server /Referral URL Last update of WHOIS database(s)</del>	<del>nameserver.ipAddresses</del> <u>Idh Name</u>
<u>Name Server IP Address(es)</u>	<del>Entities.roles registrar</del> <u>nameserver.ipAddresses</u>
<u>Registrar</u>	<del>n/a</del> <u>Entities.roles registrar</u>
<u>Last Update of RDDS</u>	events.eventAction "last update of RDAP database"

# Appendix E: Redacted Fields in the Registration Data Access Protocol (RDAP) Response “redacted name” JSON Values Registry Registrations

After the Redacted Fields in the Registration Data Access Protocol (RDAP) Response draft (draft-ietf-regext-rdap-redacted) becomes an RFC, the following is the list of “redacted name” registrations for use in redacting the fields defined in the gTLD RDAP Profile.

Value: Registry Domain ID

Type: redacted name

Description: Redacted domain object class “handle” member. The “removal” redacted “path” member JSONPath for Figure “Unredacted RDAP Lookup Response” of draft-ietf-regext-rdap-redacted is “\$.handle”.

Registrant Name: ICANN

Registrant Contact Information: globalsupport@icann.org

Value: Registry Registrant ID

Type: redacted name

Description: Redacted entity object class, with “registrant” role, “handle” member. The “removal” redacted “path” member JSONPath for Figure “Unredacted RDAP Lookup Response” of draft-ietf-regext-rdap-redacted is “\$.entities[?(@.roles[0]==‘registrant’)].handle”.

Registrant Name: ICANN

Registrant Contact Information: globalsupport@icann.org

Value: Registrant Name

Type: redacted name

Description: Redacted entity object class, with “registrant” role, name property. When using jCard, redacting the “vcard” “fn” property. The “emptyValue” redacted “path” member JSONPath for Figure “Unredacted RDAP Lookup Response” of draft-ietf-regext-rdap-redacted is “\$.entities[?(@.roles[0]==‘registrant’)].vcardArray[1][?(@[0]==‘fn’)][3]”.

Registrant Name: ICANN

Registrant Contact Information: globalsupport@icann.org

Value: Registrant Organization

Type: redacted name

Description: Redacted entity object class, with “registrant” role, organization property. When using jCard, redacting the “vcard” “org” property. The “removal” redacted “path” member JSONPath for Figure “Unredacted RDAP Lookup Response” of draft-ietf-regext-rdap-redacted is “\$.entities[?(@.roles[0]==‘registrant’)].vcardArray[1][?(@[0]==‘org’)].”

Registrant Name: ICANN

Registrant Contact Information: globalsupport@icann.org

Value: Registrant Street

Type: redacted name

Description: Redacted entity object class, with “registrant” role, street properties. When using jCard, the “vcard” “adr” street properties (vCard “ADR-component-pobox”, “ADR-component-ext”, and “ADR-component-street”). The “emptyValue” redacted “path” member JSONPath for Figure “Unredacted RDAP Lookup Response” of draft-ietf-regext-rdap-redacted is

“\$.entities[?(@.roles[0]==‘registrant’)].vcardArray[1][?(@[0]==‘adr’)][3][:3].”

Registrant Name: ICANN

Registrant Contact Information: globalsupport@icann.org

Value: Registrant City

Type: redacted name

Description: Redacted entity object class, with “registrant” role, city property. When using jCard, the “vcard” “adr” locality property (vCard “ADR-component-locality”). The “emptyValue” redacted “path” member JSONPath for Figure “Unredacted RDAP Lookup Response” of draft-ietf-regext-rdap-redacted is

“\$.entities[?(@.roles[0]==‘registrant’)].vcardArray[1][?(@[0]==‘adr’)][3][3].”

Registrant Name: ICANN

Registrant Contact Information: globalsupport@icann.org

Value: Registrant Postal Code

Type: redacted name

Description: Redacted entity object class, with “registrant” role, postal code property. When using jCard, the “vcard” “adr” code property (vCard “ADR-component-code”). The “emptyValue” redacted “path” member JSONPath for Figure “Unredacted RDAP Lookup Response” of draft-ietf-regext-rdap-redacted is

“\$.entities[?(@.roles[0]==‘registrant’)].vcardArray[1][?(@[0]==‘adr’)][3][5].”

Registrant Name: ICANN

Registrant Contact Information: globalsupport@icann.org

Value: Registrant Phone

Type: redacted name

Description: Redacted entity object class, with “registrant” role, voice phone property. When using jCard, the “vcard” “tel” property with type “voice”. The “removal” redacted “path” member

JSONPath for Figure “Unredacted RDAP Lookup Response” of draft-ietf-regext-rdap-redacted is “\$.entities[?(@.roles[0]==‘registrant’)].vcardArray[1][?(@[1].type==‘voice’)].”

Registrant Name: ICANN

Registrant Contact Information: globalsupport@icann.org

Value: Registrant Phone Ext

Type: redacted name

Description: Redacted entity object class, with “registrant” role, voice phone extension property. When using jCard, the “vcard” “tel” property extension value with type “voice”. The “removal” redacted “path” member JSONPath for Figure “Unredacted RDAP Lookup Response” of draft-ietf-regext-rdap-redacted is

“\$.entities[?(@.roles[0]==‘registrant’)].vcardArray[1][?(@[1].type==‘voice’)].”

Registrant Name: ICANN

Registrant Contact Information: globalsupport@icann.org

Value: Registrant Fax

Type: redacted name

Description: Redacted entity object class, with “registrant” role, fax phone property. When using jCard, the “vcard” “tel” property with type “fax”. The “removal” redacted “path” member JSONPath for Figure “Unredacted RDAP Lookup Response” of draft-ietf-regext-rdap-redacted is

“\$.entities[?(@.roles[0]==‘registrant’)].vcardArray[1][?(@[1].type==‘fax’)].”

Registrant Name: ICANN

Registrant Contact Information: globalsupport@icann.org

Value: Registrant Fax Ext

Type: redacted name

Description: Redacted entity object class, with “registrant” role, fax phone extension property. When using jCard, the “vcard” “tel” property with type “fax”. The “removal” redacted “path” member JSONPath for Figure “Unredacted RDAP Lookup Response” of draft-ietf-regext-rdap-redacted is

“\$.entities[?(@.roles[0]==‘registrant’)].vcardArray[1][?(@[1].type==‘fax’)].”

Registrant Name: ICANN

Registrant Contact Information: globalsupport@icann.org

Value: Registrant Email

Type: redacted name

Description: Redacted entity object class, with “registrant” role, email property. When using jCard, the “vcard” “email” property. The “removal” redacted “path” member JSONPath for Figure “Unredacted RDAP Lookup Response” of draft-ietf-regext-rdap-redacted is

“\$.entities[?(@.roles[0]==‘registrant’)].vcardArray[1][?(@[0]==‘email’)].” The “replacementValue” redacted “path” member JSONPath for Figure “Unredacted RDAP Lookup Response” of draft-ietf-regext-rdap-redacted is

[“\\$.entities\[?\(@.roles\[0\]==‘registrant’\)\].vcardArray\[1\]\[?\(@\[0\]==‘email’\)\]\[3\]”](#) or using the [“replacementPath”](#) to the [“vcard”](#) [“contact-uri”](#) property.

[Registrant Name: ICANN](#)

[Registrant Contact Information: globalsupport@icann.org](#)

[Value: Registry Tech ID](#)

[Type: redacted name](#)

[Description: Redacted entity object class, with “technical” role, “handle” member. The “removal” redacted “path” member JSONPath for Figure “Unredacted RDAP Lookup Response” of draft-ietf-regext-rdap-redacted is “\\$.entities\[?\(@.roles\[0\]==‘technical’\)\].handle”.](#)

[Registrant Name: ICANN](#)

[Registrant Contact Information: globalsupport@icann.org](#)

[Value: Tech Name](#)

[Type: redacted name](#)

[Description: Redacted entity object class, with “technical” role, name property. When using jCard, redacting the “vcard” “fn” property. The “emptyValue” redacted “path” member JSONPath for Figure “Unredacted RDAP Lookup Response” of draft-ietf-regext-rdap-redacted is “\\$.entities\[?\(@.roles\[0\]==technical\)\].vcardArray\[1\]\[?\(@\[0\]==‘fn’\)\]\[3\]”.](#)

[Registrant Name: ICANN](#)

[Registrant Contact Information: globalsupport@icann.org](#)

[Value: Tech Phone](#)

[Type: redacted name](#)

[Description: Radacted entity object class, with “technical” role, voice phone property. When using jCard, the “vcard” “tel” property with type “voice”. The “removal” redacted “path” member JSONPath for Figure “Unredacted RDAP Lookup Response” of draft-ietf-regext-rdap-redacted is “\\$.entities\[?\(@.roles\[0\]==‘technical’\)\].vcardArray\[1\]\[?\(@\[1\].type==‘voice’\)\]”.](#)

[Registrant Name: ICANN](#)

[Registrant Contact Information: globalsupport@icann.org](#)

[Value: Tech Phone Ext](#)

[Type: redacted name](#)

[Description: Redacted entity object class, with “technical” role, voice phone extension property. When using jCard, the “vcard” “tel” property extension value with type “voice”. The “removal” redacted “path” member JSONPath forFigure “Unredacted RDAP Lookup Response” of draft-ietf-regext-rdap-redacted is](#)

[“\\$.entities\[?\(@.roles\[0\]==‘technical’\)\].vcardArray\[1\]\[?\(@\[1\].type==‘voice’\)\]”.](#)

[Registrant Name: ICANN](#)

[Registrant Contact Information: globalsupport@icann.org](#)

[Value: Tech Email](#)

Type: redacted name

Description: Redacted entity object class, with “technical” role, email property. When using jCard, the “vcard” “email” property. The “removal” redacted “path” member JSONPath for Figure “Unredacted RDAP Lookup Response” of draft-ietf-regext-rdap-redacted is

“\$.entities[?(@.roles[0]==‘technical’)].vcardArray[1][?(@[0]==‘email’)]”. The “replacementValue” redacted “path” member JSONPath for Figure “Unredacted RDAP Lookup Response” of draft-ietf-regext-rdap-redacted is

“\$.entities[?(@.roles[0]==‘technical’)].vcardArray[1][?(@[0]==‘email’)][3]” or using the “replacementPath” to the “vcard” “contact-uri” property.

Registrant Name: ICANN

Registrant Contact Information: [globalsupport@icann.org](mailto:globalsupport@icann.org)

# Appendix F: Data Element Mappings

The tables below show the mapping between data elements and the RDAP response element. Including a data element in this appendix does not imply its inclusion in any RDAP response.

## Registrar Responses:

<u>Data Element</u>	<u>RDAP Response Element</u>
<u>Registrar</u>	<u>jCard fn</u>
<u>Registrar Street</u>	
<u>Registrar City</u>	
<u>Registrar State/Province</u>	<u>Grouped into the adr member, while complying with section 1.4 above</u>
<u>Registrar Postal Code</u>	
<u>Registrar Country</u>	
<u>Registrar Phone</u>	<u>Tel with a type parameter voice</u>
<u>Registrar Fax</u>	<u>Tel with a type parameter fax</u>
<u>Registrar Email</u>	<u>email</u>
<u>Registrar Admin/Tech Contact</u>	<u>Entity.role administrative or technical</u>
<u>Administrative/Technical Contact</u>	<u>jCard fn</u>
<u>Contact Phone</u>	<u>Tel with a type parameter voice</u>
<u>Contact Fax</u>	<u>Tel with a type parameter fax</u>
<u>Contact Email</u>	<u>email</u>