

RDAP Conformance

Common Pitfalls and Tooling to Help Discover Them

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Three Areas of Focus

1

The Deprecation of
Whois and What it
Means for RDAP

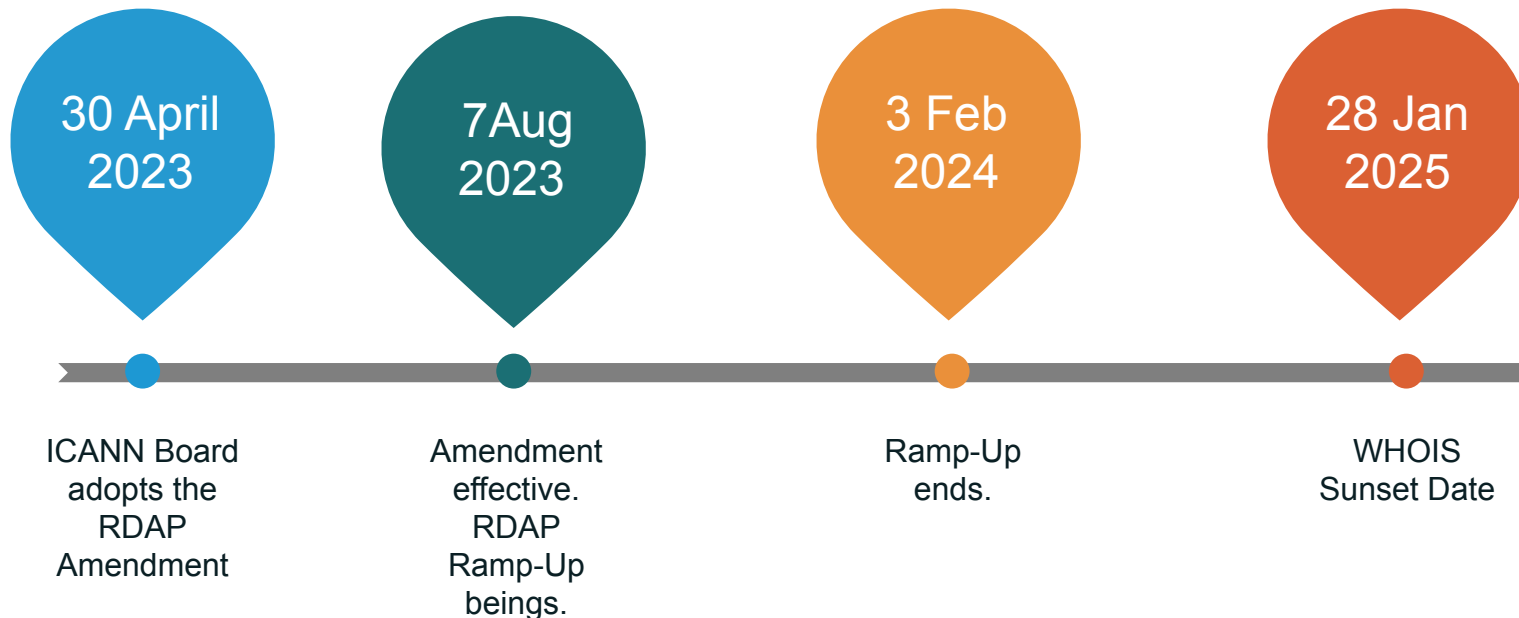
2

Common Pitfalls and
Mistakes in RDAP
Server
Implementations

3

The RDAP
Conformance Tool

The Deprecation of WHOIS for gTLDs



What's likely to happen:

Registries and Registrars will begin shutting down WHOIS and web-based Whois services because they are no longer required to operate them and if they continue to operate these services, they must comply with WHOIS operations in compliance with the Registration Data Policy. Therefore, emphasis will be placed on the proper and compliant operations of RDAP.

Common Pitfalls and Mistakes

1

Media Types

Not using the correct RDAP media types and assuming RDAP clients are always web browsers.

2

CORS

Blocking browser-based RDAP clients.

3

Country Names

Using a country code where a country name is required.

4

Country Codes

Not using the country code property.

5

`adr` Property

Wrong number of elements in structured postal addresses.

Media Types

accept:

application/json, application/rdap+json

content-type:

application/rdap+json

Cloud Web-App Firewalls and CDNs

Many cloud-based web-application firewalls (WAFs) and CDNs are either misconfigured or assume all RDAP clients are a web browser.

access-control-allow-origin: *

Cross-Origin Resource Sharing

Allows RDAP clients running in a web-browser access to an RDAP server. Without, browsers block access to the RDAP server.

Structured Postal Addresses

- RDAP uses jCard (vCard for JSON) to represent contact information.
- jCard supports “structured” postal addresses... that is, postal addresses in which the different parts of the address are understood to represent a specific aspect of the address.


```
[
  "adr",
  { "type": "work" },
  "text",
  [
    "",
    "Suite 1234",
    "4321 Rue Somewhere",
    "Quebec",
    "QC",
    "G1V 2M2",
    "Canada"
  ]
]
```

Country Names

RFC 6530

The last position is the name of a country, not an ISO 3166 Alpha2 country code.

```
[
  "adr",
  { "type": "work" },
  "text",
  [
    "",
    "Suite 1234",
    "4321 Rue Somewhere",
    "Quebec",
    "QC",
    "G1V 2M2",
    "Canada"
  ]
]
```



** Per gTLD RDAP Profile, country name is to be an empty string and "cc" is to be used.*

Country Codes

RFC 8605

Country codes are handled with the “cc” parameter.

```
[
  "adr",
  {
    "type": "work",
    "cc": "CA" ←
  },
  "text",
  [
    "",
    "Suite 1234",
    "4321 Rue Somewhere",
    "Quebec",
    "QC",
    "G1V 2M2",
    "" ←
  ]
]
```

Length of Array

`adr` Value

The string array must be SEVEN elements in size.

```
[
  "adr",
  "text",
  [
    "",                P.O. Box (not recommended)
    "Suite 1234",     apartment or suite (not recommended)
    "4321 Rue Somewhere", street address
    "Quebec",        locality or city name
    "QC",            region
    "G1V 2M2",      postal code
    "Canada"        country name
  ]
]
```

Stealth RDAP

- Some ccTLDs are operating RDAP services but have not registered them with IANA.
- Therefore, RDAP clients cannot find them.
- See Gavin Brown's presentation at ROW 13 on "Stealth RDAP":
<https://regiops.net/sites/default/files/documents/10-ROW13-Gavin%20Brown-Stealth%20RDAP.pdf>

The RDAP Conformance Tool

Upcoming Changes

What is it?

- The RDAP Conformance Tool is a command-line utility and library that makes it easier to discover conformance problems.
- Works with all RDAP server types.
 - Has options to run additional tests for gTLD registries and registrars.
- Has more than 72 tests.
- Open Source and available on GitHub:
<https://github.com/icann/rdap-conformance-tool>

Recent Changes

- Updated to work with RFC 9537 IANA values
- Minimum Java version is now Java 17
- Addition of a Dockerfile

Upcoming Enhancements

- Java API improvements for easier integration as a Java library.
- Adding more tests:
 - Media type tests
 - Error tests and Help tests
 - ICANN 2024 gTLD Profile tests
 - More...
- Available from a web page.



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