RDAP Backward Compatibility

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Background

- There is a requirement from ICANN's RFP (Request for Proposal) for an Open-Source Reference Implementation of a RESTful-based Domain Name Registration Data Access Protocol.
  - 2.4.4. The reference implementation should also include a **Port 43 Whois server proxy**. The proxy server should be able accept client queries that conforms to RFC 3912, with the parameters as dictated by the gTLD registry / registrar policies. The proxy will translate port 43 WHOIS queries into RESTful queries, query the RESTful RDAP Service, and return the plain text results via PORT 43 back to clients.

Why Raise This Issue

- There are many users, especially the registrars, who are accustomed to the Port 43 Whois. It seems that there may be a not-short transition period from Port 43 Whois to RDAP in the near future.

  – Should we consider making this transition period transparent and steady for the Port 43 Whois users?

  – Should we consider attracting more Port 43 Whois users to trying the new functions of RDAP?

How to Handle This Issue

- Possible Solution #1
  - To add new functions for Port 43 Whois server proxy within the RDAP
    - How to standardize the above functions
- Possible Solution #2
  - To keep maintaining the old Port 43 Whois service when providing a new RDAP service
    - How to ensure data consistency between the old Whois service and the new one?
    - Should we also consider updating RFC 3912?

Basic or Advanced

- **Basic RDAP Backward compatibility**
  - **Query**
  - **Response**
- Advanced RDAP Backward compatibility
  - Authentication
  - Redirect
  - Search

Query Format of Port 43 Whois

- The common Port 43 Whois query commands are as follows
  - whois -h rdap.restfulwhois.org ip
  - whois -h rdap.restfulwhois.org domain
- Do we need to standardize new query parameters for Port 43 Whois based on RDAP query document? For example,
  - whois -h rdap.restfulwhois.org as 1223
  - whois -h rdap.restfulwhois.org ns ns1.google.com
  - whois -h rdap.restfulwhois.org entity apnic

Response Format of Port 43 Whois

- How to return RDAP responses in JSON format via Port 43 back to Whois clients? Do we need to standardize the way to translate the JSON into plain text format?

Plain text format in unformatted JSON

```
{"entity":[{"handle":"DNIC","lang":"1983-10-23T00:00:00Z","roles":["1983-10-23T0
0:00:00Z"],"vcardArray":["vcard",[["version",{},"text","4.0"],["fn",{},"text","D
oD Network Information Center"],["bday",{},"date-and-or-time","M"],["anniversary
",{},"date-and-or-time","individual"],["gender",{},"text","en"],["kind",{},"text
","1"],["lang",{"pref":"2"},"language-tag","fr"],["lang",{"pref":"employee"},"la
nguage-tag","example inc."],["org",{"type":"work"},"text","testrole"],["title",{
},"text","geo:46.772673,-71.282945"],["role",{},"text","http://www.example.com/j
oe.user/joe.asc"],["email",{},"text",""],["geo",{"type":"work"},"uri","-05:00"],
["key",{"type":"work"},"uri","http://example.org"],["tz",{},"utc-offset",""],["u
rl",{"type":"home"},"uri",""]]]}]}
```

Response Format of Port 43 Whois

- How to return RDAP responses in JSON format via Port 43 back to Whois clients? Do we need to standardize the way to translate the JSON into plain text format?

Plain text format in formatted JSON

```
"entity": [
  {
    "handle": "DNIC",
    "lang": "1983-10-23T00:00:00Z",
    "roles": [
      "1983-10-23T00:00:00Z"
    ],
    "vcardArray": [
      "vcard",
      [
        [
          "version",
          {

          },
          "text",
          "4.0"
        ],
        [
          "fn",
          {

          },
          "text",
          "DoD Network Information Center"
        ],
```

Response Format of Port 43 Whois

- How to return RDAP responses in JSON format via Port 43? Do we need to define a new response format for Port 43 Whois clients?

Plain text format in a new format

```
entity:
    Handle:DNIC
    Lang:1983-10-23T00:00:00Z
    Roles:
    1983-10-23T00:00:00Z
    vcardArray:
        vcard
            version:4.0
        fn:DoD Network Information Center
        bday:M
        anniversary:individual
        gender:en
        kind:1
        lang:fr
        lang:example inc.
        org:testrole
        title:geo:46.772673,-71.282945
        role:http://www.example.com/joe.user/joe.asc
        email:
        geo:-05:00
        key:http://example.org
        tz:
        url:
```

Basic or Advanced

- Basic RDAP Backward compatibility
  - Query
  - Response
- **Advanced RDAP Backward compatibility**
  - **Authentication**
  - **Redirect**
  - **Search**

Authentication

- HTTP basic/digest authentication mechanism is not suitable for Port 43 Whois.
  - Should we consider providing the authentication function to Port 43 Whois clients?
    - If yes, how?
    - If no, should we consider giving error messages about authentication failed for Port 43 Whois clients?

Redirect

- Should we consider providing the Redirect function to Port 43 Whois clients?

- If so, how?
  - Maybe we need to at least standardize a specific redirect hint information for port 43 Whois.

Search

- Should we consider providing the Search function to Port 43 Whois clients?

- If so, how?

Open Questions

- Should WEIRDS WG consider providing RDAP backward compatibility functions?
  - No
    - How to solve the data consistency problem?
  - Yes
    - Basic? Advanced? Both?
    - How to document
      - Make a new separate document?
      - Update existing documents (query/response/security)?