RDAP @ DNS Belgium

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Our RDAP incentives (Q1 2013)

Mailinglist participation

Design new internal application Abusetool
  • Automated access all public WHOIS data
  • Loosely coupled to registration platform

CERT.be
  • Automated access all public WHOIS data

No solution in current services

→ Implement WEIRDS (RDAP)
Implementing RDAP (Q2 2013)

DNS Belgium RDAP open source library

- Pluggable Java framework
- Presented at CENTR Jamboree, June 2013 Amsterdam
- [https://github.com/DNSBelgium/rdap](https://github.com/DNSBelgium/rdap)
- Not at standalone application, just a library:
  - REST endpoint definitions/mappings
  - Data Transfer Objects for JSON response format
  - Redirection for non authoritative response
  - Extensible

→ Just plug in your backend service(s)!
DNS Belgium RDAP library (Java)
Extending default implementation

```java
public class MyDomainService extends DefaultDomainService {

    @Override
    public Domain getDomainImpl(DomainName domainName) {
        String tld = domainName.getTldLabel().getStringValue();
        if (!supportedTlds.contains(tld)) {
            throw RDAPError.notAuthoritative(domainName);
        }
        Domain domain = domainDAO.getDomain(domainName);
        if (domain == null) {
            throw RDAPError.noResults(domainName.getStringValue());
        }
        return domain
    }
}
```
Deploying RDAP (Q3 2013)

Service up and running

- Authentication using X.509 certificates
- Only domain lookup possible
- Abusetool only current user
- CERT.be dropped their request
  - No external usage yet: no feedback
  - Service not publicly available
RFCs published (Q2 2015)

Updating open source library
  • Implementation
  • Documentation

Example implementation [https://github.com/DNSBelgium/rdap-server-sample-gtld](https://github.com/DNSBelgium/rdap-server-sample-gtld)

Registry operator (Nic.at) assessing library
  • Help them getting started
Next steps

Third party access?
• Applied privacy to registrants in backend (same as WHOIS)
• Make service available publicly: TODO

Access for interested registrars in the future?
• Manageable like a third party

Access for general public in the future?
• Raises questions towards authentication?

Try conformance tests against library?
RDAP authentication options

No authentication
• Provide reduced service ?

Basic authentication
• User administration ☹

Client certificates
• Certificate mgmt ☹

OpenID Connect
• Draft submitted May 2015
• Possible federation trust issue ? ☹
• Looks promising (based on our current OAuth 2.0 knowledge)
RDAP improvements?

WHOIS is not a domain availability service (DAS)
  • Special cases like blocked or reserved domains
  • Some registries build own DAS

Can RDAP provide uniform solution?
  • Earlier discussion unconcluded
  • RFC unclear (for us)
  • The way forward to an real solution?

More clients!
  • For registrars to use/incorporate?
  • Any language! JS/ Java / Python/ Go / Perl / …
Demo

Deployed sample app on AWS
https://github.com/DNSBelgium/rdap-server-sample-gtld

Uses DNS Belgium library

Converts newgTLDs WHOIS output to RDAP

Please try it and provide feedback

http://row3-dnsbelgium-sample.elasticbeanstalk.com/rdap/domain/nic.brussels
Conclusions

DNS Belgium

- Operational RDAP experience
- Java library: https://github.com/DNSBelgium/rdap
- Seeks active collaboration
  1. Library implementation
  2. The way forward: authentication, new features, …

Come talk to us!
Questions?

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