**Steven van Egmond**

**R-1: Provide a publicly accessible and machine parsable list of domain names or IP locations of WHOIS servers operated by ICANN accredited registrars and gTLD registry operators and ccTLDs operators.**

1. The inventory of WHOIS requirements identifies the need for a publicly-accessible and machine-parsable list of domain names or IP locations of WHPOIS servers operated by registrars, registry operators, and RIRs.

Describe your currently-known use cases for such a list, and their relative importance to your organization's activities.

[ ] We do not have a use case for such a feature.

[ ] We do have a use case.

Details: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. The inventory of requirements suggests a number of possible approaches for whois service discovery:

a. a naming convention (such as whois.nic.TLD) b. the use of SRV records c. the use of CNAME records (the 'whois' command line tool looks up

TLD.whois-servers.net)

Describe your preferred approach and the rationale for it.

Menu: a,b,c, other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Michael Young**

**R-2: Define a standard query structure that clients can implement and that all gTLD registries and ICANN accredited registrars will support.**

**Cintra Sooknanan**

**R-3: Define a standard data structure for WHOIS responses. The data structure would contain and uniquely identify the data elements that must be returned in a manner that assures there is no ambiguity across elements, correct syntax, and correct semantics.**

**Cintra Sooknanan**

**R-4: Define a set of standardized error messages and standard handling of error conditions. Examples of useful error messages include queries exceeding the limit, no records found, unable to process query, etc.**

**Susan Prosser**

**R-5: Allow users to submit not only domain names as arguments to search functions but other registration data elements as well.**

• Allow users to submit not only domain names as arguments to search functions but other registration data elements as well [16, 23].

Using the RAA Whois guidelines and various Registry agreements, I documented the various inputs available on Whois / Domain Name Registration Records.  This is under the assumption that both the policy governing the data and the technical hurdles to allow such searching are resolved.  It will, at minimum, uncover if there is a "problem to be solved."

Survey Question:

1. Do you need to search Whois records by data elements *other*than domain name?

[  ] Yes (displays 1.a section below)   [  ] NO (ends question, does not display any additional information)

1.a YES -> Please indicate below with an [ X ] what data elements are important to be searchable\*

*\*understanding without standardized Whois data input format, not all elements will be supplied or available in standard format equally across all TLD's.*

Domain Name [  ] YES  [  ] NO

Primary Nameservers [  ] YES  [  ] NO

Secondary Nameservers [  ] YES  [  ] NO

Creation Date  [  ] YES  [  ] NO

Last Updated Date  [  ] YES  [  ] NO

Expiration Date  [  ] YES  [  ] NO

Registrar  [  ] YES  [  ] NO

Status  [  ] YES  [  ] NO

Registrant ID  [  ] YES  [  ] NO

Registrant Name  [  ] YES  [  ] NO

Registrant Street Address 1  [  ] YES  [  ] NO

Registrant Street Address 2  [  ] YES  [  ] NO

Registrant City  [  ] YES  [  ] NO

Registrant State/Province  [  ] YES  [  ] NO

Registrant Country  [  ] YES  [  ] NO

Registrant Telephone Number  [  ] YES  [  ] NO

Registrant Fax Number  [  ] YES  [  ] NO

Registrant Email  [  ] YES  [  ] NO

Technical Contact Name  [  ] YES  [  ] NO

Technical Contact Street Address 1  [  ] YES  [  ] NO

Technical Contact Street Address 2  [  ] YES  [  ] NO

Technical Contact City  [  ] YES  [  ] NO

Technical Contact State/Province  [  ] YES  [  ] NO

Technical Contact Country  [  ] YES  [  ] NO

Technical Contact Telephone Number  [  ] YES  [  ] NO

Technical Contact Fax Number  [  ] YES  [  ] NO

Technical Contact Email  [  ] YES  [  ] NO

Administrative Contact Name  [  ] YES  [  ] NO

Administrative Contact Street Address 1  [  ] YES  [  ] NO

Administrative Contact Street Address 2  [  ] YES  [  ] NO

Administrative Contact City  [  ] YES  [  ] NO

Administrative Contact State/Province  [  ] YES  [  ] NO

Administrative Contact Country  [  ] YES  [  ] NO

Administrative Contact Telephone Number  [  ] YES  [  ] NO

Administrative Contact Fax Number  [  ] YES  [  ] NO

Administrative Contact Email  [  ] YES  [  ] NO

There are other factors to consider in opening up this search option.  From here, we could go into further questions about type of search options

2. Do you need Include and Exclude search parameter options?  [  ] YES  [  ] NO

3. Do you need the ability to search by wild card?  [  ] YES  [  ] NO

4. Do you need the ability to search in non-ascii format?  [  ]  YES  [  ]  NO

Also, if allowed to search by a non-domain name input, the results will be many, not singular.  For instance if someone inputs XYZ Street, Anywhere  they will receive 10+ results, not just 1.  How will that data be reported?  Are the RySG or RrSG able to support this? It really does open up a much larger issue.  Do we need to tackle this point in this question?  Or first discover the need and then determine technical solution?   Please let me know.  I can dig deeper into the questions if you feel we should consider that level detail.

**Avri Doria**

**R-6a: Adopt a structured data model for WHOIS data that provides extensibility and changeability properties. Employ a formal data schema language such as XML to describe the characteristics of the structured data.**

On a scale of 1 to 5 with (1) meaning disagree completely, and (5) meaning agree completely, please rate the following statements

i) In order to improve the WHOIS service capabilities, we need for data to be extensible

ii) In order to improve WHOIS capabilities, we need for the data that is required to be changeable over time.

iii) A formal definition of WHOIS Data is needed

iv) A formal modeling language such as XML should be used to create a data model for WHOIS

v) Work on such a model should be done by ICANN

vi) Work on such a model should include the IETF

vii) WHOIS data collection techniques should insure that data is entered in a defined format

viii) WHOIS data collection techniques should allow for some fields to made mandatory

ix) WHOIS data collection techniques should require that all fields to made mandatory

**Avri Doria**

**R-6b: Consider extending the currently defined set of registration data elements to include: alternative forms of contact than the contacts currently collected; information that discloses the history or “pedigree” of a domain; and additional registration service provider contact information.**

On a scale of 1 to 5 with (1) meaning disagree completely, and (5) meaning agree completely, please rate the following statements

i) The current "one size fits all" model for WHOIS data is sufficient for today's WHOIS needs

ii) The current "one size fits all" model for WHOIS data is sufficient for tomorrow's WHOIS needs

iii) It should be possible to include other forms of contact for WHOIS

iv) It is appropriate to include social media as one method of WHOIS contact

v)

**Steven Metalitz**

**R-7**

**Steven van Egmond, Cintra Sooknanan**

**R-8.1. Define an authentication framework for WHOIS that is able to accommodate anonymous access as well as verification of identities using a range of authentication methods and credential services.**

The inventory of whois requirements identifies a need for authenticating whois users (whether a person or a computer system) in order to provide elevated access rights, and to rate-limit incoming connections to ensure the whois service isn't overloaded. Rate limiting becomes dramatically more complex in the ipv6 scenario.

1. If you have a use case for lawful, elevated access rights to whois data?

[ ] no

[ ] yes; describe it: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1a. If your access rights are circumscribed (e.g. only to particular TLDs) please describe the constraints you operate under.

[ ] no constraints for elevated access

[ ] elevated access is constrained to a certain TLD [ ] elevated access is constrained to a subset of TLDs

Comments on constraints: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Is this use case general (i.e. you have blanket access), or is the access right specific (i.e. particular domains only after some process such as a court order or business negotiation)?

[ ] blanket access

[ ] specific domains

Details: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Is this elevated access right to be granted to automatic computer systems, or people carrying out a task?

[ ] computer systems

[ ] people

[ ] both

4. Describe your preferred approach for providing authenticated, elevated access rights, if you have one.

[ ] no preference

[ ] our preferred approach to granting elevated access rights is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Michael Young, Cintra Sooknanan**

**R-8.2: Implement an authorization framework that is capable of providing granular (per registration data object) permissions (access controls).**

**Wendy Seltzer**

**R-8.3: Define a framework and baseline set of metrics that can accommodate future policy development for auditing of WHOIS access.**

**Paul Brigner, Don Blumenthal**

**R-9: All new TLDs should operate a thick WHOIS. Consistent with these recommendations for future whois, new or legacy registries should consider evolving to a thick WHOIS.**

Adopt a thick WHOIS for all new gTLDs. Consistent with these recommendations for future

WHOIS services, new or legacy registries could consider evolving to a thick WHOIS.

This item largely has been overtaken by events because of the terms of the new gTLD Applicant Guidebook. However, room exists for some questions that might be beneficial to successful applicants, as well as the operator of the existing thick registries and legacy thick registries.

What is the generally accepted architecture of thick registries.

To what extent does this architecture meet the requirements of registries and their registrars.

What mechanisms would be required to move from a thin to a thick registry

What data provided by registrants could be made available through a thick registry, including items not currently provided.

What mechanisms could be implemented to allow queries on fields other than domain name.

What are the advantages and disadvantage of using domain names as search keys? Of tokens?

**R-10 -  Paul Brigner, Don Blumenthal**

A WhoWas service could be provided by all registries. This is another example of data that could

complement existing registration data as we described in section 4.6.

What kind of detail could be offered in a WhoWas. What would a system of codes involve.

What data elements could be incorporated in a WhoWas system that would be more expansive than a current Verisign model. For a thick registry. For a thick registry.

What mechanisms would be necessary to assemble and provide reasons for changes in domain ownership.

What data retention period is required to maintain a meaningful WhoWas

What mechanisms or systems might be available to restore data if it is not readily available.

**Steven Metalitz**

**R-11: Registrars and registries should provide and publish abuse point of contact information as an element of a domain registration record. There are several ways this could be supported; for example, registrars could populate the current sponsoring registrar contact information with an abuse point of contact rather than a general purpose business contact; alternatively, an abuse identifier that serves as an index into a publicly accessible table of abuse points of contact could be added to a registration record. These are further examples that demonstrate the utility of adopting an extensible data structure and formal schema.**

**Michael Young**

**Regarding the compilation, RySG added the following requirements:**

* **Ensuring consistency of data between registries and registrars (for thin registries).**
* **Accommodating privacy services in a manner that effectively provides access to information**
* **Mitigating impacts to SLAs (Service Level Agreements) and EPP (Extensible Provisioning Protocol) commands in migrations from thin to thick WHOIS data.**