



Draft Inventory of WHOIS Service Requirements

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Background

- The GNSO Council requests that Policy Staff, with the assistance of technical staff and GNSO Council members as required, **collect and organize a comprehensive set of requirements for the WHOIS service policy tools**. These requirements should **reflect** not only the **known deficiencies** in the current service but should **include** any **possible requirements** that may be needed to support various policy initiatives that have been suggested in the past.
- The synthesis of requirements should be done in consultation with the SSAC, ALAC, GAC, the ccNSO and the GNSO and a **strawman proposal should be prepared** for these consultations. The Staff is asked to come back with an estimate of when this would be possible.

Goals

- To collect and organize a set of requirements for community consideration including
 - Current features identified as needing improvement
 - features to support various, past policy proposals
 - features recommended by ICANN SOs, ACs, community

Goals

- “Requirements” means technical requirements
 - NOT gathering policy requirements
NOT recommending policy
- Take “tiered-access” as an example
 - Policy requirement: Law enforcement should have to access to XYZ data in WHOIS
 - Operational requirement: Who is law enforcement? How to certify law enforcement entities?
 - Technical requirement: What technology needs to be implemented to ensure tiered access?

Terminology



WHOIS service:

- WHOIS clients (port 43, Web-based, legitimate automation clients)
- WHOIS servers
- WHOIS data

Preliminary Compilation includes:

- Mechanism to find authoritative Whois servers
- Structured queries
- Standardized set of query capabilities
- Well-defined schema for replies
- Standardized errors



Preliminary Compilation cont'd



- Quality of domain registration data
- Internationalization
- Security
- Thick vs. Thin WHOIS
- Registrar abuse point of contact

Mechanism to find authoritative WHOIS servers



Not easy to find out an updated list of domain names and IP addresses of authoritative WHOIS servers

Clients use a combination of heuristics, hardwired tables, DNS SRV records, etc

Problematic for new gTLDs, and legitimate automation clients

Mechanism to find authoritative WHOIS servers

- R1: Provide a publicly accessible and machine parseable list of domain names or IP locations of WHOIS servers operated by ICANN accredited registrars, gTLD registry operators, ccTLDs operators, and regional internet registries (RIRs)

Structured queries

- Server applications vary with respect to format of query data

e.g. To query AS number

- ARIN: `whois -h whois.arin.net a 6`
- RIPE: `whois -h whois.ripe.net -Taut-num as7`

e.g. To control IDN responses:

- .DK: `--charset=latin-1`
- .JP : `/e`
- .DE: `-c UTF-8`

Structured queries

- R2: Define a standard query structure that clients can implement and that all gTLD registries and ICANN accredited registrars will support

Standardized Set of query capabilities

- Past GNSO and SSAC reports have called for expanded query capacities beyond domain names
- Some registries have expanded search capabilities
- R5: Permit users to submit not only domain names as arguments to search functions but other registration data elements as well

Structured responses

No standardized format for data that registrars and registries return in responses to WHOIS queries

Structured responses

- R3: Define a standard data structure for WHOIS responses
- R3: 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

Standardized errors



No standard set of error messages is defined for Whois servers, and Whois servers may handle errors differently

Lack of standard error introduces ambiguity and confusion

Standardized errors

- R4: Define a set of standardized error messages and standard handling of error conditions
- Examples
 - queries exceeding the limit
 - no records found
 - unable to process query

Quality of domain registration data

Is the data accurate?

Is the data useful or relevant?

Are the collected data current?



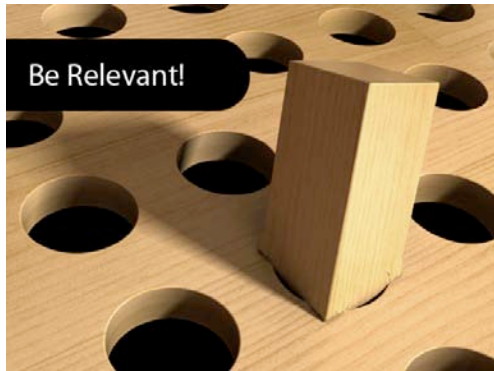
QUALITY

Barriers to WHOIS accuracy



- Privacy Considerations
- Stealth, intentional deception
- Little or no corroboration of submitted data
- User error

Relevant of WHOIS data



Certain registration data are not as useful today as they were 20 years ago

A future Whois data model should accommodate extensibility and changeability

Quality of domain registration data

- R6: Adopt a structured data model for WHOIS data that provides extensibility and changeability properties

Internationalization

- No standard exists today for handling the submission and display of registration data from local languages and scripts
- Some Whois applications or services
 - May not support domain names in U-labels,
 - Cannot accept or display when characters from sets other than US-ASCII7 are used, and
 - Display in local encodings rather than Unicode, so terminals must be set to correct encodings beforehand

Internationalization

- Deferring to the IRD-WG on their recommendations

Security



Current WHOIS requiring no identity assertion, credentialing, or authentication

Need for security



- Provide mechanisms to protect the privacy of registrants
- Discourage harvesting and mining
- Providing differentiated access

Security frameworks



Authentication

Access Control

Auditing

Security

- 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
- Whois services should support an authorization framework that is capable of implementing granular (per registration data object) permissions (access controls)
- Define a framework and baseline set of metrics that can accommodate future policy development for auditing of Whois access

Registrar abuse point of contact

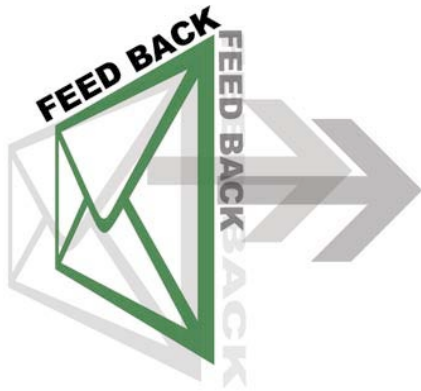
Registrars and registries should provide and publish abuse point of contact information as an element of a domain registration record

Next steps



- Released draft WHOIS Requirements Report in March 2010
- Conducting overview Webinars (April, May 2010)
- Are now consulting with SOs and ACs on the draft report, will incorporate their input (April and May 2010)
- Release final report by June 2010

We value your feedback



Have we adequately identified the origins of each requirement?

Did we miss any important requirements of or improvements to WHOIS that have been discussed to-date?



Thank you

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One Internet
Everyone
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Questions