Contractual Compliance

Port 43 WHOIS Access Report

Executive Summary

The Registrar Accreditation Agreement (RAA) requires all ICANN-accredited registrars to provide public access to data on registered names (commonly known as WHOIS data) via an interactive web page and a port 43 WHOIS service. RAA Section 3.3. In addition to periodically monitoring registrars' web page WHOIS services, ICANN constantly monitors every registrar's port 43 WHOIS service several times per day.

This report deals with port 43 WHOIS service and is a follow-up to the first WHOIS Access Audit Report (Port 43) published in April 2011, in keeping with ICANN's commitment to publish "more data about WHOIS accessibility, on at least an annual basis.[1]"

The report covers 1,017 ICANN-accredited registrars during the evaluation period between July 2011 and February 2012.

Within this time period:

- 94% or 960 registrars provided consistent access to WHOIS data compliant with Section 3.3 of the RAA.

- 6% or 57 registrars did not provide consistent access to WHOIS data and were flagged and followed-up with.

Registrar compliance rate with the RAA to provide WHOIS access service has declined from last year's results from 99% to 94%. This decline is likely due to proactive monitoring, tool enhancements and enforcement of this RAA obligation.

Background

Access to WHOIS data is important to many Internet users. Section 3.3 of the RAA requires registrars to provide public access to data on registered names:

> "3.3.1 At its expense, Registrar shall provide an interactive web page and a port 43 WHOIS service providing free public query-based access to up-to-date (i.e., updated at least daily) data concerning all active Registered Names sponsored by Registrar for each TLD in which it is accredited. The data accessible shall consist of elements that are designated from time to time according to an ICANN adopted specification or policy."

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[1] See recommendation by the Registration Abuse Policies Working Group (RAPWG) in its final report to the GNSO Council on 29 May 2010 (see http://gnso.icann.org/issues/rap/rap-wg-final-report-29may10-en.pdf).

ICANN uses the "WHOIS Monitoring System" (WMS) to monitor registrars' port 43 WHOIS services. This monitoring tool is designed to access registrars WHOIS port 43 service and ensure that all fields required by Section 3.3.1 of the RAA are populated. For more information on the tool and the methodology of this audit, please refer to last year's Audit Report.

2011 Improvements

In 2011, improvements were made in monitoring and enforcing registrar compliance.

ICANN increased staff to monitor and address WHOIS access issues on a daily basis by checking the WMS tool, inquiring and following up with registrars, if necessary.

In addition, ICANN has expanded the WMS tool to perform daily WHOIS queries externally, as Internet users would. This enhancement is important, as it ensures that the WMS tool produces realistic results, and it reduces the likelihood of registrars identifying queries made by ICANN and whitelisting the relevant IP addresses. Whitelisting has the potential to obscure registrars with severe rate limiting practices, or those that might attempt to block queries to the general public. The slight reduction in the compliance rate may be due to this improvement, as whitelisting may have previously allowed registrars to game the WMS tool to appear compliant, which is much more difficult now.

Monitoring Methodology

The WMS tool gauges each registrar's port 43 connection and meaningfulness of their data response. A color scale is used to rate each registrar's WHOIS daily query results. However, the color rating is not intended to be a conclusive determination of registrar compliance.

| Unreachable | | | | | | | | | | | | | | | | | | | | | 100% Good Responses |

- o The colors represent a composite score of the results of four separate queries to each registrar.
- o A white (or blank) square depicts that the WMS tool is not able to collect data from that registrar on that day.

A manual review will be triggered if a registrar's rating shows black for three consecutive days. There is a need for a manual review, as there could be a number of reasons why the WMS tool was unable to obtain an acceptable WHOIS query response.

For example, a network problem; routing problems completely outside of registrar's control; or specific issues related to registrar's port 43 WHOIS service.

Therefore, prior to sending an inquiry to the registrar, ICANN tests the port 43 WHOIS service by performing manual WHOIS queries. If the registrar's port 43 WHOIS service still appears to have issues, an inquiry is sent detailing the specific issue and/or requesting additional data or explanations. In most cases, issues are addressed after the first ICANN inquiry. Between September 2011 and January 2012, ICANN sent escalated compliance notices to nine registrars that failed to respond to the initial inquiry or address the issue. These registrars then resolved the issues and did not require escalated enforcement action.
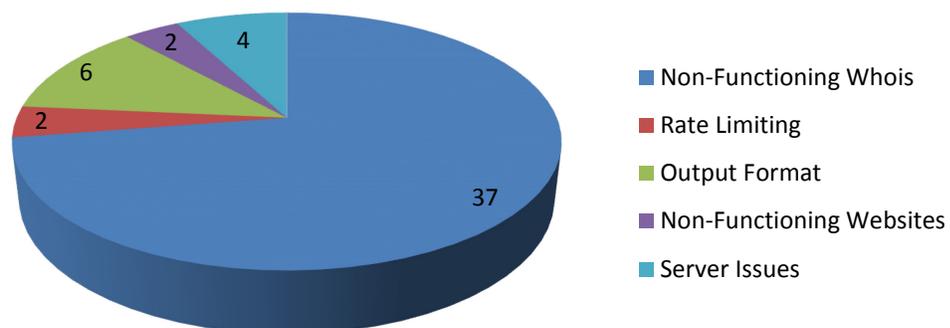
Findings

As stated in executive summary:

- 94% or 960 of the registrars provided consistent access to WHOIS data compliant with Section 3.3 of the RAA. This represents a 5% reduction from the last report ICANN published.

- 6% or 57 of the registrars accounted for 72 cases in which the WMS tool was unable to reach port 43 WHOIS servers for three or more consecutive days.

Details on the 72 cases:

- 21 cases resolved before ICANN initiated the compliance process.

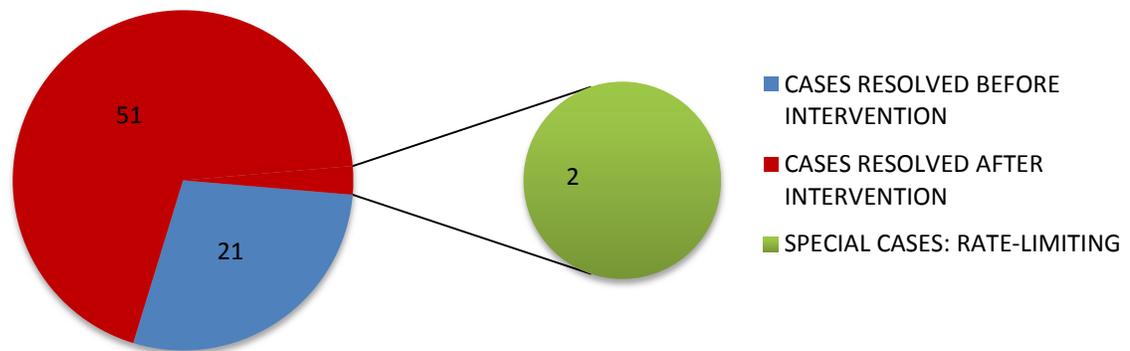- 51 cases required ICANN to inquire with the registrars.

51 Cases
Requiring ICANN Inquiries

Pie chart values: 2, 6, 2, 4, 37

Legend:
- Non-Functioning Whois
- Rate Limiting
- Output Format
- Non-Functioning Websites
- Server Issues

- 37 cases were due to ICANN's inability to utilize the WHOIS service; this means some temporary issue caused the registrar's port 43 service to "appear" inoperable. These issues are classified simply as non-functioning WHOIS.

- Six cases could be attributed to registrars not providing access to all the data elements required by the RAA. These are issues such as incomplete or invalid data fields, like missing registrant addresses or technical contact e-mail addresses that are required by the RAA.

- Four cases related to server issues, which meant the problem was attributed to incorrect server names or allocation of IP addresses.

- Two cases were attributed to either a website failure or distributed denial-of-service (DDoS) attack which contributed to the inability to access port 43 WHOIS servers.

- Two cases were related to rate limiting; this means the registrar set limits on either the number of acceptable queries, or the number of queries within a certain time frame, and the WMS tool was prevented from making more queries for exceeding those limits.

ICANN staff followed up with each of the registrars concerned and all of them resolved the initial port 43 access issues.

Status of 72 Cases

The two cases highlighted above were due to overly-aggressive rate limiting policies. The registrars alleviated their restrictions after discussions with ICANN.

Rate limiting issue

Rate limiting is a technique used to automatically block WHOIS Service access if the number of queries in a given period of time exceeds a threshold defined by the registrar. For example, a registrar might limit queries from a single IP address to ten per hour.

Similar to last year's findings, ICANN observed a few registrars severely limiting public access to their WHOIS service. However, there is no clear standard on registrar rate limiting in the RAA.

Conclusions

The majority of registrars did provide access to WHOIS data via a port 43 WHOIS service in a manner reasonably compliant with section 3.3 of the RAA. In addition, the registrars that experienced issues with port 43 service remedied the problems within a reasonable timeframe.

ICANN continues to monitor registrar compliance and will report our findings at least once a year.