

## Meeting Report on Technical Evolution of WHOIS session at Cartagena December 24, 2010

### Introduction

Created in the 1980s, Whois began as a service used by Internet operators to identify and contact other individuals operating a network resource on the ARPANET. The Whois service has since evolved into a tool used for many purposes. As usage of Whois evolved, few changes have been made to the protocol. There are increasing community concerns that the current WHOIS protocol does not meet the community's current needs.

To highlight these concerns, ICANN staff prepared a preliminary discussion paper that identifies some technical shortcomings of the current Whois service, and analyzes three potential options to address these technical deficiencies.

On 9 December 2010, a workshop was convened on this topic in the 39<sup>th</sup> ICANN meeting in Cartagena Colombia. Over 40 participants from the ICANN community participated in a lively discussion. This report summarizes the discussion and outlines some action items that were proposed by participants during this session.

### Meeting Details:

**Time:** 9 December, 2010, 11am – 12:30pm local time

**Moderator:** Elise Gerich, Vice President of IANA

**Presenters:** Elise Gerich, Harald Alvestrand, Francisco Arias and Steve Sheng

**Participants:** Over 40 participants attended this session including several ICANN board members and representatives from RIRs, gTLD and ccTLD registries, technical and policy experts from the ICANN community and various ICANN staff.

### Agenda Summary:

Elise Gerich first read a written statement by Kurt Pritz, who was unable to join the meeting but emphasized ICANN's commitment to improving WHOIS. She then introduced some proposed definitions for key terminology regarding WHOIS to be used in this discussion. Harald Alvestrand gave a history of the development of the WHOIS protocol, and discussed its deficiencies. Finally, Francisco Arias presented recent staff analysis on some potential options to improve WHOIS.

Participants then engaged in a lively discussion. Six key points of discussion are summarized below:

#### 1. Discussion on Terminology:

Question: why is "WHOIS" sometimes written in all capital letters, and sometimes written in lower case in this presentation?

Staff explained that WHOIS (in caps) is used in RFC 3912 to describe the protocol. Whois (W in capital) is generally used by ICANN to describe the service.

Jay Daley suggested that two additional terms be defined and used in this discussion:

- **WHOIS data representation:** the format of the text that comes through WHOIS. For many it is the key value pair.
- **Directory service data model:** The data model that uses to generate that representation or another representation such as through IRIS.

**Action items:** The group agreed to adopt those terms and definitions. Staff will update the terminology section of the Discussion Paper to include these terms. Staff to clarify with Jay on whether further specificity or explanation is needed, particularly with regard to the term “directory service data model.”

## 2. On the state of the WHOIS protocol

The synopsis of Harald’s presentation is that WHOIS is broken. While WHOIS is useful for many things, it was never intended for its current usage today. Participants generally agreed with such statements.

**Question:** A concern was raised about whether authentication/access, although a protocol issue, would be out of scope for this discussion. There was a related concern that the current lack of standardized schema for directory service can be fixed by defining a schema. In light of this, Jay Daley noted that a real and serious issue is WHOIS has no mechanism for encodings.

**Possible next steps:** Encourage further discussion about this problem. Is the ability to signal encoding an important reason to extend or replace WHOIS?

## 3. On the process and policy implications

**Question:** How does this work relate to previous GNSO Council resolutions requesting studies of Whois? Who is sponsoring this work effort, and what is the process for next steps?”

In addition: 1) what are the business requirements and drivers behind proposed changes?  
2) What are the policy goals and implications of technical changes?

**Discussion points and possible next steps:** Participants agreed that further discussion is needed and that business and policy drivers and implications are key elements that require greater consideration.

**Regarding recent actions by the GNSO Council:** In May, 2009, the GNSO Council asked staff to prepare an inventory of existing and potential future WHOIS Service Requirements, which staff completed on August of 2010, after consulting with the SOs and ACs on several drafts during that time. While the report is extensive and the GNSO Council intends to discuss next steps, it has not yet done so. The Final Report may be found at: <http://gns0.icann.org/issues/whois/whois-service-requirements-final-report-29jul10-en.pdf>. This Report identifies a number of potential business and policy benefits, and therefore may be a useful starting point for further discussion on this issue. In Cartagena, Workshop participants suggested that it might be useful to create a means for this discussion to occur, and ICANN staff agreed to create a discussion list for this purpose. Recommendations emanating from this discussion list may be useful input for the GNSO Council to consider when it takes up this matter in the future.

The GNSO Council is also considering other studies of WHOIS. More information about these studies can be found [here](#):  
<http://gns0.icann.org/issues/whois/>.

#### **4. On the IRIS protocol**

**Question:** What does this discussion mean for the IRIS protocol? Shouldn't we give IRIS a fair chance? Michael Young and others who are very knowledgeable about the development of the IRIS protocol praised IRIS but echoed concerns about the business case for adopting it.

Many participants who have had experience developing or helping to spread the adoption of IRIS expressed concern that the protocol has not gained much traction. Jay Daley said that he wrote IRIS server, and one of the fundamental problems with IRIS is that it requires authentication, and that changes how the backend is run. Frederico Neves said that the problem of IRIS also lies with its transport, BEEP. It was not a well-known protocol and there are few clients. Wilfried Woeber said that he tried to spread the adoption of IRIS a couple of years ago which was unsuccessful, and questioned whether IRIS is a realistic option.

Michael Young noted that he is not necessarily advocating IRIS, but does not want to forget what we learned from the IRIS development process.

**Action items:** Staff to amend the document to include comments from these technical experts.

## 5. On RWS

Wilfried asked why in the document we only have http, he suggested we add https as well.

Harald said that there is no specification for RWS, and if there is no specification, it is not possible to conduct a fair evaluation. In order to understand the hidden costs, is “to serve us a spec”.

Francisco from ISC is concerned that there are currently two implementations of RWS, and the specification may not be the same.

**Discussion points and possible next steps:** Participants agreed that this is an important point to be addressed. At this moment, for RWS to be even considered as a viable alternative, a specification needs to be worked on. Several mentioned that it might be useful for interested parties to work on a draft specification for RWS as a next step.

## 6. IRIS over REST?

Michael Young suggested that the community consider using an IRIS data model and serve IRIS through a RESTful architecture. Frederico Neves noted that the DREG (which is IRIS’s model) is too gTLD specific, and may not be suitable for number resources.

Francisco Arias asked whether the data schema in the Extensible Provisioning Protocol (EPP) might be a useful option. Frederico Neves said EPP does not support resource numbers; there is current work on extending EPP to support these resource numbers.

**Discussion points and possible next steps:** This is an important issue. An RWS specification group, if convened, could examine the two alternatives when working on a proposed specification of RWS.

## 7. On Participation

Wilfried asked what would be the appropriate process to get involved in discussing these matters? He noted that work is underway in a RIPE data working group to consider the internationalization of WHOIS.

Patrick Jones from ICANN asked what is the mechanism for this group to report back to SOs and ACs, who are deeply interested in this topic?

**Action items:** Staff will prepare an informational wiki containing the relevant documents, as well as a mailing list to continue the discussion. The wiki can be found here: <https://community.icann.org/display/TEwhoisService/>. Participants in the Discussion List might consider drafting a charter for further discussions that identifies useful discussion topics, possible goals and next steps.

## 7. On requirements

Werner Staub from CORE said that we need a URI containing the query so that they can be short and send by text message email. This needs to be a requirement for WHOIS.

**Suggested next steps:** This is good to include as a potential requirement.

### Additional Staff Comments:

Although not discussed in the session due to time limits, staff would like to offer the following specific comments on two key discussion points listed above, and we seek to engage the community in further discussion on these questions as well:

First, Staff did not consider authentication/access control to be out of scope when drafting the paper for several reasons. First, some registries (.tel) are providing authenticated access to WHOIS to conform to national privacy laws, so it is reasonable to consider that others may also have a need for this capability. 2) There have been past policy proposals to provide differentiated access to WHOIS data, and if these proposals were to be considered for adoption, it would be important for the community to understand that as of now the Whois service lacks security and access control mechanisms to support those proposals, should they be adopted as consensus policy in the future. 3) Any revisions to a modern protocol will have implications for security and internationalization, and we see WHOIS as no different. We appreciate further input on this matter.

Second, regarding the question of whether IRIS should be considered as an option, our inclination was to begin this discussion by recognizing all possible options that we are aware of, and to use the paper as an objective foundation for finding potential solutions.

Staff will be updating the draft discussion paper to reflect the discussion in Cartagena. The revised paper will be posted on the community wiki referenced above and we look forward to further input on next steps from all interested parties.