**Chapter 1: Executive Summary**

The Internet Corporation for Assigned Names and Numbers (ICANN) is one of a small but important set of organizations responsible for administering certain functions critical to the operation of the Internet. ICANN's primary responsibility is to facilitate the policy maintenance and enhancement of the Domain Name System (DNS), an integral part of the Internet.

ICANN is a California, public benefit corporation that undertakes periodic reviews to assess its efficacy in serving its various constituencies and the global public at large. In 2009, ICANN and the US Department of Commerce approved, signed, and published an Affirmation of Commitments (AoC) in which ICANN commits to undertake a number of high level reviews, including on Accountability and Transparency (completed December 2010), and WHOIS.

This report is the formal output of the Review Team responsible for assessing WHOIS and represents the culmination of a year-long effort by a diverse group, representative of ICANN's makeup.

1. **History**

ICANN was formed in 1998 to fulfill the requirement that operation of the DNS move from the government to private sector control.

WHOIS (not an acronym) was first defined as a *protocol* of the Internet Engineering Task Force (IETF) in 1982. WHOIS is one of the simplest in the suite of protocols that the IETF maintains. Any machine connected to the Internet can operate a WHOIS *service* by implementing the protocol and responding to requests as described in the *specification*.

Initially, the WHOIS *specification* described a set of information that was requested of anyone capable of transmitting information across the network. This information consisted of name and contact information which was to be stored on specific servers and would be returned upon receipt of an appropriate WHOIS request. It was used to provide points of contact for the network hosts. [Crocker comments]

As the Internet grew and it became impractical to maintain a single WHOIS server, updated versions of the *specification* were developed and approved. These specifications dropped the references to specific servers and required information, thereby enabling broader use of the specifications. It was then incumbent on any community desiring to use WHOIS to define required information and where that information could be found. ICANN is responsible for those definitions for the Domain Name System.

1. **Discussion**

Domain names are the familiar sequence of characters we see in our web browsers after the "http://www." and before the next "/"; e.g. "[google.com](http://google.com/)", "[redcross.org](http://redcross.org/)", and "[europa.eu](http://europa.eu/)". They are an integral part of the Internet, serving us as mnemonics for places we have been to or wish to be, and as keys for machines to perform the necessary translation from the abstract to the real.

Domain names sit on the human side of the man-machine interface and through the DNS are translated to machine-compatible Internet Protocol (IP) addresses. Internet-connected machines use IP addresses to send and receive messages transmitted over the Internet. They are fundamental to the Internet itself, as is uniform translation from name to number, and back again.

While the DNS presents a single, complete view of the Internet, no single machine holds all of the Internet's addressing and mapping information. Rather, that information is distributed across a series of name servers that cooperate to seamlessly provide that one comprehensive view.

Domain names and the DNS are used in virtually every aspect of the Internet, not just those parts most visible to most consumers, web browsers. Every email message, song or movie download, instant message, tweet, facebook "like", or online transaction involves the DNS in some way. Without the DNS, the Internet would not exist as we know it.

As important as machine to machine communication is, there are times when human to human interaction related to the Internet is required. The reasons for this interaction are varied and include notice, abuse, and security amongst others. For these reasons, contact information (as specified by ICANN) related to a domain name must be provided in order to register a domain name, much like when registering a vehicle.

This information is stored and is available to the public through a system known colloquially as WHOIS. WHOIS predates the "commercial" Internet and remains largely unchanged since its earliest days, ca 1982. [per Crocker comments that we should fact-check and document this or (alternatively, I think) let it go]

1. **Debate**

WHOIS is the source of long-running discussion and debate at ICANN, other Internet Governance institutions, and elsewhere. This team and its successors hopefully will inform future debate and consensus-based decision making.

Issues in the WHOIS debate are varied. Any discussion of WHOIS will likely contain all of the words accuracy, privacy, anonymity, cost, policing, and SPAM. Each of the issues is important. This is sometimes lost in the heat of the debate and it is important to remind ourselves of this on a regular basis.

In order to inform the debate, and to inform the decision-making process, ICANN has conducted a number of studies in this area.. Significant sums have been spent studying WHOIS, including with four major studies now in progress. We, of course, did not have the benefit of these studies in our work, but feel it is important to present recommendations that are action-oriented. [A number of people in the GNSO and Crocker too felt the original text was pejorative – and that the studies have been undertaken in very good faith (and as someone who spent many days drafting some of the ones in play, I agree ☺. So I tried to edit out the “edge” but keep the gist of the content – that we (Whois RT) is not waiting for the studies – we want action now.] [I think this goes further into the studies, and is part of what has been mis-understood, with offense in the GNSO taken. I think our Whois RT concerns about delays and studies are clear from our report and public meetings/KK. Also, Studies are mentioned in next sentence… ]

1. **Conclusions**

This summary discussion is not a condemnation of the debate, the studies, or the people that invested their time, emotion, and personal capital over the years. Rather, it is an attempt to concisely present in a balanced and fair manner aspects of the Whois protocol, service and especially data that many in the Community, on all sides of the issue, think merit additional attention. [softening just a bit as offense was taken/KK]

This Review Team reflects the diversity of ICANN's multi-stakeholder model. We have been given time to conduct our review, receiving invaluable feedback from the community. We agree to disagree yet we have found consensus, for each and every one of the recommendations we make. We look forward to participating in the debates that follow, and monitoring their implementation if adopted by the Board.

1. **Work of this RT**

The WHOIS Review Team’s scope, guided by the Affirmation of Commitments was to review the extent to which ICANN’s WHOIS policy and its implementation are effective, meet the legitimate needs of law enforcement and promote consumer trust.

Formed in October 2010, the WHOIS Review Team comprised representatives from across the ICANN constituencies, a representative of law enforcement and two independent experts. The Review Team held two dedicated face-to-face meetings during its term, as well as working and outreach sessions at each of the ICANN meetings in 2011. Fortnightly calls were held. Apart from rare occasions where Chatham House Rule [comment] were invoked, all the Review Team’s calls, meetings and e-mail list were open to observers, and the public wiki [https://community.icann.org/display/whoisreview/WHOIS+Policy+Review+Team](https://community.icann.org/display/whoisreview/WHOIS%2BPolicy%2BReview%2BTeam) provides an archive of our activities.

1. **Findings & Recommendations**

**Recommendation 1: Strategic priority**

***Findings***

WHOIS policy and its implementation are one of four central issues highlighted in the Affirmation of Commitments, the others being Accountability and Transparency, Security and Stability, and Consumer Trust.

That WHOIS placed alongside such issues shows that the authors of the Affirmation of Commitments, the US Government and ICANN's senior executive, viewed it as one of the four barometers of ICANN's effective performance and service to the Internet Community. One reason for this may be that, although WHOIS services are provided by ICANN's contracted parties, WHOIS look ups have now become detached from the domain name supply chain. Users of WHOIS tend not to be customers of registries and registrars, but are law enforcement, or those enforcing private law rights, and those seeking to get in touch with registrants for whatever reason. There are no income streams associated with providing WHOIS. It is viewed by many in the industry as a cost, and is often difficult to locate on registrar websites.

As a result, it is not a priority for many of ICANN's contracted parties - who provide funding for ICANN the corporation. It is, however, a high priority for many users who are outside the ICANN inner circle, but for whatever reason their needs have not found organisational priority to date.

Although compliance is one essential element of WHOIS Policy and its implementation, it is not the whole story. WHOIS as an issue encompasses:

• The WHOIS Protocol, including its continued fitness for purpose given that both the Internet and uses of WHOIS have expanded beyond what their original designers would have imagined possible;

• Internationalisation of WHOIS Data, and the consistent handling of non-ASCII text in both the records and the display of the domain name itself;

• Ongoing development of WHOIS policy within ICANN's existing machinery, and the impact of other policy development on WHOIS;

• Maintaining some coordination role to ensure that so far as possible, policy development effort is not duplicated, relevant research is brought to the attention of relevant working groups or staff, and is followed up in a timely way; and

• That compliance with contractual obligations, and outreach to affected communities of users is managed effectively and that honest timely reporting be given to the Community.

The WHOIS Review Team finds that in all of the above points, ICANN the corporation has failed to meet expectations. It is ideally placed to play a proactive role, for example in stimulating work on protocol reform, and working with the IETF to share its leanings, and encourage adoption or at least test beds by the industry of appropriate replacement protocols. Expensive and valuable research studies, for example the NORC study on Data Accuracy have been left to languish for years, with no follow up, and no individual ownership of the issues. ICANN's contractual compliance effort has historically been under resourced, under staffed, and has struggled for organisational priority.

***Recommendation 1 Strategic Priority***

It is recommended that WHOIS, in all its aspects, should be a strategic priority for ICANN the organisation. It should form the basis of staff incentivisation and published organisational objectives. Regular (at least annual) updates on progress against targets should be given to the Community within ICANN's regular reporting channels, and should cover all aspects of WHOIS including protocol, policy development, studies and their follow up.

To support WHOIS as a strategic priority, the ICANN board should create a committee that includes the CEO. The committee should be responsible for advancing the strategic priorities required to ensure the following:

• Implementation of this report’s recommendations;

• Fulfillment of data accuracy objectives over time;

• Follow up on relevant reports (eg NORC data accuracy study);

• Reporting on progress on all aspects of WHOIS (policy development, compliance, and advances in the protocol / liaison with SSAC and IETF;

• Monitoring effectiveness of senior staff performance and the extent to which the Compliance function is effective within the current structure, and take appropriate action to remedy any gaps.

Advancement of the WHOIS strategic priority objectives should be a major factor in staff incentivization programs for ICANN staff participating in the committee, including the CEO.

**Recommendation 2: Single WHOIS Policy**

***Findings***

One of our earliest "findings" was our inability to find a clear, concise, well-communicated WHOIS Policy. The Team was assured that one existed and that it had been in force for some time. Several versions of Registrar and Registry contracts were reviewed as were compliance activities related to the policy. Throughout, we were unable to locate a document labeled WHOIS Policy as referenced by the ICANN-approved Affirmation of Commitments. Overall, we found elements of the Whois Policy in Registrar and Registry contracts, GNSO Consensus Policies and a Consensus Procedure, the IETF Requests for Comments (RFCs) and domain name history. [From our Public Forum slides] ***Recommendation 2 Single WHOIS Policy***

ICANN's WHOIS policy is poorly defined and decentralized The ICANN Board should oversee the creation of a single WHOIS policy document, and reference it in subsequent versions of agreements with Contracted Parties. In doing so, ICANN should clearly document the current gTLD WHOIS policy as set out in the gTLD Registry and Registrar contracts and GNSO Consensus Policies and Procedure. [from Policy chapter and Public Forum slides]

**Original Recommendation 3 was Strategic Priority, not Recommendation 1]**

**Recommendation 3: Outreach**

***Findings***

We found great interest in the Whois policy among a number of groups that do not traditionally participate in ICANN’s more technical proceedings. They include the Law Enforcement Community and Data Protection Commissioners and the privacy community more generally. Further we found interest among those in all three organizations, including the ccNSO and the ASO, who may or may not closely follow proceedings in the GNSO, where most of the Whois discussion takes place.

These groups are worried that they miss a proceeding taking place within the GNSO on WHOIS matters, and their ability to substantively comment.

**Recommendation 3 Outreach**

ICANN should ensure that WHOIS policy issues are accompanied by cross-community outreach, including outreach to the communities outside of ICANN with a specific interest in the issues and an ongoing program for consumer awareness.

**[Original Recommendation 2 was WHOIS Data Reminder. I believe it has been replaced by new compliance findings and recommendations, but I don’t have the text. It might fit nicely here as we begin to go into details…]**

**[Possible Recommendation 4: Compliance]**

**Recommendations 5-8: Data Accuracy**

**[Note: formerly Recommendations 5-9, but we are down to 3, plus two new data accuracy-related recommendations at the end]**

***Findings***

In 2009-10, ICANN commissioned a study on data accuracy, which was undertaken by the National Opinion Research Council of the University of Chicago (NORC) (the “NORC WHOIS Data Accuracy Study 2009/10”). The study found that only 23% of WHOIS records were fully accurate and over 20% were completely inaccurate. Concerns about the accuracy of WHOIS records were raised in a number of responses to the WHOIS review team’s public Discussion Paperand in public sessions at four ICANN meetings.

* Law enforcement agencies expressed a view that inaccurate or incomplete WHOIS data can potentially cause serious problems during the course of a criminal investigation;
* Inaccurate WHOIS data can also significantly impact consumer trust and confidence in the Internet;
* The Non-Commercial Users Constituency noted: If registrants have other channels to keep this information private, they may be more willing to share accurate data with their registrar;
* The concerns of businesses include issues relating to online counterfeiting and their ability to protect their intellectual property rights.

The low level of accurate WHOIS data is unacceptable, and decreases consumer trust in the WHOIS, in the industry of which ICANN provides rules for and coordinates and therefore in ICANN itself. The organisation’s priority in relation to WHOIS should be to improve WHOIS data accuracy and sustain improvement over time.

***Recommendations 5-8 Data Accuracy***

1. ICANN should take appropriate measures to reduce the number of WHOIS registrations that fall into the accuracy groups Substantial Failure and Full Failure (as defined by the NORC Data Accuracy Study, 2009/10) by 50% within 12 months and by 50% again over the following 12 months.
2. ICANN shall produce and publish an accuracy report focused on measured reduction in WHOIS registrations that fall into the accuracy groups Substantial Failure and Full Failure, on an annual basis.
3. ICANN should ensure that there is a clear, unambiguous and enforceable chain of contractual agreements with registries, registrars, and registrants to require the provision and maintenance of accurate WHOIS data. As part of these agreements, ICANN should ensure that clear, enforceable and graduated sanctions apply to registries, registrars and registrants that do not comply with its WHOIS policies. These sanctions should include de-registration and/or de-accreditation as appropriate in cases of serious or serial non-compliance.
4. ICANN should ensure that the requirements for accurate WHOIS data are widely and pro-actively communicated to current and prospective Registrants. As part of this effort, ICANN should ensure that its Registrant Rights and Responsibilities document is pro-actively and prominently circulated to all new and renewing registrants.

The following recommendation will be #20

ICANN should also provide at least annual status reports on its progress towards achieving the goals set out by this WHOIS Review Team, published by the time the next WHOIS Review Team starts. This report should include tangible, reliable figures needed.

The following recommendation will be #21

ICANN should provide a detailed and comprehensive plan within 3 months after the submission of the Final Whois Review Team report that outlines how ICANN will move forward in implementing these recommendations.

**Recommendations 9: Data Access -- Privacy and Proxy Services**

**[Formerly Recommendations 10-14 – Wow, it’s all one recommendation!]**

***Findings***

Privacy and proxy services have arisen to fill an ICANN policy vacuum. These services are clearly meeting a market demand, and it is equally clear that these services are complicating the WHOIS landscape.

Privacy and proxy services can be used to address legitimate legal, noncommercial and commercial interests. For example,

**Individuals –** who prefer not to have their personal data published on the Internet as part of a WHOIS record;

**Organizations** – as religious, political or ethnic minority, or sharing controversial moral or sexual information; and

**Companies** – for upcoming mergers, new product or service names, new movie names, or other product launches.

However, ICANN’s current lack of any clear and consistent rules with regards to privacy and proxy services[[1]](#footnote-1) has resulted in unpredictable outcomes for stakeholders. In terms of the review team’s scope:

* Law enforcement shared its concern over the abuse of proxy services by criminals seeking to hide, companies defrauding customers, and parties attacking the security of the Internet including by botnets and malware; and
* the current use of privacy and proxy services raises questions about whether ICANN is meeting its AoC commitments relating to ‘timely, unrestricted and public access’ to WHOIS data.

The Review Team considers that,

* with appropriate regulation and oversight, privacy and proxy services appear capable of addressing stakeholder needs.

**Recommendations 9 Data Access -- Privacy and Proxy Services**

The Review Team recommends that ICANN should initiate processes to regulate and oversee privacy and proxy service providers.

ICANN should develop these processes in consultation with all interested stakeholders.

This work should take note of the studies of existing practices used by proxy/privacy service providers now taking place within the GNSO.

The review team considers that one possible approach to achieving this would be to establish, through the appropriate means, an accreditation system for all proxy/privacy service providers. As part of this process, ICANN should consider the merits (if any) of establishing or maintaining a distinction between privacy and proxy services.

The goal of this process should be to provide clear, consistent and enforceable requirements for the operation of these services consistent with national laws, and to strike an appropriate balance between stakeholders with competing but legitimate interests. At a minimum, this would include privacy, data protection, law enforcement, the industry around law enforcement and the human rights community.

ICANN could, for example, use a mix of incentives and graduated sanctions to encourage proxy/privacy service providers to become accredited, and to ensure that registrars do not knowingly accept registrations from unaccredited providers.

ICANN could develop a graduated and enforceable series of penalties for proxy/privacy service providers who violate the requirements, with a clear path to de-accreditation for repeat, serial or otherwise serious breaches.

 In considering the process to regulate and oversee privacy/proxy service providers, consideration should be given to the following objectives:

* Clearly labeling WHOIS entries to indicate that registrations have been made by a privacy or proxy service;
* Providing full WHOIS contact details, which are contactable and responsive;
* Adopting agreed standardized relay and reveal processes and timeframes; (these should be clearly published, and pro-actively advised to potential users of these service so they can make informed choices based on their individual circumstances);
* Registrars should disclose their relationship with any proxy/privacy service provider;
* Maintaining dedicated abuse points of contact for each provider
* Conducting periodic due diligence checks on customer contact information;
* Maintaining the privacy and integrity of registrations in the event that major problems arise with a privacy/proxy provider.

**[**Finally, for the avoidance of doubt, the WHOIS policy, referred to in Recommendation 1 above, could include an affirmative statement that clarifies that ICANN regards the registered name holder in the WHOIS data to be the entity that obtains all rights and assumes all responsibility for the domain name and its manner of use.**] [KK Note: I think this paragraph is still being finalized… ]**

**Recommendation 10: Data Access – Common Interface**

**[Formerly Recommendation 17]**

***Findings***

According to our consumer research, one of the aspects that consumers struggled with (once they had been informed of the existence of WHOIS in many cases) was locating WHOIS Services and interpreting WHOIS Data. This is particularly pronounced with 'thin' WHOIS Services which split the WHOIS data between the Registry and Registrar, and affect .com and .net, which together hold over 100 million domain name registrations at the time of writing.

We understand that ICANN already provides a WHOIS lookup service called Internic. The WHOIS Review Team supports the concept of the Internic service, as a 'go to' place for those wishing to find out information about domain name registrants. It finds that in practice, the Internic service is little known, and is not user friendly. For example, it delivers only the 'thin' WHOIS data for .com and .net. [NB we will define this term elsewhere, not in the findings]. This requires users who are looking up through a web interface to find the relevant registrar's website, and their WHOIS Service before they are able to complete their query.

The WHOIS Review Team unanimously believes that WHOIS Services in general and Internic in particular are not optimised for usability, and could do much more to promote consumer trust. Further, we believe that they prevent the WHOIS from being more widely used and relied on by consumers.

***Recommendation 17 Data Access – Common Interface***

It is recommended that the Internic Service is overhauled to provide enhanced usability for consumers, including the display of full registrant data for all gTLD domain names (whether those gTLDs operate thin or thick WHOIS Services) in order to create a one stop shop, from a trusted provider, for consumers and other users of WHOIS Services.

In making this finding and recommendation, we are not proposing a change in the location where data is held, ownership of the data, nor do we see a policy development process as necessary or desirable. We are proposing an operational improvement to an existing service, the Internic.

**Recommendation 11-13: Internationalized Domain Names**

**[Formerly Recommendations 18-20]**

***[To be added by the IDN Subteam]***

**[New Recommendation, from our Data Accuracy work – we called it Recommendation #20]**

**Recommendation 14: Annual Status Reports**

ICANN should also provide at least annual status reports on its progress towards achieving the goals set out by this WHOIS Review Team, published by the time the next WHOIS Review Team starts. This report should include tangible, reliable figures needed.

**[New Recommendation, from our Data Accuracy work – we called it Recommendation #21]**

**Recommendation 15: Detailed and Comprehensive Plan**

ICANN should provide a detailed and comprehensive plan within 3 months after the submission of the Final Whois Review Team report that outlines how ICANN will move forward in implementing these recommendations.

**[Quick final note: there is additional text on our private Wiki that was not sure where to place. It was for:**

**Timeframes, De-accreditation Text (which I think we decided not to pursue in our last call) and Data Validation. If you know where these things go, please let the Team know]**

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*[From the original Executive Summary findings and recommendations (which were originally two separate sections) and which I believe have been replaced by the text above and the findings and recommendations developed by the subteams.]*

1. Working definitions of Privacy and Proxy Services:

Privacy Service a service that provides the Registrant Name and a subset of other information (possibly null set) but consistent across ICANN

Proxy Service a relationship in which the registrant is acting on behalf of another. The WHOIS data is that of the agent and the agent alone obtains all rights and assumes all responsibility for the domain name and its manner of use. [↑](#footnote-ref-1)