Summary and Analysis of comments for:
The Draft Report for the Study of the Accuracy of WHOIS Registrant Contact Information ("Study")

The comment period ran from 17 February to 1 May 2010. Twenty (20) public comment submissions were received, which may be viewed in their entirety at: http://forum.icann.org/lists/whois-accuracy-study/.

The various issues raised by these comments have been grouped into the following 5 common themes:

1. General response to the Study
2. Criticisms of the Study
3. WHOIS concerns
4. WHOIS suggestions
5. Suggestion for future studies

Each common theme consists of key points (with the number of comments on the specific key point indicated), followed by excerpts of comments relating to each key point.

Disclaimer: The summary is not a full and complete recitation of the relevant comments received. It is an attempt to capture in broad terms the nature and scope of the comments. The summary has been prepared in an effort to highlight key elements of these submissions in an abbreviated format, not to replace them. Every effort has been made to avoid mischaracterizations and to present fairly the views provided. Any failure to do so is unintentional.

SUMMARY & ANALYSIS

1. GENERAL RESPONSE TO THE STUDY

1.1 Key Points

This Study was commissioned by ICANN in order to find a baseline measurement of the proportion of WHOIS records that is accurate. The Study found (and most public comment submissions agreed) that the levels of inaccuracy are unacceptable. The Study also identified the nature of inaccuracies and the barriers to improved accuracy and the public comments provided a broad spectrum of suggestions for improvements and for future study.

A consistent message in almost all the public comment submissions was the need to improve WHOIS accuracy and explore and implement workable solutions to achieve better accuracy. Most comments endorsed the commissioning of the Study by ICANN, although the Registrar Stakeholder Group was of the view that WHOIS accuracy issues are exaggerated.

The submissions included the following general comments:

- Recognize the need to improve WHOIS accuracy (16 comments) - More study and enforcement is needed to combat the problem of WHOIS inaccuracies.

- Support for the Study (10 comments) - Individuals and organizations expressed their support for ICANN's effort to commission the Study.

- Results of the Study not surprising (7 comments) - The Study did not return any surprising results but confirmed many user groups' suspicion or understanding.

- WHOIS accuracy problem is exaggerated (1 comment) – The Registrar Stakeholder Group claims "WHOIS data accuracy issues articulated by other ICANN community stakeholders are exaggerated".

1.2 Excerpts of Comments

Recognize the need to improve WHOIS accuracy:

It's time to cut through the BS that is flying around this issue at ICANN, and finally bring forth WHOIS verification that will enhance the safety and security of the domain name system. *G. Kirikos (17 Feb. 2010).*

It is a fallacy to believe the entire gTLD WHOIS record set cannot be validated. Systems currently exist that could validate 70,000 to 100,000 records per day. *G. Bruen (09 Apr. 2010).*

ICANN should not permit such a large percentage of WHOIS data to remain either substantially or fully inaccurate. *Verizon (13 Apr. 2010).*

The level of inaccuracy documented exposes a significant problem requiring the attention of the entire ICANN community. We hope that this report serves as a wake call to us all and ware are able to take quick action. *MarkMonitor (14 Apr. 2010).*

A 29% failure rate is not acceptable given that one of ICANN's core commitments is the accuracy of the WHOIS data. ICANN has not done enough to enforce compliance with the registrars' obligations to maintain WHOIS data accuracy of their registrants. *IACC (14 Apr. 2010).*

Given that one of ICANN's core commitments is the accuracy of WHOIS data, a 29% failure rate is not acceptable in our view. We feel that ICANN has not historically enforced compliance of the registrars maintaining WHOIS data accuracy of their registrants, which would help in motivating both to keep records up to date. *IPC (15 Apr. 2010).*

ICANN needs to examine if it has the tools in place to live up to a core commitment of accurate WHOIS data and if not, find measures to improve those tools in short order, or find a remedy outside the organization to maintain and enforce accurate WHOIS data. *IACC (14 Apr. 2010), IPC (15 Apr. 2010).*

We believe that creating a set of thresholds that will minimize and potentially prevent Domain Name abuse in the pretext of launching the new gTLDs is an important objective for ICANN. *InterContinental Hotels Group (15 Apr. 2010).*

It is extremely troubling that only 22.8 percent of the domain names in the study met all three criteria of accuracy and as such can be considered fully accurate. It is unacceptable to have such flawed records and ICANN must work to ensure that WHOIS information is both accurate and accessible. *CADNA (15 Apr. 2010).*

By imposing greater responsibility on accredited registrars to improve the accuracy of WHOIS data they collect and display, and by rigorously enforcing this obligation on all accredited registrars, ICANN can transform WHOIS data accuracy from an uneconomic choice to a simple cost of doing business for all registrars. WHOIS inaccuracy is a serious problem. This problem falls squarely within ICANN's remit as the technical coordinator of the domain name system, and its continuing failure to take effective steps to address the problem amounts to neglect of an ongoing threat to the security and stability of the DNS. *COA (15 Apr. 2010).*

At this point in time, when we may be close to experiencing a sharp increase in the number of gTLDs that will be registered by registrants and traverse provider networks, it is imperative that steps be implemented now in order to improve accuracy and reliability of WHOIS data. We urge ICANN to move forward with its continued focus on ways to improve accuracy of WHOIS data and further study the overall maintenance and use of registrant information. *ISPCP (19 Apr. 2010).*

Further studies into gauging the costs of better maintaining WHOIS accuracy may provide information that would be useful in developing better analysis and possible strategies to enhance WHOIS accuracy. The cost of any such new studies should be measured against the benefits they would provide in increasing accuracy. *USCIB (15 Apr. 2010).*

Support for the Study:

It is encouraging to see ICANN strive to understand the magnitude and characteristics of WHOIS data issues. *J. Sauver (5 Apr. 2010).*

We appreciate the effort that NORC and ICANN put into this study. *Verizon (13 Apr. 2010).* The IACC appreciates the effort and expense undertaken by ICANN to secure a scientific measure of WHOIS accuracy.

The NORC WHOIS Study is a valuable step towards assuring WHOIS accuracy. *IACC (14 Apr. 2010).*

The IPC very much appreciates the effort and expense taken to get a baseline measurement of what proportion of WHOIS records are accurate and applauds the effort of ICANN and NORC to expand the scope of this effort beyond missing and patently false information in the records of the top gTLDs as was done in 2005 by the GAO. *IPC (15 Apr. 2010).*

The Business Constituency commends ICANN for recognizing the need for such a study. Overall, we believe that the report is thorough and is an important step in the right direction. *Business Constituency (15 Apr. 2010).*

Overall, we enthusiastically endorse the Study and its conclusions. The Report is an important step in identifying the shortcomings of the current regime for obtaining and maintaining accurate registrant contact information. We commend NORC on a credible and useful examination of postal information, which, to our knowledge, has not heretofore been conducted. *INTA Internet Committee (15 Apr. 2010).*

We are pleased with the initial findings the study has identified and are hopeful that the results will set the stage for further analysis and reforms aiding the accuracy of WHOIS data. *InterContinental Hotels Group (15 Apr. 2010).*

The NORC study marks an important contribution to the WHOIS debate, and provides some welcome empirical evidence that should enhance the quality of ICANN's future decision-making in this sphere. *COA (15 Apr. 2010).*

We believe a study of fact based WHOIS data is long overdue and we are grateful to ICANN for the resources committed to this initiative. *ISPCP (19 Apr. 2010).*

USCIB welcomes ICANN's commitment to further understand WHOIS accuracy, and found the report useful in informing the Internet community regarding current accuracy rates. *USCIB (15 Apr. 2010).*

Results of the Study not surprising:

The results of the WHOIS accuracy study are not a surprise to us, nor should they be to anyone who has used the WHOIS system over the years to look up registrant information. *G. Kirikos (17 Feb. 2010).*

Report reveals info widely suspected and previously confirmed: vast and deliberate WHOIS inaccuracies plague the domain registration system and criminals use WHOIS fraud for concealment. *G. Bruen (09 Apr. 2010).*

Trademark owners like Verizon have long been aware of the unacceptably high levels of inaccurate information in WHOIS and this study only confirms this fact. *Verizon (13 Apr. 2010).*

The fact that (only) 23% of the studied data has been shown to be fully accurate comes as no surprise to brand rights holders. *MarkMonitor (14 Apr. 2010).*

The study confirms that the problem of inaccurate WHOIS data exists at a significant level. *InterContinental Hotels Group (15 Apr. 2010).*
The study shows what COA has been stressing for a decade: the domain name registrant contact data available through WHOIS is riddled with false information. *COA (15 Apr. 2010).*

The study confirms what ISPCP members have understood for many years. *ISPCP (19 Apr. 2010).*
WHOIS accuracy problem is exaggerated:

Approximately 80% of the registrants studied were located or accurately provided deliverable addresses which indicate to the RrSG that WHOIS data accuracy issues articulated by other ICANN community stakeholders are exaggerated. *Registrar Stakeholder Group (16 Apr. 2010).*

2. CRITICISM OF STUDY

2.1 Key Points

Several comments expressed concerns over the sample design or methodology of the Study and identified areas for fine-tuning the Study's focus or methodology. Some recommended further specific WHOIS studies.

The submissions which criticized the Study identified the following reasons:

- Proxy services should have been studied in greater depth (6 comments) - Proxy services should have been verified, instead of assuming that the underlying information is accurate.

- Methodology of verifying physical addresses (3 comments) – This methodology may not be feasible in many countries.

- Registrars should be the focus (3 comments) - The study should have concentrated on inaccuracies by registrars.

- Study size too small (2 comments) - The study size was too small to be a meaningful representation.

- Method used for phone contact (2 comments) - The methods used to contact the registrants by phone and to verify them by address are flawed.

- Scope of the Study (2 comments) – Some queried the rationale for limiting the Study to registrant's phone number and the few countries involved.

- Concerns about the data source (1 comment) – The source of the data (being from ICANN) may invalidate the survey results.

- Inaccuracy results seem low (1 comment) – The result of 8% total failure seems low.

- Domain Name expiration or deletion status should have been considered (1 comment) - The study should have examined the possible causal link between the data inaccuracies and domain name expiration or deletion.

2.2   Excerpts of Comments

Proxy services should have been studied in greater depth:

Proxy registration service providers that have declared that as a matter of policy they will discard or reject all letters they receive for the registrant cannot be considered to be a "valid address" for the purpose of the registrar accreditation agreement. *J. Sauver (05 Apr. 2010).*

If the study had factored in proxy service data, we believe the levels of inaccurate information would have increased. Verizon typically encounters thousands of domain name infringements lacking valid information, which often resides with registrars offering proxy services. *Verizon (13 Apr. 2010).*

The study may understate the scope of the issue insofar as the use of WHOIS masks, privacy services and proxy services are not, but the definitions employed by this study, indicative of any "inaccuracy." *IACC (14 Apr. 2010).*

While proxy service's information could be verified, this leaves unanswered whether the WHOIS data could be used to contact the registrant (the purpose for which it has always been collected). *IPC (15 Apr. 2010).*

Although the Study confirmed the use of a privacy or proxy service, such services, depending on their policies and compliance with registration agreement provisions imposed under RAA 3.7.7.3, may hinder the ability to reach a registrant just as much as a false address. Therefore, the Study should have broken out the number of such WHOIS listings, rather than including them in the "no failure" category. *INTA Internet Committee (15 Apr. 2010).*

The real question is whether it is possible to contact the actual registrant – the customer of the proxy service – or even to learn that party's identity and contact data. The experience of COA participants is that proxy and privacy services frequently do not reveal this data, even with presented with what the RAA, in section 3.7.7.3, describes as "reasonable evidence of actionable harm" resulting from use of the domain name. *COA (15 Apr. 2010).*

Methodology of verifying physical addresses:

The methodology for verifying physical addresses may work fine in countries with an easily "mappable" postal address system, but my own home address would probably fail their checks, as would a lot of Irish residents. *M. Neylon (17 Feb. 2010).*

I recognize and acknowledge that address verification data may not be available for all countries… *J. Sauver (05 Apr. 2010).*

Registrars should be the focus:

NORC's choice to cluster by country is regrettable in that it fails to fully capture the underlying problem that abuse analysts and researchers routinely see with the gTLD domain WHOIS data: WHOIS inaccuracy is a phenomenon which varies dramatically *by registrar*. *J. Sauver (5 Apr. 2010).*

Different Registrar policies can severely influence WHOIS accuracy… It is no secret that Registrars have two sets of client records: one for payment processing and another for ownership presentation. *G. Bruen (09 Apr. 2010).* We already know of some registrars that are clearly 99% criminally controlled… *S. Burn (18 Feb. 2010).*

Study size too small:

There are over 100 million gTLD domain names currently registered. To draw any "meaningful" conclusions about anything related to the current corpus of domain names would require a sample set significantly larger than that chosen. *M. Neylon (17 Feb. 2010).*

The idea that the entire gTLD WHOIS record set cannot be validated is a fallacy. 2,400 is too small a set to reveal meaningful survey results. By their own recoding there are 102 million domain names in use, 2400 is 0.002% of the whole. Results from this less-than-one percentage cannot tell about the whole… *G. Bruen (09 Apr. 2010).*

Method used for phone contact:

It's 2010. Many people rely primarily on their mobile phone for day to day use, and most of our staff, for example, wouldn't even have fixed lines in their homes. And of course there are no public directories of mobile phone numbers. *M. Neylon (17 Feb. 2010).*

While the Report clearly states that phone numbers provided in the WHOIS listing were not used for contact purposes there is no rationale provided for this approach. In addition, while the Report provides some insight into the number of calls made, it would be useful to include information on how often calls were made to a single registrant (once a day, twice a day, and so forth), whether calls were consistently made at the same time(s) each day, whether calls were made on weekdays, on weekends or both, and how long efforts continued to reach a registrant (one day, two consecutive days, only within a particular week, over a two week period, and so forth). *INTA Internet Committee (15 Apr. 2010).*

Scope of the Study:

We would like to know why this study devoted so much expense and effort to verify the registrant's phone number, as opposed to other contact information on the WHOIS record. *Business Constituency (15 Apr. 2010).*

In order to avoid speculation and questions regarding the Study's scope, we suggest that ICANN include in the Report its reasoning for limiting the Study to physical addresses. Although we understand the cost rationale for limiting the countries involved in the Study, we wonder whether the exclusion of certain countries might have affected the results. *INTA Internet Committee (15 Apr. 2010).*

Concerns about the data source:

"ICANN drew and delivered to NORC a proportionate sample for these five domains…" Citing ICANN for the source of the data invalidates the survey results. Each gTLD has its own registries, volume, policies and standards. Therefore each should be the subject of a separate survey. Not only are WHOIS access and standardization problems that should be studied before the general accuracy problem, but the differences in data access and credibility call for separate surveys. I am not questioning the integrity of NORC staff, but saying one data set is unaltered and the other data set is subject to manual processing error means they cannot be mixed. With the survey conductors actually contacting registrants we may end up with behavioral changes in some registrants and possibly unscientific results. *G. Bruen (09 Apr. 2010).*

Inaccuracy results seem low:

The statistic in the study that revealed only 8% of WHOIS records completely failed seems unusually low. We frequently find WHOIS records in which all information appears false except for the email address. The study didn't find any cases of stolen identity, but companies often face this issue when tracking down WHOIS contacts. *Business Constituency (15 Apr. 2010).*

Domain Name expiration or deletion status should have been considered:

Only 7.8% of WHOIS records contained a full failure. The report did not examine each domain name's expiration or deletion status. The RrSG suggests that a significant portion of this 7.8% full failure rate may be attributed to domain names that were near expiration or were intended to be deleted by their respective registrants. In such cases it is less likely that the registrant maintained accurate WHOIS data. *Registrar Stakeholder Group (16 Apr. 2010).*

3. WHOIS CONCERNS

3.1 Key Points

Some commentators did not agree with the Study's conclusion that increased accuracy will lead to increased costs and one commentator was of that view that even if costs were to increase, "these are simply a cost of doing business".

Several commentators did not comment specifically on the content of the Study but identified personal experiences with WHOIS accuracy.
The submissions identified the following issues:

- Intellectual property rights concerns (10 comments) - The protection of intellectual property rights is important to business and intellectual property right holders and valid WHOIS information is key to protecting their rights.

- Criminal activity in general (8 comments) – There is a belief that criminals will never provide valid contact information but valid information is crucial to bringing criminals to justice.

- Privacy (4 comments) - The protection of privacy and anonymity is a major concern for individuals.

- Increased accuracy does not necessarily come with escalating costs (2 comments) – Some commentators were of the view that increased accuracy can be achieved with cost effective methods or without significant cost.

- Costs associated with ensuring accuracy are simply a cost of doing business simply a cost of doing business (1 comment).

- Increased accuracy leads to increased costs (1 comment) - Improvements will involve increased costs with negative consequence.

3.2 Excerpts of Comments

Intellectual property rights concerns:

Panel discussion on WHOIS where the rights of consumers and IP holders were mentioned as pressing concerns. *J. MacFie (17 Feb. 2010)*.

As a lawyer specializing in Internet law I can assure that WHOIS is very important in cases of protecting 3rd parties' rights (be it trademark, copyright, other intellectual property rights, rights to privacy or publicity – any rights). *V. Kolosov (09 Mar. 2010)*.
Accurate WHOIS information remains a key priority for Verizon to enforce our rights against those who register domain names for the purpose of engaging in fraudulent and illegal activities, including cybersquatting, affiliate fraud and phishing. *Verizon (13 Apr. 2010)*.

Long held belief in the IP community – inaccurate WHOIS issues are of a significant magnitude which hurts the ability to protect consumers. *MarkMonitor (14 Apr. 2010)*.

WHOIS accuracy is of critical importance to the protection and safety of internet users and is a valuable tool to Brand owners to enable protection of intellectual property. *IPC (15 Apr. 2010), Business Constituency (15 Apr. 2010)*.

The unavailability of reliable WHOIS data causes significant concerns for brand owners who need reliable and accurate domain name ownership and contact information to enforce their rights. *INTA Internet Committee (15 Apr. 2010).*

All of these entities (ASCAP, BMI, ESA, MPAA, RIAA, SIIA, Time Warner, Walt Disney Company) depend upon reliable access to accurate WHOIS data in order to safeguard their intellectual property rights, and those of their members, in the online environment. *COA (15 Apr. 2010).*

Criminal activity in general:

I was however concerned with my privacy and the fact that the domain details could be used for identity theft (or real theft if I inadvertently advised I was going to be away at a specific time – such as doing a sponsored walk where I need the advertisement and to publish the date). *K. Dunbar (17 Feb. 2010).*

A criminal is never going to provide valid WHOIS data and in many of the cases I've seen will quite happily produce perfectly valid WHOIS data – just not their own. *M. Neylon (17 Feb. 2010).*

We already know of some registrars that are clearly 99% criminally controlled, so they aren't going to agree to anything that requires they actually use legit info, are they…. *S. Burn (18 Feb. 2010).*

Registrars who fail to do even a cursory job of validating customer WHOIS data are disproportionately encountered when investigating incidents of Internet abuse, apparently because those registrars serve as "registrars of choice" for cyber miscreants. *J. Sauver (05 Apr. 2010).*

Previous reports, and even congressional testimony, have indicated serious problems with WHOIS inaccuracy especially related to fraud and criminal infiltration of the DNS. *G. Bruen (09 Apr. 2010).*

Our business users are concerned about abusive use of registered domain names because abusive use or misuse adds risk to users of the Internet; leads to fraud and other deceptive practices. *Business Constituency (15 Apr. 2010), USCIB (15 Apr. 2010).*

WHOIS records are important mechanisms of accountability, especially when the domain name in question is being used for malicious activity, and so their accuracy is crucial in order to bring criminals and bad actors to justice. *CADNA (15 Apr. 2010).*

Given that much of the Web content that is fraudulent, criminal and harmful to users is registered with false data, a tremendous amount of security resources are expended in attempting to prevent such content from reaching the end users within the ICANN community. *ISPCP (19 Apr. 2010).*

Privacy:

I was however concerned with my privacy and the fact that the domain details could be used for identity theft. *K. Dunbar (17 Feb. 2010).*
In any case until such time as gTLDs adopt a saner approach to WHOIS that respects individuals' right to privacy this "problem" won't go away. *M. Neylon (17 Feb. 2010).*

Discussion on WHOIS where the desire to promote anonymity and the right to privacy is heavily promoted. *J. MacFie (17 Feb. 2010).*

Indeed, as a private domain name owner I would prefer to hide my personal details from the public. Moreover, that is actually what laws in most countries allow for – private persons have a right to prohibit 3rd parties from making their personal information available to the public. *V. Kolosov (09 Mar. 2010).*

Increased accuracy does not necessarily come with escalating costs:

The IPC feels that improving WHOIS accuracy does not necessarily come with escalating costs as the survey identified sensible and simple solutions in remedying the blatantly inaccurate or absence registration information including cross checks with postal codes, mapping and address validity software and matching registrant data with data processed for registration payments. While these simple and inexpensive steps would not eliminate WHOIS inaccuracy, they would sharply reduce it. *IPC (15 Apr. 2010).*

The suggestion that registration verification will add significant cost to Registrar operations is also a fallacy. Besides the fact that adding standard verification to electronic registration forms is commonplace and simple programming, the Registrars already have incredibly dynamic web interfaces that allow bulk purchases and return lists of calculated domain name suggestions to customers. *G. Bruen (09 Apr. 2010).*

Costs associated with ensuring accuracy are simply a cost of doing business:

The costs associated with ensuring a relative high degree of whois accuracy are simply a cost of doing business in a responsible and reliable manner similar to common practices already employed by other companies in the provision of e-commerce. *Verizon (13 Apr. 2010).*

Increased accuracy leads to increased costs:

The RrSG agrees in part, however, with NORC's ultimate conclusion that greater attempts to measure or improve WHOIS accuracy will result in commensurate increases in cost to registrants. The potential costs in improving accuracy of WHOIS data are substantial and should not be underestimated by ICANN. Analogize the US census, reaching 300 Million Americans, occurring once every 10 years and costing $11 Billion US Dollars. With over 100 Million gTLD's, reliably measuring the accuracy of WHOIS is analogous to undertaking a worldwide census of domain name registrants. This is a financially and technically unfeasible proposition.

Effectively measuring WHOIS accuracy or verifying WHOIS data are extraordinarily complex and costly tasks. The costs of increased accuracy would lead to fewer domain name registrations which would lead to negative economic consequences for domain name registrars and registries which would harm the health and growth of the entire ICANN community. *Registrar Stakeholders Group (16 Apr. 2010).*

4 WHOIS SUGGESTIONS

4.1 Key Points

The submissions proposed the following suggestions to improve WHOIS accuracy:

- Develop various verification systems (13 comments) – A number of verification systems based on address, email, phone or valid hosting were suggested by the commentators.

- Match registrant contact information with credit card information (9 comments) - Multiple methods are suggested to verifying contact information that would be cost efficient for the registrars. One especially popular one is to enforce the registrant contact information to be the same as the billing information for the credit card used for the domain registration

- Implement a centralized database (6 comments) - Having a centralized WHOIS database, instead of each registrar having their own database, would be a worthwhile investment.

- Implement a privacy flag (4 comments) - There should be a method to keep WHOIS data private from the general public, but available to law enforcement or others with a good reason to access the data. Companies would not be allowed to hide their information under this system.

- Reduce barriers to accuracy (4 comments) – While acknowledging there are barriers to accuracy, they should not be "excuses for inaccurate WHOIS data".

- Detailed analysis of potential cost increase and impact on registrants (1 comment): Some suggested further studies to assess the costs of improved accuracy.

- A suitable system is already in place (1 comment) – The Registrar Stakeholder Group considered ICANN's existing WHOIS Data Reporting Problem System (WDPRS) appropriate to manage incomplete or inaccurate WHOIS data.

- Only acceptable proposal to verify the accuracy of WHOIS is a flawless system (1 comment) - The Registrar Stakeholder Group asserts no such system currently exists or likely to be feasible.

4.2   Excerpts of Comments

Develop various verification systems:

To deter abuse, we suggest that there be a system of address verification by registries, similar to what exists in some current ccTLDs, in order to stem the tide of domain name abuse. No domain would resolve until a mailed PIN code was entered into a central system, so that the registrant is verified. *G. Kirikos (17 Feb. 2010).*

I recognized and acknowledge that address verification data may not be available for all countries, however the current study indicates that US addresses account for 59% of all domains. Even if mechanical address validation can "only" be done for 59% of domains, that is still nothing to be scoffed at, and it is a concrete step that ICANN can and should undertake immediately even if it takes no other step to improve WHOIS accuracy. *J. Sauver (05 Apr. 2010).*

The use of a basic algorithm that checks zip codes and addresses on the front end of the service would eliminate a large percentage of inaccurate address information. *Verizon (13 Apr. 2010).*

Registrars could deploy the simple measures of checking addresses against postal codes and mapping data to avoid inaccuracies with minimal effort. *IACC (14 Apr. 2010).*

It stands to reason that if ICANN required registrars to use a basic algorithm that checks both postal codes and deliverability at the point of entry as NORC did on the backend examination, at least 13% of the 29% inaccurate records could have been prevented at registration and perhaps as much as 15-20%. *IPC (15 Apr. 2010).*

As a suggestion, registrars could be obliged to send annually e-mails to all e-mail addresses given in WHOIS asking the recipients to confirm the receipt by visiting a unique link. And if the domain name owner fails to do so, then such e-mail address is changed to the domain name owner's e-mail address, but if the latter is not confirmed during, say, one-two moths, then the domain name registration is cancelled. *V. Kolosov (09 Mar. 2010).*

WHOIS records could be significantly improved by requiring a valid email address as well. *CADNA (15 Apr. 2010).*

The ability to employ an automated system to validate the legitimacy of phone numbers could ensure that this element is correct before a domain name is registered. *Verizon (13 Apr. 2010).*

One very practical recommendation is employing an automated system that validates phone numbers like the system already employed by Google for validating AdSense users. *MarkMonitor (14 Apr. 2010).*

At the very least, validation of WHOIS information should occur when a domain name registration is hosting content. *Business Constituency (15 Apr. 2010).*

Match registrant contact information with credit card information:

 It is no secret that Registrars have two sets of client records: once for payment processing and another for ownership presentation. Without the opportunity to create two sets of records, some Registrars may in fact have no inaccurate records whatsoever. *G. Bruen (09 Apr. 2010).*

Requiring proof of identity and a name and address that match that associated with valid credit card info would be a reasonable way of ensuring accurate WHOIS data.   *Verizon (13 Apr. 2010).*

At least matching registrant name and address with credit card information is a good solution in cutting down WHOIS inaccuracy. *IACC (14 Apr. 2010), IPC (15 Apr. 2010).*

We note that some protocol would be needed to address the reality that many organizations do not issue employees "company" credit cards, meaning that many entities will register domains using a credit card whose billing address is the private home address of an individual employee. *IPC (15 Apr. 2010).*
The study suggests that a connection be made between the credit card billing address and the Registrant's address listed on the WHOIS. While this will work fine for personal registrations, this would not work for most corporate registrations. *Business Constituency (15 Apr. 2010).*

The study suggests cost-effective ways to make implementing a stronger WHOIS accuracy policy more economically feasible, such as matching name and address with the credit card used during the registration process. We support moving forward with this effort. *InterContinental Hotels Group (15 Apr. 2010).*

Simple and inexpensive steps could make a difference. These include matching name and address with the credit card used to pay for registration. *COA (15 Apr. 2010).*

Requiring that the registrant name and address at least match that of the billing address for the credit card used to pay for the domain registration would go a long way towards addressing the issue. *ISPCP (19 Apr. 2010).*

Implement a centralized database:

We acknowledge that a centralized database or common data format would be associated with some additional costs. We do note, however, that every accredited registrar has made the commitment to provide its data to a centralized Whois service if and when directed to do so by ICANN pursuant to a consensus policy. See RAA Section 3.3.4. Furthermore, the mere proposition of a common data format—highlighted by the study in noting that, "since different registrars used different fields in different ways, … mapping everyone successfully into a consistent set of fields ultimately required a large degree of manual work"—could be addressed at minimal cost by requiring a "thick" WHOIS system in all remaining "thin" registries. *IPC (15 Apr. 2010).*

We agree with the suggestion of creating a centralized database. The value of having a centralized database would overcome the added expense. *Business Constituency (15 Apr. 2010), CADNA (15 Apr. 2010).*

Requiring a "thick" WHOIS system, through the mere fact of standardizing data fields and labels across registrars, could greatly facilitate data verification, with very little additional cost. *INTA Internet Committee (15 Apr. 2010).*

Implement a privacy flag:

Personally I feel the WHOIS database should have a privacy flag that anyone can set preventing personal details from being displayed to anyone other than the internal registrar, ICANN, law enforcement agencies etc. so I can provide my real information without the worry about privacy/theft. *K. Dunbar (17 Feb. 2010).*

Companies should be directly prohibited from hiding their information AND from using WHOIS proxies. *V. Kolosov (09 Mar. 2010).*

Discussion on the future of WHOIS also put forth the idea of a system where the private information is accessible to those who need it, but hidden from public view. *J. MacFie (17 Feb. 2010).*

Reduce barriers to accuracy:

The study suggests that the main barriers to accuracy in WHOIS data are privacy concerns, carelessness and/or little perceived value in domain ownership. While these are understandable as reasons, they are not acceptable excuses for inaccurate WHOIS data. *IACC (14 Apr. 2010), IPC (15 Apr. 2010).*

We suggest that the Report also note that, even though registrants may not intentionally be abusing the process, inaccuracies in WHOIS information caused by other factors can still result in frustration for those who are unable to locate the individuals behind the websites that are infringing their rights. *INTA Internet Committee (15 Apr. 2010).*

Another major factor brought to bear in the report is that registrants are not submitting false data because they fear physical harm. They are submitting false data in large part because it is easy to do so, there is no barrier against it and the value of a domain is relatively small when there is no commercial model behind it. *ISPCP (19 Apr. 2010).*

Detailed analysis of potential cost increase and impact on registrants:

We suggest that a more detailed analysis of the perceived costs could be beneficial. For example, what are the anticipated costs? How much would each registrant incur? Are there any solutions that would be cost-free after the initial investment? It may be the case that, if examined, the cost to each individual registrant would not be great, which would lend greater

force to the Report's conclusion. *INTA Internet Committee (15 Apr. 2010).*

A suitable solution already exists:

The WDPRS is an already existing mechanism that is appropriate to manage incomplete or inaccurate WHOIS data. In 2008 alone more than 200,000 reports were filed which enabled ICANN to address concerns including inaccurate WHOIS data. The RrSG strongly prefers that ICANN focus its resources on improving and publicizing awareness of the WDPRS rather than commissioning expensive research into further WHOIS accuracy studies which lead to unrealistic and cost prohibitive conclusions. *Registrar Stakeholder Group (16 Apr. 2010).*

The only acceptable proposal to verify the accuracy of WHOIS is a flawless system:

In the RrSG's view, the only acceptable proposal to verify the accuracy of WHOIS data is a system that is flawless and could not potentially interfere with bona fide domain name registrants. No such system currently exists nor is such a system likely feasible. It should be recognized that even well established and rigorous offline systems that attempt to verify contact information, such as processes for automobile driver licensing, are subject to inaccuracies. *Registrar Stakeholder Group (16 Apr. 2010).*

5. SUGGESTIONS FOR FUTURE STUDY

5.1 Key Points

- Registrars should be the focus (5 comments) - Future studies of the accuracy of WHOIS information should focus on discrepancies by registrar. Find out if there are registrars with an inordinate amount of inaccurate WHOIS information, or ones that promote inaccurate WHOIS.

- Proxy services need to be studied in greater depth (3 comments) - Proxy services need to be studied in more detail, specifically as to whether or not an interested party can get in contact with the underlying registrant with a valid concern.

- Email addresses should also be verified (2 comments) -The accuracy of Administrative contacts should be the focus of future studies, and contact email addresses should also be verified, as email is the primary form of contact for domains.

- Focus attention on known bad domains (2 comments) - The focus of future studies should be on domains known to being used for internet abuses and intellectual property violations.

- Bulk registrants should be considered separately (1 comment) - Bulk registrants should be studied separately from registrants with less than ten domains.

- The administrative contact should be relied on first (1 comment) - It would be more effective in further studies to rely on the Administrator contact information first.

- Additional WHOIS studies should be funded (1 comment) - Further WHOIS studies should be undertaken and funded by various parties.

5.2 Excerpts of Comments

Registrars should be the focus:

There are some registrars, large and small, which do a very professional job of validating their customers' WHOIS data. There are other registrars, however, who fail to do even a cursory job of validating and vetting their customer registration information. Focus on the "bullet proof domain name registration" providers. These registrars and/or registration service providers advertise the willingness to allow inaccurate WHOIS data. *J. Sauver (05 Apr. 2010).*

One of the major flaws of the study is that it does not indicate which Registrars have the bulk of the WHOIS inaccuracies which would be useful since it is with the registrars that ICANN has obligated influence, not registrants. *G. Bruen (09 Apr. 2010).*

In order to allow the Internet community to better understand the underlying causes, ICANN should publish cross-tabulations of the data by registry and registrar or expand the study to allow for cross-tabulation by registry and registrar. *MarkMonitor (14 Apr. 2010).*

Most importantly, CADNA strongly believes that the key to improving WHOIS accuracy overall will be to enforce consistency of requirements among registrars. It is a widely known fact that some registrars are much more lenient than others, and this imbalance will only continue to foster certain registrants' refusal to provide accurate and sufficient contact information. *CADNA (15 Apr. 2010).*

The data replicating the GAO study showed a much higher rate of inaccuracy in thin registries than in thick registries. This data indicates that the worst of the problem of WHOIS data inaccuracy – and the entirety of the problem of WHOIS data accessibility – is to be found at the registrar level, not among registries. *COA (15 Apr. 2010).*

Proxy services need to be studied in greater depth:

Whether the proxy or privacy service fulfilled its responsibilities to relay inquiries from third parties should be addressed by ICANN in its future research agenda on WHOIS. *IPC (15 Apr. 2010).*

This study does identify a serious issue with proxy services and their responsiveness. All Proxy services do not act responsibly and respond appropriately. *Business Constituency (15 Apr. 2010).*

There may also be a larger inaccuracy issue with regard to proxy and privacy practices, because the study did not fully explore beyond the registration service. The question has to become, is it possible to contact the actual registrant – the customer of the proxy service – or even to learn that party's identity and valid contact data? *InterContinental Hotels Group (15 Apr. 2010).*

COA believes ICANN needs to ramp up its efforts to address the abuses inherent in the current system of proxy and privacy registrations, where anarchy reigns, and adult supervision is long overdue. *COA (15 Apr. 2010).*

Email addresses should also be verified:

Quite often, WHOIS information contains wrong e-mail addresses. *V. Kolosov (09 Mar. 2010).*

Beyond the issues this study identified relating to postal addresses, the email addresses employed in conjunction with domain points of contact should also be validated since email is often far more practically important than postal mail when it comes to resolving time sensitive issues. *J. Sauver (05 Apr. 2010).*

Most contact with a domain name registrant is initiated via a valid email address. We would like to know why verification of the email address was not included as part of the study. *Business Constituency (15 Apr. 2010).*

Most trademark owners' first attempt to initiate contact via email. Thus, the accuracy of WHOIS data other than the mailing address is critical to the issues being studied as well. *INTA Internet Committee (15 Apr. 2010).*

This study should have included analysis regarding the accuracy of email addresses in current WHOIS records, since such thoroughly accurate WHOIS records should be a priority for ICANN. *CADNA (15 Apr. 2010).*

Focus attention on known bad domains:

WHOIS accuracy is not a problem of the WHOLE record set. The concern is about the rate of inaccuracy among domain names that are abused. Complaints about WHOIS inaccuracy typically are done so only after attempted contact when a problem has occurred: spam, malware, IP issues, etc. *G. Bruen (09 Apr. 2010).*

As a future action, ICANN may wish to examine the websites of the registrants it identified as substantial failures or full failures, and compare the instances of questionable conduct to those websites where registrant information contained no or limited failures. ICANN may also wish to: (i) investigate the percentage of domain names in UDRP or ACPA proceedings that involve false Whois information; and (ii) examine the names of registrants with substantial or full failure to determine if any have been determined through adjudication to have engaged in cybersquatting. *INTA Internet Committee (15 Apr. 2010).*

Bulk registrants should be considered separately:

Most cases of false WHOIS data we have analyzed involved large sets of domains with the same inaccurate information. For example we have one registrant in our database with over 10,000 spammed domains and all of his WHOIS records are false. Compare this to the average domain owner who at most has fewer than ten registrations. The point is that there are some very distinct populations in the WHOIS space that are going to behave in different ways. WHOIS record analysis of registrants who have specific domains for specific purpose and registrants collecting domains for speculation, parking, etc… should be studied separately. *G. Bruen (09 Apr. 2010).*

Administrative contact should be relied on first:

It would be more effective in further studies to rely on the Administrator contact information first and if necessary to then research the postal address for other contact points. *Business Constituency (15 Apr. 2010).*

Additional WHOIS studies should be funded:

We recommend funding additional WHOIS studies requested by Council for which staff is prepared to proceed. The Misuse and Registrant ID studies are likely to generate data that would affect policy decisions and compliance work, especially with so many new TLD operators coming online next year. *Business Constituency (15 Apr. 2010).*

NEXT STEPS

Under the Affirmation of Commitments (AoC), ICANN is organizing a review of WHOIS policy and its implementation to assess its effectiveness and whether its implementation meets the legitimate needs of law enforcement and promotes consumer trust. ICANN recognizes the community expectations for improved WHOIS accuracy and to achieve this will require a combination of further detailed studies, policy development, RAA amendments, enhanced compliance tools and enforcement resources and efforts.

The findings of the Study and the public comments and suggestions received by ICANN will inform the AoC review and the WHOIS policy development work, some of which are already in progress. For example ICANN staff recently completed an inventory of "WHOIS Service Requirements"(see final report at http://gnso.icann.org/issues/whois/whois-service-requirements-final-report-29jul10-en.pdf), which is a technical compendium of potential WHOIS requirements based on current WHOIS requirements and policy recommendations that have been discussed in the past. In addition, the ICANN Board has set aside more than $400,000 in funding in fiscal year 2011 for additional studies of WHOIS, and on 8 September 2010 the GNSO Council voted to initiate a WHOIS "misuse" study, which will examine the extent to which publicly displayed WHOIS data is misused in various harmful ways.   The GNSO Council is also considering three other studies of WHOIS (see further details at http://gnso.icann.org/issues/whois/):

- a WHOIS "registrant identification" study, which would gather information about how business/commercial domain registrants are identified, and correlate such identification with use of proxy/privacy services;

- a study on proxy and privacy "abuse", which would compare a broad sample of proxy-or privacy-registered domains associated with abuse with the overall frequency of proxy/privacy registrations; and

- a WHOIS proxy and privacy "reveal" study, which would analyze relay and reveal requests sent for proxy or privacy-registered domains to measure associated delays and failures.

Meanwhile, a joint GNSO-ALAC working group is currently discussing possible amendments to the RAA, which include a number of possible changes to WHOIS requirements that have been suggested by various members of the community, including proposals similar to those reflected in these community comments.

Further, ICANN is strengthening its WHOIS enforcement resources and efforts and is in the process of:

- hiring new compliance staff who will be dedicated to handling WHOIS compliance and enforcement issues;

- re-designing and implementing a more robust WHOIS enforcement process;

- developing an automated port 43 monitoring tool; and

- developing enhancements to ICANN's WHOIS Data Problem Reporting System (WDPRS).

ICANN is committed to improving the accuracy of WHOIS information and will continue to work with the ICANN community to achieve this policy goal.

Commentators (listed in chronological order):

Name:	On Behalf of:
Keith Dunbar	Individual
Michele Neylon	Blacknight Internet Solutions Ltd
Joly MacFie	Individual
George Kirikos	Leap of Faith Financial Services Inc.

Steven Burn	U.r. I.T. Mate Group
Vadim Kolosov	Individual
Joe St Sauver	Individual
Garth Bruen	KnujOn
Sarah B Deutsch	Verizon Communications Inc.
Frederick Felman	MarkMonitor
Andy Coombs	International Anti-Counterfeiting Coalition ("IACC")
Paul D. McGrady, Jr.	IPC (Intellectual Property Constituency)
Susan Kawaguchi	Commercial & Business Users Constituency (BC)
Claudio Di Gangi	INTA Internet Committee (International Trademark Association)
Christopher Martin	USCIB (United States Council for International Business)
Robert Bernado	InterContinental Hotels Group
Yvette Wojciechowski	CADNA (Coalition Agaist Domain Name Abuse)
Steven Metalitz	Counsel, Coalition for Online Accountability
Clarke D Walton	Registrar Stakeholder Group
Wolf-Ulrich Knoben	The ISPCP Constituency