**Appendices**

1. **A Brief Guide to the Domain Name System and WHOIS**

*DNS and WHOIS – How it Works*

The Domain Name System (DNS) is a hierarchical distributed database to lookup information from unique names, i.e. to help people connect to resources like websites and email servers on the Internet. To explain it in simple terms, every computer has a unique number called an IP address, e.g. 2620:0:2d0:200::7, which could be compared to a phone number. One computer can contact another as long as it knows its IP address. Because these numbers are difficult to remember, we tend to use domain names e.g. [www.icann.org](http://www.google.com/) instead. DNS is used to translate between domain names and IP addresses.

**WHOIS** provides information sufficient to contact a responsible party for a particular internet resource who can resolve, or reliably pass on data to a party who can resolve, issues related to the configuration of the records associated with the domain name or the DNS name servers.[[1]](#footnote-1) Unfortunately the term “WHOIS” is overloaded, referring to protocols, services, and data types associated various resources, i.e., domain names, Internet Protocol (IP) addresses, and Autonomous System Numbers (ASNs).[[2]](#footnote-2)

WHOIS registries are (LD) proposed addition: mainly run by Registry Operators, for example VeriSign who maintain the *.com* registry. IANA runs the central registry[[3]](#footnote-3) for all kinds of Internet ressouces, pointing to the whois server of the responsible (sub)-registry as well as the contact details of this registry.

DNS Registry operators also maintain another vital piece of information. The glue to the downside authoritative **name servers[[4]](#footnote-4)** which hold the key to where a website is located. For example, if you type [www.icann.org](http://www.google.com/) into a browser, your ISP will query the name servers starting from the hard coded root servers to find out which name servers are associated to that domain name. One of those name servers is then contacted and will return the IP address for that domain name. Your computer can now connect to the/a computer that will serve up the ICANN homepage. This process is illustrated below.

As can be seen in the diagram, the selection of which registry operator is to be queried each time depends on an ever increasing trailing part of the domain (e.g. .*com, .net, .uk*, *co.uk, ip6.arpa*), also known as the Top Level Domain (TLD[[5]](#footnote-5)). If the ISP doesn’t already know it can ask from former questions which name server need to be ask for a given part of the domain name, it starts asking a **root server**. There are various root servers located all over the world which point to the appropriate downstream name servers.

WHOIS is designed to work in the same way: Starting at whois.iana.org, follow the references to the downstream WHOIS servers unless the required information is obtained. This process is illustrated below.

*The Domain Name Registration Process*

Like IP addresses, domain names also need to be unique so there has to be a way of associating them with a particular person or organization. This is done through the domain name registration process. In order to reserve a domain, a registrant must register it with one of almost a thousand ICANN-accredited registrars. The registrar will check if the domain is available and create a WHOIS record with the registrant’s information. It is also possible to register domains through resellers. The diagram below illustrates the main functions of the parties that are usually involved in the process.

**The WHOI’S WHO of Domain name Registration**



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**Registran**t is the person or organisation who has registered the domain name. In order to do so, the registrant will usually apply online to a domain registrar or one of their resellers. The registrant is bound only by the terms and conditions of the registrar with which it registers, for instance adhering to a certain code of conduct or indemnifying the registrar and registry against any legal or civil action taken as a result of use of the domain name. Registrants have certain responsibilities which should be incorporated into these terms and conditions in terms of payment of registration fees and submission and timely update of accurate data.

In addition to registering the name, they also need to have their domains listed on name servers in order to have that domain reachable on the Internet. If this service is not offered by the registrar or registrants opt out, then they are responsible for procuring or hosting their own name servers.

**Registrars** are organisations accredited by [ICANN](http://en.wikipedia.org/wiki/ICANN) or certified by the registry operators to sell domains. They are thus bound by the Registrar Accreditation Agreement (RAA) with ICANN[[6]](#footnote-6) - or by their agreements with the registry operators. The RAA sets out responsibilities for the registrar including maintenance of WHOIS data, submission of data to domain registries, facilitating public WHOIS queries, ensuring registrants details are escrowed or that if not possible to escrow (e.g. for some proxy and privacy registrations) that registrants are aware of this, and finally complying with RAA conditions relating to the conclusion of the registration period.

Registrars are also responsible for verifying WHOIS (SK) comment: Not really but not sure what this is getting at information supplied by the registrant, and for periodic notifications to the registrant to verify the information is correct. Once notified that the WHOIS information may be inaccurate the registrar is required to notify the registrant to review and correct any inaccurate information in their WHOIS record; (SK) comment: The registrar simply sends a notification to the registrant and relies on an honest reply. The Registrar must maintain proper contact information for itself, including a valid email and mailing address which should be posted on their website. The RAA also requires the Registrar to take compliance and enforcement action against a Reseller violating any of the required provisions.

Some registrants may opt to register through a **Reseller**. These are affiliated with registrars, and usually offer other services such as web hosting, email mailboxes etc. Resellers are only bound by their agreements with the registrar(s) whose services they sell, they are not accredited by ICANN. However, the registrar for whom they are re-selling will still be the sponsor for the domain name registration and accountable for the domains sold by the re-seller.

Under the 2009 RAA, registrars must include specific items in their agreements with resellers, such as identification of the sponsoring registrar and all of the same provisions that the registrar is required to include in its agreements with domain name registrants.

While Registrars are contracted to conduct the day-to-day business of selling domain name registrations, **Registry Operators** are responsible for maintaining the registry for each TLD. The responsibilities of the registry operator include accepting registration requests (whether from registrars or directly from registrants), maintaining a database of the necessary registration data and providing name servers to publish the zone file data (i.e. information about the location of a domain) throughout the Internet.

Finally, the **Internet Corporation for Assigned Names and Numbers** (ICANN) is the international non-profit corporation that oversees the assignment of both IP addresses and domain names. It has responsibility for managing root server and TLD name system management and has contractual (SK) proposed deletion: arrangements – (SK) proposed edit: agreement (AJ) please decide with both registries and registrars.

1. **Methodology**

In executing its scope of work, the WRT produced four steps to divide the requirements of the scope into four distinct tasks. The tasks performed by teams of WRT experts and members were:

* To Assess ICANN's Whois Policy requirements as set out in the Affirmation;
* To Determine ICANN's current Whois Policy as published and implemented;
* To Evaluate the effectiveness of ICANN's Whois Policy by methods including a compliance review; and
* To Measure ICANN's Whois Policy relative to the specific goals established by the
* Affirmation in 2009, via a gap analysis.

Each step involved WRT engagement in research, consultation, data collection, public comment and review of responses and incorporation of appropriate changes. Additionally, each step required varying approaches specific to the task.

*To* *assess ICANN's Whois Policy requirements as set out in the Affirmation* *,*the WRT sought to clearly understand the wording of the Affirmation, and the goals and standards that it sets. Specifically, Affirmation section 9.3.1, states enforcement of Whois policy is “subject to applicable law,” and implementation of the Whois policy must meet “legitimate needs of law enforcement and promotes consumer trust.”

Key terms within this section, the WRT determined, were broad and subject to multiple interpretations, including: applicable law, law enforcement and consumer trust. To clearly define these terms, WRT members researched them, consulted with experts and asked questions of the Affirmation drafters and signatories.

The WRT defined these terms in its document published for public comment on March 4, 2011 (Section 4) <http://www.icann.org/en/announcements/announcement-04mar11-en.htm>(translations available).

Chapter 5 of this Report, *Definitions – What to the Terms contained in the AoC and our Scope Mean?* , presents the definitions of these terms adopted by the WRT, and additional work performed on this subject.

*To determine ICANN's current Whois Policy as published and implemented* , WRT subteams investigated ICANN’s Whois policy in public documents, contractual materials and GNSO consensus policy statements. ICANN Policy staff assisted in this process, as did experts on the WRT and members of the ICANN Community.

In its public comment of June 9, 2011, called the “Discussion Paper,” The WRT team published key questions of Whois policy, and its clarity, to the Community. <http://www.icann.org/en/public-comment/whoisrt-discussion-paper-09jun11-en.htm>(translations available).

Extensive discussion took place at the ICANN meeting in Singapore, including at the Public Forum on June 22, 2011, including a special meeting with representatives of the Registries and Registrars, the two parties specifically bound under ICANN contracts to collect, maintain and provide Whois data.

Full discussion of this issue is set out in “Chapter 6: Identification and Inventory of Existing WHOIS Policy.”

*To Evaluate the effectiveness of ICANN's Whois Policy by methods including a compliance review,*the WRT reviewed ICANN Whois Policy compliance efforts closely. The WRT met in lengthy meetings with ICANN Compliance staff to fully understand ICANN compliance activities, time-frames, reporting and results.

In its June 2011 Discussion Paper, the WRT requested public comment on the expectations of stakeholders regarding compliance, the effectiveness of ICANN compliance efforts, and whether parties subject to the compliance efforts feel the work is being carried out in a fair and balanced manner.

These questions led to robust discussions with numerous parties in at ICANN meeting in Singapore, including:

* Public Forum, 6/22/2011
* Intellectual Property Constituency (GNSO), by teleconference, at its request, prior to the Singapore meeting,
* Security & Stability Advisory Committee (SSAC), 6/21/2011
* Noncommercial Users Constituency (GNSO), 6/21/2011
* Commercial Stakeholder Group (GNSO), 6/21/2011
* Registries Stakeholder Group (GNSO), 6/21/2011
* At-Large Advisory Committee (ALAC), 6/21/2011
* Joint meeting with Registrar and Registry representatives (GNSO), 6/22/2011
* Government Advisory Committee (GAC), 6/22/2011

Based on this research, and public comments, WRT members wrote additional questions for ICANN’s Compliance team, and followed-up with a detailed compliance review assessment at the Marina del Ray offices on [date].

Full discussion of this Compliance Review is set out in “Chapter 7: Identification and Inventory of ICANN’s Implementation.”

The fourth task was *To Measure ICANN's Whois Policy relative to the specific goals established by the Affirmation in 2009, via a gap analysis.*This step required incorporating sections of all prior WRT work, including its research of ICANN Policy, review of ICANN Compliance, and assessment of the definitions of key terms in the Affirmation to review whether “subject to applicable laws,” ICANN is implementing its Whois policy in a manner that protects the “legitimate needs of law enforcement and promotes consumer trust.”

This WRT evaluation included additional methods of outreach:

* A WRT questionnaire for Law Enforcement circulated by Susan Lemon, WRT Law Enforcement Representative, and Peter Nettlefold, GAC Representative, to law enforcement and government agencies, and
* A WRT-commissioned survey of Internet users and domain name registrants (consumers) on their expectations regarding Whois data and its access conducted by a professional survey organization.

In addition, the WRT raised with the community a number of sensitive issues regarding the tension between two values with the Affirmation: privacy of registrant data and public access to it. The Discussion Paper requested country code TLDs (ccTLDs) to share information regarding if they have responded to domestic laws and whether they have modified their ccTLD Whois policies.

It also requested input on the use of privacy/proxy services and “their impact on the accuracy and availability” of Whois data. <http://www.icann.org/en/announcements/announcement-09jun11-en.htm>(translations available).

This important assessment and culmination of WRT work is found in Chapter 8 “Gap Analysis” as well as numerous recommendations and appendices.

WRT *Recommendations*provide the result of the WRT's extensive evaluation and present its conclusions. These recommendations are designed to guide future work within ICANN, and the ICANN Board is required to take action within six months of receipt.

Overall

The WRT devoted thousands of hours to its work. It met widely with members of the ICANN Community and those in government and law enforcement bodies outside of ICANN. The Team met bi-weekly by phone, conducted extensive two-day planning meetings in January and September 2011 and held full day meetings at each ICANN meetings in San Francisco, Singapore and Senegal (planned).

In response to requests for public comment, the WRT received dozens of written comments and hundreds of oral comments at its Public Forums and meetings with advisory committees and supporting organizations. The WRT appreciates these valuable and thoughtful contributions, and thanks everyone who participated in its processes.

1. **Public comments (content owner: Sharon Lemon)**
2. *Received comments on definitions in full*

|  | **Applicable Laws** | **Producers & Maintainers** | **Law Enforcement** |
| --- | --- | --- | --- |
| **Coalition Against Unsolicited Commercial Email (CAUCE)** | The definition is relevant if focus is solely on registrant privacy. Since this aspect must be balanced against the need to protect citizens, the definition should be widened to recognize the applicability of all criminal and civil laws on WHOIS policy, including laws against child exploitation and child pornography, against obtaining financial information by deceit/“phishing”, against spreading malicious software, against online sale of controlled drugs, against IPR violations, against various fraudulent schemes and against spamming activities. | The definition of “producers and maintainers” mixes parties and roles with different perspectives and interests. A “producer” may be 1) the registrant; 2) a proxy; 3) a registrar or hosting company; or 4) a registrations service provider acting as a contractor or agent for the registrar. These roles may also change over time. The definition leads to confusion and so does the definition of “data controllers”, especially the final part of the definition. | The definition does not distinguish between sworn law enforcement officials and other entities with the mentioned obligations. Law enforcement officers should be narrowly defined as individuals: *1) who have been sworn or commissioned as a law enforcement officer by a government agency of competent authority; 2) who are charged with upholding the general criminal laws of an applicable jurisdiction, including having power to arrest; 3) typically have received specialized peace officer training* (see submission for examples); *4) who normally receive tangible official signs of their role such as police uniform or official credentials.* Adjusting this definition does not mean to exclude non-sworn officials from the scope, they just need another label. It should also be considered whether law enforcement should include national intelligence services and national/multi-national military services. |
| **European Communities Trademark Association & Marques (ECTA+M)** | The definition is narrowly focused on questions of personal data. The RT must also consider other applicable laws for the broader protection of consumers and the public at large, including laws on child exploitation, regulation of drugs and medicine, infringement of IP rights, fraud prevention and spamming. Given that the scope includes promotion of consumer trust, the RT must look beyond registrants and consider global citizens as users of Internet and buyers of goods and services. | The RT needs to remember that EU data protection rules only apply to individuals. Businesses and non-persons do not generally have any legal rights to “privacy” and this is reinforced by requirements in many countries for business to register their details in public registers. Whilst the *Producers* definition is broad, ECTA+M believe it is important for the RT to recognize the multiple players that may be involved in the registration of the domain and the scope for the provision of false or inaccurate data. *Maintainers*: ECTA+M recognize the use of language derived from EU data protection legislation, established in Europe for over 20 years with well-known meaning in the context of data protection. The RT should consider carefully how they intend to use this terminology to avoid unnecessary confusion. | The definition is very broadly drafted. Should private parties interested in enforcing civil law remedies fall within such a definition? If it is intended to refer to law enforcement in the sense of public agencies, then greater care needs to be taken in the drafting. Consideration needs to be given to the range of legitimate legal proceedings whether criminal, civil or administrative, for which access to WHOIS data or extended WHOIS data, should be available. |
| **Intellectual Property Constituency (IPC)** | This definition lacks the needed precision. The RT must focus on laws applicable to ICANN in carrying out this policy. It seems inconceivable that *any and all local […] information are applicable.* Which law is applicable to a particular registry or registrar in carrying out contractual obligations to ICANN regarding WHOIS? It is not helpful to assert that every law related to personal data applies. The RT should give consideration to the ICANN procedure adopted to implement a supermajority vote of the GNSO and unanimous vote of the ICANN Board for dealing with any situation in which contractual obligations appear to conflict with a law applicable to the operations of the registry or registrar. See <http://www.icann.org/en/processes/icann-procedure-17jan08.htm>. The policy recognizes that there will frequently be ways for registrars/registries to conform practices with applicable law in order to comply with WHOIS obligations. AoC 9.3.1 should be read in the same way. *Other relevant legal obligations* is also imprecise. ENISA has concluded that the UN guidelines are *not legally blinding, neither to natural persons, legal or countries*; see http://www.enisa.europa.eu/act/rm/cr/laws-regulation/dataprotection-  privacy/un-guidelines and <http://www.un.org/documents/ga/res/45/a45r095.htm>. This falls short of establishing any legal obligation that could conflict with or override contractual obligations regarding WHOIS. The RT’s mandate in this field is narrow; the broad and imprecise definition proposed for “applicable laws” will do little to assist the RT in carrying out its assignment. Unless it identifies a particular law that has impeded or threatened to impede ICANN’s enforcement of existing WHOIS policy, it may not be necessary to reach agreement on a definition of “applicable law”. | This definition does not refer to AoC wording and there is no explanation on why a definition of these terms is needed. IPC recommends that the RT drop this definition. | The RT reads this phrase as limited to governmental enforcement agencies but there is no evidence that the AoC drafters intended this reading. The RT should focus on whether this implementation meets the legitimate needs for the enforcement of laws, which mainly depend on the efforts of private parties. Reliable access to WHOIS data plays a significant role in advancing the legitimate needs of enforcement. |
| **Business Constituency(BC)** | The BC accepts the definition. | The BC accepts the definition. | The BC accepts the definition. |
| **Registrar Stakeholder Group (RSG)** | This definition is adequate with the exception that UN declarations and resolutions are often non-binding and as such inappropriate for the RT’s work. Non-binding resolutions do not meet the appropriate threshold for an applicable law and such references should be removed. | Support. |  |
| **Volodya** | Exclusion process should be defined: when local laws and a UN declaration conflict, which is applicable? |  | The term “law enforcement” is defined without making the scope clear: traffic wardens or NSA? The term “government” also needs to be defined. |
|  | **Lexinta** - Refine the definition as follows: *Includes any and all locally applicable laws and legislation in force that regulate and/or control use, access, and disclosure of personally identifiable information. It may also include other relevant legal requirements, including but not limited to U.N. Universal Declaration of Human Rights etc.* National is too narrow: the regulatory system may imply transnational prescriptions (e.g. treaty of law provisions that locally apply). *Legislation in force* reflects more accurately the intended reach of regulation. *Legal obligations* relate to engagement, *legal requirements* or *legal requirements and obligations* might be appropriate formulations. *Included but not limited to*: avoid any possibility of an excessively restricted interpretation. |  | **Ronald Guilmette** - Such a definition will only be useful if it has been decided that the WHOIS service will have (or does have) some special and particular intended uses unique to *Law Enforcement*. No opinion can be given until a document has been presented into which the definition fits. Should this definition grant LEA access to certain types of WHOIS then it should be drafted broadly. |

1. **Full results of Law Enforcement Survey**

|  |
| --- |
| **1. Do you feel this definition is suitable in the context of this Review?** |
| Yes, but... |
| Yes this definition is suitable. |
| Yes |
| YES |
| No |
| No |
| Yes |
| YES |
| **2. If not, do you have any suggestions/changes or additions?** |
| ...keep in mind that there are many private initiatives by private entities that are doing a lot of great work in countering abusive behaviour on the internet. These organisations also make use of public WHOIS data. |
| It should include references to the competence in criminal investigation activities, otherwise even CERT´s could be considered as LEA, and I don´t think ICANN will agree. |
| If anything I thing this is overwide and would cover just about everyone involved with Government or working in the public sector. I think this could be restricted to those bodies with Law Enforcement powers or regulatory functions. If it is as wide as this how will ICANN possibly be able to check the credentials of all government bodies. |
| **3. Does WHOIS policy and its implementation meet your needs?** |
| **a. If so, are any aspects of the WHOIS service more important than others?** |
| The registration date in the domain WHOIS is a very useful information: “Fresh” domains are more suspicious than long established ones. Network WHOIS provides leads to physical infrastructure and is therefore, from a technical point of view, more important than domain-WHOIS. |
| In some parts yes. Serbian MoI and We think MoIs in many countries around the world have a problem with accuracy of data, some of register data are incomplete, many of them give an opportunity for anonymous registrations, some of them are not updated/data are old as example if some srevice is sold to other person etc |
|
| Yes it does, email accounts and registrar details are quite useful because they lead to payment details and connection logs. |
| **b. If not, what issues or problems have you encountered with WHOIS?** |
| Criminals use fake-WHOIS or proxy/privacy-registration (with STILL fake data behind) which makes determination of the competent jurisdiction difficult. |
| Whois does not provide the exact physical location of a computer nor does it guarantee that the information provided on entities/persons is correct. |
| It doesn’t fully meet our needs. The main problems are whois privacy (when there are no results in whois) and fake data (when details of the owner of resourse/IP range/AS appear to be fake). |
| Some remarks: sometimes there is an information in registering data not about an end user but about a company by means of which the domain name was registered; and publication of fictitious data. |
| Lower level & free domain name and website access creates the opportunity for anonymous creation of websites with fictitious email and address details. Advertising revenue has created a situation where anyone can host anything for a given amount of time before checks are made and very often no checks are done until LEA intervention. |
| **4. How important is WHOIS for law enforcement activities? Are there alternative data sources that you could use?** |
| WHOIS is very important. It provides first leads. If accurate, jurisdiction can be determined and criminals may be found – if inaccurate, Domain can be revoked (violation of T&C). |
| WHOIS is very important because We think that the most valuable information’s could be found there. Alternative data sources could be forums and other services that have some kind of registers like national services etc. |
| Important for finding location of devices, identifying subjects. Others sources can be used, but the don’t fully offer the same results if we had a proper functioning WHOIS |
| Whois is, of course, of a great importance. Sometimes we can use additional sources but also based on whois info. |
| It is considered vital in cybercrime investigation due to the fact that there is no other way to obtain data about the legitimate owner of a domain or IP range. |
| WHOIS is very often used in our work. There is an alternative data source – www.centralops.net |
| "WHOIS" is an important first step in the enquiry chain but cannot be relied on, often the contact details are dated and non-responsive on a 24/7 basis. |
| **5. What changes to WHOIS would you recommend to better meet the needs of law enforcement? Please provide reasons.** |
| Verification of registrant or at least “plausibility-check” of entered WHOIS-data can lead to better quality of data and might prevent fraudulent domain registrations. |
| We think that accuracy of data is important, some of register data are incomplete, many of them give an opportunity for anonymous registrations, some of them are not updated/data are old as example if some srevice is sold to other person etc. We need exact data of registrants, more informations about administrative contact witch are updated and correct (as example checking of those contacts to see are they real or fictive). The real reason is that We losing a lot of time to establish who is behind some services on the Internet. That would help to prevent anonimity of cyber criminals etc. |
| Guarantee that a full ID or company (Chamber of Commerce) check had taken place before WHOIS info is entered into database. That the above information will be checked on accuracy regularly. That the exact physical location of server(s) (IP-based, AS-number) is stored in the relevant WHOIS (or RIPE/ARIN….etc) database, possibly including GPS-coordinates. That if incorrect information is provided, that IP/Domain/AS will be revoked. This only to enforce the entry of correct data. |
| The main change it should be introduced is an effective check policy, in order to guaranty that the information provided is real and updated. If not user can still use any data to fill in the registration forms. |
| a) By legislation down level responsibility. b) by-monthly record updates from it and administrators. c) Immediate upward facing suspension for creating or permitting anonymous or false information for site ownership and responsibility. |
| **6. In your view, how well is ICANN performing against these requirements? Please provide reasons.** |
| ICANN just recently started to “de-accredit” registrars for non-compliance (before, there have only been cases of de-accreditation for non-payment of charges) |
| I am not very familiar with this topic |
| They appear not to be aware of LEA’s (and thus legitimate internet users) needs. |
| **7. Do you have specific examples of effective ICANN policies or implementation activities, or suggestions of how ICANN could improve its performance?** |
| ICANN should be able and willing to enforce its policies. WHOIS policy seemed long to be just a recommendation whose non-compliance didn’t have consequences for registrars. |
| If it is possible, it should be a good idea to start digital certificates as a requirement when someone tries to register a domain or IP range. |
| **8. How can ICANN balance privacy concerns with its commitment to having accurate and complete WHOIS data publicly accessible without restriction?** |
| Forbid private-registrations for commercial websites (commercial by content or by TLD – “.com” should be commercial by definition?!) or just allow private registration for private homepages. Define policy about usage of privacy/proxy-services – where it should be allowed (eg freedom of speech) and where not (commercial use). If someone wants/needs to remain anonymous, does he/she really need to register internet-resources or can they also publish content in other ways? |
| Some data could be given in a form that is available to wider public but it must have solution that involve some kind of protected database available only to restricted number of people who are authorised to have more details that are not available to regular users (data could be given as some protected link witch could be seen able only to people with authorization and maybe they could establish database with protected access with user name and passwords). Access should be given upon requests. It is important for the users to be aware of the scams that could be committed when clone Internet sites appears on the Internet as example in cases of phishing etc. If they are aware of this differences between real sites they use and falsh once they could give that information to police. |
| Publicly accessible could data could show less info as LEA accessible data. This would help to keep up with local privacy issues. The problem will pop-up that foreign LEA’s won’t be able to see all data without permission of the “hosting” LEA. |
| Being stricter when somebody tries to register a domain or an IP Range. They should check that the data provided is real and corresponds to the legitimate user. Developing an effective inspection system. Obviously these inspection mechanisms should be accompanied by penalties, fines, or punishments in order to be effective. In Spain the Ministry of Industry has developed a very strict regulation about this aspects and it is working very good with .es domains. |
| I think this is difficult if not impossible to achieve, especially in relation to the EU and the EU privacy regulations and laws. We need to draw a distinction between privacy and anonymity which is why LE are not against proxy registration per se but that the accurate details of registrants needs to be obtainable by Law Enforcement swiftly and globally without the need to return to the International letter of Request route which is too cumbersome and slow to be effective. ICANN needs to implement a policy which, while respecting individuals rights to privacy allows authorised Law Enforcement (as per definition above) access to the data for the investigation and prevention of crime. Special attention needs to be paid to the “accurate and complete” part of the statement ensuring registrants details are correct. This relies upon ICANN and the TLDs (both cc and gtlds) to implement know your customer policies. A swift removal of infrastructure from any shown to have not supplied correct data is crucial to the effectiveness of the system. If there are no consequences to registering with false data, people will continue to do so. |
| We think that it is really important to keep in mind the right of the Internet users to receive reliable data about the owners and registrants of the domain names providing services for them. Privacy protection should not infringe upon the right to receive accurate and complete WHOIS data. |
| a) Information given to all registrants that administration information must be available to the public when a site is for unrestricted public access. b) Third party registered data controllers could be used for private or vulnerable sites (i.e. Schools, Financial Institutions etc.) c) Set levels of information similar to Companies House so that more detailed information requires at least a reason and some level of identification, email, incoming IP etc. |
| **9. Are you aware of any efforts by country code Top Level Domain operators within your jurisdiction to find a balance with regards to WHOIS between potentially conflicting legal requirements for data protection, privacy and data disclosure?** |
| In our jurisdiction, all data that has to be published needs to be defined by laws/bylaws. Email-addresses have been removed from the public WHOIS to counter spamming. |
| No, I am not. |
| NL WHOIS is mainly closed for public now, only LEA is allowed access to full data. Works, but with the concern mentioned under 8. |
| .ES domains from Spain have an excellent system that has been approved by the Data Protection Agency. The information provided includes Name, address, and 4 different ways to contact the owner. It is regularly checked by the Ministry and if data is not updated a fine is issued. |
| Not within the UK to my knowledge. |
| NO |
| **10. What is the importance of WHOIS data being publicly available without restriction?** |
| Providing contact address for issues with the relevant internet-resource. Indicating possible jurisdiction. “Know your businesspartner”: Possibility to check on registrant of domainname. |
| ICANN should rise awareness of governments in countries that are main sources of proxy services. Round checking should be one of solutions as well. |
| Legitimate companies could use this data to improved their services to the public. |
| It is the single database in the world that can provide information about IP&domains owners. Those details are very useful because lead you to corporation that is in possession of the information that is relevant to the different cases. If WHOIS data was not public, it would be impossible to identify these corporations, so the investigation could not be carried out. |
| It’s in direct proportion to the importance of Internet in modern world. |
| To the general public, knowledge that it is available is sufficient but knowing that LEAs can access detailed accurate information readily and immediately is more important. |
| **11. How should ICANN address concerns about the use of privacy/proxy services and their impact on the accuracy of the WHOIS data?** |
| Provide accreditation for privacy/proxy-services similar to registrar accreditation. |
| We think that this is a great problem because it could conceal traces and give an opportunity for anonymity and abuse of this services by criminals |
| See 5. |
| They should developed a strict regulation about the privacy services these companies can provide with, and when they are forced to disclosure that information |
| If a person goes onto the street wearing a face mask that person is likely to be detained for some purpose. Access to some buildings will be restricted for example banks. Then equally restrictions on access to and distributing information for or pertaining to the public or individuals are justified to protect the public interest. |
| **12. What is your view on the use of privacy and proxy services by registrants?** |
| It’s a tool to remain anonymous which may be useful and justified in certain limited cases. Nowadays it’s mostly used by people who run illicit or “immoral” business and fear repression by law enforcement or private “cruisaders”. |
| No |
| See 3. |
| It turns the LEA job extremely difficult because most of these privacy companies are based in foreign countries, so it becomes quite hard to gather information about the real owners of the domains. Even somebody manages to contact them they rarely provide details about their customers. So, in fact, is like deleting the WHOIS databases |
| See previous. |
| From the point of view of LEA the use of proxy services embarrasses the investigation. |
| a) Generally suspicious however they can serve to protect from some intrusive protocols. b) Reasons for use of proxy servers should be recorded when registering and later use without updating the Whois profile should result in punative reaction. |
| **13. Are there any other relevant issues that the review team should be aware of? Please provide details.** |
| This cannot be just more rhetoric and another talking shop but demands some action from the Internet community to protect their own space. Law Enforcement have been lobbying for change to the governance procedures for several years now and to my view absolutely nothing has so far changed. ISPs, Registrars appear to take the short term, fiscally rewarding routes at all times whilst ignoring the long term threat to the stability and international nature of the Internet posed by growing criminality affecting economies and business. Even small changes and steps towards a more transparent and creditable WHOIS system would be welcome. I welcome ICANN’s dialogue with Law Enforcement but t really does need to lead to something tangible, and soon. |
| Not relevant to this questionnaire. |

1. **Stakeholders Key**

|  |  |  |
| --- | --- | --- |
|  | **Name** | **Background** |
| **BC** | Business Constituency | Represents both large and small commercial entity users of the Internet. |
| **CAUCE** | Coalition Against Unsolicited Commercial Email | An all-volunteer consumer advocacy group, defending the interests of the average internet user. |
| **ECTA+M** | European Communities Trademark Association & Marques | Main role as a spokesperson on problems relating to the use and protection of industrial trademarks / designs in the EU. |
| **IPC** | Intellectual Property Constituency | Represents the views and interests of owners of intellectual property, with particular emphasis on trademark, copyright and related intellectual property rights. |
| **RSG** | Registrar Stakeholder Group | Working to ensure the interests of registrars and their customers are effectively advanced. |
| **VOL** | Volodya | Independent person. OS search suggests he is a Moscow-based coder called Vladimir PRUS (Volodya is diminutive form of Vladimir). Volodya has posted to the ‘free net’ forums, showing an interest in privacy and freedom of expression. |
| **LEX** | Lexinta | Intellectual Property Attorneys based in Belgium |
| **RG** | Ronald Guilmette | An anti-spam activist and frequest user of the Whois Data Problem Reporting System. He has been quoted in articles in Krebs on Security on problems with Whois Data. |

1. **User Insight Study**

A subcommittee was formed to address the questions enumerated in the chapter. The initiative, led by Lynn Goodendorf, engaged a third party service provider tasked with obtaining information sufficient to provide the answers.

UserInsight, the third party selected by our subcommittee and retained by ICANN, conducted a study performed in two phases; a qualitative phase was conducted to help formulate and construct questions for a second quantitative phase.

*Phase One: Qualitative Phase*

The primary purpose of the qualitative phase was to inform the creation of a quantitative survey. An additional goal of this phase was to determine similarities across countries as well as distinct differences resulting from unique cultures and perspectives.

User Insight selected 20 individuals now living in the U.S. whose home countries represented 8 of the 10 countries targeted for the follow on quantitative surveys:

* Argentina,
* Australia
* Brazil,
* China,
* France,
* South Africa,
* Spain and
* United States

This small focus group of 20 users included:

* 8 Males and 12 Females
* A balanced representation of ages that ranged from age 18 to 56.
* All were Internet users and expressed confidence in making purchases online
* 9 of the 20 owned a domain name
* 12 of the 20 had concerns about websites they have visited in the past

After completing a 15-item questionnaire the participants were paired based on levels of Internet use experience. Each team contained a participant with a low level of Internet experience and the second with a higher level of experience. Each pair were interviewed and filmed while they answered questions and performed tasks on an Internet connected computer.

These tasks included:

* Review and feedback regarding a known fraudulent website that appeared credible;
* Observations of the individuals attempting to locate domain name registrant information and feedback for that exercise;
* 11 of the 20 individuals owned a domain name and were asked to look up their own information and provide their feedback.

Although the initial phase of the study was not intended to provide statistical data, qualitative feedback from the participants may indicate that “consumer trust” is a multi-layered concept. Visual aesthetics of a website and ease of navigation to find information was a key influence on perceived credibility. Specific observations included:

* Older “style” websites were seen as less trustworthy; possibly not maintained.
* Legitimate WHOIS result pages by various registries and registrars were misinterpreted as not valid because the format, font and presentation looked like computer script.
* Legitimate WHOIS result pages often had prominent and conspicuous advertisements that distracted from the actual WHOIS results

*Phase Two: Quantitative Phase:*

The global online study, the second phase of UserInsight’s work, involved the administration of a 17 item multiple choice format survey questionnaire to Internet users in diverse geographic regions. The online survey involved 1,217 respondents from 10 countries distributed as follows:

* Australia, China and India from the Asia Pacific region;
* France, Germany, Spain and South Africa from Europe and Africa;
* Argentina, Brazil and the U.S. from the Americas region.

The surveys began September 30th and concluded October 14th, 2011. 553 males and 664 females from 18 to over 60 years of age were included in this study.

277, or approximately 23% of those surveyed, owned domain names. Most of the domain names owned by those surveyed were for personal use, with the remaining, approximately 40%, for commercial use. A significant percentage of those owning domain names claimed to collect personal information, or facilitate financial transactions, through their website.

The survey focused on the two key areas: website trust and awareness of WHOIS. Towards the end of the survey, the user was asked to locate “the website owner of [www.thecocacolacompany.com](http://www.thecocacolacompany.com)”.

Thick WHOIS information for [www.thecocacolacompany.com](http://www.thecocacolacompany.com) is available from the registrar CSC Corporate Domains, Inc. Other WHOIS services, as for example Internic’s WHOIS, will only return thin WHOIS data. Consequently, the name and address of the owner of the domain name in question would be available from a WHOIS service only to those who managed to locate the CSC Corporate Domains, Inc. WHOIS webpage. And, the address published on the website for general contact purposes is different from the address of the Domain Name Administrator listed in the WHOIS registrant information, permitting a way to distinguish if a participant actually found the WHOIS registrant data or not.

The results of the survey revealed that most located the correct name and address of the owner of the [www.thecocacolacompany.com](http://www.thecocacolacompany.com) domain name but they were not aware of WHOIS and they used other methods such as search engines and user forums to locate the contact information for the website the WHOIS data. Interestingly, similar themes emerged from this phase of the study, summarized in the chapter.

1. **Input on ccTLDs**

*General Observations*

*This set of general observations emerges from the Review Team’s consultations with the ICANN Community as well as from the public comments received on its discussion paper.*

National laws may prohibit mandatory contact data in public WHOIS but not voluntary data. Registrars selling domains in these ccTLDs can communicate why not publishing voluntary data will result in no trust for, e.g., anti-spam applications.

Most ccTLDs provide the entire Whois record at the registry level, while some provide the entire record only to certain groups such as law enforcement agencies, certification authorities, and registrars that need access for administrative purposes. The extent of information that is shared is generally determined by local law. DENIC publishes all contact information, and German law requires the contact information to be placed on the website if engaged in business. France has a similar requirement. Where there is a need to balance local privacy laws with access to full Whois, mechanisms to improve transparency can be considered, as in the Netherlands. A thick Whois model has been employed in many new gTLDs for years without legal problems or objections from national authorities on privacy grounds. ICANN has a procedure, that a registry can invoke when facing a conflict between its Whois obligations and national privacy laws (see, http://www.icann.org/en/announcements/announcement-18dec07.htm ). To date, this procedure has never been invoked.

Many European ccTLDs offer a public WHOIS service with limited non-technical information, while law enforcement can access full details. A distinction is made between personal and business domain registrations, for example in .IE. In both cases no personal data is available in WHOIS. In .CO.UK, the WHOIS output shows if a registrant has "opted out", but a company would not have that option. While a business domain does have more data published in WHOIS there is no email address or phone number. Under .EU, WHOIS is limited to technical details and shows more information about a business domain, while a personal one's output is limited to an image of the email address, not accessible to bots. The only gTLD that has followed a similar model is .TEL, where registrants can opt out in a way similar to .CO.UK and the WHOIS output is minimal, while a business registration is more detailed. See submission for multiple and detailed examples.

ccTLDs are in a very different situation because they’re normally within a single jurisdiction actually and they have a much more direct relationship and they have clear, applicable law; whereas, if I understand correctly, we’re talking about gTLDs here and their global operators and it’s the old conundrum actually and therefore internet governance people about how you try and deal with global operators acting across a number of different jurisdictions, potentially conflicting applicable law. The situations are very different, the challenges are very different for developing WHOIS policy at the national level for ccTLD, compared to a body like ICANN trying to develop WHOIS policies at the global level effectively.

Certain ccTLDs have gone to a contactability standard.

On .fr – Comment made by Michele Neylon (.ie)[[7]](#footnote-7)

.fr has the option as well for a private individual to be opted out. And that is actually provided by the registry. And they provide an [atanom].fr.

On .eu – Comment made by Michele Neylon (.ie)[[8]](#footnote-8)

Michele Neylon: “The .eu registries do the same. So they don’t, they’re able to go

along and kind of validate stuff and make sure that there aren’t kind of weird inconsistencies like people registering as Mickey Mouse. .eu again, there’s very little data available in standard WHOIS and if you want to get more data you have to go to a

webpage, you have to go past a capture. And they also have taken measures to protect the email addresses. So they’re rendered as a jpeg or a png or something like that so you can’t scrape the data off there.”

On .co.uk – Comment made by Michele Neylon (.ie)[[9]](#footnote-9)

For .co.uk you’ve got the opt-out. And again, if they’re a legal organization and they try to opt out, as part of the WHOIS review stuff that Nominet would do, they get opted back in.

*Implementation by specific ccTLDs*

1. **The Netherlands (.nl)**

As submitted by SIDN[[10]](#footnote-10):

“As a ccTLD manager based in Europe SIDN is not subject to any obligation to provide any whois services on the .nl-domain at all. We do however still provide such services. Historically probably just because everyone did it and currently because it is in the interest of our local internet community.The whois, what information we show and how you may obtain the information therein has been subject to extensive discussion with and within our local internet community. Until 12 January 2010 SIDN offered a full and open whois service, comparable to the gTLD's, but changed that after the last consultation with our stakeholders to our current form in order to better protect the privacy of the users. In order to help the working group in their difficult (not to say impossible) task, I will try to give a short description of our current services underneath. Be aware however that also in the Netherlands discussions with regard to the whois are always ongoing and what is today might not be there anymore tomorrow. Secondly please note that a number of 'solutions' that we currently use are not exactly scalable to gTLD's. We make use of the fact that we are a country code TLD and for example only provide non-public whois details to Dutch law enforcement agencies and to Dutch based attorneys.

Further be aware that we have never received any approval (nor disapproval) of the Dutch Privacy Authority with regard to our current whois services. So please do not automatically assume that what we do is completely in line with the Dutch and/or European privacy laws.

Description of the .nl whois

1. We have split the whois in different forms for different users:

a. Public whois web

b. Public whois command line

c. Whois for registrars

d. Whois for law enforcement

e. Whois for CA's

2. The last three (1c - 1e) forms of whois still show all information that we provided before 2010 but they are only accessible to the groups that they were created for. (see further under 7 - 9)

3. The two public available whois services provide limited information.

a. via the command line we only show the status of the domain, the name and physical address of the registrar and the name server data.

b. in the public whois on our website the information is limited to:

i. status if the domain

ii. name of registrant

iii. e-mail addresses of admin-c an d tech-c (protected so that they are not easy to copy)

iv. name and physical address of registrar

v. name server data

c. on our website we do not show:

i. Names of admin-c/tech-c

ii. Address details for registrant/admin-c/tech-c

iii. Telephone numbers

4. The reason that we still provide the name of the registrant is because a name without any contact details is for most of the people not very troublesome and gives the registrant the opportunity to check if a domain is registered in the correct name.

5. We do not, like for example .net or .uk, make any distinction between private and non-private persons as we think this will only lead to an extra complaint procedure. We might consider however to give registrants the opportunity to decide for themselves if they want us to publish their address and other non obligatory contact details.

6. In order that .nl registrants can be contacted regarding legal matters, SIDN will make the address of a registrant available for that purpose to an attorney or court bailiff practicing in the Netherlands who makes an individual request for such information. A special manual procedure for processing requests has been set up.

7. The whois for law enforcement is open for investigative and law enforcement authorities that have the statutory power to require SIDN to provide full details of a registration. These authorities may obtain automated access to the whois provided that certain (contractual) conditions are met.

8. SIDN registrars can make use of a dedicated Registrar Whois service. Registrars need access to Whois data in order to undertake legitimate registration activities. So the full Whois dataset remains available to them. This is however subject to revision as we are currently not able to fully control that the information is only used for legitimate means.

9. SIDN also allows Certification Authorities (CAs) access to the full whois dataset. The procedure for CAs with regard to the issuance of SSL Certificates usually includes checking whether the details provided by the certificate applicant are the same as the details that SIDN has on record for the relevant domain name. Since CAs make their enquiries at the request of the registrant itself, SIDN is willing to provide them the requested information.”

1. **United Kingdom (.uk)**

Submitted by Nominet[[11]](#footnote-11):

Nominet: ccTLDs are focused on serving the needs of specific jurisdictions, which allows them to tailor their approach to local circumstances. Privacy is an issue and ignoring it will increase the probability that data will be incorrect, even from those without malicious intent. In the case of.uk, Nominet has a contract with the registrant and can use this to require corrections. However, data may be incorrect due to misunderstandings, not updated when circumstances change or changes may not be passed on to our systems. We work on improving data quality by proactive checks and in response to complaints, and act quickly when malicious activity is suspected. This remains our priority.

There is a trust issue associated with inaccurate contact data, in particular for domains used for trade. This creates a question of trust for the TLD in relation to law enforcement, regulatory and other public authorities. This could impact consumer confidence, but very few users are aware of WHOIS. The EU's e-Commerce Directive has requirements for trading websites to include contact information so that third parties know who they are dealing with. For the consumer, this information is more accessible than WHOIS. Nominet has a onestop shop portal for information and links and contributes to awareness initiatives as WHOIS data can be abused to assist fraud and spam. Nominet has developed its WHOIS policy and implementation in consultation with stakeholders. Our contribution provides data about the UK environment in response to the request for ccTLD input. We have not responded to questions on the gTLD WHOIS policy.

1. **Canada (.ca)**

CIRA went through an extensive WHOIS and privacy policy reform in early to mid 2000. Prior to the reform initiatives, CIRA provided WHOIS services which were in line with the gTLD WHOIS approach, i.e., it displayed and provided all registrant information including: name, domain name, registrar of record, date the domain name was registered, contact details (email, mailing address, telephone number, and fax number), the date when the information was last changed.

After extensive consultation with CIRA’s stakeholders, CIRA made a distinction between two types of registrants: (1) private; and (2) corporate. Private registrants were natural persons, but also included small organizations such as a 5-person corporation (which could go up to as much as 10). The latter was in line with some rulings by the federal and provincial privacy commissioners in Canada. For those private registrants the default was not to display any personally identifiable information unless the registrant chose to make it publicly available. For corporate registrants, the default and only option was to have all its information publicly available.

CIRA also implemented a process by which a corporate registrant could apply for privacy protection. Once a corporate registrant check marked that it would like to keep its information private, CIRA did not display the information for 30 days during which the corporate registrant had to provide proof that its request was legitimate and in line with CIRA’s WHOIS policy. Legitimate reasons may have been a battered woman’s shelter or some other organization which, for security reasons, may require greater privacy than other corporate entities. If the corporate registrant satisfied the request for privacy, the information would remain private. If, however, the corporate registrant was not able to satisfy the privacy request requirements, the registrant information was automatically published after the 30-day timeframe.

At the time when CIRA launched the new WHOIS policy, there was no special access for law enforcement of any type. However, within a couple of years after launch, CIRA responded to some significant pressures from law enforcement and implemented a new policy entitled “Request for Disclosure of Registrant Information for Law Enforcement and National Security Agencies – Rules and Procedures”. The policy provides a fairly limited access right to law enforcement which includes the investigation of child exploitation, espionage, or imminent threats to the Internet. The disclosure, unless prohibited by law, will be made public to the registrant whose information was disclosed, within 30-60 days.

1. **France (.fr)**

Submitted by AFNIC[[12]](#footnote-12):

AFNIC’s data publication and access policy describes how registrant data is gathered, disclosed and used during the lifetime of a domain name registration: a) Private registrants’ data is not displayed in the public Whois b) AFNIC provides on line web forms to enable any interested party to send electronic messages to the domain name admin contact without disclosing its data c) Right owners or affected parties may request disclosure of registrant data. Such requests are handled by AFNIC which checks whether the affected party has some right over the domain name before disclosing. This policy was set up in 2006 with amendments in 2007 to comply with privacy laws and an instruction from CNIL. While .FR approached 2 million domains in 2010, AFNIC handled 412 data disclosure requests, whereof 356 granted. The policy reinforces trust from private registrants, as they can provide accurate data with limited risk of unsolicited communications, and customer relations suggest that the policy has a positive impact on data accuracy.

1. **Australia (.au)**

Submitted by Cheryl Langdon-Orr[[13]](#footnote-13):

Despite the fact that one can have a bricks and mortar address in a system it need not necessarily be the actual address of the registrant; and that’s something that we see in other parts in some countries, even with quite strict regulations such as my own. You have the ability to have what’s called ‘registered office address’ which is a bricks and mortar situation; but you also have in law the right, with the appropriate motivations and knocking on the right doors with if necessary the right pieces of paper

1. **Trinidad and Tobago (.tt)**

Submitted by Dev Anand Teelucksingh[[14]](#footnote-14):

.tt ccTLD doesn’t even offer WHOIS at all.

1. **Ireland (.ie)**

Submitted by Michele Neylon – Blacknight Internet Solutions[[15]](#footnote-15):

in .ie the only data that appears in WHOIS is the holder, the holder name, the WHOIS output is a bit different to a standard one. So in the case of a domain that will be registered to a company, so let’s say domain holder Blacknight Internet Solutions Limited, and then you would have the applicant. There’s two, an applicant registration type classing type think. I mean, think of it a bit like your classes for trademarks; same kind of concept. For a private individual again, you just have the holder is Joe Soap, but no contact details for Joe Soap. There’s just a nic handle, which obviously is going to be unique to the person. And if somebody needs to contact tehm for whatever reason, be that in terms of a dispute, law enforcement or whatever, they can go via the registry.

….

If you do a WHOIS look up on say Blacknight.ie for example, you’re going to get back name servers, you’re going to get back expiry dates, you’re going to get back handles. You can’t look beyond the handle. Now, in the case of the applicant, sorry the domain holder type, if the domain holder is down as a body corporate, in other words a limited company, you can of course go to our company’s house type thing and get back data there. And if somebody had, if there is the case of say a WIPO dispute, as part of the process you would go to the registry, but not via command line. You’d go contact them using more manual methods to reveal the data.”

1. **Recommendations (content owner: Susan Kawaguchi)**

The following are excerpts from the 2009 RAA, Registry agreement and three different registrar registration agreements that speak to the requirement for accurate WHOIS information and the responsibility of each role.

*Registrar’s responsibility*

**Public Access to Data on Registered Names**

During the Term of this Agreement:

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. Until ICANN otherwise specifies by means of an ICANN adopted specification or policy, this data shall consist of the following elements as contained in Registrar's database:

3.3.1.1 The name of the Registered Name;

3.3.1.2 The names of the primary nameserver and secondary nameserver(s) for the Registered Name;

3.3.1.3 The identity of Registrar (which may be provided through Registrar's website);

3.3.1.4 The original creation date of the registration;

3.3.1.5 The expiration date of the registration;

3.3.1.6 The name and postal address of the Registered Name Holder;

3.3.1.7 The name, postal address, e-mail address, voice telephone number, and (where available) fax number of the technical contact for the Registered Name; and

3.3.1.8 The name, postal address, e-mail address, voice telephone number, and (where available) fax number of the administrative contact for the Registered Name.

3.7.7.4 Registrar shall provide notice to each new or renewed Registered Name Holder stating:

3.7.7.4.1 The purposes for which any Personal Data collected from the applicant are intended;

3.7.7.4.2 The intended recipients or categories of recipients of the data (including the Registry Operator and others who will receive the data from Registry Operator);

3.7.7.4.3 Which data are obligatory and which data, if any, are voluntary; and

3.7.7.4.4 How the Registered Name Holder or data subject can access and, if necessary, rectify the data held about them.

3.7.7.5 The Registered Name Holder shall consent to the data processing referred to in Subsection 3.7.7.4.

3.7.7.6 The Registered Name Holder shall represent that notice has been provided equivalent to that described in Subsection 3.7.7.4 to any third-party individuals whose Personal Data are supplied to Registrar by the Registered Name Holder, and that the Registered Name Holder has obtained consent equivalent to that referred to in Subsection 3.7.7.5 of any such third-party individuals.

3.7.7.7 Registrar shall agree that it will not process the Personal Data collected from the Registered Name Holder in a way incompatible with the purposes and other limitations about which it has provided notice to the Registered Name Holder in accordance with Subsection 3.7.7.4 above.

3.7.7.8 Registrar shall agree that it will take reasonable precautions to protect Personal Data from loss, misuse, unauthorized access or disclosure, alteration, or destruction.

3.7.7.9 The Registered Name Holder shall represent that, to the best of the Registered Name Holder's knowledge and belief, neither the registration of the Registered Name nor the manner in which it is directly or indirectly used infringes the legal rights of any third party.

3.7.7.10 For the adjudication of disputes concerning or arising from use of the Registered Name, the Registered Name Holder shall submit, without prejudice to other potentially applicable jurisdictions, to the jurisdiction of the courts (1) of the Registered Name Holder's domicile and (2) where Registrar is located.

3.7.7.11 The Registered Name Holder shall agree that its registration of the Registered Name shall be subject to suspension, cancellation, or transfer pursuant to any ICANN adopted specification or policy, or pursuant to any registrar or registry procedure not inconsistent with an ICANN adopted specification or policy, (1) to correct mistakes by Registrar or the Registry Operator in registering the name or (2) for the resolution of disputes concerning the Registered Name.

3.7.7.12 The Registered Name Holder shall indemnify and hold harmless the Registry Operator and its directors, officers, employees, and agents from and against any and all claims, damages, liabilities, costs, and expenses (including reasonable legal fees and expenses) arising out of or related to the Registered Name Holder's domain name registration.

3.7.8 Registrar shall abide by any specifications or policies established according to Section 4 requiring reasonable and commercially practicable (a) verification, at the time of registration, of contact information associated with a Registered Name sponsored by Registrar or (b) periodic re-verification of such information. Registrar shall, upon notification by any person of an inaccuracy in the contact information associated with a Registered Name sponsored by Registrar, take reasonable steps to investigate that claimed inaccuracy. In the event Registrar learns of inaccurate contact information associated with a Registered Name it sponsors, it shall take reasonable steps to correct that inaccuracy.

Registry - .com agreement

*Public WHOIS Specification*

Registry Operator’s Whois service is the authoritative Whois service for all second-level Internet domain names registered in the .com top-level domain and for all hosts registered using these names. This service is available to anyone. It is available via port 43 access and via links at the Registry Operator’s web site. It is updated daily.

To use Registry Whois via port 43 enter the applicable parameter on the command line as illustrated below:

* For a domain name: whois "domain verisign.com"
* For a registrar name: whois "registrar Go Daddy Software, Inc."
* For a nameserver: whois " DNS3.REGISTER.COM" or whois "nameserver 216.21.234.72"

By default, Whois performs a very broad search, looking in all record types for matches to your query in these fields: domain name, nameserver name, nameserver IP address, and registrar names. Use keywords to narrow the search (for example, 'domain root'). Specify only part of the search string to perform a "partial" search on domain. Every domain starting with the string will be found. A trailing dot (or dots) after your text or the partial keyword indicates a partial search. For example, entering 'mack.' will find "Mack", "Mackall", "Mackay", and so on.

To use Registry Whois using the web interface:

* Go to www.verisign-grs.com
* Click on the appropriate button ("domain," "registrar" or "nameserver")
* Enter the applicable parameter:
  + Domain name including the TLD (e.g., verisign-grs.com)
  + Full name of the registrar including punctuation, "Inc.", etc. (e.g., America Online, Inc.)
  + Full host name or the IP address (e.g., ns1.crsnic.net or 198.41.3.39)
* Click on the "submit" button.

For all registered second-level domain names in .com, information as illustrated in the following example is displayed, where the entry parameter is the domain name (including the TLD):

Domain Name: VERISIGN-GRS.COM  
Registrar: NETWORK SOLUTIONS, LLC.  
Whois Server: whois.networksolutions.com  
Referral URL: http://www.networksolutions.com  
Name Server: NS1.CRSNIC.NET  
Name Server: NS2.NSIREGISTRY.NET  
Name Server: NS3.VERISIGN-GRS.NET  
Name Server: NS4.VERISIGN-GRS.NET  
Status: REGISTRAR-LOCK  
Updated Date: 20-oct-2004  
Creation Date: 08-sep-2000  
Expiration Date: 08-sep-2008

>>> Last update of whois database: Wed, 2 Feb 2005 07:52:23 EST<<<

For all ICANN-accredited registrars who are authorized to register .com second-level domain names through Registry Operator, information as illustrated in the following example is displayed, where the entry parameter is the full name of the registrar (including punctuation, "Inc.", etc.):

Registrar Name: SAMPLE REGISTRAR, INC. DBA SAMPLE NAMES  
Address: 1234 Any Way, Anytown, VA 20153, US  
Phone Number: 703-555-5555 begin\_of\_the\_skype\_highlighting              703-555-5555      end\_of\_the\_skype\_highlighting  
Email: registrar-agent@samplenames.net  
Whois Server: whois.registrar.samplenames.com  
Referral URL: www.registrar.samplenames.com  
Admin Contact: Jane Doe  
Phone Number: 703-555-5556 begin\_of\_the\_skype\_highlighting              703-555-5556      end\_of\_the\_skype\_highlighting  
Email: janedoe@samplenames.com  
Admin Contact: John Smith  
Phone Number: 703-555-5557 begin\_of\_the\_skype\_highlighting              703-555-5557      end\_of\_the\_skype\_highlighting  
Email: johnsmith@samplenames.com  
Admin Contact: Domain Name Administrator  
Phone Number: 703-555-5558 begin\_of\_the\_skype\_highlighting              703-555-5558      end\_of\_the\_skype\_highlighting  
Email: dns-eng@samplenames.com  
Billing Contact: Petranella Jones  
Phone Number: 703-555-5559 begin\_of\_the\_skype\_highlighting              703-555-5559      end\_of\_the\_skype\_highlighting  
Email: pjones@samplenames.com  
Technical Contact: Harry Nerd  
Phone Number: 703 555-6000 begin\_of\_the\_skype\_highlighting              703 555-6000      end\_of\_the\_skype\_highlighting  
Email: harrynerd@samplenames.com  
Technical Contact: Harry Nerd II  
Phone Number: 703-555-6001 begin\_of\_the\_skype\_highlighting              703-555-6001      end\_of\_the\_skype\_highlighting  
Email: harrynerd@samplenames.com

>>> Last update of whois database: Wed, 2 Feb 2005 07:52:23 EST <<<

For all hosts registered using second-level domain names in .com, information as illustrated in the following example is displayed, where the entry parameter is either the full host name or the IP address:

Server Name: DNS.MOMINC.COM  
IP Address: 209.143.112.34  
Registrar: BULKREGISTER, LLC.  
Whois Server: whois.bulkregister.com  
Referral URL: http://www.bulkregister.com

>>> Last update of whois database: Wed, 2 Feb 2005 07:52:23 EST <<<

1. **WHOIS Provider Data Specification**

Registry Operator shall provide bulk access to up-to-date data concerning domain name and nameserver registrations maintained by Registry Operator in connection with the Registry TLD on a daily schedule, only for purposes of providing free public query-based access to up-to-date data concerning domain name and nameserver registrations in multiple TLDs, to a party designated from time to time in writing by ICANN. The specification of the content and format of this data, and the procedures for providing access, shall be as stated below, until changed according to the Registry Agreement.

**Content**

The data shall be provided in three files:

***Domain file****.* One file shall be provided reporting on the domains sponsored by all registrars. For each domain, the file shall give the domainname, servername for each nameserver, registrarid, and updateddate.

***Nameserver file****.* One file shall be provided reporting on the nameservers sponsored by all registrars. For each registered nameserver, the file shall give the servername, each ipaddress, registrarid, and updateddate.

***Registrar file****.* A single file shall be provided reporting on the registrars sponsoring registered domains and nameservers. For each registrar, the following data elements shall be given: registrarid, registrar address, registrar telephone number, registrar e-mail address, whois server, referral URL, updateddate and the name, telephone number, and e-mail address of all the registrar's administrative, billing, and technical contacts.

**Format**

The format for the above files shall be as specified by ICANN, after consultation with Registry Operator.

**Procedures for Providing Access**

The procedures for providing daily access shall be as mutually agreed by ICANN and Registry Operator. In the absence of an agreement, the files shall be provided by Registry Operator sending the files in encrypted form to the party designated by ICANN by Internet File Transfer Protocol.

*WHOIS Data Specification – ICANN*

Registry Operator shall provide bulk access by ICANN to up-to-date data concerning domain name and nameserver registrations maintained by Registry Operator in connection with the .com TLD on a daily schedule, only for purposes of verifying and ensuring the operational stability of Registry Services and the DNS.. The specification of the content and format of this data, and the procedures for providing access, shall be as stated below, until changed according to the Registry Agreement.

**Content**

The data shall be provided in three files:

***Domain file****.* One file shall be provided reporting on the domains sponsored by all registrars. For each domain, the file shall give the domainname, servername for each nameserver, registrarid, and updateddate.

***Nameserver file****.* One file shall be provided reporting on the nameservers sponsored by all registrars. For each registered nameserver, the file shall give the servername, each ipaddress, registrarid, and updateddate.

***Registrar file****.* A single file shall be provided reporting on the registrars sponsoring registered domains and nameservers. For each registrar, the following data elements shall be given: registrarid, registrar address, registrar telephone number, registrar e-mail address, whois server, referral URL, updateddate and the name, telephone number, and e-mail address of all the registrar's administrative, billing, and technical contacts.

**Format**

The format for the above files shall be as specified by ICANN, after consultation with Registry Operator.

**Procedures for Providing Access**

The procedures for providing daily access shall be as mutually agreed by ICANN and Registry Operator. In the absence of an agreement, an up-to-date version (encrypted using a public key supplied by ICANN) of the files shall be placed at least once per day on a designated server and available for downloading by ICANN by Internet File Transfer Protocol.

**Centralized Whois**. Registry Operator shall develop and deploy a centralized Whois for the .com TLD if mandated by ICANN insofar as reasonably feasible, particularly in view of Registry Operator’s dependence on cooperation of third parties.

Registrant responsibilities per the Registrar’s registration agreement. I pulled language from 3 different Registrar’s registration agreements.

**Accurate Information.** You agree to: (1) provide certain true, current, complete and accurate information about you as required by the application process; and (2) maintain and update according to our modification procedures the information you provided to us when purchasing our services as needed to keep it current, complete and accurate. We rely on this information to send you important information and notices regarding your account and our services. You agree that Network Solutions (itself or through its third party service providers) is authorized, but not obligated, to use Coding Accuracy Support System (CASS) certified software and/or the National Change of Address program (and/or such other systems or programs as may be recognized by the United States Postal Service or other international postal authority for updating and/or standardizing address information) to change any address information associated with your account (e.g., registrant address, billing contact address, etc.), and you agree that Network Solutions may use and rely upon any such changed address information for all purposes in connection with your account (including the sending of invoices and other important account information) as though such changes had been made directly by you.

ACCOUNT CONTACT INFORMATION AND DOMAIN NAME WHOIS INFORMATION:

1. You must provide certain current, complete and accurate information about you with respect to your Account information and with respect to the WHOIS information for your domain name(s). You must maintain and update this information as needed to keep it current, complete and accurate. You must submit the following with respect to you, the administrative, technical, and billing contacts for your domain name registration(s) and other Services: name, postal address, e-mail address, voice telephone number, and where available, fax number. The type of information you are required to provide may change and you must provide such information and keep your Account information current. Not providing requested information may prevent you from obtaining all Services.

*Required domain registration information:*

1. Registration information. As part of the domain registration process and in accordance with ICANN Policies, a domain registrant is required to submit and keep current the following information (collectively, the "Registration Information"):
   * The domain registrant's name and postal address;
   * The domain being requested;
   * Administrative contact information, including the name, postal address, email address, voice telephone number, and where available, fax number of the administrative contact for the domain; and
   * Billing contact information, including the name, postal address, email address, voice telephone number, and where available, fax number of the billing contact for the domain.
2. Additional registration information. In addition, in accordance with ICANN policies, Dotster, Inc. is obligated to maintain additional information relating to a domain registration, which may include (collectively, "Additional Registration Information"):
   * The original creation date of the domain registration;
   * The submission date and time of the registration application to us and by us to the proper registry;
   * Communications (electronic or paper form) constituting registration orders, modifications, or terminations and related correspondence between you and us;
   * Records of account for your domain registration, including dates and amounts of all payments and refunds;
   * The IP addresses of the primary nameserver and any secondary nameservers for the domain;
   * The corresponding names of those nameservers;
   * The name, postal address, email address, voice telephone number, and where available, fax number of the technical contact for the domain;
   * The name, postal address, email address, voice telephone number, and where available, fax number of the zone contact for the domain;
   * The expiration date of the registration; and
   * Information regarding all other activity between you and us regarding your domain registration and related services.
3. Use of registration information and additional registration information. You agree and acknowledge that Dotster, Inc. will make available the Registration Information and the Additional Registration Information to ICANN; to other third parties such as VeriSign, Inc. Global Names Registry Ltd., Neustar, Inc., Afilias USA, Inc., Global Domains International (collectively, "Registry Administrators"); and as applicable laws may require or permit. Additionally, you acknowledge and agree that ICANN and the Registry Administrators may establish guidelines, limits and/or requirements that relate to the amount and type of information that Dotster, Inc. may or must make available to the public or to private entities, and the manner in which such information is made available. Further, you hereby consent to any and all such disclosures and use of, and guidelines, limits and restrictions on disclosure or use of, information provided by you in connection with the registration of a domain (including any updates to such information), whether during or after the term of your registration of the domain. Moreover, you hereby irrevocably waive any and all claims and causes of action that may arise or have arose from such disclosure or use of your Registration Information and the Additional Registration Information.
4. Information updating and accuracy obligations. As a condition to continued registration of your domain, you must keep the Registration Information current, complete and accurate. You may access your Registration Information in Dotster, Inc.'s possession to review, modify or update such Registration Information, by accessing Dotster, Inc.'s domain manager service, or similar service, made available at our Web site. In accordance with ICANN policies, you acknowledge and agree that if you willfully provide inaccurate information or fail to update your Registration Information promptly will constitute a material breach of this Agreement and may result in the cancellation of your domain registration. You further agree that your failure to respond in less than ten (10) calendar days to inquiries by Dotster, Inc. concerning the accuracy of the Registration Information or immediately upon discovery of any willful inaccuracy (including, i.e., phone number of 555-1212, 000-0000) associated with your domain registration shall constitute a material breach of this Agreement and will be sufficient basis for cancellation of your domain registration.
5. **Letter to ICANN Compliance**

[date]

To: ICANN Compliance

4676 Admiralty Way

Suite 330

Marina del Rey, CA 90292-6601USA

Dear Compliance Team

# ICANN’s compliance effort, detailed feedback

Over the past 12 months, the WHOIS Review Team (formed pursuant to the Affirmation of Commitments) has been engaged in assessing the extent to which ICANN’s existing WHOIS policy and its implementation is effective, meets the legitimate needs of law enforcement and promotes consumer trust.

As part of that exercise, we have looked closely at the work of the Compliance Team, and have greatly appreciated your willingness to engage positively in this exercise.

We have met on a number of occasions (detailed in appendix 1 to this letter), most recently in Dakar, October 2011. During that meeting, we gave some detailed feedback on our findings and impressions to date. We discussed that, for the purposes of our published report, much of this feedback and suggested improvements would be too detailed for inclusion. Our aim in the report will be to keep our recommendations reasonably high level so that it is straightforward for the community to monitor progress against targets, and that the operational detail of *how* to implement various recommendations be left to those charged with making the improvements.

However, we discussed that it might be helpful for your programme of continual improvement to have our detailed feedback, and suggestions for improvements. This letter will be appended to our published report, but it is emphasised that the suggestions here are for your own management purposes. They do not form the recommendations of the WHOIS Review Team.

This letter is structured as follows:

* It sets the scene with some high level comments and observations
* It reviews your operating principles
* It provides an inventory of the ICANN compliance team’s activities as reported in their web pages (ie the view available to interested stakeholders), and by the compliance team themselves.
* It highlights gaps between the compliance team’s stated objectives (embodied in its operational plan) and its implementation
* It suggests some actions and priorities that may be undertaken in order to effect improvements.

It should be noted that much of our analysis was done in the summer of 2011. From our most recent interactions, we understand that you have already identified areas for improvement, and started to implement them. For example, we note that the web site experience has now changed. However, we have retained our analysis as a snapshot at a point in time, against which improvements can be measured.

# Some high level comments

In order for a policy to be effective, it must not only be implemented, but also communicated effectively. Communication of policy is important because it feeds a public awareness of the norms and standards expected. Without effective communication, the legitimate expectations of the distinct stakeholder groups who rely on WHOIS will remain unmanaged, leading to sometimes unnecessary conflict, or complaints.

Our analysis of your website, and the effectiveness of your programme endorsed what you yourselves told us – ICANN’s compliance effort has historically been overstretched, and under resourced. It has struggled to obtain priority (in terms of strategy, budget or visibility) within the organisation, and to fill vacant positions.

As we are poised for the launch of new gTLDs, bringing a larger landscape, and new actors, this is a matter of deep concern to the WHOIS Review Team, which the entire community should share. For industry self-regulation to continue, it should be effective, impartial and seen to be so.

# Compliance – operating principles

We have based our analysis around your operating principles, which are:

* Work constructively with registrars and registries to foster a culture of compliance.
* Proactively monitor compliance by contracted parties
* Resolve contractual compliance matters informally, if appropriate
* Aggressively pursue cases of non-compliance
* Maintain the highest standards of integrity and professionalism
* Continue to develop and enhance procedures for consistent handling of compliance matters
* Analyse WDPRS reports and consumer complaint data to analyse trends
* Provide timely reporting of Contractual Compliance activities

The principles themselves are strong, and sensible. They emphasise partnership with registries and registrars, as well as fostering a culture of compliance – the softer, normative controls which are essential in situations where the responsibility for a successful outcome is spread across a number of organisations, through to the individual registrant.

The use of jargon and operational detail is out of place in such a high level statement. We therefore suggest that you review the 7th principle, and provide for a more high level description of your aims in relation to responding to consumer complaints.

Overall, we recommend that the operating principles form the basis for your strategic planning, communication, and allocation of resources. If internalized through staff training, they will also provide a roadmap to empower staff and decentralize decision-making on the front-line.

# Inventory of compliance activity

## What do the public see? ICANN’s website

In reviewing the effectiveness of ICANN’s implementation of WHOIS policy, the WRT considered what a member of the public, or other interested stakeholder would learn from ICANN’s website.

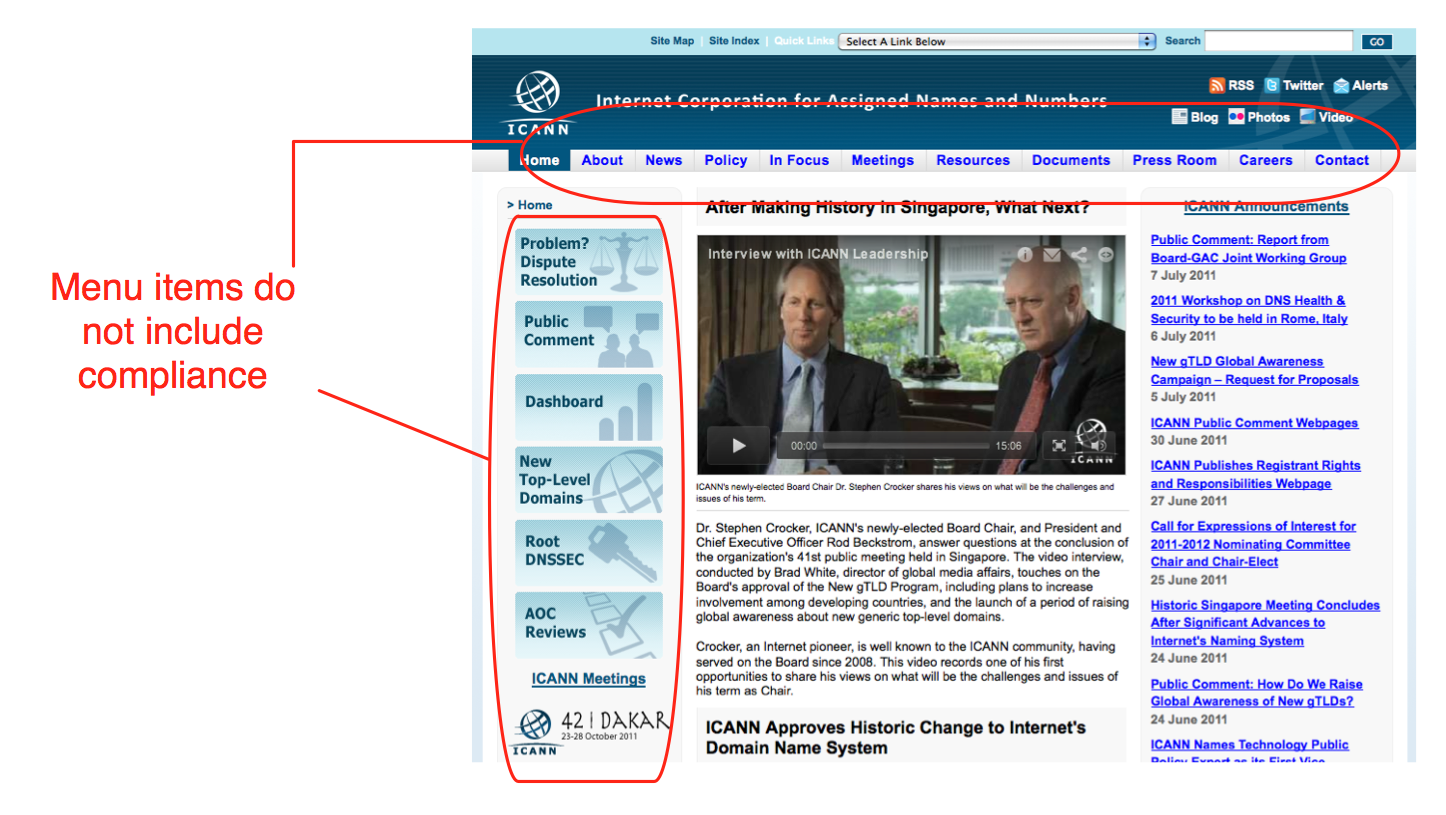
In general, strengths are the publication of the compliance team’s operating place, reports of its activities, and of studies on Data Accuracy and Privacy/Proxy.

Areas for improvement are that locating information is extremely difficult: compliance pages are hidden away, heavy with jargon (eg WDPRS), and assume a level of knowledge by users which may not exist in practice. The home compliance page is a jumble of news links, mixed in with explanatory pages, and a user has to scroll down the page to find out what the compliance team is.

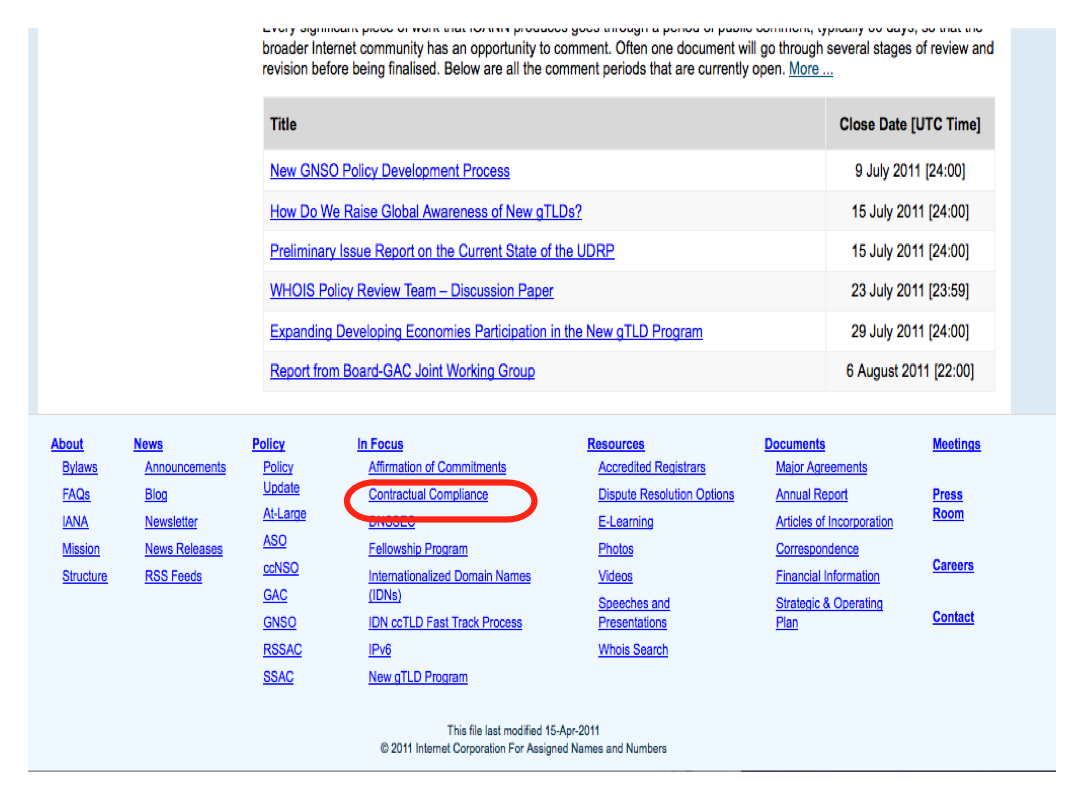
While the presentation of the pages may be thought of secondary importance compared to the work of the team itself, the WRT heard from compliance team staff that users tended to ‘misunderstand’ their role, what they could and could not do.

## Detailed comments on the website as at July 2011

Our review of the ICANN website in July 2011 found that it is difficult to locate the pages relating to contractual compliance from the home page:



A user can find the contractual compliance pages in two ways: first by following the “In focus” link (whose contents are not obvious from the label) from the top menus, and finding contractual compliance amongst an alphabetical list of ICANN’s activities; second, by following a single link located at the bottom of the home page:

Having located the compliance pages, the user is presented with a jumble of news items (Notices of Breach, Termination and Non-Renewal, Compliance related correspondence, Updates to Notices). Only underneath this, is a heading “What is the ICANN Contractual Compliance Program?” which explains that “ICANN has a limited technical and policy coordination role” – an important piece of information for stakeholders, and one which the compliance team members observe has not filtered through into the minds of people who contact them asking for help.

Only further down is the Compliance team’s “Operating Plan”, which enunciates the 8 principles set out above.

## Communication – keep your promises, manage expectations

We observed that the website carries the vestiges of initiatives or programmes which may no longer be current. This is unfortunate, as it creates a first impression of broken promises and inefficiency. The reality may simply be that initiatives have been discontinued but the website has not been updated. For example:

* The ICANN contractual compliance newsletters began in 2008 and are stated to be “monthly”[[16]](#footnote-16). Indeed, there were 6 monthly newsletters between April-September 2008. Thereafter publication dropped off. There was a further newsletter in December 2008, one in October 2009 and then in April and October 2010. There have been no monthly newsletters published in 2011 (as of July 2011)[[17]](#footnote-17).
* Likewise, the “Semi-Annual” reports[[18]](#footnote-18) were published once in 2007, and 2008, twice in 2009 and there have been none since.

It may be that these newsletters and semi-annual reports have been superseded with other forms of communications. But this is not clear to a casual user with no knowledge of ICANN’s inner workings.

## How does ICANN describe its compliance work relating to WHOIS?

According to ICANN’s web pages relating to compliance, the Compliance Team’s work spans a range of ten areas, including functional and performance specifications, equivalent access to registry services, and data escrow. ICANN describes its WHOIS work as follows:

*“This is a multi-level area and the subject of an ongoing PDP. Registries are required to provide a public Whois service, containing required data elements. They must also provide access to the Whois data to ICANN and to a third-party operator in the event that a centralized Whois system is developed. Compliance questions include whether the registry is providing appropriate access, meeting update frequency requirements, and following bulk access provisions. We will continue to enforce any Whois policies which may be developed and adopted as a consensus policy as a result of the PDP. We are also working to coordinate with registries the use of compatible formats (as an example, the Whois Data Problem Report System which encompasses all registries but requires several mapping tables which must be maintained and corrected by staff).*[[19]](#footnote-19)*”*

## Focus on specific compliance activities:

At the WRT’s meeting in January 2011, the compliance team presented a helpful review of their work, and highlighted the activities set out below. Your communication with the WRT was characterized by openness, professionalism, and candour. You summarized their work as:

* Conducting audits to assess compliance with RAA provisions
* Investigating complaints of non-compliance
* Escalating cases in which registrars do not comply after informal efforts to bring those parties into compliance fail.

### Audits

You informed us that the following WHOIS-related audits have been undertaken since 2008:

2010 – Registrar Whois Data Access Audit

2010 – Registrar Whois Data Reminder Policy Audit

2009 – Registrar Whois Data Reminder Policy Survey

2008 – Registrar Whois Data Reminder Policy Survey

2008 – Registrar Whois Data Inaccuracy Investigation Audit

#### WHOIS Data Access Audit 2010

The 2010-11 Registrar WHOIS Data Access Audit concluded that 99% of registrars comply with their contractual obligations to provide Port 43 access to WHOIS services. The Audit gave rise to 11 compliance interventions by the ICANN team, of which 10 were resolved through dialogue. In the single outstanding case, the registrar accreditation agreement was terminated for breach.

**This is an example of a successful compliance intervention, and should be used as a model for future programmes:**

* The parameters were limited, and reflected a contractual obligation which is clear to both registrars and ICANN.
* The follow-up action is well documented
* Compliance demonstrably improved as a result of the intervention.

Overall, this programme exemplifies ICANN compliance’s first operating principle: *working constructively with registrars*.

Areas for improvement include communication, sustaining the momentum and developing performance measures/goals over time.

This is a successful compliance intervention, but the message is hidden amongst a plethora of links, updates (which assume pre-existing knowledge on the part of the user) and background information.

#### WHOIS Data Reminder Policy Audits 2008-2010.

Three of the above interventions relate to ICANN’s WHOIS Data Reminder Policy. Confusingly, the acronym for this, WDRP, is nearly identical to one of the few other key compliance activities, the WHOIS Data Problem Reporting System, WDPRS – and ICANN is giving itself an unnecessary communications challenge in this regard.

At the time of writing, the 2010 WHOIS Data Reminder Policy Audit Report has not yet been published for comment.

The WHOIS Data Reminder Policy requires every registrar to send a notice to each registrant at least annually and remind the registrant that the provision of false data can be grounds for cancellation of a registration. Registrants must review their WHOIS data and make any necessary corrections.

Registrars told the WHOIS Review Team that the costs of sending the notices are substantial, eg:

* Support load is generated by registrants questioning why they received the notices;
* Disruption to business eg by being mistakenly blacklisted for spam as a result of sending out the notices.

According to the 2009 report (the 6th annual report on registrar compliance), 93% of registrars participated, of which 99% were found to be in compliance.

However, 83% of registrars who responded said that they were unable to track the changes resulting from the WHOIS Data Reminder notices. Therefore, it is impossible to measure the impact of this flagship policy on improving data accuracy.

#### Registrar Whois Data Inaccuracy Investigation Audit, 2008

Our main report will deal extensively with the issue of data accuracy, and set out targets for improvement. In brief, this ought to be the highest priority area for the Compliance Team in targeting resources, crafting effective interventions.

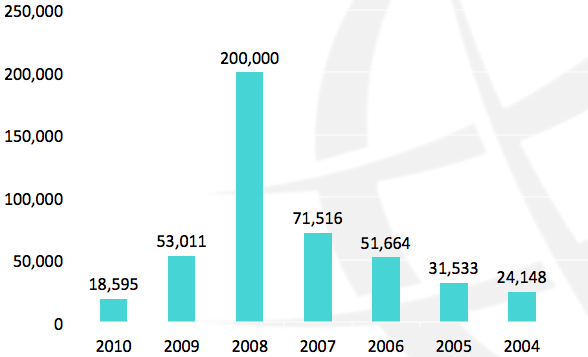
### Investigate complaints of non-compliance

#### WHOIS Data Problem Report System (WDPRS)

ICANN introduced the WHOIS Data Problem Report System (WDPRS) in 2002, and is described as “*one of the tools developed to assist registrars in carrying out their responsibility to investigate WHOIS data inaccuracy claims*”[[20]](#footnote-20). The goal of the WDPRS is to streamline the process for receiving and tracking complaints about inaccurate and incomplete WHOIS data, and thereby help improve the accuracy of WHOIS data[[21]](#footnote-21).

Its purpose is to receive and track complaints about inaccurate or incomplete Whois data entries. Users can raise problems by completing an online form, which the compliance team then forwards to the registrar of record for appropriate action.

In your presentation to us in London, January 2011, you told us that the number of WDPRS Reports received by ICANN since 2004 is as follows[[22]](#footnote-22):

Source: ICANN Compliance, January 2011

Considering the NORC WHOIS Data Accuracy Study[[23]](#footnote-23) finding that there was some inaccuracy in 77% of gTLD domain name records (equating to approximately 85.2 million gTLD inaccurate domain name records), and near total failure in 21% (equating to 25.4 million[[24]](#footnote-24)), the number of WDPRS reports is small, and the base of complainants is tiny.

In 2007, 10 people were responsible for 87% of all WHOIS inaccuracy reports. This indicates that the programme is not widely known, and informal feedback indicates that it may be used in bad faith by those targeting particular “valued” domain names.

In 2007, approximately 53% of the reports indicated “spam”, “phishing” or “fraud” in the comments accompanying the report, indicating a correlation between fraudulent or antisocial use and inaccurate WHOIS data.

As for follow-up, the WDPRS requires the registrar to report back to ICANN after 15 days. The compliance team provides provides a pro-forma template for the registrar to indicate what action was taken, as follows:

a) registrar verified contact info is correct

b) domain suspended, deleted or expired (system automatically closes ticket)

c) contact info updated

d) more time requested (one time option)

This is helpful, because it provides the opportunity to quantify the response, and provide metrics for success.

In 2007, ICANN reported that an estimated 35% of reported domain names with bad data were corrected, suspended, or no longer registered. An additional 28% of domains with clearly bad information were not changed. For the remaining 37% of reported domains, the WHOIS data was without obvious errors.

Given the prevalence of inaccuracy found in 2010, the significant drop in WDPRS in the same year is of concern. However, the follow up (measured by ICANN Compliance Team’s indicator of “registrars terminated or non-renewed”) has improved. 26% of terminations/non-renewals since 2007 reference WHOIS Non-compliance. While the improvement is positive, the low overall numbers of interventions relating to data accuracy are a totally inadequate response to the high levelsunlikely to make a significant improvement in the levels of inaccurate data in WHOIS.

### Other WHOIS Related Work and Efforts – Studies and what to do with them.

In addition, you highlighted in your presentation (January 2011) the following WHOIS related work and efforts. Our report will consider the studies on Privacy/Proxy and WHOIS Accuracy in detail, and will note our general concern at the recent trend within the ICANN Community of for commissioning expensive reports, and then doing nothing with them. This is a comment directed at the highest levels of the organisation and community, and is not a criticism of the Compliance Team. Nevertheless, we would welcome a more joined up approach in future, which would view such studies as a resource for the benefit of the entire ICANN Community, and we encourage the Compliance Team to develop follow up measures within 3 months of the publication of studies funded by ICANN the corporation (no matter which entity within the Community commissioned the study) which are directly relevant to your work, eg those relating to WHOIS accuracy. Whilst it is laudable to adopt an evidence based approach, there must be tangible, measurable follow up in order to capitalize on the investment made in the reports.

## What the stakeholders told us

Our report will review in detail the responses from across the ICANN community, and consumers with regard to the effectiveness of WHOIS policy and its implementation. Here, we highlight a few key points from our interactions from yourselves, the IP constituency and registries and registrars.

* All stakeholders, including you, told us that ICANN’s compliance effort had historically been poorly resourced and has struggled for organisational priority.
* You told us that lack of adequate contractual powers hamper your effectiveness. This view was not shared by others eg by the intellectual property constituency – who told us that the contracts provided adequate powers, but “no one is enforcing them”.
* You felt that people do not understand the role of the compliance team.
* All stakeholders we spoke to supported the introduction of progressive remedies for failure to comply.
* In striking contrast to the comments received from other constituencies, including ICANN’s Compliance Team, the Registrars and Registrars were extremely positive about the effectiveness of the implementation of WHOIS policy.
* At least two members of the Review Team notes that Registries and Registrars are sympathetic to the technical and operational challenges faced by the ICANN Compliance team.
* The gap in perceptions between the Registries and Registrars (the contracted parties who are monitored by ICANN’s Compliance Team, through industry self-regulation) and all other constituencies merits further exploration.

# Gap analysis

1. **Communication**

* Locating information on the website is extremely difficult, compliance pages are hidden away, laden with jargon, and assume a level of knowledge by users which may not exist in practice. Documents referred to in the compliance team’s answers to the WRT as plain English guides should be front and centre to the user experience. Poor or ineffective communication generates costs, inefficiency and support load. It also creates frustration for everyone.
* Operating principles are generally good, but the use of jargon is out of place in high level principles.
* Reporting of contractual compliance activities is far from timely (operating principle 8), eg “monthly” newsletters and “semi-annual” reports have not been published at all in 2011. If these have been replace by other forms of communication, this is not clear.
* Key documents (eg the Privacy/Proxy study 2009) are missing, or only possible to locate with specific URLs.

1. **Audits**

* The 2010-11 Registrar WHOIS Data Access Audit is an example of a successful compliance intervention. Areas for improvement include communication, sustaining the momentum and delivering performance measures/goals over time. A summary of the detailed report would be helpful to the new comer. This should also be linked to the operating principles, as a successful example of working in partnership with registrars to foster a culture of compliance.
* The acronyms WDRP and WDPRS are confusingly similar, especially as they are two of the most significant ongoing compliance activities undertaken by the compliance team. The use of the acronyms without explanation gives ICANN an unnecessary communications challenge.

1. **Investigating complaints of non-compliance**

* Given the prevalence of inaccurate WHOIS data, both the number of Whois Data Problem Reports, and the number of individual reporters (in 2007, 10 people were responsible for 87% of all WHOIS inaccuracy reports) are unacceptably low, indicating a low awareness level of this service amongst the target users of the system – consumers. It was striking that some members of the WHOIS Review Team, whose daily job involves conducting hundreds of WHOIS queries, were unaware of the service or how to report inaccurate data to ICANN.
* The system for WHOIS Data Problem Reporting generates a high level of duplicates. ICANN’s compliance staff have inadequate workflow systems or automation to enable them to keep on top of their existing workload – this provides a disincentive to ensuring that the system is better known and more widely used.

1. **Other WHOIS Related work and efforts – Data Accuracy**

* Data accuracy – the low level of accurate WHOIS data is unacceptable, and decreases consumer trust in the WHOIS, in the industry of which ICANN is a quasi-regulator, 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. It should develop a methodology to measure overall accuracy, publish performance targets, and actively collaborate with registrars and registrants to improve data accuracy.
* Just as there is no shared understanding, or statement of the purpose of WHOIS, key concepts, such as “data accuracy” mean different things to different stakeholders. Further work is required, involving all interested stakeholders, to develop a common understanding and statements of the purpose of WHOIS and key concepts within it.
* The WHOIS Data Accuracy Study identified that a key cause of inaccuracy was confusion amongst registrants when completing WHOIS data. If the industry wants to improve accuracy of data, it is necessary to think through the core WHOIS data set from the perspective of a commonly understood WHOIS Purpose, and creating a streamlined, understandable data set for registrants to complete. A number of stakeholder groups, notably SSAC, have been thinking deeply about these issues for a number of years.
* It is unclear what the response of the Compliance team to the Data Accuracy Study has been. This leads to the impression that expensive, time consuming studies are being undertaken, and then left to languish. An action plan should already have been published by now, including measurable targets, and key performance indicators. If this has happened, the WRT is unaware of it.

# Suggested actions

**Making the operating plan operational. Overarching recommendations:**

1. **To foster a culture of compliance, through dialogue with registries and registrars, explore how to create incentives to reward good behaviour, rather than focus exclusively on punishing bad actors.**
2. **As demand will always exceed the available resources, the compliance effort must be strategic, focus on achieving measurable, stated objectives, and should be pro-active rather than reactive.**
3. **Communication**
4. Review operating principles to ensure that the importance of effective communication of policy and compliance activities is reflected.
5. Review the compliance section of the ICANN website, to ensure that communicates to the newcomer. Aim to communicate the purpose of the compliance effort, its operating principles, and in relation to WHOIS the basics of the service, and the role and responsibilities of all the actors in the supply chain.
6. Use the operating principles as the benchmark for performance targets, and the first priority to eliminate gaps. For example, do not promise “monthly” newletters and “semi-annual” reports, if they are not going to be delivered.
7. Ensure that all key documents are readily accessible by ordinary users.
8. **Audits**
9. Use successful compliance interventions (such as the WHOIS Data Access Audit 2010) to develop key performance indicators. Create summaries of the detailed reports, aimed at the new comer, and expressly link the compliance activity back to the operating principles. Ensure that key documents are easy to locate on the website.
10. Eliminate jargon and acronyms, and address the use of two confusingly similar acronyms – WDRP and WDPRS – for two different WHOIS compliance activities.
11. Develop, in partnership with registrars, metrics to track the impact of the annual data reminder notices to registrants. Use the metrics to develop and publish performance targets, to improve data accuracy over time. If this is impossible with the current system, develop a different one in consultation with registrars that achieves the objective of improving data quality, in a measurable way.
12. **Investigating complaints of non-compliance**
13. Improve consumer awareness of existing systems for reporting problems with WHOIS data. Develop performance targets based on consumer awareness, and increased use of the system.
14. Ensure that the compliance team has adequate workflow systems and automation to handle an increased workload.
15. Investigate the reasons why reporting of inaccurate WHOIS data has fallenExplore ways to raise awareness amongst consumers of WHOIS (ie law enforcement, brand protection, and those buying and selling domain names) of existing mechanisms provided by ICANN for the reporting of inaccurate data. , despite continuing high levels of inaccurate WHOIS data. Report on the findings.
16. **Other WHOIS Related work and efforts**
17. Data accuracy – identify easy wins from the 2010 Data Accuracy study. These include tardiness in keeping data up to date. Working in partnership with registrars, ICANN should plan effective communications plans or other interventions to address and improve registrant data accuracy.
18. Fundamental work is required to agree a standardized, streamlined data set for WHOIS. The WRT recommends that SSAC undertake this work, in consultation with other stakeholders.
19. Within 3 months, of the publication of this report, ICANN should publish its response and action plan to the WHOIS Data Accuracy Study 2010, together with measurable, achievable targets for improvement over a 3-5 year period, together with budgetary implications. In response to future WHOIS studies, ICANN should publish its response and action plan within 6 months of the publication of the relevant study.
20. **Interaction with compliance team and other stakeholders.**

In approaching its task to understand the effectiveness of ICANN’s implementation of its existing WHOIS policy, the Review Team undertook the following consultations:

* ICANN’s contractual compliance team:
  + Presentation at London meeting (January 2011)
  + Face to face meeting in Singapore (June 2011)
  + Visit to Marina del Rey offices (July 2011)
  + Informal interactions
  + Face to face meeting in Dakar (October 2011)
* Registries and registrars
  + Face to face meeting, focused on compliance (June 2011), see Appendix [ ] for list of questions covered.
* Other stakeholders
  + Law enforcement (January 2011)
  + ICANN’s Intellectual Property Constituency (IPC) (telecon, May 2011)
  + ICANN’s Business Constituency, ISPs’ Constituency and IPC face to face meeting (June 2011)
  + ICANN’s At Large Advisory Committee (ALAC) face to face meeting (June 2011)
  + ICANN’s Non-Commercial Users’ Constituency (NCUC) face to face meeting (June 2011).
* Public comment
  + The Review Team’s discussion paper, published in June 2011, raised 7 questions relating to implementation.

In July 2009, members of the WRT visited the Marina del Rey offices for a 2 day meeting with the ICANN compliance team. Also present was a member of ICANN’s legal team. The WRT were unclear as to the reason why ICANN felt it was necessary to have one of their in-house Counsel present at this meeting. Although the WRT would not put it as strongly as the Accountability and Transparency Review Team, that some members of the staff were “laboring under an attitude of inordinate defensiveness and distrust of the review team and the review process”the presence of legal counsel a meeting essentially concerned with operational practices contributed of management discomfort about having members of the WRT interact with staff in this way.

Otherwise, the WRT found that:

* There is no shortage of activity within the Compliance team. The staff work hard, are committed to their task within their meager resources.
* The Compliance team regard their “toolbox” of available sanctions / actions as limited (ie termination of contract), and see the need for progressive remedies.
* The Compliance team is small in number, and is currently overstretched on its current workload. Without a significant injection of resources, and more strategic focus on priorities, ICANN’s compliance effort will continue to fall short of expectations.
* Compliance efforts appear to be focused exclusively on registrars. The WRT members were unable to identify any compliance efforts focused on registries.

Compliance efforts appeared to be reactive, complaint driven, without a sense of focusing on bad actors, or of normalizing complaint levels to take account of the diversity of user bases served by different registrars.

1. **Glossary (content owner: Team)**

**Excerpt from the ICANN Glossary. Please refer to** [**http://www.icann.org/en/general/glossary.htm**](http://www.icann.org/en/general/glossary.htm)

**Advisory Committee**

An Advisory Committee is a formal advisory body made up of representatives from the Internet community to advise ICANN on a particular issue or policy area. Several are mandated by the ICANN Bylaws and others may be created as needed. Advisory committees have no legal authority to act for ICANN, but report their findings and make recommendations to the ICANN Board.

[**AfriNIC**](http://www.apnic.net/) **- The African Network Information Center**

AfriNIC is a Regional Internet Registry (RIR), and is a non-profit membership organization responsible for the administration and registration of Internet Protocol (IP) addresses in the Africa region.

[**ALAC**](http://alac.icann.org/) **- At-Large Advisory Committee**

ICANN's At-Large Advisory Committee (ALAC) is responsible for considering and providing advice on the activities of the ICANN, as they relate to the interests of individual Internet users (the "At-Large" community). ICANN, as a private sector, non-profit corporation with technical management responsibilities for the Internet's domain name and address system, will rely on the ALAC and its supporting infrastructure to involve and represent in ICANN a broad set of individual user interests.

On 31 October 2002, the ICANN Board adopted New Bylaws that establish the ALAC and authorize its supporting At-Large organizations. (Article XI, Section 2(4) of the New Bylaws.) The New Bylaws, which are the result of ICANN's 2002 reform process, went into effect on 15 December 2002. ALAC is to eventually consist of ten members selected by Regional At-Large Organizations, supplemented by five members selected by ICANN's Nominating Committee. To allow the ALAC to begin functioning immediately, the Transition Article of the Interim Bylaws provides for the Board to appoint ten members (two from each of ICANN's five regions) to an Interim ALAC.

Underpinning the ALAC will be a network of self-organizing, self-supporting At-Large Structures throughout the world involving individual Internet users at the local or issue level. The At-Large Structures (either existing organizations or newly formed for this purpose) will self-organize into five Regional At-Large Organizations (one in each ICANN region - Africa, Asia-Pacific, Europe, Latin America/Caribbean, and North America). The Regional At-Large Organizations will manage outreach and public involvement and will be the main forum and coordination point in each region for public input to ICANN.

[**APNIC**](http://www.apnic.net/) **- The Asia Pacific Network Information Centre**

APNIC is a Regional Internet Registry (RIR), and is a non-profit membership organization responsible for the administration and registration of Internet Protocol (IP) addresses in the Asia-Pacific region, including Japan, Korea, China, and Australia.

[**ARIN**](http://www.arin.net/) **- American Registry for Internet Numbers**

ARIN is a Regional Internet Registry (RIR), and is a non-profit membership organization established for the purpose of the administration and registration of Internet Protocol (IP) addresses in North America, parts of the Caribbean, and sub-Saharan Africa.

[**ASO**](http://aso.icann.org/) **- Address Supporting Organization**

The ASO advises the ICANN Board of Directors on policy issues relating to the allocation and management of Internet Protocol (IP) addresses. The ASO selects two Directors for the ICANN Board.

[**ccNSO**](http://ccnso.icann.org/) **- The Country-Code Names Supporting Organization**

The ccNSO is in the process of being established, with the ccNSO Assistance Group preparing the recommendations that are currently under discussion. Upon completion, the purpose of the ccNSO is to engage and provide leadership in activities relevant to country-code top-level domains (ccTLDs). This is achieved by 1) Developing policy recommendations to the ICANN Board, 2) Nurturing consensus across the ccNSO's community, including the name-related activities of ccTLDs; and 3) Coordinating with other ICANN SO's, Committees, or constituencies under ICANN. The ccNSO selects one person to serve on the board.

**CCTLD - Country Code Top Level Domain**

Two letter domains, such as .uk (United Kingdom), .de (Germany) and .jp (Japan) (for example), are called country code top level domains (ccTLDs) and correspond to a country, territory, or other geographic location. The rules and policies for registering domain names in the ccTLDs vary significantly and ccTLD registries limit use of the ccTLD to citizens of the corresponding country.

Some ICANN-accredited registrars provide registration services in the ccTLDs in addition to registering names in .biz, .com, .info, .name, .net and .org, however, ICANN does not specifically accredit registrars to provide ccTLD registration services.

For more information regarding registering names in ccTLDs, including a complete database of designated ccTLDs and managers, please refer to <http://www.iana.org/cctld/cctld.htm>.

**Domain Name Resolvers**

Scattered across the Internet are thousands of computers - called "Domain Name Resolvers" or just plain "resolvers" - that routinely cache the information they receive from queries to the root servers. These resolvers are located strategically with Internet Service Providers (ISPs) or institutional networks. They are used to respond to a user's request to resolve a domain name - that is, to find the corresponding IP address.

**DNS - Domain Name System**

The Domain Name System (DNS) helps users to find their way around the Internet. Every computer on the Internet has a unique address - just like a telephone number - which is a rather complicated string of numbers. It is called its "IP address" (IP stands for "Internet Protocol"). IP Addresses are hard to remember. The DNS makes using the Internet easier by allowing a familiar string of letters (the "domain name") to be used instead of the arcane IP address. So instead of typing 207.151.159.3, you can type www.internic.net. It is a "mnemonic" device that makes addresses easier to remember.

[**GAC**](http://gac.icann.org/) **- Governmental Advisory Committee**

The GAC is an advisory committee comprising appointed representatives of national governments, multi-national governmental organizations and treaty organizations, and distinct economies. Its function is to advise the ICANN Board on matters of concern to governments. The GAC will operate as a forum for the discussion of government interests and concerns, including consumer interests. As an advisory committee, the GAC has no legal authority to act for ICANN, but will report its findings and recommendations to the ICANN Board. The Chairman of the GAC is Heather Dryden of Canada.

**gTLD - Generic Top Level Domain**

Most TLDs with three or more characters are referred to as "generic" TLDs, or "gTLDs". They can be subdivided into two types, "sponsored" TLDs (sTLDs) and "unsponsored TLDs (uTLDs), as described in more detail below.

In the 1980s, seven gTLDs (.com, .edu, .gov, .int, .mil, .net, and .org) were created. Domain names may be registered in three of these (.com, .net, and .org) without restriction; the other four have limited purposes.

Over the next twelve years, various discussions occurred concerning additional gTLDs, leading to the selection in November 2000 of seven new TLDs for introduction. These were introduced in 2001 and 2002. Four of the new TLDs (.biz, .info, .name, and .pro) are unsponsored. The other three new TLDs (.aero, .coop, and .museum) are sponsored.

Generally speaking, an unsponsored TLD operates under policies established by the global Internet community directly through the ICANN process, while a sponsored TLD is a specialized TLD that has a sponsor representing the narrower community that is most affected by the TLD. The sponsor thus carries out delegated policy-formulation responsibilities over many matters concerning the TLD.

A Sponsor is an organization to which is delegated some defined ongoing policy-formulation authority regarding the manner in which a particular sponsored TLD is operated. The sponsored TLD has a Charter, which defines the purpose for which the sponsored TLD has been created and will be operated. The Sponsor is responsible for developing policies on the delegated topics so that the TLD is operated for the benefit of a defined group of stakeholders, known as the Sponsored TLD Community, that are most directly interested in the operation of the TLD. The Sponsor also is responsible for selecting the registry operator and to varying degrees for establishing the roles played by registrars and their relationship with the registry operator. The Sponsor must exercise its delegated authority according to fairness standards and in a manner that is representative of the Sponsored TLD Community.

[**GNSO**](http://gnso.icann.org/) **- Generic Names Supporting Organization**

The GNSO is the successor to the responsibilities of the Domain Name Supporting Organization (DNSO; see below) that relate to the generic top-level domains.

The GNSO is the body of six constituencies, as follows: the Commercial and Business constituency, the gTLD Registry constituency, the ISP constituency, the non-commercial constituency, the registrar's constituency, and the IP constituency.

[**IANA**](http://www.iana.org/) **- Internet Assigned Numbers Authority**

The IANA is the authority originally responsible for the oversight of IP address allocation, the coordination of the assignment of protocol parameters provided for in Internet technical standards, and the management of the DNS, including the delegation of top-level domains and oversight of the root name server system. Under ICANN, the IANA continues to distribute addresses to the Regional Internet Registries, coordinate with the IETF and others to assign protocol parameters, and oversee the operation of the DNS.

[**ICANN**](http://www.icann.org/) **- The Internet Corporation for Assigned Names and Numbers**

The Internet Corporation for Assigned Names and Numbers (ICANN) is an internationally organized, non-profit corporation that has responsibility for Internet Protocol (IP) address space allocation, protocol identifier assignment, generic (gTLD) and country code (ccTLD) Top-Level Domain name system management, and root server system management functions. Originally, the Internet Assigned Numbers Authority (IANA) and other entities performed these services under U.S. Government contract. ICANN now performs the IANA function. As a private-public partnership, ICANN is dedicated to preserving the operational stability of the Internet; to promoting competition; to achieving broad representation of global Internet communities; and to developing policy appropriate to its mission through bottom-up, consensus-based processes. The DNS translates the domain name you type into the corresponding IP address, and connects you to your desired website. The DNS also enables email to function properly, so the email you send will reach the intended recipient.

**IDNs - Internationalized Domain Names**

IDNs are domain names that include characters used in the local representation of languages that are not written with the twenty-six letters of the basic Latin alphabet "a-z". An IDN can contain Latin letters with diacritical marks, as required by many European languages, or may consist of characters from non-Latin scripts such as Arabic or Chinese. Many languages also use other types of digits than the European "0-9". The basic Latin alphabet together with the European-Arabic digits are, for the purpose of domain names, termed "ASCII characters" (ASCII = American Standard Code for Information Interchange). These are also included in the broader range of "Unicode characters" that provides the basis for IDNs.

The "hostname rule" requires that all domain names of the type under consideration here are stored in the DNS using only the ASCII characters listed above, with the one further addition of the hyphen "-". The Unicode form of an IDN therefore requires special encoding before it is entered into the DNS.

The following terminology is used when distinguishing between these forms:

A domain name consists of a series of "labels" (separated by "dots"). The ASCII form of an IDN label is termed an "A-label". All operations defined in the DNS protocol use A-labels exclusively. The Unicode form, which a user expects to be displayed, is termed a "U-label". The difference may be illustrated with the Hindi word for "test" -- परीका -- appearing here as a U-label would (in the Devanagari script). A special form of "ASCII compatible encoding" (abbreviated ACE) is applied to this to produce the corresponding A-label: xn--11b5bs1di.

A domain name that only includes ASCII letters, digits, and hyphens is termed an "LDH label". Although the definitions of A-labels and LDH-labels overlap, a name consisting exclusively of LDH labels, such as"icann.org" is not an IDN.

[**IETF**](http://www.ietf.org/) **- Internet Engineering Task Force**

The IETF is a large open international community of network designers, operators, vendors, and researchers concerned with the evolution of the Internet architecture and the smooth operation of the Internet. It is open to any interested individual.

**IP - Internet Protocol**

The communications protocol underlying the Internet, IP allows large, geographically diverse networks of computers to communicate with each other quickly and economically over a variety of physical links. An Internet Protocol Address is the numerical address by which a location in the Internet is identified. Computers on the Internet use IP addresses to route traffic and establish connections among themselves; people generally use the human-friendly names made possible by the Domain Name System.

[**ISOC**](http://www.isoc.org/) **- The Internet Society**

The Internet Society is the international organization for global cooperation and coordination for the Internet and its internetworking technologies and applications. ISOC membership is open to any interested person.

**ISP - Internet Service Provider**

An ISP is a company, which provides access to the Internet to organizations and/or individuals. Access services provided by ISPs may include web hosting, email, VoIP (voice over IP), and support for many other applications.

[**LACNIC**](http://www.lacnic.net/) **- Latin American and Caribbean Internet Addresses Registry**

LACNIC is a Regional Internet Registry (RIR) for Latin America and the Caribbean.

**Operations Steering Committee**

The Operations Steering Committee (OSC) coordinates, recommends and reviews changes to certain operational activities of the GNSO and its constituencies with a view to efficient outcomes. These operational activity areas cover GNSO operations, Stakeholder Group and Constituency operations, and communications with GNSO and between GNSO and other ICANN structures.

**PDP - Policy Development Process**

A set of formal steps, as defined in the ICANN bylaws, to guide the initiation, internal and external review, timing and approval of policies needed to coordinate the global Internet’s system of unique identifiers.

**Phishing**

Phishing attacks use both social engineering and technical subterfuge to steal consumers' personal identity data and financial account credentials. Social engineering schemes use spoofed emails to lead consumers to counterfeit websites designed to trick recipients into divulging financial data such as credit card numbers, account usernames, passwords and social security numbers.

Hijacking brand names of banks, e-retailers and credit card companies, phishers often convince recipients to respond. Technical subterfuge schemes plant crimeware onto PCs to steal credentials directly, often using Trojan keylogger spyware. Pharming crimeware misdirects users to fraudulent sites or proxy servers, typically through DNS hijacking or poisoning.

**Policy Process Steering Committee**

The Policy Process Steering Committee (PPSC) reviews and recommends processes used within the GNSO for developing policy, including the use of Working Groups, and recommending any changes.

**RGP - Redemption Grace Period**

Problems and complaints relating to deletion of domain-name registrations are very common. Businesses and consumers are losing the rights to their domain names through registration deletions caused by mistake, inadvertence, or fraud. Current procedures for correcting these mistakes have proven inadequate. To move toward a solution to these problems ICANN developed the RGP.

How it works:

Now, the "delete" of a domain name (whether inside or outside of any applicable grace period) will result in a 30-day Deleted Name Redemption Grace Period. This grace period will allow the domain name registrant, registrar, and/or registry time to detect and correct any mistaken deletions.

During this 30-day period, the deleted name will be placed on REGISTRY-HOLD, which will cause the name to be removed from the zone. (The domain name will not function/resolve.) This feature will help ensure notice to the registrant that the name is subject to deletion at the end of the RGP, even if the contact data the registrar has for the registrant is no longer accurate.

During the Redemption Grace Period, registrants can redeem their registrations through registrars. Registrars would redeem the name in the registry for the original registrant by paying renewal fees, plus a service charge, to the registry operator. Any party requesting redemption would be required to prove its identity as the original registrant of the name.

After the 30-day period when the domain name can be redeemed, there is a 5-day period when the domain essentially is pending deletion. This timeframe is implemented to facilitate notice to all registrars before a domain is finally deleted.

**Registrar**

Domain names ending with .aero, .biz, .com, .coop, .info, .museum, .name, .net, .org, and .pro can be registered through many different companies (known as "registrars") that compete with one another. A listing of these companies appears in the [Accredited Registrar Directory](http://www.icann.org/registrars/accredited-list.html).

The registrar you choose will ask you to provide various contact and technical information that makes up the registration. The registrar will then keep records of the contact information and submit the technical information to a central directory known as the "registry." This registry provides other computers on the Internet the information necessary to send you e-mail or to find your web site. You will also be required to enter a registration contract with the registrar, which sets forth the terms under which your registration is accepted and will be maintained.

**Registry**

The "Registry" is the authoritative, master database of all domain names registered in each Top Level Domain. The registry operator keeps the master database and also generates the "zone file" which allows computers to route Internet traffic to and from top-level domains anywhere in the world. Internet users don't interact directly with the registry operator; users can register names in TLDs including .biz, .com, .info, .net, .name, .org by using an ICANN-Accredited Registrar.

**Registry Services Evaluation Process**

The Registry Services Evaluation Process (RSEP) is ICANN’s process for evaluating proposed gTLD registry services or contractual modifications for security, stability or competition issues. Further information on RSEP is available at <http://www.icann.org/en/registries/rsep/>.

**RIR - Regional Internet Registry**

There are currently five RIRs: AfriNIC, APNIC, ARIN, LACNIC and RIPE NCC. These non-profit organizations are responsible for distributing IP addresses on a regional level to Internet service providers and local registries.

[**RIPE and RIPE NCC**](http://www.ripe.net/) **- Réseaux IP Européens**

RIPE is an open and voluntary organization, which consists of European Internet service providers. The RIPE NCC acts as the Regional Internet Registry (RIR) for Europe and surrounding areas, performs coordination activities for the organizations participating in RIPE, and allocates blocks of IP address space to its Local Internet Registries (LIRs), which then assign the addresses to end-users.

**Root Servers**

The root servers contain the IP addresses of all the TLD registries - both the global registries such as .com, .org, etc. and the 244 country-specific registries such as .fr (France), .cn (China), etc. This is critical information. If the information is not 100% correct or if it is ambiguous, it might not be possible to locate a key registry on the Internet. In DNS parlance, the information must be unique and authentic.

[**SSAC**](http://www.icann.org/en/committees/security/) **- Security and Stability Advisory Committee**

The President's standing committee on the security and stability of the Internet's naming and address allocation systems. Their charter includes a focus on risk analysis and auditing. SSAC consists of approximately 20 technical experts from industry and academia as well as operators of Internet root servers, registrars, and TLD registries.

**SO - Supporting Organizations**

The SOs are the three specialized advisory bodies that will advise the ICANN Board of Directors on issues relating to domain names (GNSO and CCNSO) and, IP addresses (ASO).

**TLD - Top-level Domain**

TLDs are the names at the top of the DNS naming hierarchy. They appear in domain names as the string of letters following the last (rightmost) ".", such as "net" in "www.example.net". The administrator for a TLD controls what second-level names are recognized in that TLD. The administrators of the "root domain" or "root zone" control what TLDs are recognized by the DNS. Commonly used TLDs include .com, .net, .edu, .jp, .de, etc.

**UDRP - Uniform Dispute Resolution Policy**

All ICANN-accredited registrars follow a uniform dispute resolution policy. Under that policy, disputes over entitlement to a domain-name registration are ordinarily resolved by court litigation between the parties claiming rights to the registration. Once the courts rule who is entitled to the registration, the registrar will implement that ruling. In disputes arising from registrations allegedly made abusively (such as "cybersquatting" and cyberpiracy"), the uniform policy provides an expedited administrative procedure to allow the dispute to be resolved without the cost and delays often encountered in court litigation. In these cases, you can invoke the administrative procedure by filing a complaint with one of the [dispute-resolution service providers](http://www.icann.org/en/dndr/udrp/approved-providers.htm).

For more details on the UDRP, see [the ICANN UDRP page](http://www.icann.org/udrp/udrp.htm) and the [FAQs](http://www.internic.net/faqs/udrp.html).

[**W3C**](http://www.w3c.org/) **- World Wide Web Consortium**

The W3C is an international industry consortium founded in October 1994 to develop common protocols that promote the evolution of the World Wide Web and ensure its interoperability. Services provided by the Consortium include: a repository of information about the World Wide Web for developers and users; reference code implementations to embody and promote standards; and various prototype and sample applications to demonstrate use of new technology.

[**WIPO**](http://www.wipo.org/) **- World Intellectual Property Organization**

WIPO is an intergovernmental organization based in Geneva, Switzerland responsible for the promotion of the protection of intellectual rights throughout the world. It is one of the 16 specialized agencies of the United Nations system of organizations.

**WHOIS**

WHOIS (pronounced "**who is**"; not an acronym) An Internet protocol that is used to query databases to obtain information about the registration of a domain name (or IP address). The WHOIS protocol was originally specified in [RFC 954](http://www.ietf.org/rfc/rfc954.txt), published in 1985. The current specification is documented in [RFC 3912](http://www.ietf.org/rfc/rfc3912.txt). ICANN's gTLD agreements require registries and registrars to offer an interactive web page and a port 43 WHOIS service providing free public access to data on registered names. Such data is commonly referred to as "WHOIS data," and includes elements such as the domain registration creation and expiration dates, nameservers, and contact information for the registrant and designated administrative and technical contacts.

WHOIS services are typically used to identify domain holders for business purposes and to identify parties who are able to correct technical problems associated with the registered domain.

1. **References**

**WHOIS Policy and Implementation References**

* <http://www.icann.org/en/documents/affirmation-of-commitments-30sep09-en.htm>
* <http://www.icann.org/en/registrars/ra-agreement-21may09-en.htm>
* <http://www.icann.org/en/general/bylaws.htm>
* Theoretical Gap Classes: There are several other Gap Classes, as demonstrated by the table:

|  |  |  |  |
| --- | --- | --- | --- |
| **AOC** | **Contracted Party Obligation** | **Compliance** | **Notes / Gap Class Description** |
| **✕** | **✕** | **✕** | Out of Scope |
| **✕** | **✕** | **✔** | Compliance Going Rogue |
| **✕** | **✔** | **✕** | Honor System |
| **✕** | **✔** | **✔** | AoC Doesn’t Care |
| **✔** | **✕** | **✕** | Empty Promises (**α)** |
| **✔** | **✕** | **✔** | Attempting to enforce AOC |
| **✔** | **✔** | **✕** | Asleep at the Switch (β) |
| **✔** | **✔** | **✔** | Aligned / No Gap |

* <http://www.icann.org/en/registrars/wdrp.htm>

1. **How to look up WHOIS**

WHOIS 101

* As many consumers use search engines to find information on the Internet, they may not be aware of the term “WHOIS” to use in a search engine. Even when “WHOIS” is applied to a search engine, all sorts of responses appear. Most of the search engine results, particularly those at the top of the search result hierarchy, link to webpage of registrars attempting to sell domain names and related services. It is not at all intuitive how to find the domain registrant information
* By way of example, a Google search for “WHOIS lookup” (searched – date-) provides the following:
* [WhoIs Domain Lookup - Search available Domains | GoDaddy.com](http://www.google.com/aclk?sa=l&ai=C2poH6CldTtPKMoKCqwHGmfCcD4ih-n_kzPD6E_vX3zAIABABUJ7MgYP8_____wFgyZ7rhsijoBmgAdLMuf8DyAEBqgQZT9BbJnIJJoPhGUiDhvl3Uovr9nJ8zeYB0roFEwjMyO-F0feqAhWQgUwKHXZQhQHKBQA&ei=6CldTsy0LpCDsgL2oJUM&sig=AOD64_0vhkZgGq7X1wqU1rUP7JFpqs4HKA&sqi=2&ved=0CAgQ0Qw&adurl=http://who.godaddy.com/whoischeck.aspx%3Fisc%3Dgoaft513ab)
* *www.godaddy.com*
* You +1'd this publicly. [Undo](http://www.google.com/)
* Free Hosting w/Site Builder & more.
* Search Results
* [*WHOIS* Search for Domain Registration Information | Network ...](http://www.networksolutions.com/whois/index.jsp)
* *www.networksolutions.com/whois/index.jsp* - [Cached](http://webcache.googleusercontent.com/search?q=cache:N0jxqqGJwS0J:www.networksolutions.com/whois/index.jsp+whois+lookup&cd=1&hl=en&ct=clnk&gl=us&source=www.google.com)[Similar](http://www.google.com/search?hl=en&biw=1423&bih=691&q=related:www.networksolutions.com/whois/index.jsp+whois+lookup&tbo=1&sa=X&ei=6CldTsy0LpCDsgL2oJUM&sqi=2&ved=0CCwQHzAA)
* You +1'd this publicly. [Undo](http://www.google.com/)
* For a small monthly fee, we'll act as your proxy — which means that anyone who does a *WHOIS lookup* for your domain name information will find our contact ...
* [Make a WHOIS search on any ...](http://www.networksolutions.com/whois/entry.jsp) - [Domain Name](http://www.networksolutions.com/faq/domain-whatis.jsp) - [IP Address](http://www.networksolutions.com/faq/whois/ip-address.jsp)
* [*Whois Lookup* - Domain Names Search, Registration, & Availability ...](http://www.whois.net/)
* *www.whois.net/* - [Cached](http://webcache.googleusercontent.com/search?q=cache:W_K7_HxiY2QJ:www.whois.net/+whois+lookup&cd=2&hl=en&ct=clnk&gl=us&source=www.google.com)[Similar](http://www.google.com/search?hl=en&biw=1423&bih=691&q=related:www.whois.net/+whois+lookup&tbo=1&sa=X&ei=6CldTsy0LpCDsgL2oJUM&sqi=2&ved=0CDgQHzAB)
* You +1'd this publicly. [Undo](http://www.google.com/)
* Whois.net, Your Trusted Source for Secure Domain Name Searches, Registration, Availability & More. Use Our Free *Whois Lookup* Database To Search For ...
* [Whois By IP Address](http://tools.whois.net/whoisbyip/) - [Whois domain tools](http://tools.whois.net/) - [Your IP Address](http://tools.whois.net/yourip/) - [Ping](http://tools.whois.net/ping/)
* [*Whois Lookup* & Domain Availability Search | DomainTools](http://whois.domaintools.com/)
* *whois.domaintools.com/* - [Cached](http://webcache.googleusercontent.com/search?q=cache:7qJ0l7JP-EgJ:whois.domaintools.com/+whois+lookup&cd=3&hl=en&ct=clnk&gl=us&source=www.google.com)[Similar](http://www.google.com/search?hl=en&biw=1423&bih=691&q=related:whois.domaintools.com/+whois+lookup&tbo=1&sa=X&ei=6CldTsy0LpCDsgL2oJUM&sqi=2&ved=0CEUQHzAC)
* You +1'd this publicly. [Undo](http://www.google.com/)
* Research domain ownership with *Whois Lookup*: Get ownership info, IP address management, rank, traffic, SEO, & more. Find available domains & domains for ...
* [*WHOIS Lookup* for Domain & IP Address Research | Whois Source](http://www.whois.sc/)
* *www.whois.sc/* - [Cached](http://webcache.googleusercontent.com/search?q=cache:nPhJSK213SEJ:www.whois.sc/+whois+lookup&cd=4&hl=en&ct=clnk&gl=us&source=www.google.com)[Similar](http://www.google.com/search?hl=en&biw=1423&bih=691&q=related:www.whois.sc/+whois+lookup&tbo=1&sa=X&ei=6CldTsy0LpCDsgL2oJUM&sqi=2&ved=0CE0QHzAD)
* You +1'd this publicly. [Undo](http://www.google.com/)
* Discover who is behind a Website or IP Address by using our *WHOIS* Database Search. Domain Availability, History, Website Thumbnails, and more.
* [Internic | *Whois*](http://www.internic.net/whois.html)
* *www.internic.net/whois.html* - [Cached](http://www.google.com/url?sa=t&source=web&cd=5&sqi=2&ved=0CFQQIDAE&url=http%3A%2F%2Fwebcache.googleusercontent.com%2Fsearch%3Fq%3Dcache%3A01X8Ld_AIbwJ%3Awww.internic.net%2Fwhois.html%2Bwhois%2Blookup%26cd%3D5%26hl%3Den%26ct%3Dclnk%26gl%3Dus%26source%3Dwww.google.com&rct=j&q=whois%20lookup&ei=6CldTsy0LpCDsgL2oJUM&usg=AFQjCNEwVAyOJY-RNnJq8H_-dmsP_mgY8Q&cad=rja)[Similar](http://www.google.com/search?hl=en&biw=1423&bih=691&q=related:www.internic.net/whois.html+whois+lookup&tbo=1&sa=X&ei=6CldTsy0LpCDsgL2oJUM&sqi=2&ved=0CFUQHzAE)
* You +1'd this publicly. [Undo](http://www.google.com/)
* Oct 22, 2001 – *Whois* Search. *Whois* (.aero, .arpa, .asia, .biz, .cat, .com, .coop, .edu, .info, .int, .jobs, .mobi, .museum, .name, .net, .org, .pro, and .travel): ...
* [Who.is: *Whois Lookup*, Website, Domain Name, and IP Tools - Who.is](http://who.is/)
* *who.is/* - [Cached](http://webcache.googleusercontent.com/search?q=cache:4RSRI2XErFkJ:who.is/+whois+lookup&cd=6&hl=en&ct=clnk&gl=us&source=www.google.com)[Similar](http://www.google.com/search?hl=en&biw=1423&bih=691&q=related:who.is/+whois+lookup&tbo=1&sa=X&ei=6CldTsy0LpCDsgL2oJUM&sqi=2&ved=0CF0QHzAF)
* You +1'd this publicly. [Undo](http://www.google.com/)
* Who.is has a large suite of tools related to whois, *whois lookup*, websites, domain names and ip addresses.
* [*Whois*.com - Domain Names & Identity for Everyone](http://whois.com/)
* *whois.com/* - [Cached](http://webcache.googleusercontent.com/search?q=cache:qizLYukGrjwJ:whois.com/+whois+lookup&cd=7&hl=en&ct=clnk&gl=us&source=www.google.com)[Similar](http://www.google.com/search?hl=en&biw=1423&bih=691&q=related:whois.com/+whois+lookup&tbo=1&sa=X&ei=6CldTsy0LpCDsgL2oJUM&sqi=2&ved=0CGUQHzAG)
* You +1'd this publicly. [Undo](http://www.google.com/)
* *Whois lookup*, domain name search, domain name registration, available domain names, domain whois database information.
* [Whois Domain Lookup Search - *Whois Lookup*: Find Who ...](http://www.register.com/whois.rcmx)
* *www.register.com/whois.rcmx* - [Cached](http://webcache.googleusercontent.com/search?q=cache:5EwUdKN2BNsJ:www.register.com/whois.rcmx+whois+lookup&cd=8&hl=en&ct=clnk&gl=us&source=www.google.com)[Similar](http://www.google.com/search?hl=en&biw=1423&bih=691&q=related:www.register.com/whois.rcmx+whois+lookup&tbo=1&sa=X&ei=6CldTsy0LpCDsgL2oJUM&sqi=2&ved=0CG0QHzAH)
* You +1'd this publicly. [Undo](http://www.google.com/)
* Whois domain lookup search - find out who registered a website and check a domain name with our *Whois lookup* tool.
* [*Whois Lookup* | Domain Availability - Registration Information](http://who.godaddy.com/)
* *who.godaddy.com/* - [Cached](http://webcache.googleusercontent.com/search?q=cache:zcynSCe4UpgJ:who.godaddy.com/+whois+lookup&cd=9&hl=en&ct=clnk&gl=us&source=www.google.com)[Similar](http://www.google.com/search?hl=en&biw=1423&bih=691&q=related:who.godaddy.com/+whois+lookup&tbo=1&sa=X&ei=6CldTsy0LpCDsgL2oJUM&sqi=2&ved=0CHUQHzAI)
* You +1'd this publicly. [Undo](http://www.google.com/)
* Search the *WHOIS* database on the World's Largest Domain Name Registrar. Find out domain availability or contact the current owner of the website you are ...
* [*Whois* - IP Address - Domain Name *Lookup*](http://cqcounter.com/whois/)
* *cqcounter.com/whois/* - [Cached](http://webcache.googleusercontent.com/search?q=cache:X1bS6kRaemEJ:cqcounter.com/whois/+whois+lookup&cd=10&hl=en&ct=clnk&gl=us&source=www.google.com)[Similar](http://www.google.com/search?hl=en&biw=1423&bih=691&q=related:cqcounter.com/whois/+whois+lookup&tbo=1&sa=X&ei=6CldTsy0LpCDsgL2oJUM&sqi=2&ved=0CH0QHzAJ)
* You +1'd this publicly. [Undo](http://www.google.com/)
* ...
* .com and .net are “Thin” WHOIS registries meaning that within these registries, there is not a single source for complete WHOIS information for each of the domain names having the .com and .net TLD. Rather the complete (“Thick”) WHOIS data is available only from the registrar from whom the domain name was purchased. There are hundreds of registrars that register .com and .net TLD domain names, so Thick WHOIS data is distributed among hundreds of WHOIS databases for these domain names.
* An interested consumer knowledgeable about WHOIS databases will likely have to go through several steps to find the complete (“Thick”) WHOIS record for a specific .com and .net domain name. Because .com reflects the registry having the largest by far population of domain name registrants, and .net a close second (need to check this stat), the lack of a centralized “Thick” WHOIS database for these registries reflects a significant burden on the consumer looking for accurate and complete contact information for a given owner or operator of a website.
* To start, a consumer may pick one of the sites from the Google results above. Once they enter the domain name into the WHOIS tool they may not find the WHOIS record at that site. Since each registrar is required to only maintain the WHOIS information for the domains that they register or manage, a consumer must know to either look up the Thin WHOIS data at the registry to determine the relevant registrar who maintains the Thick WHOIS data, or the consumer must randomly check the WHOIS at multiple registrars hoping that the data will be there. Since not all registrars work together and share Thick WHOIS information, this second procedure can be problematic . All in all, the situation presents consumers unfamiliar with the DNS and WHOIS database structure, as the great majority will be, with unreasonable expectations and unfair challenges
* One example –
* When looking up **Guoxuwang.com** there was no WHOIS information returned in a WHOIS query at MarkMonitor.com or Enom.com. (October 31, 2011) NSI.com and GoDaddy.com returned the Thin WHOIS information Some registrars will provide a message similar to the following when the WHOIS record cannot be retrieved;
* Whois Server Version 2.0
* Domain names in the .com and .net domains can now be registered
* with many different competing registrars. Go to http://www.internic.net
* for detailed information.
* When this occurs the individual can access the Thin WHOIS record at the registry site Internic.net if it was not provided by a previous lookup. The Thin WHOIS record will provide the name of the registrar and the URL for the WHOIS server.
* An example of a Thin WHOIS records is provided below for the domain name ICANN.COM:
* Domain Name: ICANN.COM
* Registrar: GODADDY.COM, INC.
* Whois Server: whois.godaddy.com
* Referral URL: http://registrar.godaddy.com
* Name Server: A.IANA-SERVERS.NET
* Name Server: B.IANA-SERVERS.NET
* Name Server: C.IANA-SERVERS.NET
* Name Server: D.IANA-SERVERS.NET
* Name Server: NS.ICANN.ORG
* Status: clientDeleteProhibited
* Status: clientRenewProhibited
* Status: clientTransferProhibited
* Status: clientUpdateProhibited
* Updated Date: 19-oct-2011
* Creation Date: 14-sep-1998
* Expiration Date: 18-oct-2020
* A consumer desiring complete contact details for the owner/operator of the ICANN.com domain name would then need to access the URL for the WHOIS server indicated in the Thin WHOIS in this case whois.godaddy.com.
* Thick WHOIS record

Registrant:  
ICANN  
  
4676 Admiralty Way #330  
Marina del Rey, California 90292  
United States  
  
Registered through: GoDaddy.com, Inc. (http://www.godaddy.com)  
Domain Name: ICANN.COM  
Created on: 13-Sep-98  
Expires on: 18-Oct-20  
Last Updated on: 19-Oct-11  
  
Administrative Contact:  
Administrator, Domain domain-admin@icann.org  
ICANN  
4676 Admiralty Way #330  
Marina del Rey, California 90292  
United States  
+1.4242171313 Fax -- +1.4242171313  
  
Technical Contact:  
Administrator, Domain domain-admin@icann.org  
ICANN  
4676 Admiralty Way #330  
Marina del Rey, California 90292  
United States  
+1.4242171313 Fax -- +1.4242171313  
  
Domain servers in listed order:  
NS.ICANN.ORG  
A.IANA-SERVERS.NET  
B.IANA-SERVERS.NET  
C.IANA-SERVERS.NET  
D.IANA-SERVERS.NET  
  
  
Registry Status: clientDeleteProhibited  
Registry Status: clientRenewProhibited  
Registry Status: clientTransferProhibited  
Registry Status: clientUpdateProhibited

* Sometimes the URLs pointed to by the Thin WHOIS record do not resolve and the consumer is forced to search the registrar site for a link to the correct or updated WHOIS tool. This requires knowledge and determination by the consumer that is burdensome and seemingly unnecessary.

1. http://www.icann.org/en/presentations/gnso-mar-28jun06.pdf [↑](#footnote-ref-1)
2. http://www.icann.org/en/committees/security/sac051.pdf [↑](#footnote-ref-2)
3. whois://whois.icann.org or http://whois.icann.org [↑](#footnote-ref-3)
4. Authoritative name servers are those that can give an authoritative answer on where a domain is located rather than one that has simply cached a response received from another name server [↑](#footnote-ref-4)
5. This Guide covers only generic top level domains (gTLDs), which come under the control of ICANN, however there are also hundreds of country-code top-level domains (ccTLDs) such as .uk that correspond to countries or territories around the world. [↑](#footnote-ref-5)
6. An ICANN accreditation is currently granted for a term of 5 years. In order for a registrar to maintain its accreditation, it must renew its RAA every 5 years. This means that the 2009 RAA might not be applied to all existing registrars before 2014. [↑](#footnote-ref-6)
7. Please refer to <https://community.icann.org/download/attachments/19300487/whois-community-22jun11-en.pdf?version=1&modificationDate=1312224891000> [↑](#footnote-ref-7)
8. Please refer to <https://community.icann.org/download/attachments/19300487/whois-community-22jun11-en.pdf?version=1&modificationDate=1312224891000> [↑](#footnote-ref-8)
9. Please refer to <https://community.icann.org/download/attachments/19300487/whois-community-22jun11-en.pdf?version=1&modificationDate=1312224891000> [↑](#footnote-ref-9)
10. Please refer to <http://forum.icann.org/lists/whoisrt-discussion-paper/msg00008.html> [↑](#footnote-ref-10)
11. Please refer to <http://forum.icann.org/lists/whoisrt-discussion-paper/msg00018.html> [↑](#footnote-ref-11)
12. Please refer to <http://www.icann.org/en/public-comment/report-comments-whoisrt-discussion-paper-05aug11-en.pdf> [↑](#footnote-ref-12)
13. Please refer to <https://community.icann.org/download/attachments/19300487/whois-review-alac-21jun11-en+%283%29.pdf?version=1&modificationDate=1315416878514> [↑](#footnote-ref-13)
14. Please refer to <https://community.icann.org/download/attachments/19300487/whois-review-alac-21jun11-en+%283%29.pdf?version=1&modificationDate=1315416878514> [↑](#footnote-ref-14)
15. Please refer to <https://community.icann.org/download/attachments/19300487/whois-community-22jun11-en.pdf?version=1&modificationDate=1312224891000> [↑](#footnote-ref-15)
16. April 2008: “Each month, the newsletter will cover….” [↑](#footnote-ref-16)
17. See http://www.icann.org/en/compliance/newsletter/ [↑](#footnote-ref-17)
18. See <http://www.icann.org/en/compliance/reports-archive-en.htm>, accessed 8 July 2011 [↑](#footnote-ref-18)
19. <http://www.icann.org/en/compliance/gtld-compliance.htm>, accessed 11 July 2011. [↑](#footnote-ref-19)
20. <http://www.icann.org/en/compliance/archive/update-wdprs-enhancements-09mar11-en.htm>, accessed 11 July 2011. [↑](#footnote-ref-20)
21. [www.icann.org/en/whois/whois-data-accuracy-program-27apr07.pdf](http://www.icann.org/en/whois/whois-data-accuracy-program-27apr07.pdf), accessed 11 July 2011 [↑](#footnote-ref-21)
22. Source: ICANN Compliance Team, presentation to WHOIS RT, January 2011. [↑](#footnote-ref-22)
23. <http://www.icann.org/en/compliance/reports/whois-accuracy-study-17jan10-en.pdf> [↑](#footnote-ref-23)
24. Derived from VeriSign Domain Name Industry Brief, Dec 2009 issue, which reports that the total number of domains registered is approximately 187 million, with the ccTLD base being 76.3 million. Therefore the total of gTLDs for the period nearest the NORC study is approximately 110.7 million. If 23% are completely accurate (25.4M) then 77% are in some way inaccurate (85.2M). See <http://www.verisigninc.com/en_US/why-verisign/research-trends/domain-name-industry-brief/index.xhtml> [↑](#footnote-ref-24)