

Best Practices: WHOIS Searching Issues and Time-Saving Tips

EXECUTIVE SUMMARY:

The Internet has evolved from its early days of technical experimentation and has become a key medium for commerce and a rich source of information and resources for users. Central to its growth is the incredible explosion in domain name registration; from less than 1 million registered in 1996 to over 85 million registered in late 2005.¹

Domain names and the domain name system (DNS) helps users find their way around the Internet and exchange email correspondence. It is an essential component of contemporary Internet use. Every computer connected to the Internet has a unique address called its “IP address” (Internet Protocol address). Because IP addresses (which are strings of numbers) are hard to remember, the DNS allows a familiar string of letters (the “domain name”) to be used instead. So rather than typing the IP address “207.122.73.75” you can type “www.ironmountain.com” in your Internet browser and arrive at the intended web page.

Domain names records are authoritative electronic records maintained by a domain name registrar (i.e. Iron Mountain, Network Solutions®, GoDaddy®) that contain registrant (“owner”) contact, name server and IP address information along with creation and expiration dates. All registrars of domain names in the generic top-level domains (gTLDs) are required by the Internet Corporation for Assigned Names and Numbers (known as ICANN, a non-profit regulatory body) to provide a publicly accessible, searchable online database of their domain name registrant customer’s names. The records are typically referred to as “WHOIS” records. Accredited registrars must register their customers’ domain names with the authoritative top-level domain name (TLD) registry operator, such as VeriSign® for .com, .net, .tv and .cc; Public Interest Registry™ for .org; Afilias® for .info, .mobi and .aero; NeuStar® and NeuLevel® for .biz and .us, DENIC for .de (Germany); and China Network Information Center for .cn (China). Registries also maintain WHOIS databases containing associated IP address, name server and registrar and creation date information. However not all registries are required to or desire to maintain associated owner contact information.

In the old days of the Internet (pre 1999) it used to be relatively easy to lookup WHOIS records. This is because all commercial generic top-level domain name (gTLD) domain name registration WHOIS records were maintained by one U.S. government-sanctioned monopoly organization (Network Solutions) that functioned as a registry and a registrar for the heavily used .com, .net and .org gTLDs. Early on, their WHOIS servers were highly permissive and would allow wild-card searches. You could lookup records based on the registrant or administrative contact’s name or their address. Or you could perform a query on a keyword and see all registered domain names containing that keyword.

¹ Source: VeriSign Domain Report - November, 2005.

In 1999, competition opened up and the Network Solutions monopoly ended. Since then, the proliferation of ICANN accredited gTLD registrars, active country code top level domain (ccTLD) registries and registered domain names has resulted in massive increases in WHOIS query traffic by the public and competing vendors to relevant servers. In addition to traffic generated by these users to search for, identify and verify registrant, contact and DNS information for domain names, there has been a corresponding increase in illegitimate use—by spammers, domain name slammers, speculators and competing registrars. All of this activity places stress on the availability of the WHOIS servers for legitimate use.

As a result of this activity, most registrars, if not all, consider their registrant customer information to be private and will no longer allow multiple searches of domain names in their WHOIS database over a short period of time from a particular IP address. Furthermore, privacy regulations have been enacted by ICANN giving registrants the opportunity to opt-out of publication in bulk-WHOIS databases. It is no longer possible to routinely run truly comprehensive and global searches by registrant, address, phone number, email address, name server or IP address (reverse WHOIS searching).

The current state of WHOIS access introduces a variety of challenges to various Internet stakeholder groups, such as network operators, registries, registrars, business users, intellectual property interests, consumers, registrants, and law enforcement personnel. ICANN and the various stakeholder groups are trying to design and enact policy that will determine future WHOIS access and even the definition of WHOIS itself, but as of February 2006 have yet to reach consensus.

Meanwhile ICANN requires registrants to keep records current. Failure to properly maintain or update contact information in a domain name record can result in business interruption. That means your web site and all associated traffic disappears, email functionality evaporates, validation of https e-commerce cannot be completed, resulting in subsequent loss of revenue, reputation and possibly the domain name itself. How can you efficiently search for, validate, maintain regulatory compliance and ensure smooth technical operation of your organization's domain name records if there is no clear universal standard searching method and process in place—and you have records scattered across multiple registrars and registries?

This paper will discuss:

- **Internet Stakeholder Groups and their diverging WHOIS access interests.**
- **The Reasons for Maintaining Accurate WHOIS information**
- **Anatomy of a WHOIS Record**
- **Generic and Sponsored Top-Level Domain (gTLD & sTLD) searching**
- **Uncovering true registrants in Proxy (Private) Registrations**
- **Country-Code Top-Level Domain (ccTLD) searching**
- **Internationalized Domain Name (IDN) searching**
- **The Future of WHOIS**
- **WHOIS Searching Tools and Web Sites**

INTERNET STAKEHOLDER GROUPS AND THEIR DIVERGING WHOIS ACCESS INTERESTS.

Debate continues within ICANN and other interested parties over the accessibility of WHOIS information. The continuing debate and lack of consensus means there is no clear cut access policy and process.

Trademark professionals desire full WHOIS access all of the time in all TLDs so they can easily identify potential and serial infringers, not to mention identify, consolidate and catalogue all of their own domain names. But the same full access could lead to potential unrestricted examination of competitor domain names. Consumer and business groups are concerned about the annoyance of spam, “phishing” attacks and other misleading and fraudulent emails sent out by individuals and organizations unlawfully and unethically mining WHOIS contact databases.

According to the Germany ccTLD registry, DENIC, CENTR (a mainly European association of TLD registry operators) distinguishes in its paper on “WHOIS and Privacy Principles” the following stakeholder groups and their interests in WHOIS services:²

Network Operators: To identify appropriate contacts regarding network problems associated with the domain. In the traditional sense, this involves discussing technical DNS errors, routing, and other fundamental operations; or for more contemporary reasons such as identifying the source of spam and network attacks.

Registries and Registrars: To determine the availability of a domain name and to identify the contacts for a domain name. It is worth noting, registries and registrars usually have more specialized protocols and procedures for these purposes, rather than using the anonymous WHOIS service.

Business Users: Domain names have become essential to businesses and their valid interests; therefore WHOIS can become a useful competitive tool.

Intellectual Property Interests: As it stores personal data on the registrant, WHOIS can be used to identify a domain name holder using the Internet to infringe an individual or company’s intellectual property rights.

Consumers: Domain names are the first identifier of an e-commerce site. WHOIS data can potentially be used by consumers to make sure the company behind the site is legitimate.

Registrants: Registrant can use WHOIS to determine whether a domain name is available or not, and to check the status of its own domains. Additionally, WHOIS can inform the existing registrant on the identity of another registrant of a similar domain.

Law Enforcement Personnel: When a Web site is the instrument of a fraud, law enforcement personnel can try and use WHOIS database to find more information about the fraudulent party.

² Source: <http://www.denic.de/en/denic/net/documents/WHOIS-whitepaper.html>

THE REASONS FOR MAINTAINING ACCURATE WHOIS INFORMATION

ICANN requires registrants to keep records complete and accurate WHOIS data (name, address, phone, email) for all domain names delegated by TLD registries that it oversees. ICANN accredited registrars are obligated to ensure that such policy is adhered to. Willful provision of false or misleading WHOIS information is grounds for deletion of a domain name. It should be noted that ICANN does not have jurisdiction over many ccTLDs.

There are many reasons for maintaining accurate WHOIS data, such as to protect intellectual property rights, renew and manage names, prevent abuse (spam) and malicious/illegal conduct (harassment, child porn, trademark infringement, etc.)

Failure to properly maintain or update contact information in a domain name record can result in business interruption. That means your web site and all associated traffic disappears, email functionality evaporates, validation of https e-commerce cannot be completed, resulting in subsequent loss of revenue, reputation and possibly the domain name itself.

When a registrar receives a complaint from ICANN about incorrect WHOIS contact information for a domain name, they are required to investigate and take necessary steps to ensure the information is promptly updated or the domain will be deleted. This situation could unwittingly apply to your organization if you fail to design and maintain a comprehensive registration, management and enforcement policy for your domain name portfolio. This is because anyone can file a complaint by visiting <http://wdprs.internic.net/> and completing the WHOIS Data Problem Report. Unfortunately, it is also possible for anyone to submit a report for nefarious reasons, forcing you and your registrar to respond to even the most minimal of infractions, including simple typographic errors.

Bottom line: Make sure your organization periodically audits and validates your entire known domain name portfolio. You should also perform appropriate searches to find unknown names that should be in your control, but are misappropriated to current or former employees, vendors and agents. Several domain name registrars that cater to larger companies and trademark holders, including Iron Mountain, can perform such audits and validations.

ANATOMY OF A DOMAIN NAME RECORD

DOMAIN NAME RECORD

- A Registrant:**
XYZ Incorporated (XYZ-DOM)
500 Atlantic Ave
Boston, MA 02111
US
- Domain Name:** XYZ.COM
- B Administrative Contact, Technical Contact:**
Webmaster, XYZ (491479433) webmaster@xyz.com
XYZ Incorporated (XYZ-DOM)
500 Atlantic Ave
Boston, MA 02111
US
617-535-9876
- C Record expires on 04-Feb-2008.**
Record created on 03-Feb-1995.
Database last updated on 2-Jun-2004 00:47:30 EDT.
- D Domain servers in listed order:**
XYZHQ3.XYZ.COM 207.122.74.76
DNSAUTH1.SYS.UU.NET 4.2.49.7
DNSAUTH2.SYS.UU.NET 4.2.49.8
DNSAUTH3.SYS.UU.NET 4.2.49.9

C EXPIRATION DATE: Names not renewed (paid for) by the expiration date are subject to deactivation. This usually gets someone's attention, especially if associated with high traffic. The registrar can remove or change the DNS information on the domain name record so that the associated web site or email will no longer work.

CREATION DATE: This is the date the domain name was registered to the current registrant. It is not necessarily the date the domain name was originally registered.

D DOMAIN SERVERS IN LISTED ORDER (DNS INFO):
The authoritative name servers that host the domain name zone of a domain name. The first in the list is the Primary name server. The remaining are Secondary name servers. Some registrants host and control their own DNS, or use third party hosting vendors.

A REGISTRANT: No one really "owns" a domain name except the Network Information Centre (NIC), or domain name registry. Most of the registries in the world receive an annual fee from a legal user in order for the legal user to utilize the domain name (i.e. a sort of a leasing agreement exists, subject to the registry's terms and conditions). Depending on the various naming convention of the registries, legal users become commonly known as "registrants" or as "domain holders".

B ADMINISTRATIVE CONTACT: A registrant usually designates an administrative contact to manage the domain name. In practice, the administrative contact usually has the most immediate control over a domain. Management functions delegated to the administrative contacts may include (for example):

- The obligation to conform to the requirements of the domain registry in order to retain the right to use a domain name
- Authorization to update the physical address, e-mail address and telephone number etc in WHOIS

TECHNICAL CONTACT: A technical contact manages the name servers of a domain name. It can be the same Administrative Contact. The many functions of a technical contact include:

- Making sure the configurations of the domain name conforms to the requirements of the domain registry
- Updating the domain zone
- Providing the 24x7 functionality of the name servers (that leads to the accessibility of the domain name)

B BILLING CONTACT: This is the party that the registry or registrar invoices for initial registration and renewal. This information does not typically appear in public WHOIS records as it can be used by competitors, spammers, etc.

GENERIC (gTLD) AND SPONSORED (sTLD) TOP-LEVEL DOMAIN SEARCHING

The majority of existing domain names (approximately 65% of the global total) exist in gTLDs and sTLDs. Most registrars and third-party search tools cater to this segment. However, there are multiple registrars in each domain, meaning that under the current system it is nearly impossible to search across all registrars at one time. While these domain name registrars maintain their own WHOIS database, many of them may not include names registered by competing registrars.

Registrar counts according to ICANN as of February 2006:

- AERO : 6 registrars
- BIZ : 364 registrars
- CAT : 5 registrars
- COM : 570 registrars
- COOP : 6 registrars
- INFO : 369 registrars
- JOBS : 28 registrars
- MOBI : 4 registrars
- MUSEUM : 4 registrars
- NAME : 301 registrars
- NET : 567 registrars
- ORG : 385 registrars
- PRO : 234 registrars
- TRAVEL : 15 registrars

In order to obtain the most accurate and authoritative results, it is recommended to:

1. **Lookup the domain name at the domain name registry's WHOIS first to make sure the name exists. A list of all gTLD and sTLD registries is located at <http://www.icann.org/registries/listing.html>.**
2. **Locate the registrar's name that is associated with the domain name.**
3. **Visit and query that registrar's database to obtain the correct contact information. The entire ICANN approved list is at: <http://www.icann.org/registrarstats.com/>.**

Alternatively, there are several WHOIS sites operated by registrars and third-party search vendors that attempt to aggregate results from the most popular and highest volume registrars, thereby somewhat reducing time spent searching across multiple registrars. Please refer to the "WHOIS Searching Tools and Web Sites" section later in this paper for additional information.

In order to perform a relatively comprehensive "wild-card" search on a particular domain name character string, or to perform a reverse WHOIS search, make sure you are dealing with vendor who is legally able to aggregate WHOIS database information from at least the top 10 gTLD registrars by total volume. The top 10 represent the vast majority of registered domain names (over 70%) within the major gTLDs; thus any results, while not totally inclusive of all registrars, will provide some measure of respectable output. To periodically obtain a list of the top 10 gTLD registrars, refer to <http://www.registrarstats.com/>.

UNCOVERING TRUE REGISTRANTS IN PROXY (PRIVATE) REGISTRATIONS

ICANN requires every registrar to maintain a publicly accessible WHOIS database displaying all contact information for all domain names registered. What happens if you run a search and the registrant's name is not what you expected because it appears to be registered via a proxy or private registration service? How do you uncover the true registrant's identity?

First it is important to understand that many organizations have a legitimate need to register domain names in advance of a major new product release, or defensive planning purposes, or in anticipation of a merger or acquisition. They are not interested in revealing their identity in public WHOIS databases. They may also wish to reduce domain contact related spam, deter identity theft and fraud and prevent general harassment, sales calls and even stalkers.

Many registrars, including Iron Mountain, offer proxy or private domain name registration services whereby they will register a new domain name using proxy contact and DNS information on behalf of their client (if allowable in by the TLD registry) in order to “mask” or protect their identity to the public. Most will not release the identity of the true owner without express permission from their customer, except when required by law, to conform to the edicts of the law, or to comply with legal process properly served to the proxy registration vendor or its affiliates.

You have a few options in attempting to uncover the true registrant if you feel that a particular domain name in question is associated with activities such as transmitting spam, viruses or harmful computer programs; is violating the law or infringing upon a trademark or copyright; or is engaging in morally objectionable activities, such activities not defined herein. You can send a “cease and desist” letter. Depending upon the proxy provider, this may be all you need to do in order to stop objectionable activities or possibly uncover the true registrant. Otherwise, it may be necessary for you to obtain a civil or criminal subpoena before the proxy provider will release true contact information. Lastly, check the proxy provider’s web site to determine under what conditions they will release information.

It is interesting to note that the United States (.US) and China (.CN) ccTLD registries among others, do not allow proxy domain name registration. As of February 2006, by order of the U.S. Department of Commerce, companies that administer .US ccTLD domain names must stop selling proxy services for .US. Additionally, all .US web site operators were required to update associated domain name WHOIS records with non-proxy contact information by the end of 2005.

COUNTRY-CODE TOP-LEVEL DOMAIN (ccTLD) SEARCHING

There are over 240 ccTLD registries, such as .de for Germany, .cn for China, and .ca for Canada. The ability to search most, if not all ccTLD WHOIS databases in real time is greatly desired by many trademark holders and network operators. This has been especially the case in recent years as registration growth (and resulting infringement activity) in the ccTLDs has outpaced growth in the gTLDs. However, despite several attempts and representations by various registrars, resellers and other vendors and entrepreneurs, no one has truly been able to provide a consistently reliable, legal and comprehensive real-time or near real-time search experience across the vast majority of ccTLDs. Again, this is due to a huge increase in illegitimate WHOIS use—by spammers, domain name slammers, speculators and competing registrars. Their repeated queries, and those conducted by registrars, resellers, entrepreneurs and other vendors who do not have legitimate access have resulted in various ccTLD registries becoming ever more restrictive in granting access. Also, local privacy regulations may further restrict even those with the best of intentions.

So ccTLD searching can best be described as a jungle. Not all registry sites may be in your language. Not all ccTLDs have a registry/registrar business model. Many provide direct registration to the public. The WHOIS interface may differ markedly from registry to registry—just finding it within the registry’s web site can be a challenge. Sometimes no public WHOIS is available; you have to send an email to the registry administrator to obtain results—if you can get them to respond. In short, it can fast become a nightmare to complete an exhaustive search of all ccTLD WHOIS databases.

In the absence of any technological, legal or political breakthrough, the solution for now is relatively simple. Don’t try to search everywhere. Search where it is relevant to your challenge. Is it really necessary to know if your trademark is being used in the Antarctic (.aq) domain? However, it is a best practice to search in the top 30 ccTLDs by total registration volume or the top 50 countries by ecommerce activity, as they cover the vast majority of the estimated 32 million ccTLD registrations in countries where people actually live, have internet access and the economic means to buy goods and services.

In order to obtain the most accurate and authoritative results in ccTLDs, it is recommended to visit the local ccTLD registry web site by typing `www.nic.xx` where “xx” is the two letter code for the ccTLD. It doesn’t work for every ccTLD, but for many of them, you’ll get information about that ccTLD’s registration policies and procedures, and WHOIS database access instructions. Alternatively, go to <http://www.iana.org/cctld/cctld-whois.htm> to find any country’s two-letter code along with links to their web site and WHOIS server web address.

Alternatively, there are several ccTLD WHOIS searching sites operated by registrars and third-party search vendors that attempt to aggregate results from popular and higher volume registries thereby somewhat reducing time spent searching across multiple ccTLDs. Please refer to the “WHOIS Searching Tools and Web Sites” section later in this paper for additional information.

INTERNATIONALIZED DOMAIN NAME (IDN) SEARCHING

An IDN (Internationalized Domain Name) is a domain name that potentially contains non-ASCII characters, including letters with diacritics common in many European languages, or characters from non-Latin scripts such as Hebrew, Arabic, Chinese, Japanese, or symbols. Since it is estimated that two-thirds of content on the Internet is in English, but only one-third of users speak English as a native language, the introduction of IDNs is an attempt to introduce a variety of languages into domain name system while maintaining its integrity by converting IDNs into standard ASCII domain names.

Example IDNs:

Symbols: `www.☉.com`, `☎.com`

Chinese Simplified: `孟子.com`

Japanese Kanji: `職業.jp`, `雇用.jp`

Korean Hangul: `항공.com`

Since the Domain Name System (DNS) doesn’t actually use non-Latin-character domain names natively, it translates them into indiscriminate strings of Latin characters so that the DNS can resolve them, then back again so the user can read them. The conversions between ASCII and non-ASCII forms of a domain name are accomplished by algorithms called “ToASCII” and “ToUnicode.” The result back to ASCII is accomplished by using Punycode (a type of “bootstring encoding”) before prepending with the 4-character string “xn--”.

Example: The Chinese Simplified IDN “`孟子.com`” translates in Punycode to “`xn—i8s3a.com`.”

WHOIS SEARCHING TOOLS AND WEB SITES

The information and URLs presented below is for convenience only. Iron Mountain disclaims any and all responsibility or liability for the accuracy, content, completeness, legality, reliability of information obtained via any of these of the web sites.

- <http://www.icann.org/registries/listing.html>
List and links to ICANN accredited gTLD and sTLD registries.
- <http://www.icann.org/registrars/accredited-list.html>
List and links to ICANN accredited gTLD and sTLD registrars.
- <http://www.norid.no/domenenavnbasert/domreg.html>
Provides updated links to all ccTLD and gTLD registries. An excellent site maintained by Norid, the Norwegian ccTLD registry.
- <http://ironmountain.com/ipm>
Our corporate domain name records management service that provides complete portfolio audits, validations and registration gap analysis for all TLDs. Searches are conducted privately only for clients and qualified prospects via our proprietary portal web tool and by experienced client service managers.
- <http://www.betterwhois.com/>
Offers searching across multiple gTLD and sTLD registrars
- <http://www.dnsstuff.com>
Offers lookups in nearly 200 TLDs. This site has many DNS and networking tools for network administrators, domain owners, users of hosted DNS services, etc.

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In theory, IDNs will help web content developers reach audiences in their local language to strengthen brand recognition and improve user experience. However, the current global DNS standard does not allow such characters, thus users have been forced to download special browser plug-ins in order to access associated web addresses. That is starting to change in 2006 as Mozilla's Firefox®, Netscape®, and Opera are among the first browser applications to support IDNs. Microsoft® has announced that Internet Explorer 7.0 (IE) will provide native support for IDNs. Since most of the online world uses IE there is now potential for IDNs to become a huge headache for intellectual property owners. Already there are reports of phishing attacks that utilize homographic spoofing techniques (using confusingly similar characters) for example, the spoofed domain "paypal.com" contains a Cyrillic *a*, not a Latin "a".

So how do you search for IDNs? Basically it's not easy. There are approximately 27 TLDs that offer IDNs. At present, it is not possible to publicly search for any character string except an exact match---it is not possible to perform any pattern or wild-card searches unless you have specialized knowledge and access to each IDN registry's zone files. So far there is no widely available public method of searching for plurals, common typos, etc. You must search for each name one by one. And since you probably don't speak the language or understand all of the native characters, you will probably need to employ a native speaker in order to make sure you minimize any language gaps and errors when performing searches.

To run an exact match search for a .com IDN:

- 1. First**, convert the IDN from the native character or RACE code to the Punycode that VeriSign (.com registry operator) uses in its WHOIS database. The tool is located at <http://mct.verisign-grs.com/conversiontool/convertServlet?input=%E5%AD%9F%E5%AD%90.com&type=UTF8>.
- 2. Second**, assuming you have results in Punycode, copy and paste that information into the WHOIS search box at the VeriSign .com registry WHOIS at <http://registrar.verisign-grs.com/whois/>. If the name exists then you will see very basic "thin" WHOIS information with the name of the associated registrar.
- 3. Third**, go the registrar's WHOIS web page to obtain the registrant and contact information. A list of all ICANN accredited registrar's can be found at <http://www.icann.org/registrars/accredited-list.html>.

WHOIS SEARCHING TOOLS AND WEB SITES, CONTINUED

- <http://www.networksolutions.com/whois/index.jhtml>
One of the world's largest registrars. Heavily trafficked WHOIS database that provides robust WHOIS output, including if available, a thumbnail of the Web site home page with traffic ranking, meta descriptions, keywords and more. It is also possible to search one at a time for exact matches in several ccTLDs.
- http://www.cert.org/tech_tips/finding_site_contacts.html#AppendixA.1
Carnegie Mellon/ CERT® Coordination Center provides documents on contacting internet sites, finding a point of contact using an IP number, using DNS SOA records, using traceroute to find upstream ISPs, etc.
- <http://www.speedywhois.com/>
Offers one at a time searching in several TLDs
- <http://www.whois.sc/>
Whois Source offers lookup that allows a wildcard search of all current/deleted/expired domain names in selected TLDs. Offers a Google® Toolbar plug-in. Offers membership for other searching tools such as historical WHOIS records lookup.
- www.checkdomain.com
Offers one at a time searching in several TLDs
- <http://www.geektools.com/>
WHOIS, traceroute links and other tools for network engineers and other professionals
- <http://www.midano.com/convertIDN.asp> or <http://mct.verisign-grs.com/index.shtml>
IDN converter tools

There are a few IDN searching sites operated by registrars and third-party search vendors that attempt to convert IDNs. Please refer to the “WHOIS Searching Tools and Web Sites” section later in this paper for additional information.

THE FUTURE OF WHOIS

The current state of WHOIS access introduces a variety of challenges to various Internet stakeholder groups, such as network operators, registries, registrars, business users, intellectual property interests, consumers, registrants, and law enforcement personnel.

At present, there is no consistently reliable and legal method of publicly searching all TLD WHOIS databases in real-time or near real-time, whether you want to perform an exact-match, pattern, wild-card or reverse search. There are significant challenges in coordinating the technical, legal and political obstacles across 250+ TLD registries before any universal system could be adopted.

Some groups seek to further restrict access to WHOIS databases. Other groups want the status quo or greater access, perhaps under a tiered system that will grant access depending upon industry or professional affiliation or certification. In other words, perhaps an authorized World Intellectual Property (WIPO) or International Trademark Association (INTA) representative would be granted access to all WHOIS records on the basis of a valid request or complaint from a member vs. a web hosting company that is simply looking for possible new customers by mining WHOIS databases.

ICANN and the various stakeholder groups are trying to design and enact policy that will determine future WHOIS access and even the definition of WHOIS itself, but as of February 2006 have yet to reach consensus. To view ICANN’s “Preliminary task force report on the purpose of WHOIS and of the WHOIS contacts,” please visit <http://gnso.icann.org/issues/whois-privacy/prelim-tf-rpt-18jan06.htm> .

ABOUT IRON MOUNTAIN’S INTELLECTUAL PROPERTY MANAGEMENT SERVICES

Iron Mountain is the leading global service provider of intellectual property management services specializing in technology escrow and domain name records management. As the founder of the industry, Iron Mountain has the integrity, reputation, resources, and experience to ensure intellectual property is properly managed and protected. Iron Mountain’s Intellectual Property Management services set the industry standard by providing quality customer service and unmatched solutions to over three-fourths of the Fortune 500. Since 1951, Iron Mountain has provided service to over 235,000 customer accounts worldwide. For more information, visit the Company’s Web site at www.ironmountain.com/ipm.

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