



# **Domain Name Registration Data at the Crossroads: The State of Data Protection, Compliance, and Contactability at ICANN**

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## Executive Summary

The Internet depends on the Domain Name System (DNS). Its users rely on accurate and up-to-date domain registration information for vital and legitimate purposes, including coordination with domain owners, providing security, problem-solving, and legal and social accountability. ICANN oversees the domain name registrars and registries that maintain and publish that data. Users obtain the data by querying registration databases using WHOIS, and perform more than 2 billion WHOIS queries every day. ICANN has instituted new data policies over the last two years, and is also directing a migration to a new technical protocol, called RDAP, that will replace WHOIS access in the near future.

At this critical juncture, this report measures the effectiveness and impact of ICANN's registration data policies by examining the practices of 23 registrars, which collectively sponsor more than two-thirds of the domain names in the generic top-level domains (gTLDs). This study determines whether they comply with ICANN's existing policies, and whether they provide registration data services that are technically reliable and compliant with contractual specifications.

The examination found widespread problems. The major findings include:

- Registrars failed to meet the contractual obligations and contactability goals in 40% of the cases studied. There were issues in an additional 16% of cases.
- Over the last two years, access to registration data has been significantly curtailed. This is a result of recent policies at ICANN, and is also due to practices by registrars and registry operators, sometimes in the absence of or in reaction to ICANN policy.
- Some registrars are making even non-sensitive domain name registration data difficult to obtain. This is impairing legitimate uses of the data while providing no privacy benefits.
- It is often difficult for parties to reach out to domain contacts for legitimate purposes. People using the contact tools provided by registrars cannot always be confident that their messages are being delivered.
- The rollout of RDAP—the replacement for WHOIS—is going slowly. There are notable operational and noncompliance problems, and RDAP services are not yet reliable enough for use.
- The widespread problems indicate that ICANN's compliance procedures are failing.
- Some registrars are apparently violating the European Union's data privacy law, the GDPR.

Overall, the study illustrates failures to provide the access, predictability, and reliability that ICANN exists to deliver, and that registrars are obligated to provide. The study presents recommendations for positive change.

The study also provides examples of how these problems have real-life implications for security, stability, and trust on the Internet. These include how policies and practices in the domain industry have made it easier to carry out cybercrime during the current COVID-19 pandemic.

For the past 15 years ICANN has tried to deliver domain name data policies that balance legitimate needs, applicable legal obligations, and technical reliability. The findings of this study illustrate the extent to which those efforts have failed. While the world watches, ICANN and its community stand at a crossroads: can ICANN deliver policies and services that meet the vital needs of the Internet?

## Introduction

The maintenance of and access to accurate and up-to-date information about domain names has always been one of ICANN's core responsibilities. It is a vitally important commitment, given how the Internet and its users rely on the domain name system (DNS). Domain name registration data is one of the few things that makes coordination, problem-solving, and accountability on the decentralized Internet possible. For these important purposes, users across the Internet make more than two billion WHOIS queries every day to find data about domain names in the namespace coordinated by ICANN.

ICANN is currently at a crossroads on the matter of domain name registration data. ICANN is now almost two years into its effort to make its registration data policies and procedures comply with the General Data Protection Regulation (GDPR), the European's Union's most recent data protection law. Seven months ago, ICANN required its registries and registrars to publish domain registration data via a new technical protocol, the Registration Data Access Protocol (RDAP). And ICANN is currently engaged in a policy process to make domain contact data accessible to accredited parties who have legal needs.<sup>1</sup> Once that policy-making is done, the implementation will take several more years. Given all these activities, it is a critical time for ICANN to demonstrate whether it can deliver balanced policies and systems that meet the legitimate needs of the Internet and the users of registration data services.

We measured the effectiveness of ICANN's current domain name data policies and procedures, in order to learn what is working, what is not working, and what consequences the global Internet community faces. We did this by examining the domain name registration data publishing behaviors of 23 registrars, to determine whether or not they comply with ICANN's current registration data policies and with applicable legal requirements. Together, these 23 registrars sponsor more than two-thirds of the registrations in the generic top-level domains (gTLDs) that ICANN oversees. We asked five questions:

- 1. Does the registrar have a WHOIS service that functions properly and meets contractual obligations?** WHOIS service allows users to look up domain registration data, such as contact information, when the domain name was registered, and the nameservers that allow the domain to function. This service has been the standard for more than 20 years, and every ICANN-accredited registrar is required to provide it.
- 2. Does the registrar have an RDAP service that functions properly and meets contractual obligations?** The new RDAP protocol is replacing WHOIS. ICANN required all gTLD registrars and registries to deploy RDAP service no later than 26 August 2019.
- 3. Is the registrar compliant with ICANN's "Temporary Specification for gTLD Registration Data"?**<sup>2</sup> This binding policy allows ICANN and gTLD registrars and registry operators to comply with the European Union's General Data Protection Regulation (GDPR), a law that requires the protection of personal data.

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<sup>1</sup> The "Expedited Policy Development Process (EPDP) on the Temporary Specification for gTLD Registration Data," or "EPDP". See:

<https://community.icann.org/display/EOTSFGRD/EPDP+on+the+Temporary+Specification+for+gTLD+Registration+Data>

<sup>2</sup> <https://www.icann.org/resources/pages/gtld-registration-data-specs-en>

4. **Can users always find information in the WHOIS and RDAP output that allows them to reach out to a domain contact?** A fundamental reason for having WHOIS and RDAP is to allow people to send messages to domain contacts, so that they can communicate and solve problems. ICANN requires registrars to provide this contactability information and mechanisms to facilitate communication.
5. **Does the registrar’s required contactability mechanism actually work?** Is it possible to use the contact mechanisms, and are the messages delivered to the domain contacts?

In a well-functioning and well-managed environment, the answers to those questions would almost always be “yes.” But our examination reveals that the answers are often “no.” **We found that the registrars failed these questions 40% of the time. We found notable usability issues in an additional 16% of cases.** For a summary of the methodology and results, please see [pages 9 through 13](#).

*The results reveal notable non-compliance with ICANN’s policies and specifications, which are part of ICANN’s contracts with registrars and registry operators. The data services sometimes do not work or are not configured as required, and the environment is characterized by a lack of reliability and predictability. As a consequence, it has become more difficult for any party to obtain even non-sensitive data about domain names. Among other problems, this prevents people from finding out how to contact a domain owner, and to reach out to them, for any purpose.*

The first part of this report examines relevant ICANN policies and our findings and recommendations. Part II contains a section about each registrar we examined, detailing what we found there and providing examples. This report focuses on whether things function per existing ICANN policy, and notes when ICANN policies and implementations fail to deliver what they were intended to. This report generally sets aside the ongoing debate about when domain contacts’ actual identities should be revealed, and under what circumstances, and this report acknowledges the reality of privacy protection laws such as the GDPR.

## Domain Registration Services: Vital Data at the Core of ICANN’s Mission

Reliable, consistent, and predictable access to domain name registration data (via Registration Data Directory Services, or RDDS) is essential for a variety of legitimate purposes. For these reasons, ICANN’s Bylaws obligate ICANN to the following:

*Subject to applicable laws, ICANN shall use commercially reasonable efforts to enforce its policies relating to registration directory services and shall work with Supporting Organizations and Advisory Committees to explore structural changes to improve accuracy and access to generic top-level domain registration data, as well as consider safeguards for protecting such data”... and will regularly review “whether its implementation meets the legitimate needs of law enforcement, promoting consumer trust and safeguarding registrant data.”<sup>3</sup>*

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<sup>3</sup> Emphases added. ICANN Bylaws, Section 4.6(e), at <https://www.icann.org/resources/pages/governance/bylaws-en>

ICANN’s registrars and registry operators have been required to provide domain name registration data services for more than 20 years. They are required to provide WHOIS servers operating on TCP port 43, plus web-based interfaces on their web sites; these web-based forms are designed to provide ordinary users a way to look up information. Registrars and registry operators now also provide access via the new Registration Data Access Protocol (RDAP), which ICANN required all registrars and registry operators to deploy no later than 28 August 2019.

The purposes of domain data include:

- Making it possible for people to reach out to domain contacts, even when those contacts are anonymous for privacy purposes. We call this *contactability*.
- Identifying and mitigating Internet abuse and cybercrime.<sup>4</sup>
- Resolving disputes, such as intellectual property infringement and commercial disputes. On the Internet, as in life, issues are usually solved by dialog between parties. The data also makes formal dispute processes possible.
- Solving technical problems for services that rely on domain names, such as notifying a web administrator of problems, and notifying victims of attacks against their hosting or misuse of their mail systems.
- Promoting consumer trust. Domain registration data allows consumers to identify who operates web sites that are selling goods and services, who operates sites that are soliciting funds, etc.
- Accountability. The Internet works reasonably only when the owners and sellers of Internet resources—including domain holders, registrars, and registry operators—operate their resources and services in a responsible and accountable matter.

The importance of these purposes is demonstrated by the enormous use of WHOIS. The *gTLD registry operators alone serve more than 66 billion WHOIS queries per month*.<sup>5</sup> The registrars serve many additional WHOIS queries beyond that.<sup>6</sup> Because of the enormous usage and important needs that registration data services satisfy, it is vitally important that registration data services function predictably and reliably, and that ICANN provides excellent technical and policy coordination.

The findings of this report illustrate where ICANN—both the ICANN community and the ICANN Organization—is failing to deliver on ICANN’s Commitments and Core Values, notably:

- The Commitment to “Preserve and enhance the administration of the DNS and the operational stability, reliability, security, global interoperability, resilience, and openness of the DNS and the Internet,”
- The Commitment to “Make decisions by applying documented policies consistently, neutrally, objectively, and fairly”, and

<sup>4</sup> For example, see "The Indispensable Role of WHOIS for Global Cybersecurity: Statement by the EC3 Advisory Group on Internet Security" [European Cybercrime Centre, EUROPOL], 25 January 2018. <https://www.icann.org/en/system/files/files/gdpr-statement-ec3-europol-icann-proposed-compliance-models-25jan18-en.pdf>

<sup>5</sup> Per the monthly registry reports, at <https://www.icann.org/resources/pages/registry-reports>

<sup>6</sup> How many WHOIS queries the registrars serve is unknown, because ICANN does not require registrars to report that information.

- The Core Value of "Operating with efficiency and excellence, in ...[an] accountable manner and... at a speed that is responsive to the needs of the global Internet community".<sup>7</sup>

The problems we found are not private compliance issues. The problems have impacts on users across the Internet. The ICANN Bylaws state that "The Commitments reflect ICANN's fundamental compact with the global Internet community and are intended to apply consistently and comprehensively to ICANN's activities." ICANN's contracts are intended to deliver transparency, reliability, operational competence, security, and stability to the registrants and to the Internet users that ICANN exists to serve. The obligations in the contracts were included because they are important, and they were negotiated with the contracted parties with public input.

*Findings in this report point to problems across the entire ICANN structure, including in ICANN's multi-stakeholder model.* ICANN has engaged in multiple policy and study efforts about domain registration data over the last fifteen years, leading to the state documented in this report. It is important to note how ICANN is organized, and that different parts of it are responsible for different functions. The ICANN Board has significant decision-making powers, provides leadership in the ICANN community, and the Board oversees the ICANN Organization. The ICANN Organization is the not-for-profit corporation with its staff. The ICANN Organization has power: it controls resources, sets many priorities, accredits operators, implements programs, and executes vital functions such as registrar compliance and the negotiation of contracts with the registrars and registry operators. The ICANN Organization is not accountable for the actions or inactions of the ICANN community, which holds policy-making power.<sup>8</sup> That community is a set of stakeholders divided by conflicting interests, and has a decidedly mixed record of performance when it comes to decision-making about domain registration data.<sup>9</sup>

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<sup>7</sup> ICANN Bylaws, Section 1.2: Commitments and Core Values:

<https://www.icann.org/resources/pages/governance/bylaws-en/#article1>

<sup>8</sup> Policy-making power is specifically vested in the Generic Names Supporting Organization, or GNSO. See:

<https://gns0.icann.org/en/about/council>

<sup>9</sup> A summary of ICANN's efforts to create a unified registration data policy would require a separate report. Over the last seven years, ICANN has engaged in multiple, sometime piecemeal and intertwined efforts, but is still working to create a comprehensive policy that defines the purposes of collecting and maintaining registration data and for making it available in a predictable fashion. A partial list of efforts and studies through 2016 is listed at <https://whois.icann.org/en/history-whois>. More recent efforts include the ongoing implementation team effort regarding the Privacy and Proxy Services Accreditation Policy; the on-hold implementation of the Thick RDDS (Whois) Transition Policy; the 2018-2019 GNSO Expedited Policy Development Process (EPDP) on the Temporary Specification for gTLD Registration Data Policy, Phase 1; the currently ongoing EPDP Phase 1 Implementation Review Team; 2019's Registration Directory Service (RDS-WHOIS2) Review Team; and the ongoing EPDP Phase 2. Also of interest is a prescient 2012 advisory by ICANN's Security and Stability Committee: "SAC055: WHOIS: Blind Men And An Elephant," at: <https://www.icann.org/en/system/files/files/sac-055-en.pdf>



## Study Questions and Methodology

We studied 23 registrars. They mainly represent the industry's largest registrars by market share, and together sponsor 68.8% of all registered gTLD domains in the world.<sup>10</sup> The list was also chosen to be geographically diverse, with registrars across the world, including some in the European Union, the home jurisdiction of the GDPR. The list also has registrars with different business models (including reseller networks) and different target markets. They also represent the largest business players in the registrar space, such as Web.com, Endurance International, and GoDaddy Operating Company LLC. Most of these registrars are multi-million-dollar companies, and have professional business, compliance, and engineering staffs. Most of them participate actively in ICANN and its policy-making activities.

For each registrar we evaluated these questions, against these standards:

1. **Does the registrar have WHOIS services that function properly and meet contractual obligations?** ICANN's Registrar Accreditation Agreement (RAA) contains the relevant requirements that all registrars must comply with.<sup>11</sup>
2. **Does the registrar have an RDAP service that functions properly and meets contractual obligations?**<sup>12,13</sup> The new Registration Data Access Protocol (RDAP) is replacing WHOIS. All gTLD registries and registrars were obligated to deploy RDAP no later than 26 August 2019. The RDAP RFCs and ICANN's RDAP Response Profile contain requirements that registrars must meet.<sup>14</sup>
3. **Is the registrar compliant with ICANN's Temporary Specification?**<sup>15</sup> This policy provides current requirements for how registrars must handle and display registration data, notably how they can redact personally identifiable data from publication, for compliance with the European Union's General Data Protection Regulation (GDPR). The Temporary Specification became mandatory on 25 May 2018, and was confirmed as binding on registrars and registry operators via the Interim Registration Data Policy effective 20 May 2019.<sup>16,17</sup>

<sup>10</sup> Registrar domain counts were taken from ICANN's registry reports for August 2019, which was the most recent month available when we began the study. See: <https://www.icann.org/resources/pages/registry-reports>

<sup>11</sup> 2013 Registrar Accreditation Agreement: <https://www.icann.org/resources/pages/approved-with-specs-2013-09-17-en>

<sup>12</sup> RDAP queries were made in the latest versions of the Chrome and Firefox browsers, and via command line.

<sup>13</sup> Using registrar and registry RDAP server locations listed at IANA, and the ICANN Lookup page.

<sup>14</sup> For an overview and links to the documents, see ICANN's materials at: <https://www.icann.org/rdap>. The RDAP Response Profile "specifies the RDAP Policy requirements from the ICANN Temporary Specification for gTLD Registration Data (the "Temporary Specification")" and is available at: <https://www.icann.org/en/system/files/files/rdap-response-profile-15feb19-en.pdf>

<sup>15</sup> Temporary Specification for gTLD Registration Data: <https://www.icann.org/resources/pages/gtld-registration-data-specs-en>

<sup>16</sup> Interim Registration Data Policy for gTLDs, effective 20 May 2019: <https://www.icann.org/resources/pages/interim-registration-data-policy-en>.

<sup>17</sup> The Interim Registration Data Policy says that the Temporary Specification is the current requirement that registrars must follow. Once ICANN finishes implementation work it will publish a new "Registration Data Policy document" containing some revised requirements. As of this writing, ICANN has not published that. The Interim Registration Data Policy says that for now, "ICANN Contractual Compliance will enforce contracted parties' obligations to continue to implement measures that are consistent with the Temporary Specification." See <https://www.icann.org/resources/pages/interim-registration-data-policy-en>

4. **Can users find information in the registrar’s RDDS output that allows them to reach out to a domain contact?** This means the registrar publishes either a contact’s actual email address, or the email address of a privacy/proxy service, or offers one of the mechanisms required by ICANN’s Temporary Specification: an anonymized email address or a contact web form. For more about the contractual requirements, see “STUDY QUESTION: Availability of Contactability Information” later in this report.
5. **Did the registrar’s required contactability mechanism actually work?** When we used the anonymized email address or contact web form that the registrar provided as the means to contact a domain registrant, was the message delivered to the registrant?

To answer these questions, we examined each registrars’ registration processes. We registered domain names through most of them, using contact identities inside and outside the European Union. This allowed us to see exactly how the registrars handle personally identifiable data, especially when the domain contact and/or the registrar is located in the European Union and subject to GDPR. We examined the registrars’ WHOIS and RDAP output for those domains and other domains they sponsor. We tested the registrars’ contactability mechanisms by attempting to send messages to the registrant contacts we created using these mechanisms, sending to and receiving at mailboxes provided by major email providers such as Gmail, Outlook, Yahoo, and Mail.com.

The results are charted in *Table 1: Registrar Scoring* on the next page. There are 115 test result cells (5 each for the 23 registrars).

**GREEN:** If the registrar met its contractual obligations and the service worked as intended, the registrar received a **GREEN** rating. In these cases no further commentary is provided.

**RED:** If the registrar failed a question (the answer was “no”), it received a **RED** rating. All **RED** ratings are documented in Part II of this paper. **RED** ratings are objective, and a registrar received one if it failed to meet one or more contractual obligations in the category. This method is appropriate because:

- The obligations were important enough to be included in ICANN’s contracts. These legal obligations were designed so that ICANN and its registrars deliver transparency, consistency, operational competence, security, and stability, per ICANN’s mission.
- It was not practical to make a subjective rating by somehow deciding “how much compliance is enough.” The failures fall on a spectrum of severity, from minor to complete failure.
- An issue may impact different users differently, depending on their needs; what is minor to one may be important to another. Our goal was to point out variances and their implications.

**YELLOW:** If the registrar met the contractual obligations but there was some sort of notable problem, the registrar received a **YELLOW** rating. These are places where users were prevented from achieving an important goal. **YELLOW** ratings tend to highlight significant operational problems, or shortcomings in the ICANN contracts. All **YELLOW** ratings are documented in the later part of this paper.

For some questions, registrars received a split score: for example where contactability information was available in WHOIS (half green) but not via RDAP (half red), or where the WHOIS service met specification (half green) but access was significantly impaired (half yellow).

Table 1: Registrar Scoring

Registrar	IANA ID	Country	gTLD domains (Aug 2019)	gTLD Market share	WHOIS service: functionality and compliance		RDAP service: functionality and compliance		Compliant with Temp Spec?	Contactability info contained in RDDS output?		Contactability Mechanism functional? (web form or anonymized email)
					OK	Notable rate-limiting	OK	Notable rate-limiting		WHOIS: YES	RDAP: NO	
GoDaddy	146	US	60,818,688	29.5%	OK	Notable rate-limiting	OK	Notable rate-limiting	YES	WHOIS: YES	RDAP: NO	YES; some usability problems
Tucows	69	CA	9,973,157	4.8%	Problems. Notable rate-limiting; non-responsive depending on location of user.		FAIL. Also notable rate-limiting; non-responsive depending on location of user.		NO	YES		YES; notable usability problems
NameCheap	1068	US	9,473,653	4.6%	FAIL		FAIL		NO	YES		YES
Network Solutions	2	US	7,041,618	3.4%	FAIL		FAIL		NO	YES		problem
Alibaba Cloud Computing (Beijing) Co., Ltd.	420	CN	7,020,473	3.4%	FAIL		no RDAP server		NO	WHOIS: problem	RDAP: NO	web form; not tested
eNom, LLC	48	US	5,765,808	2.8%	Notable rate-limiting; non-responsive depending on location of user.		Notable rate-limiting; non-responsive depending on location of user.		NO	WHOIS: some missing	RDAP: YES	YES; notable usability problems
GMO Internet dba Onamae.com	49	JP	5,295,887	2.6%	FAIL		FAIL		NO	NO		no mechanism found
Xin Net Technology Corporation	120	CN	5,105,935	2.5%	FAIL		FAIL		NO	WHOIS: NO. RDAP: NO		location of contact form revealed in Web WHOIS output only
1&1 Ionos	83	DE	4,969,122	2.4%	OK		OK		YES	YES		YES; some usability problems
PDR Ltd.	303	IN	4,737,408	2.3%	problem		problem		YES	YES		YES; some usability problems
Google LLC	895	US	3,722,764	1.8%	OK		OK		YES	YES		YES
NameSilo	1479	US	3,160,058	1.5%	OK		FAIL		problems	YES		YES
Wild West	440	US	2,750,299	1.3%	OK	Notable rate-limiting	OK	Notable rate-limiting	YES	WHOIS: YES	RDAP: NO	YES
FastDoman	1154	US	2,340,788	1.1%	FAIL		problem		OK	OK		NO for masked EU data
OVH sas	433	FR	2,119,173	1.0%	FAIL		FAIL		NO	Web-based: NO	port 43 and RDAP: YES	YES
Register.com	9	US	1,773,633	0.9%	OK		FAIL		problem	YES		YES
Key-Systems GmbH	269	DE	1,396,386	0.7%	FAIL		FAIL		problems	Web-based: problem	RDAP: OK	web form; not tested
Gandi SAS	81	FR	1,306,894	0.6%	OK		FAIL		YES	YES		YES
123-Reg	1515	UK	856,664	0.4%	problems		FAIL		problem	YES		FAIL
Registrar of Domain Names REG.RU LLC (REG.COM)	1606	RU	727,287	0.4%	FAIL		FAIL		NO	WHOIS: NO	RDAP: YES	FAIL
OnlineNIC, Inc.	82	US/CN	718,439	0.3%	FAIL		FAIL		NO	WHOIS: YES	RDAP: NO	web form, not tested
West263 International Limited	1915	CN	681,449	0.3%	FAIL		FAIL		NO	YES		FAIL
NetEarth	1005	UK	142,822	0.1%	problem		OK		YES	YES		problems
TOTALS			141,898,405	68.8%								

## Findings

In a reliable, well-managed environment, the great majority of the chart's 115 cells should be green, with few failures. The results were:

- 40% of the tests were **RED** (46.5 tests)
- 16% of the tests were **YELLOW** (18.5 tests)
- 41% were **GREEN** (47 tests)
- 3% were not tested (3 tests)

Analysis of the material yielded the following conclusions, which are detailed in this report:

1. After many years, a significant portion of the registrar industry is still not running reliable and compliant WHOIS services. This does not bode well for the reliability of RDAP services, which are more complicated to operate. (See pages [20-35](#).)
2. After one-and-a-half years, a significant percentage of registrars do not fully comply with ICANN's Temporary Specification. (See [page 52](#).)
3. It is difficult for parties to reach out to domain contacts. Sometimes registrars do not make the required contactability information available as required. (See [page 53](#) and [page 24](#).) Some registrars have deployed procedures that make it unnecessarily difficult for people to contact their registrants. (See [page 54](#).) People using the contact tools provided by registrars cannot always be confident that their messages are being delivered to domain contacts, because of the contactability mechanisms literally fail to deliver. (See [page 55](#).)
4. RDAP became mandatory for registrars and registry operators to provide in August 2019, but as of March 2020 the rollout is moving very slowly. (See [page 37](#).) There are notable operational and noncompliance problems, and RDAP services are not yet reliable enough for use. (See [page 41](#).) ICANN Organization is having some trouble managing RDAP resources it is responsible for. (See [page 47](#).)
5. The widespread problems indicate that ICANN's compliance procedures are failing. (Examples throughout.)
6. ICANN Organization has not yet released a plan to communicate with the public about RDAP and the retirement of the WHOIS service. This plan is vital to prevent technical disruptions and to ensure usability. (See [page 39](#).)
7. ICANN's policies and contracts need revisions. The examination makes clear that ICANN's contracts need to be more detailed and explicit in some areas, in order to make the obligations clear for the registrars, to protect registrants and Internet users, and to give ICANN Organization the ability to appropriately enforce compliance. (Examples throughout.)
8. A number of registrars mis-handle their privacy and data handling obligations under GDPR. Sometimes residents of the European Union are now disadvantaged by registrar practices. For example, some registrars sell privacy protection to EU registrants who are entitled to protection by law, and for free. (See [page 62](#).)
9. GDPR has led the ICANN Organization and ICANN policy-makers to unnecessarily step away from their critical registration data accuracy responsibilities. ICANN Organization is in a position to resume accuracy reviews and studies but has not done so. (See [page 66](#).)

10. ICANN's registrars (and registry operators) sometimes impose conditions on registration service and data use, but those terms and conditions violate ICANN policy. Some of these terms disallow legitimate purposes that RDAP services were designed to fulfill. Some of the contractual language about RDDS use is outdated and needs to be revised. (See [page 31](#).)
11. Registrars and registry operators mask the contact data for the domains they own and operate for important functions. Registrants and third parties cannot use domain registration records to identify what domains are legitimately run for these important business and infrastructural purposes. (See [page 60](#).)

The next sections of this paper delve into the results and offer recommendations for positive changes.

## Recommendations

RECOMMENDATION 1: The Registrar Accreditation Agreement (RAA) must be changed so that registrar RDAP services must serve data (including any required contact fields) for *all* domains that the registrar sponsors, in *all* gTLDs. The data served must come from the registrar's database; the registrar cannot instead serve data obtained from the registry. (Pages 24, 29)

RECOMMENDATION 2: all methods of access to registration data (both via RDAP and web-based RDAP) must provide an equivalent response to the same query. If a piece of data is required to be published in the public data set, it must be served regardless of the access mechanism, or what user is requesting it. (Pages 29, 54)

RECOMMENDATION 3: The requirement to publish up-to-date data via RDDS must be clarified during ICANN's current RDAP SLA negotiation with registrars. The requirement must clearly be in line with the current SLA, which requires updates to domain records to be reflected in RDDS within 60 minutes. (Page 30)

RECOMMENDATION 4: ICANN should delete the clause from its agreements that prohibits "high volume, automated, electronic processes that send queries or data to the systems of any Registry Operator or ICANN-Accredited registrar, except as reasonably necessary to register domain names or modify existing registrations." (Page 31)

RECOMMENDATION 5: ICANN should not allow registrars and registry operators to impose terms and conditions on uses of registration data that are legal, especially regarding the use of the public data set. ICANN should enforce its existing contractual language that "Registrar shall permit use of data it provides in response to queries for any lawful purposes". Similar language should be incorporated into the registry agreements. (Page 32)

RECOMMENDATION 6: ICANN's contracts must be revised to prohibit registrars and registry operators from rate-limiting access to the public data set on RDAP servers, unless the server operator is under a denial-of-service attack that threatens the SLAs of a reasonably-provisioned RDAP service. This subject is not being addressed in the EPDP, and ICANN Organization currently has an opportunity to address rate-limiting at registrars as part of contract negotiations about RDAP services. (Page 36)

RECOMMENDATION 7: Per SAC101v2 recommendation: The ICANN Board should direct the ICANN Organization to work to ensure that RDDS access is provided in a measurable and enforceable framework, which can be understood by all parties. (Page 36)

RECOMMENDATION 8: ICANN Organization must publish, as soon as possible, its draft plan for when RDAP services will be reliable and for retiring WHOIS. The public comment period on this plan must be widely publicized not just in the ICANN community, but to wider Internet and software communities, with appropriate time for responses from affected parties. The plan must include:

- the proposed timeline,
- a commitment to take the needs of users into account,
- ICANN's plans to publicize the transition and educate users about how to use RDAP,

- input from ICANN's Office of the CTO, which can provide advice about what software tools and systems will be affected by the retirement of WHOIS, and
- ICANN's plans to consult with affected operating system and software providers.

(Page 40)

RECOMMENDATION 9: ICANN Organization should create a program to support the users (consumers) of RDAP services. ICANN should publish RDAP query client code and a toolkit, including code and a guide for parsing RDAP responses per ICANN's RDAP Response Profile. (Page 40)

RECOMMENDATION 10: ICANN's contracts must be updated to require that registries and registrars include a link on their home pages to "Domain lookup" or "Domain data lookup" or a similar term. This should link to a web-based RDDS search form. (Pages 40, 54)

RECOMMENDATION 11: registrars and registry operators MUST provide free and accessible web-based RDAP output on their web sites, presented first in a way that human beings can understand it, and may also provide the raw output following. For usability and consistency, and to avoid confusion, the human-readable format must look similar to the output that WHOIS services provide today, including similar data field labels. ICANN must provide a contractually binding specification for what that human-friendly output should look like, codified in the current contract negotiations between ICANN and the registrars and registry operators. (Page 44)

RECOMMENDATION 12: Web-based RDAP service must have the same availability SLA standards that web-based WHOIS does now. For SLA purposes, "Registration Data Directory Services" must refer to both RDAP (server) and Web-based RDAP services. This will be consistent with the current Registrar Accreditation Agreement and the Registry Base Agreement. (Page 42)

RECOMMENDATION 13: Registrars must report RDAP query activity to ICANN, as registry operators do. This data must be published publicly in monthly reports, as the registry data is. (Page 45)

RECOMMENDATION 14: The following SSAC recommendations from SAC2019-02 must be incorporated into the RDAP contract requirements currently being negotiated between ICANN Organization and the registries and registrars:

- a. Clarify the expectations for reporting RDAP queries. The guidance must make clear the purposes and goals of the data collection and the contractual obligations.
- b. Since the purpose of gathering the data is to document queries made by the users (consumers) of the registration data service, registry operators and registrars should exclude the queries they make to their own systems. (Page 45)

RECOMMENDATION 15: ICANN's compliance monitoring system must check that RDAP services are responding with correctly formatted and complete data, including all required fields. (Page 46)

RECOMMENDATION 16: In RDAP, registries and registrars must be required to respond with standardized HTTP response error codes that are accompanied by *ResponseAction* timestamps. ICANN's RDAP Response Profile should be revised to provide the necessary guidance. (Page 46)

RECOMMENDATION 17: ICANN/IANA must validate all RDAP base URLs submitted to it, and must not list inaccurate or non-functional URLs. (Page 49)

RECOMMENDATION 18: IANA must publish changes to registry and registrar base URLs into the RDAP Bootstrap Registries in a timely fashion, such as within 24 to 48 hours of when they are updated by the registry or registrar. Because these directories are mission-critical resources upon which billions of RDAP queries will rely, Public Technical Identifiers (PTI) must set SLAs and performance metrics for these maintenance functions, and should publish the performance metrics, as ICANN and IANA do for other services. (Page 49)

RECOMMENDATION 19: ICANN must ensure that a way to reach out to a domain's registrant contact is published in all registrar and registry operator RDAP output, for every gTLD domain. They must always either publish the contact's real email address, or the address of a privacy/proxy service, *or* in the case of redaction the URL of a contact form *or* an anonymized email address. Registrars and registry operators must always provide these in both RDAP output and in web-based (human-readable) output. (Pages 54, 57)

RECOMMENDATION 20: Registrars should regularly review their email sending procedures and providers, to ensure that messages they forward to domain contacts are not blocked as spam. (Page 56)

RECOMMENDATION 21: ICANN's RDAP Response Profile must describe how Tech Contact email or contactability data can be published in RDAP. (Page 57)

RECOMMENDATION 22: ICANN should require that the contact mechanisms are actually automated, deliver messages to domain contacts in a timely fashion, and do not require human intervention by the registrar. (Page 57)

RECOMMENDATION 23: ICANN must make clear that registrars must respect the privacy of correspondence from a requestor to a domain contact, and should prohibit the use of generic email address inboxes as a way for registrars to implement a contactability mechanism. (Page 59)

RECOMMENDATION 24: Registrars and registry operators must publish their full and complete contact information in RDDS for the domains they use for their operations, and must not be allowed to present redacted or privacy/proxy data for them. These domains include NIC.TLD, and the domains they use for registration services, their online business presences, TLD servers, domains used for email to registrants, and domains used for their anti-abuse contacts. (Page 61)

RECOMMENDATION 25: ICANN Organization must resume its registration data accuracy studies by using representative and unbiased data sets obtained directly from the registrars. (Page 67)

RECOMMENDATION 26: ICANN Organization must obtain contact data so that its Compliance Department can perform more active and widespread data accuracy compliance checks. This is important since members of the public cannot view most domain name contact data anymore and are unable to submit data inaccuracy reports. (Page 69)

RECOMMENDATION 27: It is time for ICANN Organization to start a formal process to evaluate and revise the entire Registrar Accreditation Agreement, with community input. That was last done in 2012, eight years ago. (Page 69)



In the above recommendations, the terms “may”, “must”, “must not”, “required”, “recommended”, “shall”, “shall not”, “should not” and “should” should be interpreted in accordance with RFC 2119, available at:

<http://www.ietf.org/rfc/rfc2119.txt>

## The Real-Life Impact of WHOIS During the COVID-19 Pandemic

The COVID-19 pandemic of 2020 is emphasizing how important Internet services are. The Internet is providing telemedicine services; remote-work tools for businesses, schools, and governments; it is keeping deliveries and supplies flowing; and it is providing vital news and information. Unfortunately, problems with domain name data availability and services have made dealing with the COVID-19 crisis more difficult.

The pandemic has led to an explosion of cybercrime, preying upon a population desperate for safety and reassurance. These criminal activities require domain names, which are being used to run phishing, spam, and malware campaigns, and scam sites.<sup>18,19</sup> During March 2020 at least 100,000 new domain names were registered containing terms like “covid,” “corona,” and “virus”<sup>20</sup>, plus more domains registered to sell items such as medical masks, and yet more domains used to spam out advertisements for COVID-themed scams. As of this writing, the number of confirmed malicious COVID-related domains is in the thousands.

Legal authorities are currently struggling with this wave of domain-based crime. In the United States, the Department of Justice has begun prosecuting scam sites (see “[How WHOIS Problems Impeded a COVID-19 Investigation](#),” below), while the New York state Attorney General contacted GoDaddy and other large registrars, requesting that they be more vigilant and take more proactive steps.<sup>21</sup> In Great Britain, registry operator Nominet began working with government authorities to redirect scam domains to a site providing education for potential victims.<sup>22</sup>

While the work of law enforcement is essential, most Internet security functions are provided by private parties, such as security companies and the companies who own Internet infrastructure. They are responsible for keeping their systems, customers, and users safe. They must determine which domains are dangerous, and which are innocuous. That task involves using registration data to find domains that share contact data points with known malicious domains, or are associated with known bad actors. It also involves making WHOIS queries to create reputation assessments and to block dangerous domains.

ICANN’s recent policies have unnecessarily deprived good actors of those data points they need. ICANN’s “Temporary Specification” of 2018 allowed registrars to redact contact data for any domains

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<sup>18</sup> “The Internet is drowning in COVID-19-related malware and phishing scams.” Ars Technica, 16 March 2020, at: <https://arstechnica.com/information-technology/2020/03/the-internet-is-drowning-in-covid-19-related-malware-and-phishing-scams/> <https://arstechnica.com/information-technology/2020/03/the-internet-is-drowning-in-covid-19-related-malware-and-phishing-scams/>

<sup>19</sup> “Coronavirus Used in Malicious Campaigns.” Trend Micro, 20 March 2020, at: <https://www.trendmicro.com/vinfo/hk-en/security/news/cybercrime-and-digital-threats/coronavirus-used-in-spam-malware-file-names-and-malicious-domains>

<sup>20</sup> “Don’t Panic: COVID-19 Cyber Threats.” Palo Alto Networks Unit 42 blog, 24 March 2020, at: <https://unit42.paloaltonetworks.com/covid19-cyber-threats/> See also gTLD zone files.

<sup>21</sup> Press release, 20 March 2020, at: <https://ag.ny.gov/press-release/2020/attorney-general-james-asks-godaddy-and-other-online-registrars-halt-and-de-list>. Letter from Kim A Berger, Chief, Bureau of Internet and Technology, New York State Office of the Attorney General, to Nima Kelly, Chief Legal Officer, GoDaddy, 19 March 2020. At: [https://ag.ny.gov/sites/default/files/3.19.20\\_letter\\_concerning\\_godaddy\\_and\\_coronavirus.pdf](https://ag.ny.gov/sites/default/files/3.19.20_letter_concerning_godaddy_and_coronavirus.pdf) Press release.

<sup>22</sup> Nominet press release, 24 March 2020, at: <https://www.nominet.uk/policy-response/>

they wish. This allows the registrars to comply with European privacy law (GDPR), but also to redact data for contacts not covered by GDPR or any other privacy law, anywhere in the world. This allows the registrars to massively over-redact domain contact data, taking it offline for any reason they wish. (For more background, see "[Registrar-Provided Data: More Important Than Ever](#)," below.)

One of the effects of that policy is that malicious domains are not being identified as quickly as before, and some malicious registrations are not being detected at all. After ICANN's Temporary Specification went into effect, blocklisting efficiency based on domain data decreased by 70%.<sup>23</sup> This allows more harm to the public, allowing some criminal activity to go undetected, and blocking other criminal activity more slowly.

In addition, domain registrars and registry operators are allowed by ICANN to restrict access to even basic, non-personal domain data that is supposed to be available openly. Some registrars and registry operators are deciding who can query the data and how often. These limits impede Internet security companies and responders from accessing domain data they need. (For more background about this issue, see "[The Rate-Limiting Problem](#)," below.)

The over-redaction of contact data, plus the use of privacy services, deprives ordinary people of an important way of finding out who they may be doing business with. (See "[Registrar-Provided Data: More Important Than Ever](#)" below.) ICANN's policies have created an unbalanced situation, offering less transparency and protection for consumers than is possible within the law. This is especially perilous during a crisis, when consumers are relying on the Internet for basic supplies.

Finally, the ability to reach out to domain owners to solve problems has also been degraded. This eats away at the ability of people to manage assets across the Internet, and the ability of the Internet to manage itself. This is in part because some registrars make contact mechanisms hard to find and hard to use. (For more about this problem, see "[Availability of Contact Information](#)" and "[Failure of Contactability Mechanisms](#)", and "[Hiding Contactability Data](#)," below.)

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<sup>23</sup> For a look at how the unavailability of WHOIS data has led to less efficient detection at the two major blocklist providers, see the study "Facts & Figures: Whois Policy Changes Impair Blocklisting Defenses" by Dave Piscitello, 8 March 2019, at: <https://www.securityskeptic.com/2019/03/facts-figures-whois-policy-changes-impair-blacklisting-defenses.html>

## STUDY QUESTION: WHOIS Functionality and Compliance Status

*WHOIS has been deployed for more than 20 years, but some registrars do not provide reliable, compliant WHOIS service, which creates problems for users. These failures do not bode well for RDAP service, which is more complex to operate. These pervasive failures indicate that ICANN's compliance regime has not worked well. ICANN's contracts also have some shortcomings and loopholes that reduce service usability and registrant contactability.*

Registrar-provided WHOIS has long been characterized by a level of unreliability and non-compliance. In 2010, the GNSO's Registration Abuse Policy Work Group (RAPWG) performed an investigation and found WHOIS service problems at 19 of the 50 registrars it studied.<sup>24</sup> These problems included inaccurate results, contractual non-compliance, and nonresponsive servers. The RAPWG concluded:

WHOIS data is not always accessible on a guaranteed or enforceable basis, is not always provided by registrars in a reliable, consistent, or predictable fashion, and users sometimes receive different WHOIS results depending on where or how they perform the lookup. These issues interfere with registration processes, registrant decision-making, and with the ability of parties across the Internet to solve a variety of problems.

Our present study finds that the same problems still exist. Eleven of the 23 registrars we studied had a functionality or compliance failure, and another seven posed problems such as faulty responses, or notably restricted access for users.

This identifies failures at:

- The non-compliant registrars.
- The ICANN Organization, which performs regular compliance audits of registrars but has not been able to achieve a good level of compliance with existing requirements.
- The ICANN community. These problems are well-documented and have existed for years but have not been addressed through effective policy-making.

### **RED** Ratings

The problems we found are briefly listed below. For detailed explanations of each, please see the sections for each registrar in Part II of this report.

- [Namecheap](#): sometimes provides invalid data.
- [Network Solutions](#): updates out of Service Level Agreement (SLA).
- [Alibaba Cloud Computing](#): does not provide required contactability information; sometimes provides inaccurate results.
- [GMO Internet](#): updates out of SLA.
- [Xin Net Technology Corporation](#): fails to provide required data.

<sup>24</sup> "Registration Abuse Policies Working Group Final Report", 29 May 2010, pages 71-80, at [https://gns0.icann.org/sites/default/files/filefield\\_12530/rap-wg-final-report-29may10-en.pdf](https://gns0.icann.org/sites/default/files/filefield_12530/rap-wg-final-report-29may10-en.pdf)

- [Fastdomain](#): does not follow the output specification.
- [OVH](#): does not follow output specification; web-based WHOIS does not provide required data.
- [Key-Systems GmbH](#): does not provide required data; sometimes provides inaccurate responses.
- [Registrar of Domain Names REG.RU](#): does not follow output specification; does not provide contactability information.
- [OnlineNIC](#): does not follow output specification; sometimes provides inaccurate results.
- [West263](#): does not follow output specification.

## YELLOW Ratings

For detailed explanations of each, please see the sections for each registrar in the later part of this report.

- [GoDaddy](#) and [Wild West](#): serve required data via one method but not via another, thereby restricting access.
- [Tucows](#) and eNom: do not allow some users to make WHOIS or RDAP queries at all. Impose stringent usage limits on users.
- [Tucows](#): depending on access method, users cannot find any way to contact registrants for Tucows-sponsored domain outside of .COM and .NET.
- [PDR](#): bad certificate on WHOIS server.
- [123-Reg](#): data out of synch with registry; Web-based WHOIS difficult to find.
- [NetEarth](#): bad certificate on WHOIS server.

## Registrar-Provided Data: More Important Than Ever

ICANN's Temporary Specification made registrar-provided registration data service more important than ever. Why? Registrars are now the only place to find out how to contact domain registrants. But as this report explains, looking up domain data at registrars has become an unpredictable proposition. Just a few years ago ICANN was on the cusp of making registration data services much more predictable and reliable. But ICANN has unnecessarily let those efforts get derailed since ICANN collided with GDPR in 2018.

In 2013, 2014, and 2017 ICANN had instituted new WHOIS data requirements, ensuring that registries and registrars provided required fields that were consistently labeled and could be used more easily.<sup>25</sup> And in 2014 the ICANN community passed the "Thick WHOIS Transition Policy," which would make all gTLD registries hold the same kinds of data and would make them all authoritative repositories for domain name contact data. .COM and .NET were "thin" registries that hold only basic information about a domain name, such as its creation date and nameservers. If anyone wanted to find the contact information for a .COM or .NET domain, they could only get that from the WHOIS of the registrar who manages that particular domain name. The Thick WHOIS Transition Policy would have changed that, making sure that all registries were "thick" and held contact data, which could be looked up via registry WHOIS services. The policy recognized that RDDS provided by registries is generally superior, while registrar-provided RDDS is prone to inconsistent responses and data formatting issues, and provides less stability.<sup>26</sup> Together, these policy changes were moving the gTLD data services toward greater reliability, usability, and consistency.

But by the summer of 2017, ICANN realized that it faced a major problem: GDPR would go into effect in 2018. ICANN's registrar and registry contracts had always required domain contact data to be published via WHOIS. But GDPR prohibits companies from sharing their customers' personal data without explicit permission, and does not allow them to force customers to give that permission as a condition of service. Unfortunately, ICANN had failed over the years to come up with a relevant data policy, and had failed to react to GDPR's looming implementation deadline. By mid-2017, registrars and registry operators stated that since they faced liability and potential fines under GDPR, that ICANN Organization would no longer be able to make them adhere to the data publication requirements in ICANN's contracts. A scramble ensued to come up with a solution. There was only a year to come up with a balanced policy and then execute it, for example a policy that applied GDPR only to individuals covered by GDPR.<sup>27</sup> To this issue, some registrars claimed that they could not trust the address data their

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<sup>25</sup> See "Registry Registration Data Directory Services Consistent Labeling and Display Policy", 2014 and 2017 versions, at <https://www.icann.org/resources/pages/rdds-labeling-policy-2017-02-01-en> and the 2013 Registrar Accreditation Agreement.

<sup>26</sup> For this background see the "Final Report on the Thick WHOIS Policy Development Process" at [https://gnso.icann.org/sites/default/files/filefield\\_42383/thick-final-21oct13-en.pdf](https://gnso.icann.org/sites/default/files/filefield_42383/thick-final-21oct13-en.pdf)

<sup>27</sup> For some history of ICANN's response to the GDPR, see:

"Europe's GDPR Meets WHOIS Privacy: Which Way Forward?" by Jeremy Malcolm. Electronic Freedom Foundation, 26 January 2018, at: <https://www.eff.org/deeplinks/2018/01/europes-gdpr-will-force-icann-improve-whois-privacy>

and

customers provided, while others argued they could not update their systems to display redacted data for their EU-based customers while displaying full data for their non-EU customers.

ICANN Organization's expeditious solution was to allow registrars to redact contact data *for any domain they wish*. This allows them to comply with GDPR, but also to redact data for contacts not covered by GDPR or any other privacy law, anywhere in the world. The ICANN Board ratified this solution in its "Temporary Specification" just a few days before GDPR took full effect in May 2018.<sup>28</sup>

Many registrars took advantage and stopped publishing contact details for *all* their domain contacts, all over the world. This allowed the registrars to massively over-redact data, taking it offline for purposes other than to comply with GDPR or other privacy laws.

In one stroke, this also overruled the Thick WHOIS Transition Policy, which the ICANN Board put it on hold. And most registry operators *stopped* publishing most contact data fields in their WHOIS services—they stopped publishing any registrant name, postal address, email address, and phone number information, even when the data was not protected by GDPR. It was simply easier for the registry operators not to, leaving the decision-making about contact publication to the registrars.

*The result was that gTLD registries are still "thick" in that they hold the contact data, but are also now "thin" because they no longer publish the contact data. One's ability to obtain contact data, or to identify or contact a registrant, now depends entirely on the registrar's Registration Data Service. It depends on what the registrar is willing to reveal, and also when and how.*

To compensate for the massive data redaction, ICANN sought to preserve ways for people to get messages to domain contacts. We call this *contactability*. The Temporary Specification states that in WHOIS, registrars must publish:

"in the value of the 'Email' field of every contact (e.g., Registrant, Admin, Tech)", either "an email address or [the address of] a web form to facilitate email communication with the relevant contact." Also, "The email address and the URL to the web form MUST provide functionality to forward communications received to the email address of the applicable contact."

*However, registries no longer publish the contact email fields, where registrars place contactability information that ICANN requires them to publish. This data can still be found via the registrar's WHOIS, but many registrars now restrict access to it. (For more about this, see "The [Rate-Limiting Problem](#)" section below.)*

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"Whois? Whowas. So what's next for ICANN and its vast database of domain-name owners?" by Kieren McCarthy. The Register, 1 Jun 2018, at: [https://www.theregister.co.uk/2018/06/01/whats\\_next\\_for\\_whois\\_and\\_icann/](https://www.theregister.co.uk/2018/06/01/whats_next_for_whois_and_icann/) and

"The impact of GDPR on WHOIS" by Anthony J. Ferrante. FTI Consulting, 13 July 2018, at: <https://www.fticonsulting.com/~media/Files/us-files/insights/articles/impact-gdpr-whois-implications-businesses-facing-cybercrime.pdf>

<sup>28</sup> ICANN press release, "ICANN Board Approves Temporary Specification for gTLD Registration Data," 17 May 2018, at <https://www.icann.org/news/announcement-2018-05-17-en>

This problem has been carried over to RDAP service as well. Currently, registrars are serving only .COM and .NET queries on their RDAP servers, and do not serve data at all about any other domains they sponsor. For example, Google Domains' RDAP output notes explicitly:

*"Only thin registry domain names (.com or .net) are supported by our RDAP service. Send RDAP queries for thick registry domain names directly to the registry' RDAP service."*

**RECOMMENDATION 1: The Registrar Accreditation Agreement (RAA) must be changed so that registrar RDAP services must serve data (including any required contact fields) for *all* domains that the registrar sponsors, in *all* gTLDs. The data served must come from the registrar's database; the registrar cannot instead serve data obtained from the registry.**

As this report documents, some registrars are now providing unpredictable service in variance from ICANN's contracts and binding policies, variances that have not been corrected by ICANN Organization. Some registrars have adopted practices that have made the data harder to access, under unpredictable terms. *Ultimately, registration data services have become less predictable and usable. Developments over the last two years have erased the gains that ICANN was making, and there are new problems, such as those associated with RDAP and rate-limiting.*

### Hiding Contactability Data: The Left Hand and the Right Hand

The retreat to thin-only output by registries has led to a problem that ICANN has not yet fixed. When users seek contact or contactability information, sometimes they never get it, not even the required anonymous email address or the location of the contact web form that is supposed to be guaranteed. *Why? The registry operator points to the registrar, and the registrar points back to the registry, and neither provides the required data.*

For example, registrar OVH is the only party that possesses information about contacts for OVH's .COM domains, and is the only party that can tell people how to contact registrants who have their data masked. But OVH's web-based WHOIS does not provide output from OVH's own database or port 43 server. Instead, OVH provides data that it pulls from the *Verisign registry's* port 43 server:




← → ↻ 🔒 ovh.com/fr/cgi-bin/tools/check\_whois.pl

**Résultat des opérations:**  
**Whois**  
 Domain Name: OVH.COM  
 Registry Domain ID: 1938925\_DOMAIN\_COM-VRSN  
 Registrar WHOIS Server: whois.ovh.com  
 Registrar URL: http://www.ovh.com  
 Updated Date: 2016-01-11T16:45:19Z  
 Creation Date: 1997-02-07T05:00:00Z  
 Registry Expiry Date: 2025-02-08T05:00:00Z  
 Registrar: OVH sas  
 Registrar IANA ID: 433  
 Registrar Abuse Contact Email: abuse@ovh.net  
 Registrar Abuse Contact Phone: +33.972101007  
 Domain Status: clientDeleteProhibited https://icann.org/epp#clientDeleteProhibited  
 Domain Status: clientTransferProhibited https://icann.org/epp#clientTransferProhibited  
 Name Server: DNS.OVH.NET  
 Name Server: DNS10.OVH.NET  
 Name Server: DNS200.ANYCAST.ME  
 Name Server: NS.OVH.NET  
 Name Server: NS10.OVH.NET  
 Name Server: NS200.ANYCAST.ME  
 DNSSEC: unsigned  
 URL of the ICANN Whois Inaccuracy Complaint Form: https://www.icann.org/wicf/  
 >>> Last update of whois database: 2020-02-15T22:18:34Z <<<

For more information on Whois status codes, please visit <https://icann.org/epp>

NOTICE: The expiration date displayed in this record is the date the registrar's sponsorship of the domain name registration in the registry is currently set to expire. This date does not necessarily reflect the expiration date of the domain name registrant's agreement with the sponsoring registrar. Users may consult the sponsoring registrar's Whois database to view the registrar's reported date of expiration for this registration.

TERMS OF USE: You are not authorized to access or query our Whois database through the use of electronic processes that are high-volume and automated except as reasonably necessary to register domain names or modify existing registrations; the Data in VeriSign Global Registry Services' ("VeriSign") Whois database is provided by VeriSign for information purposes only and to assist persons in obtaining information



VeriSign does not even possess any contact data, or any domain contactability information. Thus, users in this case are left with no way to know how to reach out to OVH's registrants.

A different example is the thick .ORG registry, operated by Public Interest Registry. It does not provide contact or contactability info. Instead the registry's WHOIS output notes:

The Registrar of Record identified in this output may have an RDDS service that can be queried for additional information on how to contact the Registrant, Admin, or Tech contact of the queried domain name.

But because ICANN does not require registrars to serve data about any domains other than .COM and .NET, the registrar will often not provide the contactability data either. For example, Network Solutions does not provide data from its own database or port 43 server. Instead Network Solutions displays data it gets from the PIR (.ORG) registry server:

networksolutions.com/whois/results.jsp?domain=netsol.org

Domain Name: NETSOL.ORG  
 Registry Domain ID: D4618834-LROR  
 Registrar WHOIS Server: whois.networksolutions.com  
 Registrar URL: http://www.networksolutions.com  
 Updated Date: 2019-12-09T01:22:51Z  
 Creation Date: 1997-12-09T05:00:00Z  
 Registrar Registration Expiration Date: 2020-12-08T05:00:00Z  
 Registrar Registration Expiration Date:  
 Registrar: Network Solutions, LLC  
 Registrar IANA ID: 2  
 Reseller:  
 Domain Status: clientDeleteProhibited https://icann.org/epp#clientDeleteProhibited  
 Domain Status: clientTransferProhibited https://icann.org/epp#clientTransferProhibited  
 Domain Status: clientUpdateProhibited https://icann.org/epp#clientUpdateProhibited  
 Registrant Organization: Network Solutions LLC  
 Registrant State/Province: VA  
 Registrant Country: US  
 Name Server: NS2.NETSOL.COM  
 Name Server: NS1.NETSOL.COM  
 Name Server: NS3.NETSOL.COM  
 DNSSEC: unsigned  
 Registrar Abuse Contact Email: abuse@web.com  
 Registrar Abuse Contact Phone: +1.8003337680  
 URL of the ICANN Whois Inaccuracy Complaint Form https://www.icann.org/wicf/  
 >>> Last update of WHOIS database: 2020-02-27T19:04:36Z <<<

For more information on Whois status codes, please visit https://www.icann.org/resources/pages/epp-status-codes-2014-06-16-en

For more information on Whois status codes, please visit https://icann.org/epp

Access to Public Interest Registry WHOIS information is provided to assist persons in determining the contents of a domain name registration record in the Public Interest Registry registry database. The data in this record is provided by Public Interest Registry for informational purposes only and Public Interest Registry does not guarantee its accuracy. This service is intended only for query-based access. You agree that you will use this data only for lawful purposes and that, under no circumstances will you use this data to (a) allow, enable, or otherwise support the transmission by e-mail, telephone, or facsimile of mass unsolicited, commercial advertising or solicitations to entities other than the data recipient's own existing customers; or (b) enable high volume, automated, electronic processes that send queries or data to the systems of Registry Operator, a Registrar, or Afilias except as reasonably necessary to register domain names or modify existing registrations. All rights reserved. Public Interest Registry reserves the right to modify these terms at any time. By submitting this query, you agree to abide by this policy.

The Registrar of Record identified in this output may have an RDDS service that can be queried for additional information on how to contact the Registrant, Admin, or Tech contact of the queried domain name.

[Show underlying registry data for this record](#)

*Above: Network Solutions simply fetches and displays data from Public Interest Registry, which does not contain any contactability information.*

Other registrars do worse. The WHOIS on the Key-Systems GmbH registration site tells users that real domains sponsored by Key-Systems outside of .COM and .NET *don't even exist*. For example, Key-Systems owns the domain DOMAIN-CONTACT.ORG and uses it to provide services. But instead of


looking in its own database and providing data about this domain, Key-Systems tells visitors that the domain does not exist:

! whois-web.rrpproxy.net

**RRP**proxy™  
The Metaregistry

### Whois

domain-contact.org

I'm not a robot  reCAPTCHA  
Privacy - Terms

The data in the WHOIS database of Key-Systems GmbH is provided by Key-Systems GmbH for information purposes, and to assist persons in obtaining information about or related to domain name registration records. Key-Systems GmbH does not guarantee its accuracy. By submitting a WHOIS query, you agree that you will use this data only for lawful purposes and that, under no circumstances, you will use this data to

- allow, enable, or otherwise support the transmission of mass unsolicited, commercial advertising or solicitations via E-mail (spam);
- create an alternate database of domain registration records; or
- enable high volume, automated, electronic processes that apply to Key-Systems GmbH or its systems.

Key-Systems GmbH reserves the right to modify these terms at any time. By submitting this query, you agree to abide by this policy.  
Note: This site only queries domains registered through Key-Systems partners and resellers.  
Note: Please note that under the GDPR, certain information in the data output may be redacted to protect personal information.

[Submit](#)

[Imprint](#) [Privacy Policy](#)

### Whois for domain-contact.org

The queried object does not exist:  
>>> Last update of WHOIS database: 2020-01-10T00:37:27Z <<<

The data in the WHOIS database of Key-Systems GmbH is provided by Key-Systems GmbH for information purposes, and to assist persons in obtaining information about or related to domain name registration

This kind of confusion and inaccuracy should never happen, and illustrates the unreliability of registrar-provided domain data services.

Registrar implementations sometimes fail because the registry operator rate limits how many queries the registrar (and its collected users) are permitted to make. Below a WHOIS record search at Web.com failed because Public Interest Registry would not answer Web.com's queries:

web.com®

## WHOIS Behind that Domain?

**Search all WHOIS Records**

Enter search term here...

Search

**yumascholarshipprogram.org**

For more information on Whois status codes, please visit <https://www.icann.org/resources/pages/epp-status-codes-2014-06-16-en>  
 WHOIS LIMIT EXCEEDED - SEE WWW.PIR.ORG/WHOIS FOR DETAILS

Go Back

9:39 AM  
12/5/2019

### It's Not What You Ask, It's How

What we see from the above is how *registrars are providing different data depending upon how or where a user looks it up. In fact, registrars are not always required to serve the data fields that are "required" by ICANN contracts and policies.* This paradox does not provide predictability or consistency.

On one hand, ICANN's registrar contract seems to require that port 43 service must respond with all contact fields listed in the contract and relevant policies:

RDDS availability: Refers to the ability of all the RDDS services [sic] for the Registrar to respond to queries from an Internet user *with appropriate data* from the relevant registrar system.<sup>29</sup>

and

Queries shall be about existing objects in the Registry System and the responses *must contain the corresponding information* otherwise the query will be considered unanswered.<sup>30</sup> [*emphases added*]

<sup>29</sup> 9 See "2013 Registrar Accreditation Agreement" section 2.2.1, <https://www.icann.org/resources/pages/approved-with-specs-2013-09-17-en>

<sup>30</sup> See "gTLD Base Registry Agreement, Specification 10" section 4.6, <https://newgtlds.icann.org/sites/default/files/agreements/agreement-approved-31jul17-en.html>

But some registrars decided that they will serve only some of the required data elements via WHOIS port 43 service. They serve the rest of the required data elements via single, limited Web-based lookups. This practice eliminates the ability of legitimate users to access important data via WHOIS port 43 or RDAP.

ICANN's Compliance Department has allowed registrars to continue using this interpretation of the contracts.<sup>31</sup> This loophole is so notable that the U.S. government asked ICANN to look into GoDaddy's use of it.<sup>32</sup> (For more about this practice, see "[The Rate-Limiting Problem](#)," and the section later in the report about GoDaddy.)

ICANN's Security and Stability Advisory Committee (SSAC) noted how this unpredictable and fragmentary service causes problems, and formally recommended that the ICANN Board and ICANN Organization fix it during contract negotiations.<sup>33</sup> The SSAC also advised the ICANN Board and community that "RDDS access must comply with the law, but access should not be less timely, more restricted, and less public than law requires."

Unless ICANN closes this kind of loophole, registrars will have great latitude to control the release of even non-sensitive domain data in the future. ICANN Organization has an opportunity to close loopholes like this because it is currently negotiating the contractual requirements for RDAP service, to modify the existing registry and registrar contracts.<sup>34</sup> It is important to fix problems of this nature, rather than allowing poor precedent to be carried into the future.

**RECOMMENDATION 2: all methods of access to registration data (both via RDAP and web-based RDAP) MUST provide an equivalent response to the same query. If a piece of data is required to be published in the public data set, it must be served regardless of the access mechanism, or what user is requesting it.**

**See also Recommendation 1.**

<sup>31</sup> See for example "GoDaddy to start masking some Whois data through Port 43," DomainNameWire.com, 12 January 2018, at <https://domainnamewire.com/2018/01/12/godaddy-start-masking-whois-data-port-43/> and letter from Brain Winterfeldt to ICANN CEO Goran Marby of 10 March 2018 (<https://www.icann.org/en/system/files/correspondence/winterfeldt-to-chalaby-et-al-10mar18-en.pdf>) and the return letter from ICANN (<https://www.icann.org/en/system/files/correspondence/icann-to-winterfeldt-05apr18-en.pdf>)

<sup>32</sup> Letter from David J. Reidl, U.S. Department of Commerce, to Cherine Chalaby, Chair, ICANN Board of Directors, 16 April 2018. At <https://www.icann.org/en/system/files/correspondence/redl-to-chalaby-16apr18-en.pdf>

<sup>33</sup> "Recommendation 6: The ICANN Board should direct the ICANN Organization to work to ensure that all methods of access to RDDS data provide an equivalent response to the same query." From "SAC101v2: SSAC Advisory Regarding Access to Domain Name Registration Data," 12 December 2018, at: <https://www.icann.org/en/system/files/files/sac-101-v2-en.pdf>

<sup>34</sup> See <https://www.icann.org/en/system/files/correspondence/marby-to-bunton-21oct19-en.pdf>

## SLA Confusion

The current Registrar Accreditation Agreement (RAA 2013) contains contradictory requirements about the currency and timeliness (the “freshness”) of registrar RDDS data.

In one place the RAA requires that the registrar update its WHOIS database “at least daily” in order to provide access to “up-to-date” data.<sup>35</sup> But that obligation conflicts with the contract’s Service Agreement section, which says that if a domain name is created or updated, that information must be reflected in the registrar’s WHOIS *within 60 minutes*.<sup>36,37</sup>

For clarity, registrars and registry operators should be required to provide up-to-date data via RDDS within the 60-minute SLA. Once the registrar receives a change from a registrant, or once the registry receives a change from the registrar, they must reflect that change in the publicly available RDDS services within 60 minutes.

**RECOMMENDATION 3: The requirement to publish up-to-date data via RDDS must be clarified during ICANN’s current RDAP SLA negotiation with registrars. The requirement must clearly be in line with the current SLA, which requires updates to domain records to be reflected in RDDS within 60 minutes.**

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<sup>35</sup> Registrar Accreditation Agreement, paragraph 3.3.1, at <https://www.icann.org/resources/pages/approved-with-specs-2013-09-17-en>

<sup>36</sup> Registrar Accreditation Agreement, Registration Data Directory Service (WHOIS) Specification, paragraph 2.2, at: <https://www.icann.org/resources/pages/approved-with-specs-2013-09-17-en#WHOIS> Per the contract: “RDDS update time. Refers to the time measured from the receipt of an EPP confirmation to a transform command on a domain name, host or contact, up until the servers of the RDDS services reflect the changes made. SLA: less than or equal to 60 minutes”. For database performance and security reasons, registries and registrars often operate separate “replicated” databases to run their RDDS services, which are separate from their core registration databases.

<sup>37</sup> See also definitions of Transform command in the EPP RFC5730, at <https://tools.ietf.org/html/rfc5730#section-2.9.3>

## RDDS Terms of Service

*ICANN's registrars (and registry operators) sometimes impose additional conditions on registration service and data use, and those terms and conditions violate ICANN policy. Some of these terms and conditions disallow legitimate uses that RDDS services were designed to fulfill. Relevant contractual language about RDDS use is outdated and needs to be revised.*

ICANN's Registrar Accreditation Agreement states:

3.3.5 In providing query-based public access to registration data as required by Subsections 3.3.1 and 3.3.4, Registrar shall not impose terms and conditions on use of the data provided, except as permitted by any Specification or Policy established by ICANN. Unless and until ICANN establishes a different Consensus Policy, Registrar shall permit use of data it provides in response to queries for any lawful purposes except to: (a) allow, enable, or otherwise support the transmission by e-mail, telephone, postal mail, facsimile or other means of mass unsolicited, commercial advertising or solicitations to entities other than the data recipient's own existing customers; or (b) enable high volume, automated, electronic processes that send queries or data to the systems of any Registry Operator or ICANN-Accredited registrar, except as reasonably necessary to register domain names or modify existing registrations.<sup>38</sup>

Using the data for spamming, marketing, and unlawful purposes are certainly a problem, and prohibitions against them should be maintained.

But the prohibition against "high volume, automated processes" does not make sense. ICANN's SSAC observed:

This language is problematic because RDDS systems are correctly designed to provide "high volume, automated, electronic processes that send queries," and some high volume, automated queries are made for beneficial and lawful purposes. In the future, the language should be modified to distinguish between legitimate and abusive uses (or users) of the service and to not inhibit beneficial or lawful uses.<sup>39</sup>

Also, the prohibition was written in a time when personal data was mandatory to publish in RDDS output. But now ICANN policy allows registrars to redact personal data as desired, and there is no overriding privacy reason to restrict access to the non-personal public data set.

**RECOMMENDATION 4: ICANN should delete the clause from its agreements that prohibits "high volume, automated, electronic processes that send queries or data to the systems of any Registry Operator or ICANN-Accredited registrar, except as reasonably necessary to register domain names or modify existing registrations."**

<sup>38</sup> See 2013 Registrar Accreditation Agreement, section 3.3.5, at <https://www.icann.org/resources/pages/approved-with-specs-2013-09-17-en>

<sup>39</sup> "SAC101v2: SSAC Advisory Regarding Access to Domain Name Registration Data," 12 December 2018. <https://www.icann.org/en/system/files/files/sac-101-v2-en.pdf>

A number of registrars impose additional terms of service that directly contradict ICANN's contractual language above, and restrict legitimate use. For example:

- Many registrars have clauses that prohibit the use of the data for lawful and beneficial purposes, such as for providing security, and for academic studies. Typical examples are eNom and Tucows, which state that “The compilation, repackaging, dissemination or use of this data is expressly prohibited without prior written consent from us.”
- GoDaddy's WHOIS output says that users “agree not to use this data to allow, enable, or otherwise make possible, dissemination or collection of this data, in part or in its entirety, *for any purpose,*” and leaves the prohibition generally open. *[emphasis added]*
- Registrar 123-Reg's RDAP output says that users of the RDAP service are subject to GoDaddy's Universal Terms of Service agreement.<sup>40</sup> Among other things, that GoDaddy agreement requires all users of its RDAP server to submit to binding arbitration in the United States of America, users must waive their rights to a court proceeding, and waive their right to bring class actions suits.<sup>41</sup> Such requirements may conflict with national laws. GDPR entitles individuals in the European Union to pursue claims in court or with a government administrative or supervisory authority.<sup>42</sup>

**RECOMMENDATION 5: ICANN should not allow registrars and registry operators to impose terms and conditions on uses of registration data that are legal, especially regarding the use of the public data set. ICANN should enforce its existing contractual language that “Registrar shall permit use of data it provides in response to queries for any lawful purposes”. Similar language should be incorporated into the registry agreements.**

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<sup>40</sup> {"title": "Terms of Use", "description": ["By submitting an inquiry, you agree to these Universal Terms of Service", "and limitations of warranty. In particular, you agree not to use this", "data to allow, enable, or otherwise make possible, dissemination or", "collection of this data, in part or in its entirety, for any purpose,", "such as the transmission of unsolicited advertising and solicitations of", "any kind, including spam. You further agree not to use this data to enable", "high volume, automated or robotic electronic processes designed to collect", "or compile this data for any purpose, including mining this data for your", "own personal or commercial purposes, or use this data in any way that violates", "applicable laws and regulations."], "links": [{"value": "[https://www.godaddy.com/agreements/showdoc?pageid=5403](\"https://www.godaddy.com/agreements/showdoc?pageid=5403\")", "rel": "related", "href": "https://www.godaddy.com/agreements/showdoc?pageid=5403", "type": "text/html"}]}}

<sup>41</sup> Users may opt out of the arbitration provision if they send notice to GoDaddy within 30 days.

<sup>42</sup> See GDPR Article 79: "Right to an effective judicial remedy against a controller or processor", Article 80: "Representation of data subjects", and Article 82: "Right to compensation and liability"



## The Rate-Limiting Problem

Another terms-of-service problem is rate-limiting. Many registrars and registry operators have decided to restrict the number and frequency of queries that users can make to WHOIS and RDAP servers, a practice known as *rate-limiting*. Rate-limiting is designed to limit the total amount of data a requestor can obtain, and/or limit how quickly the requestor can obtain it. Rate-limiting is primarily deployed for two reasons: to prevent the misuse of personally identifiable data, and to protect the data service itself against denial-of-service attacks.

But some registrars and registry operators employ rate-limiting indiscriminately and over-aggressively, to restrict access to *even the non-sensitive data that is always supposed to be public*. A few registrars are so restrictive that they do not let some users make any queries at all. Other operators set rate limits so low as to render the service almost useless.

These practices exploit a loophole in ICANN's contracts. *Operators are required to provide RDSS service, but they are also allowed freedom to decide if, when, and to whom their service will provide data.*

Rate-limiting has been severely impacting the ability of responsible parties to use RDSS service for its intended, legitimate purposes. This especially impedes queries made to detect and mitigate DNS abuse, such as malware and phishing attacks.

ICANN's Security and Stability Advisory Committee (SSAC) examined these problems in its advisory *SAC101v2: SSAC Advisory Regarding Access to Domain Name Registration Data*. This in-depth paper describes rate-limiting, how it is implemented by registries and registrars, and the problems it poses, especially for security and anti-abuse needs.<sup>43</sup> It is recommended reading on the subject and contains additional references.

### Rate-Limiting at Tucows: A Case Study

The impact of rate-limiting can be significant. Tucows imposes what may be the most restrictive rate-limiting in the domain industry. This tightly controls the public's access to *even non-sensitive data*.

The terms of service that Tucows publishes in its RDAP output states:

Tucows reserves the right to terminate your access to the Tucows WHOIS database in its sole discretion, including without limitation, for excessive querying of the WHOIS database or for failure to otherwise abide by the policy.

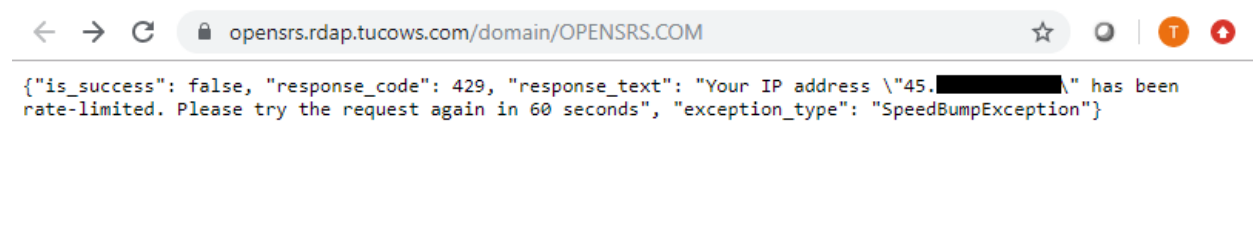
This seems to conflict with ICANN's Registrar Accreditation Agreement, as described in the previous section of this report. In this case Tucows decides what it considers "excessive," and that definition is very restrictive.

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<sup>43</sup> "SAC101v2: SSAC Advisory Regarding Access to Domain Name Registration Data," 12 December 2018. <https://www.icann.org/en/system/files/files/sac-101-v2-en.pdf>

Tucows' published policy is to only allow one (1) RDAP lookup per minute coming from an IP address *or an IP range*. This is a frequency limit. Tucows also limits the number of RDAP queries that can be made *per day* from each IP or IP range.<sup>44</sup> This is a volume limit. Testing by the ICANN SSAC found that, in practice, Tucows' WHOIS rate-limit was even more restrictive than advertised—allowing only eight to fifteen queries *per hour*.<sup>45</sup>

Tucows does not allow some users to make *any queries at all*. Tucows denies all of their RDAP requests, including the first one they make:<sup>46</sup>



```
{
  "is_success": false,
  "response_code": 429,
  "response_text": "Your IP address \"45.[REDACTED]\" has been
  rate-limited. Please try the request again in 60 seconds",
  "exception_type": "SpeedBumpException"
}
```

As a result of how Tucows manages RDAP access, these users are unable to look up any public data for Tucows-sponsored domains, and cannot find out how to contact registrants. Tucows is apparently rate-limiting queries from entire IP ranges, including from IP ranges used by small companies and residential users, and the ranges of VPN providers. We were also prevented from making RDAP queries from commercial networks, such as Starbucks locations. This practice may disrupt data mining by unscrupulous users who are using distributed IP addresses within those ranges. But the imprecise and indiscriminate blocking of all the users in those ranges completely denies service to some legitimate users.

Further, Tucows uses its RDAP server to serve RDAP data for 62 additional registrars.<sup>47</sup> A few of the 62 registrars (such as eNom) are owned by Tucows; the rest have evidently retained Tucows as their RDAP service provider. Tests indicate that Tucows is imposing its rate limit across the server, and is not allowing one query per minute per registrar. Instead, the limit is applied *across all registrars that*

<sup>44</sup> See <https://www.tucowsdomains.com/rdap/help/>

<sup>45</sup> Tucow's published rate-limit for WHOIS port 43 is one query per second (see <https://help.opensrs.com/hc/en-us/articles/204075306-WHOIS-rate-limiting>). However, in its 2018 study of rate-limiting, the ICANN SSAC found that in practice, Tucows' port 43 WHOIS rate limit was much more restrictive than Tucows had stated, only allowing between *eight and fifteen queries per hour*. See SAC101, page 22: <https://www.icann.org/en/system/files/files/sac-101-en.pdf>

<sup>46</sup> The author of this paper performed several dozen widely time-spaced attempts, over the course of three months, to look up .COM domains at Tucows' RDAP server, coming from an IP provided by large ISP Comcast. All but one of these single, isolated queries were rejected due to rate-limiting. The author also attempted time-separated lookups via VPN, from ten different IP ranges in varying countries. Again, all these first attempts were rejected by Tucows. Finally, the author tried lookups from two Starbucks locations, where wifi is provided by Google; Tucows declined to provide any data because of rate-limiting. It seems unlikely that commercial data miners are using the Starbucks network to make RDAP queries, and thereby preventing occasional users from making queries.

<sup>47</sup> These registrars include EPAG, DomainPeople, EasySpace, NameZero, Register.CA, and several owned by Endurance International. See the registrars using "rdap.tucows.com" servers, at <https://www.iana.org/assignments/registrar-ids/registrar-ids.xhtml>

*Tucows provides RDAP service for.* A requestor is allowed to make one query to one of the 63 registrars, and then Tucows denies the requestor any information for any domain sponsored by any of the other 62 registrars, until a minute passes. SSAC described this practice as “pooling.”<sup>48</sup>

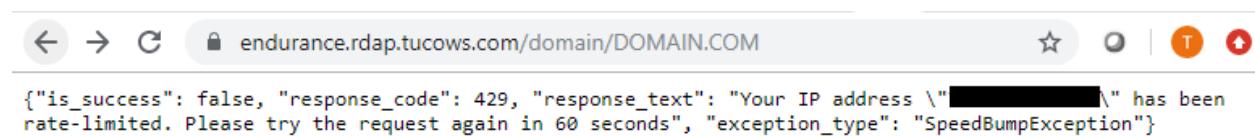
For example, we were able to make a query for the domain TUCOWS.COM, at:

`https://opensrs.rdap.tucows.com/domain/tucows.com`

and we received a full response. But when we then queried the domain DOMAIN.COM, a domain sponsored at another registrar on the server, at:

`https://endurance.rdap.tucows.com/domain/DOMAIN.COM`

that query was rejected, due to the restrictive policy imposed by Tucows across its shared server:



*This setup tightly controls access to the public, non-sensitive data fields, and impairs legitimate uses such as security monitoring.* This rate-limiting affects about 20 million gTLD domains. (Tucows itself sponsors 9.9 million domains, and the 62 additional registrars sponsor more than 10 million more.) *The rate-limiting is not designed to protect personally identifiable data.* Tucows never makes personally identifiable data in RDAP and WHOIS—Tucows always redacts the personally identifiable data fields for all the domains it sponsors, and some of the other 62 registrars do as well.

Tucows has evidently white-listed ICANN’s corporate IP space.<sup>49</sup> Attendees were not rate-limited to one query per minute when querying Tucows’ RDAP server from the ICANN network at the ICANN66 in Montreal in November 2019.

## Rate-Limiting in the RDAP Era

*Rate-limiting on RDAP servers is not needed to prevent the misuse of personal data.*

Due to the Temporary Specification, registry operators are no longer serving personally identifiable contact data, and registrars can redact personal data that must be redacted under any law they are subject to.

Thus there is no reason to rate-limit access to the non-sensitive data, also known as the “public data set,” unless the operator has evidence that the RDAP service is under a true denial-of-service attack.

<sup>48</sup> See SAC101: SSAC Advisory Regarding Access to Domain Name Registration Data, page 12. at <https://www.icann.org/en/system/files/files/sac-101-en.pdf>

<sup>49</sup> As also observed by SSAC; see SAC101, page 15, at <https://www.icann.org/en/system/files/files/sac-101-en.pdf>

RDAP operators must provide adequately provisioned RDAP service that can respond to parties who are making legitimate queries.

RDAP also allows operators to serve different sets of data to different users. It can be configured to serve the “public data set” to anonymous users and an expanded data set to known or specially permissioned users.

**RECOMMENDATION 6: ICANN’s contracts must be revised to prohibit registrars and registry operators from rate-limiting access to the public data set on RDAP servers, unless the server operator is under a denial-of-service attack that threatens the SLAs of a reasonably-provisioned RDAP service. This subject is not being addressed in the EPDP, and ICANN Organization currently has an opportunity to address rate-limiting at registrars as part of contract negotiations about RDAP services.**

**RECOMMENDATION 7: Per SAC101v2 recommendation: The ICANN Board should direct the ICANN Organization to work to ensure that RDDS access is provided in a measurable and enforceable framework, which can be understood by all parties.**

## The Long Road to RDAP

ICANN Organization and its contracted parties have been taking many years to roll out RDAP, while the rest of the Internet industry moved at light speed. *The need to replace the WHOIS protocol was identified in 2003, but ICANN and its contracted parties will not make a stable, usable RDAP implementation available until 2021 or later. Here ICANN has not delivered on its Core Value of "Operating with efficiency and excellence, in ...[an] accountable manner and... at a speed that is responsive to the needs of the global Internet community."*

The timeline has been:

- 2003: The Internet Engineering Force (IETF) formed a committee to create a new standard to replace WHOIS; it was eventually called IRIS.
- 7 February 2008: ICANN's Security and Stability Advisory Committee (SSAC) renewed calls for ICANN to replace WHOIS with a new protocol.<sup>50</sup>
- March 2009: The IETF published the IRIS RFC. ICANN did not buy into it; IRIS was deemed too complex and many felt it was better to keep using WHOIS until a better alternative was developed.
- 2013: The IETF acknowledged that IRIS was not a successful replacement for WHOIS and began to work on RDAP.
- March 2015: The IETF finalized the RDAP specification.
- 2015: ARIN, the North American IP addresses registry, implemented RDAP to replace its WHOIS service.<sup>51</sup>
- September 2015: ICANN Organization published a proposed draft of the RDAP operational specification for discussion with the community. Discussions and public comment took place over the next 10 months.
- 26 July 2016: ICANN Organization published a revised RDAP operational specification, and issued a legal notification to the registries and registrars to implement it. ICANN had the right to require the transition as part of its contracts. In response, the gTLD Registries Stakeholder Group refused, and filed a dispute.<sup>52, 53</sup>
- 1 September 2017: More than a year later, ICANN Organization accepted the Registries Stakeholder Group's proposal to implement RDAP, and they started an RDAP pilot.<sup>54</sup> The pilot period featured test environments and toolkits for registrars and registry operators, and was designed to give them operational experience.

<sup>50</sup> "SAC027: SSAC Comment to GNSO regarding WHOIS studies", 7 February 2008, at <https://www.icann.org/en/system/files/files/sac-027-en.pdf>

<sup>51</sup> ARIN Annual report 2015, [https://www.arin.net/vault/about\\_us/corp\\_docs/annual/report2015.pdf](https://www.arin.net/vault/about_us/corp_docs/annual/report2015.pdf)

<sup>52</sup> "Registries Rebel Against ICANN's WHOIS Upgrade Decree." Domainincite.com, 23 August 2016. <http://domainincite.com/20882-registries-rebel-against-icanns-whois-upgrade-decree>

<sup>53</sup> Reconsideration Request 11, April 2013, at: <https://www.icann.org/en/system/files/files/reconsideration-16-10-rysg-request-redacted-09aug16-en.pdf>

- April 2018: by this time all five of the world's IP address registries had introduced RDAP.<sup>55</sup>
- August 2018: ICANN engaged in more negotiations with the registries and registrars about the requirements for RDAP output; the two sides had not agreed on a long list of issues.<sup>56</sup>
- February 2019: after two-and-a-half years, ICANN published a revised output specification, the RDAP Response Profile.
- 27 February 2019: ICANN Organization issued a legal notification that registries and registrars must implement RDAP service no later than 26 August 2019.
- 21 October 2019: ICANN Organization opened negotiations with the registries and registrars to create the contractual requirements for RDAP service.<sup>57, 58</sup>

Currently, ICANN Organization is negotiating with its domain registries and registrars to finalize the contractual requirements for RDAP, using the existing WHOIS requirements as a point of departure. The negotiation is not public. ICANN expects that the negotiation's results will not be announced until June 2020.<sup>59</sup> The draft will then be subject to a 30-day comment period, after which there may be revisions. Then following the final draft, ICANN will give its contracted parties time to comply and update their systems. This implementation window will be at least six months, and but a year seems more likely. (Only after RDAP services are completely reliable can ICANN allow the registries and registrars to start retiring their WHOIS servers.) *In any case, RDAP will not be deployed in a stable and uniform fashion until sometime in 2021.*

The lack of progress between 2016 and 2019 was connected more to the business interests of the registries and registrars, and due less to technology or dependences on ICANN policy efforts. We note:

- ICANN was able to finalize the RDAP Response Profile even though policy-making work was still (and is still) going on in the Expedited Policy Development Process (EPDP).
- Numbers registries such as RIPE-NCC and ARIN deployed RDAP, and then used RDAP's capabilities to comply with new requirements posed by GDPR.
- The determination of RDAP SLAs for registries and registrars does not depend on any other activities at ICANN.

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<sup>55</sup> "The Current State of RDAP" by Andy Newton, Chief Engineer, ARIN. ARIN 41, April 2018.

[https://www.arin.net/vault/participate/meetings/reports/ARIN\\_41/PDF/PPM/newton\\_rdap.pdf](https://www.arin.net/vault/participate/meetings/reports/ARIN_41/PDF/PPM/newton_rdap.pdf)

<sup>56</sup> "ICANN org's input to the contracted parties' gTLD RDAP profile proposal," 31 August 2018, at:

<https://www.icann.org/en/system/files/files/icann-input-to-proposed-rdap-profile-31aug18-en.pdf>

<sup>57</sup> See also Registration Data Access protocol Timeline at: <https://www.icann.org/resources/pages/rdap-background-2018-08-31-en>

<sup>58</sup> See <https://www.icann.org/en/system/files/correspondence/marby-to-bunton-21oct19-en.pdf> and <https://www.icann.org/en/system/files/correspondence/marby-to-austin-21oct19-en.pdf>

<sup>59</sup> See "Proposed Amendments to the Registry Agreement and Registrar Accreditation Agreement to Add RDAP" at <https://www.icann.org/resources/pages/upcoming-2012-02-25-en>

## What is the Plan for Moving to RDAP?

While the RDAP deployment deadline was August 2019, the *launch of RDAP has been handled as a “soft launch” by ICANN Organization. As of this writing, RDAP services are not yet technically reliable enough for use, and ICANN Organization is having trouble managing RDAP resources it is responsible for.* (See also the section “[STUDY QUESTION: RDAP Functionality and Compliance Status](#),” below.)

Nor has ICANN Organization launched a user outreach and communications plan. Thus far ICANN’s efforts have concentrated on supporting the *service providers* of RDAP (the registrars and registry operators), but not the *users or consumers* of the service. As of March 2020, ICANN has not posted any real information for the parties across the Internet who will need to use RDAP. ICANN’s “Information for RDAP Users” page<sup>60</sup> contains no information about how to use RDAP, no RDAP toolkit that users can deploy to replace their WHOIS clients, and no information about the RDAP bootstrap registry:

The screenshot shows the ICANN website page titled "Information for RDAP Users". The page is part of the ICANN resources section. It features a navigation menu on the left with categories like "About ICANN", "Board", "Accountability", "Governance", "Groups", "Business", "Civil Society", "Complaints Office", "Contractual Compliance", "Registrars", "Registry Operators", and "Domain Name Registrants". The main content area is titled "Information for RDAP Users" and contains three paragraphs of text explaining RDAP, followed by a "Try it!" section with links to "ICANN's RDAP Web Client" and "Global Support". The browser address bar shows the URL "icann.org/resources/pages/rdap-information-for-users-2018-08-31-en" and the system tray at the bottom indicates the time is 10:18 AM on 3/5/2020.

*A good plan is vital because users make literally billions of WHOIS queries every month.*<sup>61</sup> Most of these queries are automated or scripted. These feed a variety of important functions, including security tools, DNS monitoring programs, domain name hijacking protection, trademark infringement scans, and more.

<sup>60</sup> <https://www.icann.org/resources/pages/rdap-information-for-users-2018-08-31-en>

<sup>61</sup> Verisign's.COM port 43 WHOIS server alone received almost 65 billion queries in October 2019, while Verisign's web-based WHOIS received almost 2.4 million queries. Other registries, and the registrars, serve many more requests. Source: monthly registry report, at <https://www.icann.org/sites/default/files/mrr/com/com-operator-201910-en.pdf>

Operating systems such as Windows and Linux contain WHOIS lookup commands and tools that will cease to function. When the WHOIS servers go offline, it will break processes and services across the Internet.

ICANN Organization is possibly waiting until the outcome of its RDAP contract negotiations with the registrars and registries before communicating more. But that emphasizes how much the requirements are still in flux, and how it will take a long time before RDAP is a reliable tool that people can use.

**RECOMMENDATION 8: ICANN Organization must publish, as soon as possible, its draft plan for when RDAP services will be reliable and for retiring WHOIS. The public comment period on this plan must be widely publicized not just in the ICANN community, but to wider Internet and software communities, with appropriate time for responses from affected parties. The plan must include:**

- the proposed timeline,
- a commitment to take the needs of users into account,
- ICANN’s plans to publicize the transition and educate users about how to use RDAP,
- input from ICANN’s Office of the CTO, which can provide advice about what software tools and systems will be affected by the retirement of WHOIS, and
- ICANN’s plans to consult with affected operating system and software providers.

**RECOMMENDATION 9: ICANN Organization should create a program to support the users (consumers) of RDAP services. ICANN should publish RDAP query client code and a toolkit, including code and a guide for parsing RDAP responses per ICANN’s RDAP Response Profile.**

## WHOIS is Dead; Long Live...?

The global Internet community understands and uses the term “WHOIS.” People know that “WHOIS” provides information about domain names, and the term “WHOIS” has become a generic term synonymous with registration data. But the WHOIS protocol will go away, and while there’s a replacement protocol, no one outside the small domain name industry knows what “RDDS” or “RDAP” is. What the public needs are pointers to where they can continue to find domain registration data into the future.

**RECOMMENDATION 10: ICANN’s contracts must be updated to require that registries and registrars include a link on their home pages to “Domain lookup” or “Domain data lookup” or “WHOIS Lookup” or a similar replacement term. This should link to a web-based search form.**

This recommendation parallels a current ICANN contractual requirement, which requires every registrar to place a link on its home page to its abuse reporting contact.



## STUDY QUESTION: RDAP Functionality and Compliance Status

gTLD registries and registrars were required to implement RDAP service no later than 26 August 2019, following ICANN specifications. *Our testing of RDAP services reveals that registrar RDAP servers are currently prone to errors and failures, and that ICANN Organization is also having trouble managing RDAP resources it is responsible for, including the vital RDAP server directories.*

Six months after the deadline, as of 27 February 2020, ICANN's official list<sup>62</sup> contained 2,450 accredited registrars. Of those, 175 (7.1%) did not have RDAP servers listed at ICANN, after ICANN Organization's requests to the registrars over the course of several months.

Many of those registrars who still do not have listed RDAP servers as of March 2020 are small, but some are experienced, medium-to-large registrars including Dynadot, NordNet, CSC Corporate Domains, and SafeNames. It's possible that some of them did submit their URLs recently (but still months late) and ICANN has not yet published them (see "Problems with Registrar RDAP Server Addresses," below).

**RED ratings:** The registrar failures take a variety of forms. See the sections about each registrar in the second half of this report for details

- [Tucows](#): output non-compliant with RDAP spec.
- [Alibaba Cloud Computing](#): no RDAP server listed at ICANN.
- [GMO Internet](#): incorrect responses; does not publish some required data fields.
- [Xin Net Technology Corporation](#): server rejects queries based on case.
- [PDR](#): failed responses; malformed RDAP server location at ICANN.
- [NameSilo](#): output is missing required data fields; RDAP output contains different data than WHOIS output.
- [Register.com](#): server sometimes unavailable.
- [Gandi](#): required data missing and out of required format.
- [Registrar of Domain Names REG.RU LLC](#): output non-compliant with RDAP spec.
- [OnlineNIC](#): RDAP server offline.
- [West263 International Limited](#): RDAP server non-responsive.

### Web-Based RDAP Interfaces Are Important

*The rollout of RDAP will not be useful unless humans can read and use the information. Registrars and registry operators must be required to provide human-friendly RDAP output on their web sites, in addition to server output suitable for machine consumption.*

Most users of registration data are not technically sophisticated. They do not know how to make command-line inquiries to WHOIS port 43. Because of that reality, registrars and registry operators are contractually obligated to provide web-based WHOIS output, so ordinary users can query and use the

<sup>62</sup> <https://www.iana.org/assignments/registrar-ids/registrar-ids.xhtml>

data. And web sites such as WHOIS.COM, and ICANN's own Lookup Tool, take port 43 output from registries and registrars and present it in a way that has made WHOIS broadly usable. Registrants view their contact data in a similar user-friendly format via their web-based registrar accounts.

gTLD registries and registrars receive millions of web-based registration data queries per month.<sup>63</sup> The WHOIS output is human-readable, straightforward, and easy to understand, i.e.:

```
Domain Name: namesilo.com
Registry Domain ID: 1566083588_DOMAIN_COM-VRSN
Registrar WHOIS Server: WHOIS.namesilo.com
Registrar URL: https://www.namesilo.com/
Updated Date: 2019-11-29T07:00:00Z
Creation Date: 2009-08-18T07:00:00Z
Registrar Registration Expiration Date: 2028-08-18T07:00:00Z
Registrar: NameSilo, LLC
Registrar IANA ID: 1479
Registrar Abuse Contact Email: abuse@namesilo.com
Registrar Abuse Contact Phone: +1.4805240066
Domain Status: clientTransferProhibited
https://www.icann.org/epp#clientTransferProhibited
Registry Registrant ID:
Registrant Name: Domain Administrator
Registrant Organization: NameSilo, LLC
Registrant Street: 1300 E. Missouri Avenue Suite A-110
Registrant City: Phoenix
Registrant State/Province: AZ
Registrant Postal Code: 85014
Registrant Country: US
Registrant Phone: +1.6024928198
[etc.]
```

The same is not true of RDAP output, which is marked up in JSON format, and is organized in data objects consisting of attribute-value pairs and array data types. This output is designed to be consumed by software. Raw RDAP output is simply unreadable to ordinary users. For example, here is the registration data for the same domain, NAMESILO.COM, in RDAP:

```
{ "objectClassName": "domain", "status": [ "transfer
prohibited" ], "port43": { "labels": [ { "stringValue": "WHOIS" }, { "stringValue": "namesilo" }, { "stringValue": "co
m" } ], "fqdn": false, "stringValue": "WHOIS.namesilo.com", "tldlabel": { "stringValue": "com", "levelSize": 3 }, "
ldhName": { "labels": [ { "stringValue": "namesilo" }, { "stringValue": "com" } ], "fqdn": false, "stringValue": "name
silo.com", "tldlabel": { "stringValue": "com", "levelSize": 2 }, "unicodeName": { "labels": [ { "stringValue": "nam
esilo" }, { "stringValue": "com" } ], "fqdn": false, "stringValue": "namesilo.com", "tldlabel": { "stringValue": "co
m", "levelSize": 2 }, "entities": [ { "objectClassName": "entity", "handle": "232", "vcardArray": { "properties": [
{ "name": "FN", "value": { "stringValue": "Domain
Administrator", "typeName": "text" } }, { "name": "ADR", "value": { "components": [ { "name": "pobox", "value": { "type
Name": "text" } }, { "name": "ext", "value": { "typeName": "text" } }, { "name": "street", "value": { "values": [ { "string
Value": "1300 E. Missouri Avenue", "typeName": "text" }, { "stringValue": "Suite A-
110", "typeName": "text" } ], "typeName": "text" } }, { "name": "locality", "value": { "values": [ { "stringValue": "Pho
enix", "typeName": "text" }, { "stringValue": "AZ", "typeName": "text" } ], "typeName": "text" } }, { "name": "region", "value": { "values": [ { "stringValue": "AZ",
"typeName": "text" } ], "typeName": "text" } }, { "name": "code", "value": { "values": [ { "stringValue": "85014", "type
Name": "text" }, { "stringValue": "US", "typeName": "text" } ], "typeName": "text" } }, { "name": "country", "value": { "values": [ { "stringValue": "US", "typeName":
"text" }, { "stringValue": "US", "typeName": "text" } ], "typeName": "text" } }, { "name": "ORG", "value": { "components": [ { "name": "name"
, "value": { "stringValue": "NameSilo,
LLC", "typeName": "text" } }, { "name": "TEL", "parameters": { }, "value": { "stringValue": "te
l:+1.6024928198", "typeName": "uri" } }, { "name": "EMAIL", "value": { "stringValue": "internal_domains@namesilo.
com", "typeName": "text" } }, { "name": "roles": [ "BILLING" ] }, { "objectClassName": "entity", "handle": "232", "vcardArray
": { "properties": [ { "name": "FN", "value": { "stringValue": "Domain
Administrator", "typeName": "text" } }, { "name": "ADR", "value": { "components": [ { "name": "pobox", "value": { "type
Name": "text" } }, { "name": "ext", "value": { "typeName": "text" } }, { "name": "street", "value": { "values": [ { "string
Value": "1300 E. Missouri Avenue", "typeName": "text" }, { "stringValue": "Suite A-
```

<sup>63</sup> Verisign's web-based WHOIS alone receives about 2.4 million .COM queries per month. See monthly operator reports at <https://www.icann.org/resources/pages/com-2014-03-04-en>

```

110", "typeName": "text"}, {"typeName": "text"}}, {"name": "locality", "value": {"values": [{"stringValue": "Pho
enix", "typeName": "text"}, {"typeName": "text"}]}, {"name": "region", "value": {"values": [{"stringValue": "AZ",
"typeName": "text"}, {"typeName": "text"}]}, {"name": "code", "value": {"values": [{"stringValue": "85014", "type
Name": "text"}, {"typeName": "text"}]}, {"name": "country", "value": {"values": [{"stringValue": "US", "typeName
": "text"}, {"typeName": "text"}]}, {"name": "ORG", "value": {"components": [{"name": "name"
, "value": {"stringValue": "NameSilo,
LLC", "typeName": "text"}]}, {"typeName": "text"}}, {"name": "TEL", "parameters": {"value": {"stringValue": "te
l:+0.6024928198", "typeName": "uri"}}, {"name": "EMAIL", "value": {"stringValue": "internal_domains@namesilo.
com", "typeName": "text"}}, {"roles": [{"BILLING"}]}, {"objectClassName": "entity", "handle": "232", "vcardArray
": {"properties": [{"name": "FN", "value": {"stringValue": "Domain
Administrator", "typeName": "text"}}, {"name": "ADR", "value": {"components": [{"name": "pobox", "value": {"type
Name": "text"}}, {"name": "ext", "value": {"typeName": "text"}}, {"name": "street", "value": {"values": [{"string
Value": "1300 E. Missouri Avenue", "typeName": "text"}]}, {"stringValue": "Suite A-
110", "typeName": "text"}]}, {"typeName": "text"}]}, {"name": "locality", "value": {"values": [{"stringValue": "Pho
enix", "typeName": "text"}, {"typeName": "text"}]}, {"name": "region", "value": {"values": [{"stringValue": "AZ",
"typeName": "text"}, {"typeName": "text"}]}, {"name": "code", "value": {"values": [{"stringValue": "85014", "type
Name": "text"}, {"typeName": "text"}]}, {"name": "country", "value": {"values": [{"stringValue": "US", "typeName
": "text"}, {"typeName": "text"}]}, {"name": "ORG", "value": {"components": [{"name": "name"
, "value": {"stringValue": "NameSilo,
LLC", "typeName": "text"}]}, {"typeName": "text"}}, {"name": "TEL", "parameters": {"value": {"stringValue": "te
l:+0.6024928198", "typeName": "uri"}}, {"name": "EMAIL", "value": {"stringValue": "internal_domains@namesilo.
com", "typeName": "text"}}, {"roles": [{"BILLING"}]}, {"objectClassName": "entity", "handle": "232", "vcardArray
": {"properties": [{"name": "FN", "value": {"stringValue": "Domain
Administrator", "typeName": "text"}}, {"name": "ADR", "value": {"components": [{"name": "pobox", "value": {"type
Name": "text"}}, {"name": "ext", "value": {"typeName": "text"}}, {"name": "street", "value": {"values": [{"string
Value": "1300 E. Missouri Avenue", "typeName": "text"}]}, {"stringValue": "Suite A-
110", "typeName": "text"}]}, {"typeName": "text"}]}, {"name": "locality", "value": {"values": [{"stringValue": "Pho
enix", "typeName": "text"}, {"typeName": "text"}]}, {"name": "region", "value": {"values": [{"stringValue": "AZ",
"typeName": "text"}, {"typeName": "text"}]}, {"name": "code", "value": {"values": [{"stringValue": "85014", "type
Name": "text"}, {"typeName": "text"}]}, {"name": "country", "value": {"values": [{"stringValue": "US", "typeName
": "text"}, {"typeName": "text"}]}, {"name": "ORG", "value": {"components": [{"name": "name"
, "value": {"stringValue": "NameSilo,
LLC", "typeName": "text"}]}, {"typeName": "text"}}, {"name": "TEL", "parameters": {"value": {"stringValue": "te
l:+0.6024928198", "typeName": "uri"}}, {"name": "EMAIL", "value": {"stringValue": "internal_domains@namesilo.
com", "typeName": "text"}}, {"roles": [{"BILLING"}]}, {"nameservers": [{"objectClassName": "nameserver", "ldhName
": {"labels": [{"stringValue": "lily"}, {"stringValue": "ns"}, {"stringValue": "cloudflare"}]}, {"stringValue":
".com"}]}, {"fqdn": false, "stringValue": "lily.ns.cloudflare.com", "tldlabel": {"stringValue": ".com"}, "levelSi
ze": 4}, {"unicodeName": {"stringValue": "lily"}, {"stringValue": "ns"}, {"stringValue": "cloudflare
"}, {"stringValue": ".com"}]}, {"fqdn": false, "stringValue": "lily.ns.cloudflare.com", "tldlabel": {"stringValue
": ".com"}, "levelSize": 4}, {"objectClassName": "nameserver", "ldhName": {"labels": [{"stringValue": "lloyd"},
{"stringValue": "ns"}, {"stringValue": "cloudflare"}, {"stringValue": ".com"}]}, {"fqdn": false, "stringValue": "l
loyd.ns.cloudflare.com", "tldlabel": {"stringValue": ".com"}, "levelSize": 4}, {"unicodeName": {"labels": [{"str
ingValue": "lloyd"}, {"stringValue": "ns"}, {"stringValue": "cloudflare"}, {"stringValue": ".com"}]}, {"fqdn": fal
se, "stringValue": "lloyd.ns.cloudflare.com", "tldlabel": {"stringValue": ".com"}, "levelSize": 4}}}]

```

If RDAP is the way of the future, it must be readable by human users. And since ICANN registrars now have the monopoly on serving contact and contactability data, the registrars must be obligated to provide human-readable output on their sites.

*However, ICANN does not yet require registrars and registry operators to present RDAP data in such a way that human beings can understand it. ICANN's RDAP Response Profile<sup>64</sup> does not mention a human-readable presentation at all.*

Registry operator CentralNIC provides a glimpse of the future. It is now presenting RDAP data on its web site, using it to replace its web-based WHOIS output.<sup>65</sup> The data is presented by removing the machine-friendly tags above. But the data is labeled in ways that will be unfamiliar to users. For example, instead of the common-sense “Country” field that users see in WHOIS, CentralNIC provides a field called “ISO-3166-1-alpha-2”:

<sup>64</sup> <https://www.icann.org/gtld-rdap-profile>

<sup>65</sup> See <https://centralnicregistry.com/support/whois>

The screenshot shows a web browser window with the URL `centralnicregistry.com/support/whois`. The page header includes the CentralNIC Registry logo and navigation links: Home, Services, Technology, Support, About, Contact, and Registrar Console. The main content area displays contact information for a domain, structured as follows:

<b>Contact Information:</b>	<b>kind:</b> org
	<b>Organisation:</b> WhoisGuard, Inc.
	<b>Address:</b> .. Panama Panama
	<b>ISO-3166-1-alpha-2:</b> PA
<b>Status:</b>	• removed

That's hard for users to interpret. CentralNIC's web-based RDAP output is also hard to understand in other says: what does "kind: org" mean? Which field represents the Street Address? How do the labels here compare with those that other operators use? And so on.

Without standardization requirements from ICANN, every registrar and registry operator will start providing registration data in very different ways on their web sites. Some may do a good job, and some will make it confusing and unfriendly for users.

**RECOMMENDATION 11: Registrars and registry operators must provide free and accessible web-based RDAP output on their web sites, presented first in a way that human beings can understand it, and may also provide the raw output following. For usability and consistency, and to avoid confusion, the human-readable format must look similar to the output that WHOIS services provide today, including similar data field labels. ICANN must provide a contractually binding specification for what that human-friendly output should look like, codified in the current contract negotiations between ICANN and the registrars and registry operators.**

**RECOMMENDATION 12: Web-based RDAP service must have the same availability SLA standards that web-based WHOIS does now. For SLA purposes, "Registration Data Directory Services" must refer to both RDAP (server) and Web-based RDAP services. This will be consistent with the current Registrar Accreditation Agreement and the Registry Base Agreement.**

### Missing RDAP Query and SLA Reporting Requirements

The ICANN contracts are missing important requirements, which causes problems. ICANN should clarify the requirements, close loopholes, and harmonize the requirements between registry operators and registrars in contracts, to deliver uniformity and transparency.

Registry operators are required to report the number of RDDS (WHOIS/RDAP) queries they serve—but registrars are not. This is a consequential gap. As described in this report, ICANN has elevated the importance of registrar-provided RDDS service, which is now the authoritative and only source for contact and contactability data. Registrars will have RDAP service SLAs; they must also have reporting requirements, which provide transparency and encourage compliance.

**RECOMMENDATION 13: Registrars must report RDAP query activity to ICANN, as registry operators do.<sup>66</sup> This data must be published publicly in monthly reports, as the registry data is.<sup>67</sup>**

On 3 May 2019, ICANN’s Security and Stability Advisory Committee (SSAC) wrote a letter to ICANN Organization, entitled "SSAC2019-02: Registration Data Services Query Reporting."<sup>68</sup> The SSAC stated:

WHOIS query statistics provided to ICANN by registry operators as part of their monthly reporting obligations are generally not reliable. Some operators are using different methods to count queries, some are interpreting the registry contract differently, and some may be reporting numbers that are fabricated or otherwise not reflective of reality. Reliable reporting is essential to the ICANN community, especially to inform policy-making.... It is vital that ICANN collect valid, accurate data regarding RDAP queries. The WHOIS query data is unreliable, but the move to RDAP offers an opportunity to get things right.

As of this writing, there has not been any publicly visible movement toward solving this problem.

**RECOMMENDATION 14: The following SSAC recommendations from SAC2019-02 must be incorporated into the RDAP contract requirements currently being negotiated between ICANN Organization and the registries and registrars:**

- a. Clarify the expectations for reporting RDAP queries. The guidance must make clear the purposes and goals of the data collection and the contractual obligations.
- b. Since the purpose of gathering the data is to document queries made by the users (consumers) of the registration data service, registry operators and registrars should exclude the queries they make to their own systems.

According to ICANN’s contracts, an RDDS (WHOIS or RDAP) server is functional if:

RDDS availability. Refers to the ability of all the RDDS services for the TLD, to respond to queries from an Internet user with appropriate data from the relevant Registry System. If 51% or more

<sup>66</sup> See the WHOIS query reporting obligations in the gTLD Base Registry Agreement, Specification 3 “Format and Content for Registry Operator Monthly Reporting,” Section 2 “Registry Functions Activity Report, at:

<sup>67</sup> See “Monthly Registry Reports” on the ICANN web site, at: <https://www.icann.org/resources/pages/registry-reports>

<sup>68</sup> <https://www.icann.org/en/system/files/files/ssac2019-02-03may19-en.pdf>

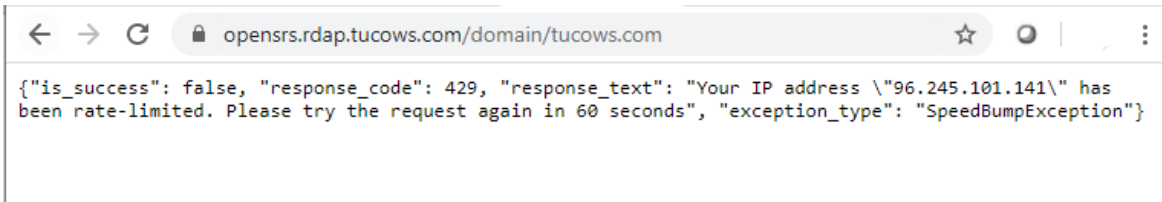
of the RDDS testing probes see any of the RDDS services as unavailable during a given time, the RDDS will be considered unavailable.

The words “with appropriate data” are important. They imply a common-sense principle: a server that is online, but does not respond with the data it’s supposed to, is not functioning acceptably. As detailed at numerous points in this report, the RDDS output of some registrars is missing required data, is out of synch with the registry data, is mis-formatted, or is otherwise out of specification.

As noted above, RDAP formatting and output is complex. If RDAP output is mis-formatted, it can cause significant problems for users, who rely on proper formatting to find the pieces of data they are interested in.

**RECOMMENDATION 15: ICANN’s compliance monitoring system must check that RDAP services are responding with correctly formatted and complete data, including all required fields.**

ResponseAction timestamps must appear in RDAP responses that are successful, but neither the RDAP RFCs nor the ICANN RDAP Response Profile<sup>69</sup> require registrars or registry operators to timestamp server responses that contain error codes. For example, a timestamp is not required when the server response indicates that it did not find the domain asked for, or that the server has rejected the request because it exceeded the registrar’s rate-limit.<sup>70</sup> In the case below, the negative response from a Tucows RDAP server does not include a timestamp:



```

{"is_success": false, "response_code": 429, "response_text": "Your IP address \"96.245.101.141\" has been rate-limited. Please try the request again in 60 seconds", "exception_type": "SpeedBumpException"}

```

The absence of a timestamp in negative responses makes it difficult to measure when RDAP servers are failing (and thus hampers SLA monitoring), or when RDAP servers are not providing data that should be present. This also makes it difficult for RDAP users to debug and fix their own (client) code.

**RECOMMENDATION 16: In RDAP, registries and registrars must be required to respond with standardized HTTP response error codes that are accompanied by ResponseAction timestamps. ICANN’s RDAP Response Profile should be revised to provide the necessary guidance.**

<sup>69</sup> <https://www.icann.org/en/system/files/files/rdap-response-profile-15feb19-en.pdf>

<sup>70</sup> See RFC7483: JSON Responses for the Registration Data Access Protocol (RDAP), section 6 “Error Response Body.” <https://tools.ietf.org/html/rfc7483>

## Problems with ICANN’s RDAP Bootstrap Registries

The new RDAP-powered system for looking up domain registration data depends on two vital data registries run by ICANN and its IANA division. At this time *these “bootstrap” registries are not yet working as planned, and, as we explain below, do not yet provide reliable, accurate results. This points to technical coordination and execution problems at ICANN Organization and at registrars.*

There are more than 1,000 gTLDs and more than 2,000 ICANN-accredited registrars. Each one runs RDDS services, each at different locations, and domain registration data that users need is scattered across that decentralized set of servers. Therefore users must figure out which server to query for the information they are seeking. One of the reasons that WHOIS is being retired is that it does not provide a standardized way for finding the server addresses.<sup>71</sup> Without a mechanism to do this, it is extremely difficult to perform lookups, especially if a user wants to automate the process and find data in a predictable and reliable fashion. Automation is essential for legitimate purposes such as anti-abuse operations, anti-cybersquatting programs, and to assist users who want to find domain contactability information. Users will also need the RDAP bootstrap registries to create web-based interfaces that can look up domains across multiple gTLDs.

To solve this problem, the new RDAP protocol was designed with a “bootstrap” mechanism.<sup>72</sup> The first component is a registry listing the RDAP server URLs for TLDs. This allows users to easily find the RDAP server URL for every gTLD registry. Its official name is the “Bootstrap Service Registry for Domain Name Space.” ICANN’s IANA division now maintains this registry, located at:

<https://www.iana.org/assignments/rdap-dns/rdap-dns.xhtml>

This registry only lists TLD registry servers. A spot-check revealed that records were present for gTLDs in the root zone, and that the URLs were functional as expected.

There are problems with the second component—the registry containing the RDAP server URLs *of the registrars*. This list allows a standardized redirection (referral) mechanism *from a TLD registry RDAP server to the correct registrar’s RDAP server*. It also allows users to go directly to each registrar’s RDAP server. This enables one of RDAP’s major benefits: referring users to the server of the right registrar, where they can then query for data they need.

ICANN’s RDAP Technical Implementation Guide<sup>73</sup> states that when a registry provides RDAP output for a domain, it must also contain the sponsoring registrar’s RDAP URL:

A registry server RDAP response to a domain query MUST contain a links object as defined in [RFC7483] section 4.2., in the topmost JSON object of the response. The links object MUST contain the elements rel:related and href *containing the Registrar’s RDAP URL* of the queried domain object if the Registrar’s RDAP URL has been defined. *[emphasis added]*

<sup>71</sup> See ICANN presentation at: <https://www.icann.org/en/system/files/files/presentation-rdap-gtld-registries-registrars-webinar-11apr19-en.pdf>

<sup>72</sup> See RFC7484

<sup>73</sup> RDAP Technical Implementation Guide, version 21, 15 February 2019, at <https://www.icann.org/en/system/files/files/rdap-technical-implementation-guide-15feb19-en.pdf>

Thus, every registry relies on the registry of registrar URLs, for every RDAP query a registry serves.

ICANN was asked to set up a “temporary” central repository of registrar RDAP server locations<sup>74</sup>, and did so by adding RDAP server locations to IANA’s official list of registrar names and ID numbers.<sup>75</sup> It is unclear as of this writing whether a different, permanent version will be set up, or what form that might take.

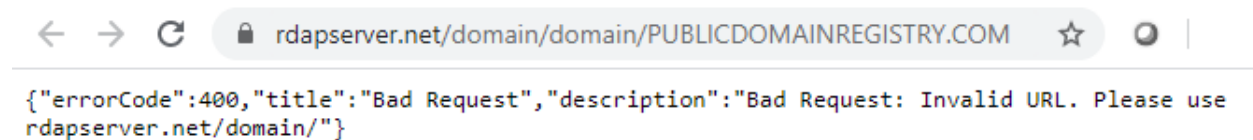
To populate that registry, registrars were asked to submit and maintain their RDAP server URLs via ICANN’s Naming Services Portal, which registrars use to maintain business contact information and other data with ICANN.<sup>76</sup>

*Some registrars have submitted incorrectly formatted URLs to ICANN, and ICANN published them without verifying that they are correct.* For example, the directory says that the base URL of PDR Ltd.’s RDAP server is:

`https://rdapserver.net/domain/`

This is an error: base URLs should not include the string “/domain”. The inclusion of “/domain” can cause anyone using the bootstrap registries to perform lookups to the wrong location, especially if using the information for automation.

For example, because PDR’s URL is formatted incorrectly, ICANN’s own Domain Name Registration Data Lookup Tool<sup>77</sup> sends users to an invalid URL and the RDAP lookup fails:



As of 12 March 2020, 79 other registrars had the same error in ICANN’s registry. There may be errors of other types as well. *Errors of this nature should not exist in registries that IANA runs, and their presence indicates a failure of appropriate technical coordination and execution.*

Reportedly ICANN Organization staff have been checking URLs recently, *but when registrars submit new or corrected URLs they are apparently not being published into the bootstrap registry of registrar servers for weeks to months.* While it is good that ICANN staff may be checking URLs, the RDAP registries are something that users, registries and registrars will be relying on, and they need to be updated in an accurate and timely fashion.

*The data errors and data maintenance problems show that the directories are not yet reliable, and are one reason that the RDAP program is not yet ready for users.*

<sup>74</sup> See <https://www.icann.org/en/system/files/files/presentation-rdap-gtld-registries-registrars-webinar-11apr19-en.pdf> slide 24

<sup>75</sup> At <https://www.iana.org/assignments/registrar-ids/registrar-ids.xhtml>

<sup>76</sup> <https://www.icann.org/resources/pages/nsp-registrars-2018-03-26-en>

<sup>77</sup> <https://lookup.icann.org/>



Public Technical Identifiers (PTI, [pti.icann.org](https://pti.icann.org)) oversees the operation of the IANA functions, and performs them on behalf of ICANN.

**RECOMMENDATION 17: ICANN/IANA must validate all RDAP base URLs submitted to it, and must not list inaccurate or non-functional URLs.**

**RECOMMENDATION 18: IANA must publish changes to registry and registrar base URLs into the RDAP Bootstrap Registries in a timely fashion, such as within 24 to 48 hours of when they are updated by the registry or registrar. Because these directories are mission-critical resources upon which billions of RDAP queries will rely, Public Technical Identifiers (PTI) must set SLAs and performance metrics for these maintenance functions, and should publish the performance metrics, as ICANN and IANA do for other services.<sup>78</sup>**

## ICANN's Lookup Tool Failures

ICANN created its Lookup Tool to give ordinary users a way to perform WHOIS and RDAP lookups via an easy-to-use web interface. It is available at: <https://lookup.icann.org/>

We determined that ICANN's Lookup Tool is not drawing from the current version of ICANN's own bootstrap registry of RDAP server locations. As a result, lookups performed here are failing.

In 2019 Verisign was running its RDAP server at:

<https://rdap-core.vrsn.com/com/v1/>

At some point before 9 January 2020, Verisign moved its RDAP server and updated the ICANN Bootstrap Registry directory appropriately, to:

<https://rdap.verisign.com/com/v1/>

But as of 10 March 2020, the ICANN Lookup tool was still pointing to the old location:

### Authoritative Servers

**Registry Server URL:** <https://rdap-core.vrsn.com/com/v1/domain/paypal.com>

**Last updated from Registry RDAP DB:** 2020-03-09 05:56:22 UTC

and so queries made using the Lookup Tool return failed responses for all .COM domains, for example:

<sup>78</sup> See the IANA Performance Standards Metrics Reports, at <https://www.iana.org/performance/metrics> and the ongoing Global Support (Customer Service) Performance Metrics Dashboard, at <https://www.icann.org/resources/pages/metrics-global-support-2015-08-28-en>

→ ↻ rdap-core.vrsn.com/com/v1/domain/paypal.com



## This site can't be reached

**rdap-core.vrsn.com**'s server IP address could not be found.

Try running [Windows Network Diagnostics](#).

DNS\_PROBE\_FINISHED\_NXDOMAIN

It appears that ICANN Organization has failed to have its own Lookup Tool use the current and authoritative Bootstrap Directory data file that ICANN (IANA) is responsible for maintaining for the Internet community.

### Registry Problems

Other kinds of problems exist as well. For example, it appears that Verisign did not update one of its systems when it made the above URL change, and has been publishing the wrong source information in its RDAP output for .COM domain queries.

Since at least early January 2020, Verisign's .COM RDAP server has been at [rdap.verisign.com](https://rdap.verisign.com) as noted in the Bootstrap Registry:

```

data.iana.org/rdap/dns.json
],
[
  [
    "com"
  ],
  [
    "https://rdap.verisign.com/com/v1/"
  ]
],
[
  [
    "net"
  ],
  [
    "https://rdap.verisign.com/net/v1/"
  ]
],
[

```

The screenshot shows a browser window with the address bar containing 'data.iana.org/rdap/dns.json'. The main content area displays a JSON array structure. The first element is an array containing the domain 'com' and its RDAP server URL 'https://rdap.verisign.com/com/v1/'. The second element is an array containing the domain 'net' and its RDAP server URL 'https://rdap.verisign.com/net/v1/'. The browser's taskbar at the bottom shows the time as 12:53 PM on 2/11/2020.

But as of 10 March 2020, Verisign's RDAP output continued to display the old, nonfunctional source location [rdap-core.vrsn.com](https://rdap-core.vrsn.com), and so Verisign is providing the wrong source information in all its .COM RDAP output. For example:



```
← → ↻ 🔒 rdap.verisign.com/com/v1/domain/paypal.com ☆ ○ |
{"objectClassName":"domain","handle":"8017040_DOMAIN_COM-VRSN","ldhName":"PAYPAL.COM","links":
[{"value":"https://rdap-
core.vrsn.com/com/v1/domain/PAYPAL.COM","rel":"self","href":"https://rdap-
core.vrsn.com/com/v1/domain/PAYPAL.COM","type":"application/rdap+json"},
{"value":"https://rdap.verisign.com/v1/domain/PAYPAL.COM","rel":"related","href":"http
```

## STUDY QUESTION: Temporary Specification Compliance

ICANN's "Temporary Specification for gTLD Registration Data"<sup>79</sup> was ICANN's response to the European Union's General Data Protection Regulation (GDPR), which requires the protection of certain personal data. This Temporary Specification is contractually binding on gTLD registrars and registry operators and requires them to follow certain procedures so that they comply with GDPR.

The Temporary Specification went into effect on 25 May 2018. Registrars and registry operators have had twenty months to comply, and ICANN Organization has had that time to review and encourage compliance.

The GDPR covers only natural person residents of the EU (not corporations and their data), and the data of natural persons that is processed in the EU (and so covers registrants in the rest of the world who register at EU-based registrars). The Temporary Specification attempted to solve a major problem: ICANN's registrar and registry contracts required domain contact data to be published via WHOIS/RDAP, but GDPR prohibits companies from forcing EU residents to release their personally identifying information (PII). ICANN's expeditious solution was to allow registrars to redact contact data for any domain they wish. This allows registrars to comply with GDPR, but also to redact data for contacts not covered by GDPR or any other privacy law, anywhere in the world.

Many registrars stopped publishing contact details for all domain contacts. However, we found that almost half of the registrars we studied fail to comply fully with the Temporary Specification.

**RED ratings:** The registrar failures take a variety of forms. See the sections about each registrar in the second half of this report for details:

- [Tucows](#): does not provide required contactability information.
- [NameCheap](#): consent-to-publish problems.
- [Network Solutions](#): published contact data for EU registrant; consent-to-publish problems
- [Alibaba Cloud Computing \(Beijing\) Co., Ltd.](#): does not provide required contactability information.
- [eNom](#): does not provide required contactability information.
- [GMO Internet](#): does not provide required contact data or contactability mechanism.
- [Xin Net Technology Corporation](#): does not follow required redaction procedures; does not publish required contactability information.
- [Registrar of Domain Names REG.RU LLC](#): Publishes real email addresses of EU natural persons in RDAP output. Does not offer required contactability information; does not follow redaction labeling requirement.
- [OnlineNIC](#): does not follow required redaction procedures.
- [West263 International Limited](#): does not follow required redaction procedures.

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<sup>79</sup> <https://www.icann.org/resources/pages/gtld-registration-data-specs-en>

## STUDY QUESTION: Availability of Contactability Information

ICANN's registration data policies are designed to make it possible for people to reach out to domain contacts, even when those contacts are redacted or anonymous for privacy purposes. We call this *contactability*. The ability to contact is a fundamental reason for having registration data services.

**We asked: Can users always find information in the WHOIS and RDAP output that allows them to reach out to a domain contact?** This could be:

1. Actual personal contact data—a contact's real name, street address, email address, etc. Or,
2. The name and contact info for a privacy/proxy service. These provide anonymity to the contact, and forward email and postal mail on to the domain contacts. Or,
3. ICANN's Temporary Specification allows a registrar to redact contact data. If it does, the registrar must provide either an anonymized email address for the contact, or a web form that will send a message to the domain contact. The Temporary Specification requires that the registrar publish the anonymized email address or the URL of the web form in the WHOIS and RDAP output. (However, publishing these does not appear to be required by the RDAP Response Profile.)

*Unfortunately, some registrars do not provide any way to reach out to a domain contact. Some do not publish the contactability information in their RDAP output. Some make the contactability information available in one place but not another. Others provide different contactability information depending upon the query service used.*

**RED ratings:** We found serious problems in the output of the following registrars (See the sections about each registrar in the second half of this report for details):

- [GoDaddy](#): RDAP output does not contain any information that can be used to contact registrants: redacts all personal data in RDAP output, does not include links to its web contact form in RDAP output.
- [Network Solutions](#): masked contacts are assigned the registrar's Abuse Department email address.
- [Alibaba Cloud Computing \(Beijing\) Co., Ltd.](#): does not provide RDAP output; WHOIS does not provide required contact means for Admin and Tech contacts.
- [eNom](#): For redacted domains, does not provide the required email address or web form link for the Admin or Tech contacts.
- [GMO Internet](#): for redacted domains the registrar does not provide the required anonymized email address or link to a web form.
- [Xin Net Technology Corporation](#): does not provide any contact or contactability information.
- [Wild West](#): RDAP output does not contain any information that can be used to contact registrants; redacts all personal data in RDAP output; and does not include links to its web contact form.
- [Registrar of Domain Names REG.RU LLC](#): fails to publish required contact fields in port 43 output, and does not label redactions as required; does not offer either an anonymized email address or the URL of a contact form in WHOIS output.

- [OnlineNIC](#): does not provide an anonymized email address nor does it provide the URL of a contact form in RDAP output.

**RECOMMENDATION 19: ICANN must ensure that a way to reach out to a domain's registrant contact is published in all registrar and registry operator RDAP output, for every gTLD domain. They MUST always either publish the contact's real email address, or the address of a privacy/proxy service, or in the case of redaction the URL of a contact form or an anonymized email address. Registrars and registry operators must always provide these in both RDAP output and in web-based (human-readable) output.**

**Repeating RECOMMENDATION 2: all methods of access to registration data (both via RDAP and web-based RDAP) must provide an equivalent response to the same query. If a piece of data is required to be published in the public data set, it must be served regardless of the access mechanism, or what user is requesting it.**

## Registrars Make Contactability Information Hard to Find

*Many registrars make it unnecessarily difficult to find the contactability information that the Temporary Specification requires. For example:*

- [Xin Net](#) offers a web contact form, but its location is only revealed if one uses the Web-based WHOIS on the registrar's site. The web contact form's location is not contained in WHOIS or RDAP output as it should be.
- [GoDaddy](#) makes it difficult for interested parties to find the URL of its web contact form.
- [Tucows](#) puts thin output from most registries on its Web-based WHOIS page. That registry-provided data does not contain any contact or contactability information, foiling searches by users.
- GoDaddy and Tucows impose notable rate-limiting, preventing some users from finding the contactability data they are looking for.
- [Network Solutions](#) shunts contact attempts into its abuse reporting system, a mismatched and oddly labeled process that may dissuade users.

These practices are examined further in the sections in the second half of this report, for each registrar we studied.

**Repeating RECOMMENDATION 10: ICANN's contracts must be updated to require that registries and registrars include a link on their home pages to "Domain lookup" or "Domain data lookup" or a similar replacement term. This should link to a web-based search form.**

## STUDY QUESTION: Failure of Temporary Specification Contactability Mechanisms

ICANN's Temporary Specification allows a registrar to redact contact data. If the registrar does redact, it must provide either an anonymized email address for the contact, or a web form that will send an email to the domain contact. **We asked: do these contactability mechanisms work? Do they actually deliver a message to the domain contact?**

*Our testing revealed that some of these mechanisms literally fail to deliver messages to domain name registrants. Internet users cannot be confident that their messages are always being delivered to domain contacts.*

ICANN's Temporary Specification requires:

2.5.1. Registrar MUST provide an email address or a web form to facilitate email communication with the relevant contact, but MUST NOT identify the contact email address or the contact itself.

2.5.1.1. The email address and the URL to the web form MUST provide functionality to forward communications received to the email address of the applicable contact.<sup>80</sup>

This language requires registrars to *provide* these contactability mechanisms, but it does not require that those mechanisms *function* with any degree of reliability. Their effectiveness is left to the registrars, and are not subject to any contractual standards. ICANN's Compliance Department probably does not test the functionality of these systems, because the contracts do not give the ICANN Organization any tools to evaluate or improve performance here.

**RED** cases: We found problems with the contactability mechanisms of the following registrars:

- [Registrar of Domain Names REG.RU LLC](#): the registrar's web contact form doesn't work for gTLD domains. (It works only for .RU, .SU, and .PΦ domains.)
- [West263 International](#): the Web form URLs that the registrar provides in WHOIS don't lead to a web contact form. It's therefore impossible to contact domain holders.
- [GMO Internet](#): does not appear to offer either of the required contactability mechanisms.
- 123-Reg: see "Email Delivery Problems" below.
- FastDomain: see "Email Delivery Problems" below.
- NetEarth: see "Email Delivery Problems" below.

See the registrar sections in the second half of this report for more detail.

### Email Delivery Problems

*Our testing revealed that some registrars do not have minimally professional email sending practices. When these registrars relay messages from requestors to domain contacts, the registrar's email*

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<sup>80</sup> Temporary Specification for gTLD Registration Data, Appendix A: Registration Data Directory Services, <https://www.icann.org/resources/pages/gtld-registration-data-specs-en>

messages are labeled as spam by major email service providers, including Gmail, Microsoft Outlook, and Yahoo Mail. These operators shunt these contact emails into the domain contacts' spam folders. Some of these messages rate so poorly that the receiving email providers don't deliver them to their customers at all. *These problems prevent domain contacts from ever seeing the messages people send to them.*

**RED** cases: We found serious problems with the email delivery mechanisms of the following registrars (see the by-registrar sections in the second half of this report for more detail):

- [123-Reg](#): We used this registrar's web form to contact a domain registrant we created. 123-Reg then sent us an email, asking that we validate that we actually did request the message. Outlook scored this email from the registrar as spam and sent the validation requests directly into the Outlook spam folder. We found it and confirmed that we did make the contact request. 123-Reg then delayed sending the message to the registrant for up to 24 hours. Gmail and Outlook filters scored this mail poorly as well; they scored it as spam, and sent it into spam folders where a normal registrant might not ever find it.
- [FastDomain](#): Neither the sending address nor the registrant received any communication from or through FastDomain.
- [NetEarth](#): The contact request email submitted through NetEarth's web form was scored as spam by Yahoo, and was sent to the registrant's Yahoo spam folder.

These failures have nothing to do with the content that the requestor wanted to convey to the domain contact. These failures have to do with how the registrars send email.

While email senders do not have ultimate control of the mail filtering being performed on the receiver's side, it's also rare for professionally run senders to have the email deliverability problems we observed. Registrars do bear responsibility for the problems here. Commercial email senders are in the business of getting the mail through, and should know how to keep their emails deliverable and out of spam filters, especially those of major email providers like Microsoft and Google, which are in the business of delivering legitimate email to their users. Gmail and Outlook offer sender guidelines for standard practices that all legitimate senders should use, such as email authentication. All companies that outsource their email sending systems should be monitoring the performance of the providers they choose.

**RECOMMENDATION 20: registrars should regularly review their email sending procedures and providers, to ensure that messages they forward to domain contacts are not blocked as spam.**

## Contract Confusion: Contactability Info Not Present in RDAP Output

Per the Temporary Specification, the anonymized email address or the URL of the Web contact form for a redacted domain are supposed to appear in the email field in RDDS output. ICANN's RDAP Profile confirms this, stating that "the value of the CONTACT-URI member in the entity object of the RDAP



response MUST be an email address or link to a web form to facilitate email communication with the Registrant." But we did not see the contactability URLs or emails in RDAP output, because *registrars are currently allowed to not publish the email field in RDAP*.

How registrars and registry should use RDAP's CONTACT-URI capability is a bit unclear and needs clarification. ICANN Organization has described CONTACT-URI "as a way to facilitate email communication with the Registrant."<sup>81</sup> The EPDP also decided that registrars can collect and publish a Tech Contact email, so that third parties can reach out to that contact.<sup>82</sup> ICANN's RDAP Response Profile does not address clearly how that Tech Contact email address (or contactability information) can be published.

**REPEATING RECOMMENDATION 19: ICANN must ensure that a way to reach out to a domain's registrant contact is published in all registrar and registry operator RDAP output, for every gTLD domain. They must always either publish the contact's real email address, or the address of a privacy/proxy service, or in the case of redaction the URL of a contact form or an anonymized email address. Registrars and registry operators must always provide these in both RDAP output and in web-based (human-readable) output.**

**RECOMMENDATION 21: ICANN's RDAP Response Profile must describe how Tech Contact email or contactability data can be published in RDAP.**

## Registrars Make Contactability Mechanisms Hard to Use

Some registrars make the required contactability mechanisms unnecessarily difficult to use.

Tucows, for example, runs one of the most [challenging contactability systems](#) to use. To get a message through to one of Tucows's registrants, the user must overcome numerous obstacles:

1. The user cannot use any contactability URL in any previously collected WHOIS or RDAP record.
2. The user must query Tucow's RDDS server for the contactability URL. Queries made to the registry are useless—the registry will not provide the URL.
3. The user must query from a location (an IP address) that has not been blocked by Tucows' rate-limiting.
4. The user must successfully look up the domain record and then use the contact form in a short time window before the URL expires.

<sup>81</sup> RDAP Response Profile, paragraph 2.7.5.2, at <https://www.icann.org/en/system/files/files/rdap-response-profile-15feb19-en.pdf>

<sup>82</sup> EPDP Team Final Report, Phase 1, 19 February 2019. Recommendation #5. <https://gnso.icann.org/sites/default/files/file/field-file-attach/epdp-gtld-registration-data-specs-final-20feb19-en.pdf>

See [Tucows](#) in the later part of this report for the details. Other registrars that present usability problems include [1&1 Ionos](#) and [Key-Systems](#).

## The Single-Mailbox Problem

Many registrars use a generic email on all their masked domains, such as “contact@privacyprotect.org” or “info@domain-contact.org”. This introduces extra steps and may impede contact. When a user attempts to contact a domain contact using a generic addresses of this kind, the registrar returns a *second* email that instructs the user to visit and complete a contact request through a web form. It is unclear why registrars that have adopted this “two-step” process cannot simply publish the URL of the Web form in their WHOIS and RDAP output, as other registrars such as GoDaddy do. Examples and details of “two-step” contact implementations by 1&1, PDR, NetEarth and Key-Systems are provided in the registrar sections in the second half of this report.

Is this “single mailbox” approach allowed by ICANN policy? This is an interesting question. The Temporary Specification says:

Appendix A, 2.5.1.1. The email address and the URL to the web form MUST provide functionality to forward communications received to the email address of the applicable contact.

This implies that if one sends a message to the contact email address, “functionality” will simply deliver that message to the domain contact. The word “functionality” implies automation, and no manual intervention by the registrar.

But the “single mailbox” approach doesn’t provide that – it requires the requestor and/or the registrar to perform some more manual steps. We asked ICANN’s Compliance Department about this, and Compliance told us that the contractual language in 2.5.1.1 “does not prohibit the displayed email address from being a generic email address that returns a webform, for example, or the registrar from opting to monitor the inbox of the generic email address and forwarding the email to the intended recipient.”

So ICANN Organization appears to interpret Appendix A, 2.5.1.1 to allow progressions such as the following, which are laborious and error-prone:

1. The requestor sends an email to the generic address.
2. The registrar then sends the requestor an email that directs the requestor to a web form that the requestor can fill out.
3. The requestor submits the web form.
4. The registrar then sends the requestor an email requiring that the requestor confirm that he or she did indeed submit the message via the web form.
5. The requestor must then confirm the request.
6. Then the registrar reads the email and decides whether to forward the communication to the email address of the domain contact.

ICANN Compliance also noted that it will allow registrars to “monitor the inbox of the generic email address and forwarding the email to the intended recipient.”<sup>83</sup> In this circumstance, *the registrar must read all the incoming emails to determine where to forward them*. Here ICANN appears to condone a system in which the registrar violates the privacy of the sender. The registrar may be violating the privacy of the domain contact as well. We checked registrar-registrant contracts and did not find evidence that registrants has been given notice that their registrar will read emails to the registrant. Finally, manual processing of contact requests is likely to be slow and susceptible to human error or subjective decisions about which messages to forward.

**RECOMMENDATION 22: ICANN should require that the contact mechanisms are actually automated, deliver messages to domain contacts in a timely fashion, and do not require human intervention by the registrar.**

**RECOMMENDATION 23: ICANN must make clear that registrars must respect the privacy of correspondence from a requestor to a domain contact, and should prohibit the use of generic email address inboxes as a way for registrars to implement a contactability mechanism.**

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<sup>83</sup> Correspondence, 16 October 2019.

## Registries and Registrars Mask Their Own Identities

Registrars and registry operators own and operate domain names that they use for important functions. They use these domains to run shared nameservers that host millions of other domains, to deliver email for themselves and their registrants, and to run their business web sites, among other uses. But many registrars and registry operators redact or anonymize their own contact data in RDDS output. This prevents people from understanding who operates these domains.

This creates a lack of trust, and creates operational problems. If a domain name's operator is anonymous, registrants cannot use registration data check to see if email they are receiving is legitimate or a scam. Parties cannot check the identity of a company offering hosting and nameservers to cyber-criminals.

There are no legal, practical, or operational reasons that registrars and registry operators should hide their identities for their own domains. All registrars and registry operators are companies—they have no privacy rights under any law such as GDPR, and they know how to set up and manage role-based contacts.

Here are three typical examples. Public Interest Registry, the not-for-profit corporation that operates the .ORG registry, hides its identity and contact information behind proxy protection:

```
Domain Name: PIR.ORG
Registrant Name: Registration Private
Registrant Organization: Domains By Proxy, LLC
Registrant Street: DomainsByProxy.com
```

eNom uses the redaction option provided by ICANN's Temporary Specification to hide its identity and contact information:

```
Domain Name: ENOM.COM
...
Registrar: ENOM, INC.
Registrar IANA ID: 48
Registrant Name: REDACTED FOR PRIVACY
Registrant Organization: REDACTED FOR PRIVACY
Registrant Street: REDACTED FOR PRIVACY
```

The .PING registry provides no contact information whatsoever in the registration data for its domain NIC.PING:

```
Domain Name: nic.ping
Registry Domain ID: D214-PING
Registrar WHOIS Server:
Registrar URL:
Updated Date: 2019-07-15T04:47:35Z
Creation Date: 2013-08-10T00:11:52Z
Registry Expiry Date: 2024-08-09T23:59:59Z
Registrar: Ping Registry Operator
```

```
Registrar IANA ID: 9999
Registrar Abuse Contact Email:
Registrar Abuse Contact Phone:
...
Registrant Name:
Registrant Organization: Ping Registry Provider, Inc.
Registrant Street:
Registrant Street:
Registrant Street:
Registrant City:
Registrant State/Province: AZ
Registrant Postal Code:
Registrant Country: US
Registrant Phone:
Registrant Phone Ext:
Registrant Fax:
Registrant Fax Ext:
Registrant Email: Please query the RDDS service of the Registrar of
Record identified in this output for information on how to contact the
Registrant, Admin, or Tech contact of the queried domain name.
```

The WHOIS data above instructs the user to contact the registrar. This is unhelpful because the registrar contact information is also redacted.

In the interest of transparency, registrars and registry operators should not be anonymous in domain registration data, and the domain names they use to provide services should be verifiable through registration data directory services.

**RECOMMENDATION 24: Registrars and registry operators must publish their full and complete contact information in RDDS for the domains they use for their operations, and must not be allowed to present redacted or privacy/proxy data for them. These domains include NIC.TLD, and the domains they use for registration services, their online business presences, TLD servers, domains used for email to registrants, and domains used for their anti-abuse contacts.**

## GDPR Compliance by Registrars

Our examinations also reveal ways that registrars fail to comply with GDPR, both inside and outside of ICANN's Temporary Specification.

All the registrars we examined accept business from EU-based customers, but a number have not set up their procedures to do it in a GDPR-compliant way.

- *Some registrars violate GDPR by forcing registrants to pay fees and/or to accept contract terms in order to receive the privacy protection that they're entitled to under the law.*
- *Some registrars mis-handle personal data, and publish it publicly when they shouldn't.*
- *Some do not make it clear to their customers what will happen with their personal data, as required by GDPR.*
- *Some mis-state ICANN policy to prospective and existing customers.*
- *Some interpret GDPR very differently from their peers.*

*These findings illustrate how non-uniform practices are in the domain industry, and how registrars sometimes interpret GDPR liberally in some situations and conservatively in others. These implementations can disadvantage EU-based registrants, and people who want to contact registrants.*

### Erroneous Publication of Personal Data

Several registrars published personal data that they should not. Examples include:

- In RDAP, [REG.RU](#) properly redacts the Registrant Name, Street Address, and Phone fields for registrants in the EU, but publishes the real email addresses of those same contacts. This is a violation of the Temporary Specification, which requires that the real email addresses of EU-based registrants be redacted because of GDPR.
- In RDAP, [123-Reg](#) accidentally publishes a field that is required to be redacted, and redacts a field that is required to be public.
- Chinese registrar [West263 International](#) *alters* the data of EU-based registrants. For some reason this registrar changes the data on record. Instead of stating the registrant's home State/Province and Country, as required by ICANN, the registrar states that these EU registrants are in China. This provides false data.

For the details of these cases, please see the by-registrar sections later in this report.

### Forcing EU Registrants into Giving Up Their Privacy Rights

GDPR says that privacy is a right for covered individuals, and they generally cannot be forced to sign away their privacy rights as a condition of a contract.<sup>84</sup> To allow compliance with GDPR, ICANN relieved

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<sup>84</sup> See GDPR Article 7(4).

registrars and registrants of the obligation to publish personally identifiable data in RDDS output, and enacted the Temporary Specification, which allows registrars to redact data as they see fit.

Some registrars still force registrants in violation of this principle. Some registrars even force registrants to pay a fee to receive the privacy protection they are entitled to under GDPR.

An example is [NameCheap's privacy service, WHOISGuard](#). NameCheap requires EU data subjects to use its WHOISGuard service in order to receive data protection. The WHOISGuard service is applied by default during the registration process, and EU data subjects must agree to the WHOISGuard legal Terms of Service. But if registrants opt out of WHOISGuard, their personal data is published publicly in WHOIS. NameCheap's practice may violate GDPR and ICANN's Temporary Specification because it conflicts with three fundamental GDPR principles:

1. EU data subjects generally cannot be forced to sign away their privacy rights as a condition of a contract.
2. Consent to make data public under GDPR requires the data subject to perform a positive opt-in—not an opt-out as NameCheap provides.
3. The request for consent must be presented “in an intelligible and easily accessible form, using clear and plain language.”<sup>85</sup> NameCheap's process does not make it clear what rights an EU resident has, and whether opting out of the service means they forfeit their right to protection.

Similarly, [NameSilo](#) forces customers to either accept the NameSilo privacy service's Terms of Service or lose their privacy. Domain holders in the EU who decline NameSilo's WHOIS Privacy service *do* have their personally identifiable data publicly published via NameSilo's WHOIS and RDAP services.

We encountered a similar problem at [Network Solutions](#). There we registered a .COM domain, specifying a Registrant contact in the USA and Admin and Tech contacts in the European Union. Network Solutions applied its Perfect Privacy privacy/proxy service by default, and we opted out before completing the registration. Network Solutions then published the EU contacts' details in WHOIS, rather than redacting that sensitive data as required by ICANN's Temporary Specification.

[BlueHost](#) (an Endurance International company) opts customers into BlueHost's Domain Privacy + Protection service by default, and registrants are billed for the service. BlueHost informs customers that if they do not accept the service, their personal data will be made public. During the registration process, EU registrants who decline the Domain Privacy + Protection are told in the customer control panel that their contact data is “private”, but then contradicts that, informing the customer that their contact data is “considered public information and is displayed on the ICANN WHOIS public directory.” When such registrants look up their data in WHOIS, they find that BlueHost (FastDomain) *does* apply masking, protecting the contact data per GDPR. The masking is a good outcome, but the contradictory messages don't provide the clarity that data subjects should receive under GDPR.

For the details of these cases and others, please see the by-registrar sections later in this report.

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<sup>85</sup> GDPR Article 7(2).

## Selling Unnecessary Privacy Protection

The GDPR mandates protection for data subjects covered by GDPR, and ICANN Temporary Specification also requires it. Despite this, *some registrars sell privacy protection to EU registrants who are entitled to protection by law, and for free.*

For example, eNom tries to sell its IP Protect Service to customers who don't need it, and mis-states ICANN and legal requirements. During the registration process, eNom erroneously tells its customers—even EU residents protected by GDPR—that ICANN requires that everyone's private data be published publicly:

**Did you know that current ICANN regulations require that your Private contact information (WhoIs Info) be included in a publicly accessible Database?**

**This means that your private information is displayed and made available to anyone who wants to see it, 24 hours a day, 365 days a year.**

And eNom offers the customer its ID Protect privacy/Proxy service, which costs \$8.00 a year.

eNom's statement is inaccurate: since June 2018, ICANN's Temporary Specification has required registrars to *redact* the data of EU-based contacts. eNom's registrant panel can also tell registrants contradictory information. For the details of this case, see the "eNom" section later in this report.

Other cases include:

- Bluehost (see also above)
- [123-Reg](#) (requires opt-out)
- [Key-Systems](#) (data handling may be confusing)
- [Tucows](#) markets its privacy service as a way for registrants to avoid legitimate access requests. And Tucows implies that customers who decline its privacy service will not receive a way for third parties to contact the domain owner (which they do receive).
- [Network Solutions](#) offers the Perfect Privacy LLC service to its registrants on an opt-out basis.

## Misstatements of Laws and ICANN Policy

Some registrars misstate the law and ICANN policy regarding registration data. Sometimes these misstatements appear when the registrar is attempting to sell privacy services. Some of these misstatements may be left over from before June 2018, when ICANN's Temporary Specification went into effect, and the registrar never updated them to reflect current reality. In all cases, the information can be confusing, and makes it difficult for new and existing customers to understand how their data will be handled, or what their commercial choices are. Examples include:



- [Wild West](#): its web site states that all contact data is always public, and is required to be public by ICANN, when in fact it is not.
- [eNom](#): makes inaccurate statements about ICANN policy and the public publication of contact data.
- [Network Solutions](#): its privacy solution site misstates the law, and ICANN policy.

## Data Retention

Data retention is an area where registrars vary greatly from each other, and interpret GDPR differently.

ICANN's Registrar Stakeholder Group, and notably its European Union-based registrars, have consistently argued that under GDPR, two years is far too long for them to keep domain name contact data once a domain is no longer registered. This has led to a one-year retention policy at ICANN.

Email addresses are considered personal data by the GDPR and are treated as such in ICANN's Temporary Specification as well.

We observed that Tucows states that it keeps domain contact data (including email addresses) for two years after the termination of services. If an EU resident wants to contact an anonymous Tucows registrant, Tucows states that it *will* keep that requestor's personally identifiable data for two years, under justifications that may be shaky. For details about the issue, see "[GDPR Data Requests](#)" in the Tucows section later in this paper.

## Failures of ICANN Data Accuracy Efforts

An effect of the Temporary Specification is that it has halted most data accuracy efforts at ICANN. This outcome was not necessary, and it is important for ICANN to renew its commitments in this area.

The accuracy of registration data was long one of ICANN's core commitments. More recently, EU GDPR experts and DPAs have explained to ICANN that the GDPR requires that data be accurate, and instructs data controllers (such as registrars, and ICANN) to employ measures to ensure an acceptable level of data accuracy.<sup>86, 87</sup>

Because registrars are allowed to redact contact data from publication, ICANN Organization could no longer see most contact data by querying WHOIS like any other party. Due to that, ICANN Organization then suspended the data accuracy studies that it had been conducting for years.<sup>88</sup> In a December 2019 letter, ICANN's President explained that ICANN Organization is still analyzing the issue.<sup>89</sup>

It is reasonable for ICANN Organization to simply obtain the data from the registrars and/or registry operators so that ICANN can evaluate it. This transfer of data for compliance purposes is allowed for three reasons.

First, ICANN has an existing contractual right to request the data, per its Registrar Accreditation Agreement. That contract says that "Registrar shall make the data, information and records ... available for inspection and copying by ICANN upon reasonable notice."<sup>90</sup>

Second, the ICANN Board adopted the community-endorsed EPDP Phase 1 recommendation that "requires registrars and registry operators to transfer data if requested by ICANN Contractual Compliance for compliance activities."<sup>91, 92, 93</sup>

Third, ICANN is empowered to do this work under GDPR. Data accuracy one of the GDPR's core principles, and ICANN is a data co-controller with a valid purpose for examining the data. ICANN also has contracts with its registrars (and through them, contractual ties with its registrants) that require data accuracy and establish a chain of notice and legitimacy. GDPR also extends privileges for research.

<sup>86</sup> GDPR principle 1(d) requires that "Personal Data shall be accurate and, where necessary, kept up to date.."

<sup>87</sup> Per Article 5(1)(f) of the GDPR, data integrity is a core concept of the law, and organizations must take necessary and reasonable steps to ensure the accuracy of personal data collected from data subjects.

<sup>88</sup> See ICANN's Accuracy Reporting System, at <https://WHOIS.icann.org/en/WHOISars>

<sup>89</sup> See correspondence from Goran Marby to Keith Drazek, 5 December 2019, at: <https://www.icann.org/en/system/files/correspondence/marby-to-drazek-05dec19-en.pdf>

<sup>90</sup> 2013 Registrar Accreditation Agreement, paragraph 3.4.3, at <https://www.icann.org/resources/pages/approved-with-specs-2013-09-17-en>

<sup>91</sup> ICANN Board Resolution "Consideration of GNSO EPDP Recommendations on the Temporary Specification for gTLD Registration Data," 15 May 2019, at <https://features.icann.org/consideration-gns-epdp-recommendations-temporary-specification-gtld-registration-data>

<sup>92</sup> Ibid; quote from the resolution's accompanying "Scorecard: EPDP Phase 1 Recommendations" at <https://www.icann.org/en/system/files/files/epdp-scorecard-15may19-en.pdf>

<sup>93</sup> Technically, as of this writing some of the pieces of the relevant Board resolution are still in "implementation phase" and are technically not binding "Consensus Policy" yet. This is a quirk of ICANN process. It is difficult to imagine what bureaucratic "implementation process" is needed or possible here that is delaying action.

Under GDPR, organizations that process personal data for research purposes can avoid restrictions on secondary processing and on the processing of even the most sensitive categories of data.<sup>94</sup> As long as they implement appropriate safeguards, these organizations can even override a data subject's objections to the processing.<sup>95</sup>

We estimate that about 75% of the contact data for gTLD domains is *not covered by GDPR*, because most domain contacts are not in the EU and most registrars are not located in the EU. And for the data that is covered by GDPR, ICANN Organization has proper legal justifications to obtain that protected data for compliance and study purposes.

### Policy-Making Failures Regarding Registration Data Accuracy

The Expedited Policy Development Process team (EPDP) was chartered to determine if the Temporary Specification complies "with the GDPR and other relevant privacy and data protection law." Part of the EPDP's formal charter was to examine the accuracy procedures in the 2013 Registrar Accreditation Agreement (RAA) and the Temporary Specification are GDPR-compliant.

The EPDP received legal advice about that accuracy topic in February 2019.<sup>96</sup> It then deferred deliberation on accuracy to EPDP Phase 2, deciding that "Accuracy and WHOIS Accuracy Reporting System" would then be a priority subject.<sup>97, 98</sup> Months later, in December 2019, ICANN's President noted that the issue was still open, and wrote to the GNSO Council stating that "ICANN Organization remains interested in the EPDP team's plans to consider the subject of data accuracy as it relates to gTLD registration data and related services."<sup>99</sup>

But the policy-making process has failed to deliver on this charter obligation. The EPDP team delivered its Initial Report in February 2020,<sup>100</sup> and failed to address the accuracy topic. The EPDP team has still

<sup>94</sup> GDPR Article 6(4), and Recital 50

<sup>95</sup> GDPR Article 89. See also Recitals 47, 157, and 159.

<sup>96</sup> "Advice on the meaning of the accuracy principle pursuant to the General Data Protection Regulation (Regulation (EU) 2016/679) ("GDPR")," 8 February 2019, at

<https://community.icann.org/download/attachments/102138857/ICANN%20-%20Memo%20on%20Accuracy.docx?version=1&modificationDate=1550152014000&api=v2>

<sup>97</sup> See "Accuracy and WHOIS Accuracy Reporting System" on page 7: "Initial Report of the Expedited Policy Development Process (EPDP) on the Temporary Specification for gTLD Registration Data Team – PHASE 2," at <https://www.icann.org/public-comments/epdp-phase-2-initial-2020-02-07-en>

<sup>98</sup> For discussion about that deferral, see the comment from the ICANN Security and Stability Advisory Committee (SSAC): "SAC104: SSAC Comment on Initial Report of the Temporary Specification for gTLD Registration Data Expedited Policy Development Process", 21 December 2018, <https://www.icann.org/en/system/files/files/sac-104-en.pdf>

<sup>99</sup> Letter from Göran Marby to Keith Drazek, 5 December 2019, at:

<https://www.icann.org/en/system/files/correspondence/marby-to-drazek-05dec19-en.pdf>

<sup>100</sup> "Initial Report of the Expedited Policy Development Process (EPDP) on the Temporary Specification for gTLD Registration Data Team – PHASE 2," at <https://www.icann.org/public-comments/epdp-phase-2-initial-2020-02-07-en>

not discussed the implications of the legal memo, and what measures if any would be needed for ICANN parties to comply with GDPR in this area, and seems unlikely to do so now that its Initial Report is done.

The EPDP did not require ICANN Organization to defer its accuracy reviews. ICANN stated that “ICANN org’s main obstacle in continuing the WHOIS Accuracy Reporting System (ARS) is the availability of registration data.” And ICANN stated that because registration data is no longer public it therefore had to shut down the accuracy study program.<sup>101</sup> But that is an erroneous conclusion, and no dependency on the EPDP exists. As noted above, ICANN can obtain the data directly from the registrars, and does not need a policy from the EPDP to do so. Rather, ICANN Organization has the right and ability to enforce its existing contracts and the accuracy requirements therein.

### Data Accuracy Complaints

ICANN’s data accuracy complaint process has been effectively shut down and made ineffective.

ICANN policy has always allowed parties to make complaints about the accuracy of domain name contact data. The policy requires registrars to follow up by verifying data for correction, and to cancel registrations when a registrant willfully provides inaccurate or unreliable WHOIS information.<sup>102</sup> This crowd-sourced compliance mechanism made registrants, registrars, and ICANN accountable to the public, and shut down domain registered by scammers and cybercriminals.

The accuracy policy has been hamstrung by ICANN’s Temporary Specification, which gave registrars the option to redact any data they wanted, for registrants covered by GDPR or not. ICANN’s SSAC advised:

...the ability of third parties to see the data, and therefore to make complaints, has been greatly curtailed by the GDPR and the Temporary Specification. As a result, the number of WHOIS inaccuracy complaints to ICANN has fallen by 40% in a short time. Accuracy requirements and procedures without the opportunity to use them are worthless.<sup>103</sup>

Again, ICANN Organization is in a position to examine the data and perform its compliance duties. And ICANN has an obligation to measure the effect that its Temporary Specification has had on data accuracy. Is the underlying data now more or less accurate than it was before? There is only one way to find out: ICANN should obtain large sets of contact data from its registrars, and evaluate it. ICANN’s Compliance Department used to do this until it stopped in 2018; it would check data and create compliance tickets for records that looked out of order.<sup>104</sup>

<sup>101</sup> Paragraph 3, letter from Göran Marby to Keith Drazek, 5 December 2019, at:

<https://www.icann.org/en/system/files/correspondence/marby-to-drazek-05dec19-en.pdf>

<sup>102</sup> Registration Accreditation Agreement, WHOIS Accuracy Program Specification, at

<https://www.icann.org/resources/pages/approved-with-specs-2013-09-17-en#WHOIS-accuracy>

<sup>103</sup> "SAC104: SSAC Comment on Initial Report of the Temporary Specification for gTLD Registration Data Expedited Policy Development Process", 21 December 2018, <https://www.icann.org/en/system/files/files/sac-104-en.pdf>

<sup>104</sup> See WHOIS ARS Contractual Compliance Metrics page, at <https://whois.icann.org/en/whoisars-contractual-compliance-metrics>

**RECOMMENDATION 25: ICANN Organization must resume its registration data accuracy studies by using representative and unbiased data sets obtained directly from the registrars.**

**RECOMMENDATION 26: ICANN Organization must obtain contact data so that its Compliance Department can perform more active and widespread data accuracy compliance checks. This is important since members of the public cannot view most domain name contact data anymore and are unable to submit data inaccuracy reports.**

**RECOMMENDATION 27: it is time for ICANN Organization to start a formal process to evaluate and revise the entire Registrar Accreditation Agreement, with community input. That was last done in 2012, eight years ago.<sup>105</sup>**

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<sup>105</sup> Summary of RAA Negotiations, March 2012, at <https://www.icann.org/news/announcement-2012-03-01-en>

## Part II: Registrar Evaluations

For more background, please refer to the color-coded [Table 1: Registrar Scoring](#) and to the “[Study Questions and Methodology](#)” section above.

If the registrar met its contractual obligations and the service worked as intended, the registrar received a **GREEN** rating and no further commentary is provided.

If the registrar failed a question (the answer was “no”), it received a **RED** rating.

If the registrar met the contractual obligations but there was some sort of notable problem, the registrar received a **YELLOW** rating. These are places where users were prevented from achieving an important goal.

All **RED** and **YELLOW** ratings are described in detail below.

## GoDaddy

Country: United States

IANA ID: 146

gTLD domains under management: 60,818,688

GoDaddy is the largest registrar in the world by far, holding 29.5% of the gTLD market, and is one of the largest and best-resourced companies in the domain name industry. Its holdings include Host Europe Group. The corporate family has 14 offices around the globe, sponsors 78 million total domain names (gTLD and ccTLD), and has 19 million customers.<sup>106</sup>

WHOIS service: functionality and compliance		RDAP service: functionality and compliance		Compliant with Temp Spec?	Contactability info contained in RDDS output?		Contactability Mechanism functional? (web form or anonymized email)
OK	notable rate-limiting	OK	notable rate-limiting	YES	WHOIS: YES. RDAP: NO	RDAP: NO	YES; some usability problems

### WHOIS Service and RDAP Service

GoDaddy provides the minimum contact fields (non-personally identifiable information) in WHOIS port 43 and RDAP output, regardless of the registrant's country. GoDaddy only reveals contact information for domains not covered by GDPR (such as for U.S. registrants) via its Web-based WHOIS, i.e. on a manual, single-lookup basis. This is a form of rate-limiting.<sup>107</sup> It means that users can only get contact and contactability data by visiting GoDaddy's web site.

ICANN allows this as an interpretation of its registrar contract. ICANN's Compliance Department has interpreted the contract to mean that as long as a registrar provides required data via one method, but not via another, then that is acceptable.

### Contactability Information

GoDaddy's RDAP output does not contain any information that can be used to contact registrants. In the RDAP output, GoDaddy redacts all personal data., and does not include links to its contact form. (Publishing it is not required by the RDAP Response Profile at the time of this report.)

<sup>106</sup> <https://aboutus.godaddy.net/about-us/overview/default.aspx>

<sup>107</sup> SAC101: SSAC Advisory Regarding Access to Domain Name Registration Data, page 11. <https://www.icann.org/en/system/files/files/sac-101-en.pdf>

GoDaddy does not place the URL of its registrant contact form in WHOIS output, which would lead interested parties directly to the form. Instead, GoDaddy places a link in WHOIS output that directs users to a page with WHOIS output on it. Then users must find the “Contact Domain Holder” link far down the page, which we have circled in red:

The screenshot displays the GoDaddy WHOIS search results for the domain purple1999.com. The page includes a search bar at the top, followed by the search results. The results section contains the following information:

- Domain Name:** purple1999.com
- Registry Domain ID:** 2455129417\_DOMAIN\_COM-VRSN
- Registrar WHOIS Server:** whois.godaddy.com
- Registrar URL:** http://www.godaddy.com
- Updated Date:** 2019-11-14T16:56:20Z
- Creation Date:** 2019-11-14T16:56:19Z
- Registrar Registration Expiration Date:** 2020-11-14T16:56:19Z
- Registrar:** GoDaddy.com, LLC
- Registrar IANA ID:** 146
- Registrar Abuse Contact Email:** abuse@godaddy.com
- Registrar Abuse Contact Phone:** +1 4802455050
- Domain Status:** clientTransferProhibited
- URL:** http://www.icann.org/ipwhois/clientsTransferProhibited
- Domain Status:** clientUpdateProhibited
- URL:** http://www.icann.org/ipwhois/clientsUpdateProhibited
- Domain Status:** clientDeleteProhibited
- URL:** http://www.icann.org/ipwhois/clientsDeleteProhibited
- Registrar Organization:**
- Registry State/Province:** Le-de-France
- Registration Country:** FR
- Registrant Email:** Select Contact Domain Holder link at https://www.godaddy.com/whois/results.aspx?domain=purple1999.com
- Admin Email:** Select Contact Domain Holder link at https://www.godaddy.com/whois/results.aspx?domain=purple1999.com
- Tech Email:** Select Contact Domain Holder link at https://www.godaddy.com/whois/results.aspx?domain=purple1999.com
- Name Server:** NS46.DOMAINCONTROL.COM
- Name Server:** NS46.DOMAINCONTROL.COM
- DNSSec:** unsigned
- URL:** or the ICANN WHOIS data inaccessibility reporting system http://www.iana.org/whois/iana-whois-data-inaccessibility-reporting-system
- Last updated by WHOIS database:** 2020-01-08T01:00:00Z <<<

At the bottom of the results section, there is a link labeled "Contact Domain Holder" which is circled in red. Below the results, there is a "Notes" section and a "See Underlying Registry Data" link.

The footer of the page includes a newsletter sign-up form, a navigation menu with links like "About GoDaddy", "Help Center", "Resources", "Partner Programs", "Account", and "Shipping", and a copyright notice: "Copyright © 1999-2020 GoDaddy Operating Company, LLC. All Rights Reserved."

## Contactability Mechanism

That link leads the requestor to the contact form:



godaddy.com/whois/results.aspx?domain=purple1999.com&recaptchaResponse=03AOLTBLQcuKH58n9RoC4vHj8v1WU2...

## Domain Holder Contact Request Form

Due to recent changes to privacy laws, the email address of the Registered Name Holder for domains (aka, Domain Holder or Registrant) cannot be shared. Please use the below form to initiate an email to the address on file for the specified domain.

**Please note:** Once sent, we can in no way guarantee that the Registrant will comply with your Contact Request.

**Domain Name \***


**Your Email Address \***

**Whom to contact \***

- Registrant
- Technical
- Admin

**Reason for contact: \***

Limit 240 characters.

I'm not a robot 

By clicking Submit, you agree to our [Terms of Service](#) and [Privacy Policy](#).

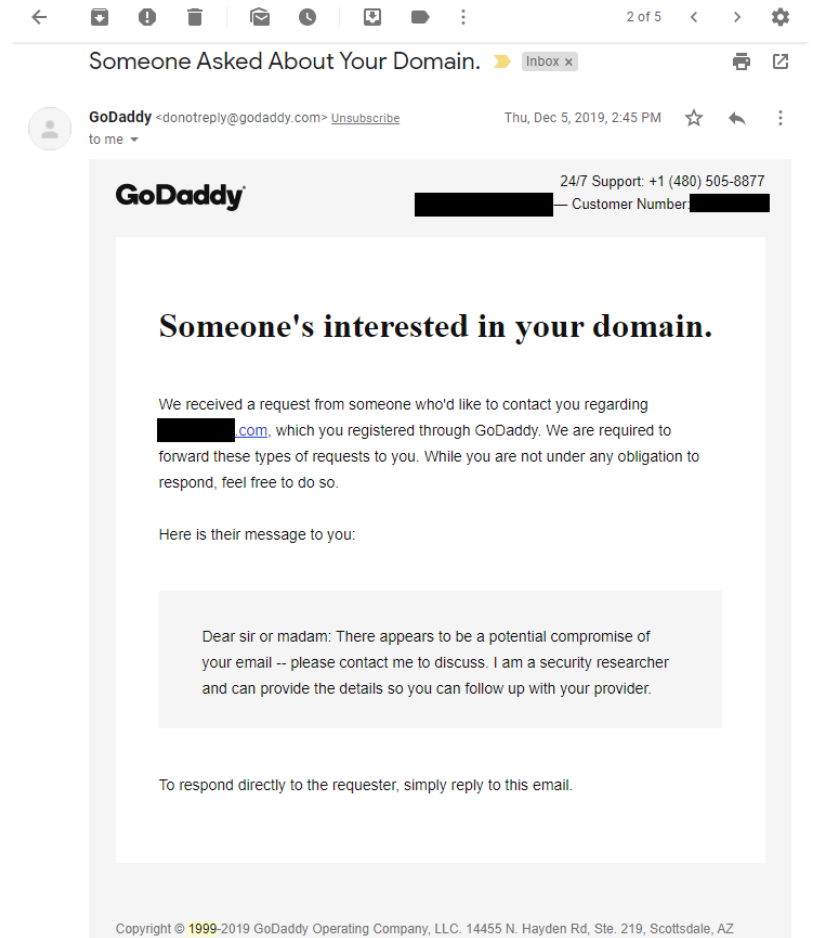
Get our new...  
Email Address  
About GoDaddy  
About Us  
Newsroom

our call...  
guides

Shipping  
Dom...  
Web...  
Contact Us

4:00 PM  
1/12/2020

GoDaddy then forwards the message to the domain contact. GoDaddy initially reveals only the body of the requestor's message to the domain contact (recipient). The domain contact (recipient) cannot initially see the email address that the requestor provided:



GoDaddy's terms of service do not mention explicitly whether GoDaddy keeps the transmitted emails, or the names and addresses of those who use the contact form.

## Tucows

Country: Canada

IANA ID: 69

gTLD domains under management: 9,973,157

Retail registration services offered at: Hover.com

Tucows is the second-largest gTLD registrar. It is a publicly traded company (NASDAQ: TCX).

WHOIS service: functionality and compliance	RDAP service: functionality and compliance		Compliant with Temp Spec?	Contactability info contained in RDDS output?	Contactability Mechanism functional? (web form or anonymized email)
Problems. Notable rate-limiting; non-responsive depending on location of user	FAIL	Notable rate-limiting; non-responsive depending on location of user	NO	YES	YES; notable usability problems

### WHOIS Service

A loophole in the Registrar Accreditation Agreement allows registrars to not provide their own output on their web-based WHOIS. As a result, users sometimes can't find any way to contact registrants for Tucows-sponsored domains outside of .COM and .NET.

The Agreement requires a registrar's web-based WHOIS to provide "data concerning *all* active Registered Names sponsored by Registrar *in any gTLD*" [emphasis added], not just .COM and .NET.<sup>108</sup>

<sup>108</sup> 2013 Registrar Accreditation Agreement, Registrar Data Directory Service (WHOIS) Specification, paragraph 1, at: <https://www.icann.org/resources/pages/approved-with-specs-2013-09-17-en#whois>. The italicized language below states that the Web-based service must provide data for the registrar's sponsored names in all gTLDs, while the underlined language says that the expectation is different for the registrar's port 43 server, which must provide data for the thin .COM and .NET TLDs only: "Registrar shall provide *an interactive web page and, with respect to any gTLD operating a 'thin' registry, a port 43 Whois service* (each accessible via both IPv4 and IPv6) *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 in any gTLD*. Until otherwise specified by a Consensus Policy, such data shall consist of the following elements as contained in Registrar's database:..."

When we used Tucows' web-based WHOIS in November and December 2019, and in January 2020, we queried .ORG and .INFO domains. We saw that Tucows then queried the *registry* WHOIS and displayed the registry's data to the user, not data from Tucows' own database. So Tucows supplied data about the domain as required by the contract--but not full data, because registries decline to display many contact fields. *As a result, Tucows did not provide the required email/contactability fields required by the Temporary Specification in its Web-based WHOIS, and there is no way to contact the registrant:*

The screenshot shows the Tucows WHOIS interface for the domain TUCOWS.ORG. The page includes a navigation bar with options like 'Provider Search', 'Whois Search', 'Report Abuse', 'Tucows Domain Promise', and 'FAQ'. The main content area displays the following information:

- Domain Name: TUCOWS.ORG
- Registry Domain ID: D257574-LROR
- Registrar WHOIS Server: whois.tucows.com
- Registrar URL: http://www.tucows.com
- Updated Date: 2019-06-16T03:46:33Z
- Creation Date: 1996-07-16T04:00:00Z
- Registry Expiry Date: 2020-07-15T04:00:00Z
- Registrar Registration Expiration Date:
- Registrar: Tucows Inc.
- Registrar IANA ID: 69
- Registrar Abuse Contact Email: domainabuse@tucows.com
- Registrar Abuse Contact Phone: +1.4165350123
- Reseller:
- Domain Status: clientDeleteProhibited <https://icann.org/epp#clientDeleteProhibited>
- Domain Status: clientTransferProhibited <https://icann.org/epp#clientTransferProhibited>
- Domain Status: clientUpdateProhibited <https://icann.org/epp#clientUpdateProhibited>
- Registrant Organization: Tucows Inc.
- Registrant State/Province: ON
- Registrant Country: CA
- Name Server: DNS1.TUCOWS.COM
- Name Server: DNS2.TUCOWS.COM
- Name Server: DNS3.TUCOWS.COM
- DNSSEC: unsigned
- URL of the ICANN Whois Inaccuracy Complaint Form <https://www.icann.org/wicf/>
- >>> Last update of WHOIS database: 2020-02-12T20:33:42Z <<<

At the bottom, there is a disclaimer: "Access to Public Interest Registry WHOIS information is provided to assist persons in determining the contents of a domain name registration record in the Public Interest Registry registry database. The data in this record is provided by Public Interest Registry for informational purposes only, and Public Interest Registry does not guarantee its accuracy. This service is intended..."

On port 43, Tucows did provide data from its own database, including contactability info:

Registrant Email: <https://tieredaccess.com/contact/a81b80b6-7185-46f2-8dac-6c055a256b3c>

In late February 2020, Tucows changed its Web-based WHOIS. It started outputting data from its own database, and therefore started to provide the contact form URL:

**tucows domains**

Provider Search Whois Search Report Abuse Tucows Domain Promise FAQ

### Whois Information

[Perform lookup](#)

Domain Name: TUCOWS.ORG  
 Registry Domain ID: D257574-LROR  
 Registrar WHOIS Server: whois.tucows.com  
 Registrar URL: http://tucowsdomains.com  
 Updated Date: 2019-06-16T03:46:33  
 Creation Date: 1996-07-16T04:00:00  
 Registrar Registration Expiration Date: 2020-07-15T04:00:00  
 Registrar: TUCOWS, INC.  
 Registrar IANA ID: 69  
 Reseller: Tucows.com Co.  
 Domain Status: clientDeleteProhibited <https://icann.org/epp#clientDeleteProhibited>  
 Domain Status: clientTransferProhibited <https://icann.org/epp#clientTransferProhibited>  
 Domain Status: clientUpdateProhibited <https://icann.org/epp#clientUpdateProhibited>  
 Registry Registrant ID:  
 Registrant Name: REDACTED FOR PRIVACY  
 Registrant Organization: REDACTED FOR PRIVACY  
 Registrant Street: REDACTED FOR PRIVACY  
 Registrant City: REDACTED FOR PRIVACY  
 Registrant State/Province: ON  
 Registrant Postal Code: REDACTED FOR PRIVACY  
 Registrant Country: CA  
 Registrant Phone: REDACTED FOR PRIVACY  
 Registrant Phone Ext:  
 Registrant Fax: REDACTED FOR PRIVACY  
 Registrant Fax Ext:  
 Registrant Email: <https://tieredaccess.com/contact/4ee3b931-e796-413a-ade1-a67a0dfeacc7>  
 Registry Admin ID:  
 Admin Name: REDACTED FOR PRIVACY  
 Admin Organization: REDACTED FOR PRIVACY  
 Admin Street: REDACTED FOR PRIVACY  
 Admin City: REDACTED FOR PRIVACY  
 Admin State/Province: REDACTED FOR PRIVACY  
 Admin Postal Code: REDACTED FOR PRIVACY  
 Admin Country: REDACTED FOR PRIVACY  
 Admin Phone: REDACTED FOR PRIVACY  
 Admin Phone Ext:  
 Admin Fax: REDACTED FOR PRIVACY  
 Admin Fax Ext:  
 Admin Email: REDACTED FOR PRIVACY  
 Registry Tech ID:  
 Tech Name: REDACTED FOR PRIVACY  
 Tech Organization: REDACTED FOR PRIVACY

...

The Data in the Tucows Registrar WHOIS database is provided to you by Tucows for information purposes only, and may be used to assist you in obtaining information about or related to a domain name's registration record.

Tucows makes this information available "as is," and does not guarantee its accuracy.

## RDAP Service

Tucows fails to follow part of the RDAP output specification. This mistake makes some legal, security, and compliance efforts difficult. It may lead users to believe that the data being supplied is outdated, and therefore may not be reliable, when in fact it may be.

ICANN's RDAP Response Profile states that RDAP responses MUST contain the timestamp of when the registrar last updated its RDAP database.<sup>109</sup> This "Last Update of database" field exists because registrars are contractually obligated to publish current data. There has been a similar requirement for WHOIS for many years. Registrars are required to update their WHOIS databases within an SLA of 60 minutes, and to provide "public query-based access to *up-to-date (i.e., updated at least daily) data* [emphasis added] concerning all active Registered Names sponsored by Registrar".<sup>110</sup> These timestamps in RDAP and WHOIS output were designed to indicate that the data is of recent vintage and therefore indicative of the current state of the domain. And it places the timestamp directly in the RSDS output, making the timestamp part of the record itself.

Tucows does not follow the requirement. For example, a query on 3 March 2020 for the domain TUCOWS.COM yielded:

```
{"eventAction": "last update of RDAP database", "eventDate":
  "2019-08-08T03:45:20Z"}
```

This tells users that Tucows last updated its RDAP database on 8 August 2019. The logical conclusion is that the RDAP service does not contain any changes to Tucows-sponsored domains made since August 2019. But Tucows is indeed updating its RDAP database.

Instead, Tucows is incorrectly displaying a different date entirely in this "last update of RDAP database" field —the date that *the particular domain being queried was last updated*. This can be seen in the domain "Updated Date" field as displayed in WHOIS<sup>111</sup>:

```
Domain Name: TUCOWS.COM
Registry Domain ID: 299060_DOMAIN_COM-VRSN
Registrar WHOIS Server: whois.tucows.com
Registrar URL: http://tucowsdomains.com
Updated Date: 2019-08-08T03:45:20
```

And in a different RDAP field:

```
{"eventAction": "last changed", "eventDate": "2019-08-08T03:45:20Z"}
```

By contrast, the Verisign registry RDAP service complies. It properly supplies the date and time at which Verisign last updated its .COM RDDS database. A query made to Verisign for TUCOWS.COM, at the same time as the queries made above on 3 March 2020, yielded:

```
{"eventAction": "last update of RDAP database", "eventDate": "2020-03-
  03T11:42:43Z"}],
```

<sup>109</sup> RDAP Response Profile, Version 2.1 (15 February 2019), paragraph 2.3.1.3: "Event of *eventAction* type *last update* of RDAP database with a value equal to the timestamp when the RDAP database was last updated." At <https://www.icann.org/en/system/files/files/rdap-response-profile-15feb19-en.pdf>

<sup>110</sup> 2013 Registrar Accreditation Agreement, paragraph 3.1.1, and Registration Data Directory Service (Whois) Specification, paragraphs 1.4.2 and 2.2. At <https://www.icann.org/resources/pages/approved-with-specs-2013-09-17-en>

<sup>111</sup> 111

Tucows' noncompliance has implications for other parties. The incorrect timestamp makes it unclear when the data was published. This makes the data forensically unreliable, which can impede legal disputes, law enforcement investigations, and security operations. And the data itself cannot be used to tell if the registrar is meeting its obligation to publish current and therefore accurate data, for contractual compliance and SLA purposes.

## Temporary Specification Compliance

Tucows's port 43 WHOIS and web-based WHOIS services violate the Temporary Specification because they do not provide the required contact means for the Admin and Tech contacts.<sup>112</sup>

```

Domain Name: TUCOWS.ORG
Registry Domain ID: D257574-LROR
Registrar WHOIS Server: whois.tucows.com
Registrar URL: http://tucowsdomains.com
Updated Date: 2019-06-16T03:46:33
Creation Date: 1996-07-16T04:00:00
Registrar Registration Expiration Date: 2020-07-15T04:00:00
Registrar: TUCOWS, INC.
Registrar IANA ID: 69
Reseller: Tucows.com Co.
...
Registrant Name: REDACTED FOR PRIVACY
Registrant Organization: REDACTED FOR PRIVACY
Registrant Street: REDACTED FOR PRIVACY
Registrant City: REDACTED FOR PRIVACY
Registrant State/Province: ON
Registrant Postal Code: REDACTED FOR PRIVACY
Registrant Country: CA
Registrant Phone: REDACTED FOR PRIVACY
Registrant Phone Ext:
Registrant Fax: REDACTED FOR PRIVACY
Registrant Fax Ext:
Registrant Email: https://tieredaccess.com/contact/a81b80b6-7185-46f2-8dac-6c055a256b3c
...
Admin Email: REDACTED FOR PRIVACY
...
Tech Email: REDACTED FOR PRIVACY
...
>>> Last update of WHOIS database: 2020-02-12T20:55:11Z <<<

```

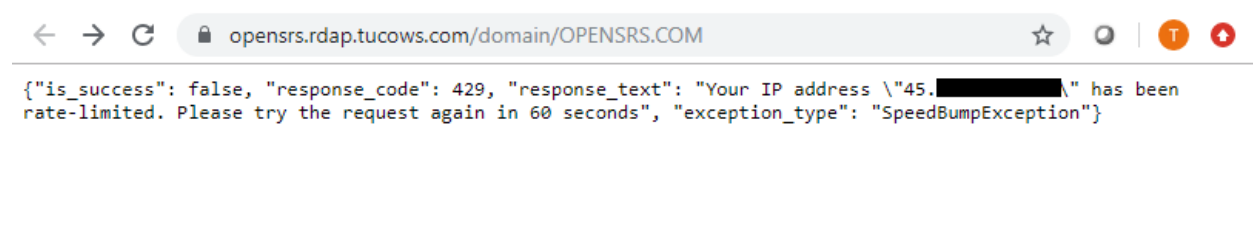
<sup>112</sup> The Temporary Specification requires that the registrar provide an anonymized email address or a link to a web contact form as the “value of the ‘Email’ field of every contact (e.g., Registrant, Admin, Tech)”. Temporary Specification for gTLD Registration Data, Appendix A, paragraphs 2.5 and 2.5.1, at: <https://www.icann.org/resources/pages/gtld-registration-data-specs-en/#appendixA>

## Rate-Limiting

Tucows imposes what may be the most restrictive rate-limiting in the domain industry. This tightly controls the public's access to *even non-sensitive data*.

Tucows' published policy is to only allow one (1) RDAP lookup per minute coming from an IP address *or an IP range*. This is a frequency limit. Tucows also limits the number of RDAP queries that can be made *per day* from each IP or IP range.<sup>113</sup> This is a volume limit. Testing by the ICANN SSAC found that, in practice, Tucows' WHOIS rate-limit was even more restrictive than advertised—allowing only eight to fifteen queries *per hour*.<sup>114</sup>

And unfortunately, Tucows does not allow some users to make *any* queries at all. Tucows denies all of their RDAP requests, including the first one they make:<sup>115</sup>



As a result of how Tucows manages RDAP access, these users are unable to look up any public data for Tucows-sponsored domains, and cannot find out how to contact registrants. Tucows is apparently rate-limiting queries from entire IP ranges, including from IP ranges used by small companies and residential users, and appears to be blocking ranges operated by VPN providers. We were also prevented from making RDAP queries from commercial networks, such as Starbucks locations. This practice may disrupt data mining by users who are using distributed IP addresses within those ranges. But the imprecise and indiscriminate blocking of all the users in those ranges completely denies service to some legitimate users.

<sup>113</sup> See <https://www.tucowsdomains.com/rdap/help/>

<sup>114</sup> Tucow's published rate-limit for WHOIS port 43 is one query per second (see <https://help.opensrs.com/hc/en-us/articles/204075306-WHOIS-rate-limiting>). However, in its 2018 study of rate-limiting, the ICANN SSAC found that in practice, Tucows' port 43 WHOIS rate limit was much more restrictive than Tucows had stated, only allowing between *eight and fifteen queries per hour*. See SAC101v2, pages 23-24: <https://www.icann.org/en/system/files/files/sac-101-v2-en.pdf>

<sup>115</sup> The author of this paper performed several dozen widely time-spaced attempts, over the course of three months, to look up .COM domains at Tucows' RDAP server, coming from an IP provided by large ISP Comcast. All but one of these single, isolated queries were rejected due to rate-limiting. The author also attempted time-separated lookups via a VPN provider, from ten different IP ranges in varying countries. Again, all these first attempts were rejected by Tucows. Finally, the author tried lookups from two Starbucks locations, where wifi is provided by Google; Tucows declined to provide data because of rate-limiting. It seems unlikely that commercial data miners are using the Starbucks network to make RDAP queries, and thereby preventing occasional users from making legitimate queries.



Further, Tucows uses its RDAP server to serve RDAP data for 62 additional registrars.<sup>116</sup> A few of the 62 registrars (such as eNom) are owned by Tucows; the rest have evidently retained Tucows as their RDAP service provider. Tests indicate that Tucows is imposing its rate limit across the server, and is not allowing one query per minute per registrar. Instead, the limit is applied *across all registrars that Tucows provides RDAP service for*. A requestor is allowed to make one query to one of the 63 registrars, and then Tucows denies the requestor any information for any domain sponsored by any of the other 62 registrars, until a minute passes. SSAC described this practice as “pooling.”<sup>117</sup>

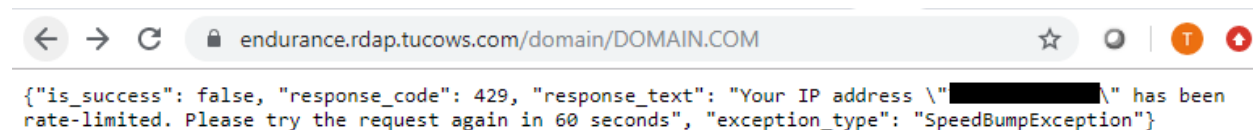
For example, we were able to make a query for the domain TUCOWS.COM, at:

`https://opensrs.rdap.tucows.com/domain/tucows.com`

and we received a full response. But when we then queried the domain DOMAIN.COM, a domain sponsored at another registrar on the server, at:

`https://endurance.rdap.tucows.com/domain/DOMAIN.COM`

that query was rejected, due to the restrictive policy imposed by Tucows across its shared server:



*This setup tightly controls access to the public, non-sensitive data fields, and impairs legitimate uses such as security monitoring.* This rate-limiting affects about 20 million gTLD domains. (Tucows itself sponsors 9.9 million domains, and the 62 additional registrars sponsor more than 10 million more.) *The rate-limiting is not designed to protect personally identifiable data.* Tucows never makes personally identifiable data in RDAP and WHOIS—Tucows always redacts the personally identifiable data fields for all the domains it sponsors, and some of the other 62 registrars do as well.

Tucows has evidently white-listed ICANN’s corporate IP space.<sup>118</sup> Attendees were not rate-limited to one query per minute when querying Tucows’ RDAP server from the ICANN network at the ICANN66 in Montreal in November 2019.

## Contactability Mechanism

Tucows operates TIEREDACCESS.COM, which provides anonymized email addresses for Tucows domains, and also for Register.com domains. These appear in WHOIS output:

<sup>116</sup> These registrars include EPAG, DomainPeople, EasySpace, NameZero, Register.CA, and several owned by Endurance International. See the registrars using “rdap.tucows.com” servers, at <https://www.iana.org/assignments/registrar-ids/registrar-ids.xhtml>

<sup>117</sup> See SAC101: SSAC Advisory Regarding Access to Domain Name Registration Data, page 12. at <https://www.icann.org/en/system/files/files/sac-101-en.pdf>

<sup>118</sup> As also observed by SSAC; see SAC101, page 15, at <https://www.icann.org/en/system/files/files/sac-101-en.pdf>

```

Domain Name: TUCOWS.COM
Registry Domain ID: 299060_DOMAIN_COM-VRSN
Registrar WHOIS Server: whois.tucows.com
Registrar URL: http://tucowsdomains.com
...
Registrar: TUCOWS, INC.
Registrar IANA ID: 69
Registrant Name: REDACTED FOR PRIVACY
Registrant Organization: REDACTED FOR PRIVACY
Registrant Street: REDACTED FOR PRIVACY
Registrant City: REDACTED FOR PRIVACY
Registrant State/Province: Ontario
Registrant Postal Code: REDACTED FOR PRIVACY
Registrant Country: CA
Registrant Phone: REDACTED FOR PRIVACY
Registrant Fax: REDACTED FOR PRIVACY
Registrant Email: https://tieredaccess.com/contact/2b990be5-d674-4cd6-a493-b3859f42c3af

```

This fulfill the requirements of ICANN's Temporary Specification, which every registrar to provide either an anonymized email address or a link to a web form that people can use to reach out to the registrant.<sup>119</sup> The web form (see above) is protected by a captcha, so it resists automated sending attempts and cannot be used by spammers.

But Tucows' system has other features. The contact URLs are not just anonymized and unique for each domain name and each contact. *A domain's contact URL appears to change every time someone makes a WHOIS query.* For example on 31 January 2020 we queried WHOIS for TUCOWS.COM. On the first query the registrant contact URL was:

```
https://tieredaccess.com/contact/bd7d7679-da1c-46d2-8cb8-12fcf686ba59
```

On our second query in the afternoon, it had changed to:

```
https://tieredaccess.com/contact/ac3956cb-5c0e-407e-b3d6-dc92913e6c15
```

and then 30 minutes later a query yielded:

```
https://tieredaccess.com/contact/96688984-c013-4fd3-aac8-55f14263be0c
```

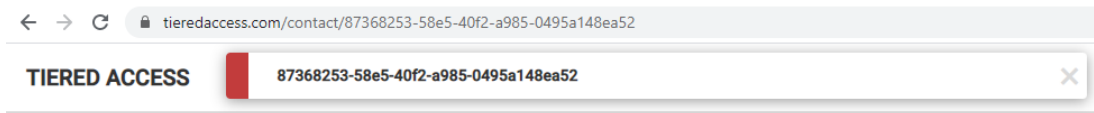
An RDAP query five minute after that yielded:

```
https://tieredaccess.com/contact/d6865b4e-611a-4847-98d7-32edeb19dbe8
```

*Once generated, these URLs are only good for about two hours, and then expire.* If a user visits an expired URL, it leads to an unexplained dead-end. Tucows simply provides a page that provides no way for a user to get to the contact form, and no message to the user about what has gone wrong:

---

<sup>119</sup> "Temporary Specification for gTLD Registration Data, Appendix A, paragraph 2.5, at: <https://www.icann.org/resources/pages/gtld-registration-data-specs-en/#appendixA>



These URLs are not ever useful to spammers, because the web contact form has a captcha and cannot be used to send spam messages to registrants. So why change the addresses continually? One effect is that it eliminates the utility of any stored contact data about Tucows-sponsored domains. Data stored at third parties, even those with legitimate interests such as law firms, is rendered useless.

Tucows' process makes contact difficult. A user must satisfy all these criteria, in order to successfully contact a Tucows registrant:

1. The user cannot refer to any previously collected WHOIS or RDAP record.
2. The user must query Tucow's server—but not the registry server, which will not provide the contact URL.
3. The user must be at a location that has not been shut out by Tucows' rate-limiting.
4. The user must successfully look up the domain record and then use the contact form in the two-hour window before the URL expires.

If the user doesn't perform those tasks, in that order and time frame, the contact mechanism does not work, and Tucows provides no guidance to the user about how he or she can make it work.

Tucows's Tiered Access program was launched as an effort to provide privacy protection to all of Tucows's registrants, and also to comply with legal access requests, especially under GDPR, such as to provide data to law enforcement officials and third parties who could prove legitimate interests. At its launch Tucows positioned it as a user-friendly system:

The sign-in portal is available at [tieredaccess.com](https://tieredaccess.com). This page also includes an explanation of the Tiered Access registration directory and some information about who may be accredited. Over the next few phases, we'll add an option to apply for access, a link to the applicable Terms and

Conditions, and a public Whois lookup option, allowing the page to function as a Whois directory for both the public and gated versions of the service.<sup>120</sup>

However, as of February 2020, TIEREDACCESS.COM does not provide an explanation of the Tiered Access program. Nor does it provide “an option to apply for access, a link to the applicable Terms and Conditions, and a public Whois lookup option.”

Tucow’s contact service was down (on-responsive) two of the several times we visited it:



## Retaining Data About RDAP Users and Contact Form Users

Tucows retains data about anyone who queries its RDAP server:

Your IP address, the queried domain, the response, and a timestamp is stored for the purposes of maintaining the service and to ensure adherence with these terms.<sup>121</sup>

According to its published data retention policies, Tucows may store this data for two years.

Tucows also keeps personally identifiable data about people who contact its registrants for two years—a period that ICANN’s registrars have generally said is far too long under GDPR when it comes to their customers’ personally identifiable data.

GDPR allows the retention of personally identifiable data for “no longer than is necessary for the purposes for which the personal data are processed”.<sup>122</sup> Email addresses are considered personal data by the GDPR and are treated as such in ICANN’s Temporary Specification. Tucows states that it keeps the email addresses of parties who use its Tiered Access contact form for two years, “for auditing purposes”:

<sup>120</sup> <https://opensrs.com/blog/2018/06/opensrs-tiered-access-directory-gated-whois/>

<sup>121</sup> <https://tuowdomains.com/rdap/tos/>

<sup>122</sup> GDPR Article 5

TIERED ACCESS

### Domain Owner Contact Form

██████████.com

Please enter your information and the message that you want to send to the owner of the domain name listed above.


First Name

Last Name

Email Address

Message Subject Line

Message Body

I'm not a robot 

All of the data provided above will be sent to the domain owner. Tucows, Inc will keep a log of the email address provided on this form, along with the date and time of the request, for two years, for auditing purposes. We will not keep a copy of the message after it has been forwarded to the domain owner. Tucows, Inc Data Protection Officer can be reached at Thomas Rickert Kaiserplatz 7-9 53113 Bonn Germany dpo@tucows.com. You have the right to lodge a complaint with a supervisory authority.

[SEND MESSAGE](#)

123 →

**All of the data provided above will be sent to the domain owner.** Tucows, Inc will keep a log of the email address provided on this form, along with the date and time of the request, for two years, for auditing purposes. We will not keep a copy of the message after it has been forwarded to the domain owner. Tucows, Inc Data Protection Officer can be reached at Thomas Rickert Kaiserplatz 7-9 53113 Bonn Germany dpo@tucows.com. You have the right to lodge a complaint with a supervisory authority.

[SEND MESSAGE](#)

<sup>123</sup> This is a screenshot of the Tucows contact form at tieredaccess.com. The exact URLs are generated and are not persistent; they are changed regularly.

Tucows also states that it keeps domain contact data of its registrant customers (including email addresses) for two years after the termination of services.<sup>124</sup>

ICANN's Registrar Stakeholder Group, and notably its European Union-based registrars, have consistently argued that under GDPR, two years is too long for them to keep domain name contact data once a domain is no longer registered.<sup>125</sup> Many of ICANN's EU-based registrars obtained waivers from ICANN to keep personally identifiable contact data for only one year, the maximum they felt was allowable under the law.<sup>126</sup> During ICANN's EPDP process, the Registrar Stakeholder Group's representatives opined that retention for one year is the maximum allowable, referencing the European data protection authorities.<sup>127</sup> Because of these arguments, ICANN's EPDP Team "agreed to a period of one year following the life of the registration ... as the retention period," making this future ICANN policy.<sup>128</sup>

So, it is unclear how Tucows can justify keeping the mail addresses of people who reach out to Tucows registrants, for two years, under GDPR, because:

- The data is collected in order to be used once and once only at the time of collection. Tucows may be violating GDPR's "data minimization" principle, which is that processing and retention should be limited to what is necessary for the purpose.
- The stated purpose of "auditing" is vague.
- There is no customer relationship between Tucows and parties who want to reach out to domain contacts.<sup>129</sup> If someone wants to reach out to a registrant, they are forced to use

<sup>124</sup> "Tucows, Inc. will process and store your contractually-required data on our secure platform while the domain is registered with us and for two years following the termination of services. Any additional data for which you have provided consent to process will remain on file for the same period by default..."

<https://approve.domainadmin.com/tld-info/007b48cab6c6113d5867b40f10839fcfe9861c8587f4fab55ffee7606a8e2cc052f7f6d22cadfa4d9dfd5a972e9e087a919ce29e209cad7ad3d65611918a4feb8b82305a63af198d9d38edf7cdd62ea> )

<sup>125</sup> The data was collected in order to provide domain service. Once the domain registration is no longer being maintained, retention for any period must be justified. It has been agreed that under GDPR, retaining the data even for possible later use for crime investigations does not justify keeping registration data for several years.

<sup>126</sup> See the waivers at <https://www.icann.org/resources/pages/retention-2013-09-13-en>

<sup>127</sup> For example: "what we have done in the retention period is actually something that has been asked for by the European Data Protection Board is now that we've gone through all the reasons as to why that data may be needed and we've found that one year seems to be the high water mark as to how long that may be needed after the end of the domain's life." <https://gnso.icann.org/sites/default/files/file/field-file-attach/transcript-epdp-gtld-registration-data-specs-06nov18-en.pdf> page 39

<sup>128</sup> "Final Report of the Temporary Specification for gTLD Registration Data Expedited Policy Development Process", 20 February 2019. See Recommendation #15 on page 16-17, and also pages 96, 102, 119, 132.

<https://gnso.icann.org/sites/default/files/file/field-file-attach/epdp-gtld-registration-data-specs-final-20feb19-en.pdf>

<sup>129</sup> Tucows' own GDPR Data Protection Officer has participated in ICANN's GDPR compliance and EPDP processes, and has warned that it is risky to retain personal data for speculative uses, and has been skeptical about retaining domain registration data for two years past the use for the purpose for which it was collected. For example <https://gnso.icann.org/sites/default/files/file/field-file-attach/transcript-epdp-gtld-registration-data-specs-11feb19-en.pdf> page 47 and <https://community.icann.org/download/attachments/90773448/20180823%20-%20GDPR%20-%20Thomas%20Rickert.pdf?version=1&modificationDate=1535042007000&api=v2> page 17.

Tucows' system, and are forced to assent to Tucows' terms and conditions, including the retention of their personal data.

- Many other registrars interpreted GDPR to allow only a one-year retention period for customer data that is arguably more important, and for which there are additional reasons to retain it.

Tucows provides all its registrants with anonymity for free, no matter whether GDPR or any other privacy law applies to them. But if an EU resident wants to contact an anonymous Tucows registrant, Tucows *will* keep that requestor's personally identifiable data for two years.

## GDPR Data Requests

Tucows uses its Tiered Access system to provide access to contact data for those parties with a demonstrated legitimate interest, such as under GDPR. Tucows notes that GDPR was an impetus for the Tiered Access system, and "we implemented our gated Tiered Access Directory as a means for parties with a legitimate legal interest to access this personal data."<sup>130</sup>

In addition, Tucows offers a privacy/proxy service. Tucows markets this privacy service as a way for registrants to hide their contact data from those authorized users, with legitimate legal interests, who have access to the Tiered Access system. Tucows explains:

### Should I still consider activating Contact Privacy?

Absolutely.

Whois privacy will continue to remain a valuable service to registrants worldwide. Even when the public Whois "goes dark", there will still be a gated Whois, where registrant data will be made available to parties with a legitimate interest. So, while the audience for registrant data will no longer be the entire public, it will still be sizable. This is where Whois privacy comes in—if privacy is active on a domain, the personal data in the registration record will remain protected from those with access to the gated Whois. **The service also provides a way for third parties to contact the domain owner via the privacy service email address displayed in the Whois output, an option that will not be provided as a part of GDPR data protection.** In addition, the personal data associated with a domain that is protected by Whois privacy will not be shared with registries.

Above: Tucows FAQ, at <https://tuowdomains.com/help/still-consider-activating-contact-privacy/>

Also note the text that Tucows put in boldface above. There Tucows implies that customers who decline its privacy service will not receive a way for third parties to contact the registrant. This is not true—registrants in the EU who do not accept Contact Privacy service must still have their personal data masked, per ICANN's Temporary Specification, and those contacts will be reachable via the Tiered Access contact form.

<sup>130</sup> <https://tuowdomains.com/help/whois-use-and-information/tiered-access-directory-gated-whois/>

## NameCheap

Country: United States

IANA ID: 1068

gTLD domains under management: 9,473,653

WHOIS service: functionality and compliance	RDAP service: functionality and compliance	Compliant with Temp Spec?	Contactability info contained in RDDS output?	Contactability Mechanism functional? (web form or anonymized email)
FAIL	FAIL	NO	YES	YES

### WHOIS and RDAP Service

NameCheap's WHOIS and RDAP servers sometimes give inaccurate results, in violation of its contract with ICANN. Specifically, the Status and Updated Date fields can be wrong, and in conflict with that is on record at the domain registries. These differences should never exist, and can create confusion.

For example, we registered the below domain on 18 November 2019 and then captured a WHOIS record from NameCheap on 4 March 2020. By March 2020 the domain was far past the five-day Add Grace Period but still showed the incorrect status of "add period." The domain has been updated with new contact objects in November, which should have generated an Updated Date timestamp in the WHOIS record. But NameCheap gave an Updated Date for the impossible year "0001"--the year 1 A.D.:

```

Domain name: yellow2020.com
Registry Domain ID: 2456656754_DOMAIN_COM-VRSN
Registrar WHOIS Server: whois.namecheap.com
Registrar URL: http://www.namecheap.com
Updated Date: 0001-01-01T00:00:00.00Z
Creation Date: 2019-11-18T16:37:35.00Z
Registrar Registration Expiration Date: 2020-11-18T16:37:35.00Z
Registrar: NAMECHEAP INC
Registrar IANA ID: 1068
Registrar Abuse Contact Email: abuse@namecheap.com
Registrar Abuse Contact Phone: +1.6613102107
Reseller: NAMECHEAP INC
Domain Status: clientTransferProhibited
https://icann.org/epp#clientTransferProhibited
Domain Status: addPeriod https://icann.org/epp#addPeriod
...
>>> Last update of WHOIS database: 2020-03-04T13:02:24.75Z <<<

```



More than three months after the domain's registration, NameCheap's RDAP output also contained the incorrect "Add period" status, and did not contain the required "eventAction" field providing an Updated Date, even though the domain had been updated with new contacts and new statuses. The registrar's registration data services were simply unreliable in these respects, and did not match the data provided by Verisign's .COM registry WHOIS.

These inaccurate results can create forensic problems in legal cases, as explained in the next section.

## How WHOIS Problems Impeded a COVID-19 Investigation

As the COVID-19 crisis exploded in the United States, WHOIS practices at NameCheap affected the response to a notable cybercrime case.

By mid-March 2020, the COVID-19 pandemic had prompted widespread shutdowns in the United States. As part of the response, the U.S. Department of Justice filed its first enforcement action against COVID-19 fraud, as part of efforts to fight "criminal exploitation of this national emergency for personal gain."<sup>131</sup>,<sup>132</sup> The target of the legal complaint was the domain CORONAVIRUSMEDICALKIT .COM, the operator of which was offering non-existent coronavirus vaccine kits.

On 19 March 2020, an agent of the Federal Bureau of Investigation (FBI) investigated the site. He was unable to ascertain the registrant's identity, which was hidden behind NameCheap's WhoisGuard privacy service, which NameCheap operates out of a post office box in Panama. This forced the government to file the complaint against "John Doe, a/k/a/ 'coronavirusmedialkit .com'". The privacy protection also prevented anyone outside of NameCheap from investigating whether the same individual had registered any other domain names of interest.

The FBI agent declared to the court:

On March 19, 2020, the Department of Justice informed NameCheap, Inc. of the fraudulent statements made on the "coronavirusmedialkit .com" website. As of 5:50 PM CST on March 21, 2020 [22:50 UTC], I confirmed that the website is still accessible to the public.<sup>133</sup>

By 21 March the Department of Justice also sent a letter via email to NameCheap's legal department, alerting NameCheap to the fraud.<sup>134</sup> The letter read in part:

---

<sup>131</sup> United States of America v. John Doe, a/k/a/ "coronavirusmedialkit .com", case 1:20-cv-00306-RP, United States District Court, Western Division of Texas.

<sup>132</sup> Press release, United States Department of Justice, "Justice Department Files Its First Enforcement Action Against COVID-19 Fraud," 22 March 2020, "<https://www.justice.gov/opa/pr/justice-department-files-its-first-enforcement-action-against-covid-19-fraud>

<sup>133</sup> Declaration of Supervisory Special Agent Jordan Lloyd. United States of America v. John Doe, a/k/a/ "coronavirusmedialkit .com", case 1:20-cv-00306-RP, United States District Court, Western Division of Texas.

<sup>134</sup> Letter from John F. Bash, United States Attorney, to NameCheap, undated but filed in court 21 March 2020, Reference Number: 03192020-1.

Communications facilitated by your entity and made by your direct customers or business partners have been linked to such criminal activity. Be advised that such communications may be in violation of various U.S. federal criminal laws, including 18 U.S.C. Section 1343 (Wire Fraud)... This letter serves as notice from USDOJ about this activity, as well as a notice to you that knowingly facilitating or helping others perpetrate a fraud scheme is a crime. Being willfully blind to a criminal offense is not a defense.

On 22 March, a federal judge issued a temporary restraining order, which required NameCheap to suspend the domain so the web site would stop functioning.<sup>135</sup> The order required NameCheap to forward a copy of the complaint to the anonymous registrant (because only NameCheap knew the registrant's real identity).

So when did Namecheap take action? NameCheap's WHOIS service should provide forensic evidence about when it suspended the domain. But it does not, because NameCheap's WHOIS service has systemic errors, and does not meet its contract with ICANN as described above. On 22 May, output from NameCheap's port 43 service indicated that the domain had been suspended, but failed to provide a real "Last Updated" date in the domain record:

```

Domain name: coronavirusmedicalkit .com
Registry Domain ID: 2499994865_DOMAIN_COM-VRSN
Registrar WHOIS Server: whois.namecheap.com
Registrar URL: http://www.namecheap.com
Updated Date: 0001-01-01T00:00:00.00Z
Creation Date: 2020-03-05T03:58:05.00Z
Registrar Registration Expiration Date: 2021-03-05T03:58:05.00Z
Registrar: NAMECHEAP INC
Registrar IANA ID: 1068
Registrar Abuse Contact Email: abuse@namecheap.com
Registrar Abuse Contact Phone: +1.6613102107
Reseller: NAMECHEAP INC
Domain Status: clientHold https://icann.org/epp#clientHold
Domain Status: clientTransferProhibited
https://icann.org/epp#clientTransferProhibited
Registry Registrant ID:
Registrant Name: WhoisGuard Protected
Registrant Organization: WhoisGuard, Inc.
Registrant Street: P.O. Box 0823-03411
Registrant City: Panama
Registrant State/Province: Panama
Registrant Postal Code:
Registrant Country: PA
Registrant Phone: +507.8365503
Registrant Phone Ext:
Registrant Fax: +51.17057182
Registrant Email:
44ef50ba64694dbcb3aac7c6c8a91b16.protect@whoisguard.com
...
Name Server: blockedforabuse.pleasecontactsupport.com
Name Server: dummysecondary.pleasecontactsupport.com
...
>>> Last update of WHOIS database: 2020-03-22T11:55:39.13Z <<<

```

<sup>135</sup> Temporary Restraining Order, Case No. A-20-CV-306, filed 22 March 2020.

To find the real update time, one must rely instead on Verisign’s .COM registry WHOIS. According to it, NameCheap updated the domain at seven minutes after midnight on 23 March (UTC time). That was the evening of 22 March (California time, where NameCheap is located), which was the day that NameCheap received the court order. The Verisign WHOIS stated:

```

Domain Name: CORONAVIRUSMEDICALKIT .COM
Registry Domain ID: 2499994865_DOMAIN_COM-VRSN
Registrar WHOIS Server: whois.namecheap.com
Registrar URL: http://www.namecheap.com
Updated Date: 2020-03-23T00:07:41Z
Creation Date: 2020-03-05T03:58:05Z
Registry Expiry Date: 2021-03-05T03:58:05Z
Registrar: NameCheap, Inc.
Registrar IANA ID: 1068
Registrar Abuse Contact Email: abuse@namecheap.com
Registrar Abuse Contact Phone: +1.6613102107
Domain Status: clientHold https://icann.org/epp#clientHold
Domain Status: clientTransferProhibited
https://icann.org/epp#clientTransferProhibited
Name Server: BLOCKEDFORABUSE.PLEASECONTACTSUPPORT.COM
Name Server: DUMMYSECONDARY.PLEASECONTACTSUPPORT.COM
...
>>> Last update of whois database: 2020-03-23T16:03:27Z <<<

```

To summarize the timeline: the FBI contacted NameCheap about the domain on 19 March, and sent a formal letter to NameCheap on 21 March. It appears that NameCheap did not suspend the domain until March 22, the day it received the court order. But the time of suspension cannot be confirmed via NameCheap’s WHOIS, due to NameCheap’s noncompliant, unreliable WHOIS service.

As of this writing it is publicly unknown who registered the domain. It is therefore not possible to use WHOIS data to determine whether that individual has registered other domains, at NameCheap or at other registrars.

## Temporary Specification Compliance

ICANN’s Temporary Specification requires that all registrars redact the personally identifiable data of registrants who reside in the European Union, unless the registrant “provides its Consent” for that personal contact data<sup>136</sup> to be published.

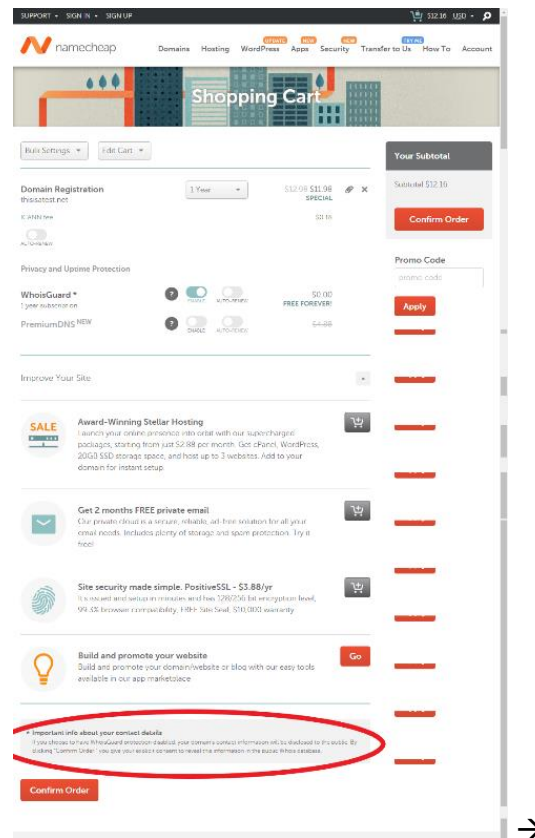
NameCheap uses its WhoisGuard privacy service to provide the contact masking required by GDPR and the Temporary Specification. However, NameCheap’s implementation appears to violate the rights of domain holders – and those contacting them—under GDPR and ICANN policy.

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<sup>136</sup> Temporary Specification for gTLD Registration Data, paragraph 7.2, and Appendix A, paragraph 2.5, at: <https://www.icann.org/resources/pages/gtld-registration-data-specs-en/#appendixA> Paragraphs 7.2.1

The WhoisGuard privacy service allows registrants to hide their real contact information. The service creates an anonymized email address for each contact. An anonymized email address is one of the contactability options required by the ICANN Temporary Specification for EU-based contacts.

When customers register domain names at NameCheap, NameCheap offers WhoisGuard to them for free. NameCheap offers WhoisGuard “on” by default, and domain holders can opt out of the service during the registration process. In fine print at the bottom of the page, registrants are told that if they opt out, they are told that “your domain’s contact data will be disclosed to the public”:



#### \* Important info about your contact details

If you choose to have WhoisGuard protection disabled, your domain's contact information will be disclosed to the public. By clicking "Confirm Order," you give your explicit consent to reveal this information in the public Whois database.

*Our testing found that EU registrants who opt out of WhoisGuard do indeed have their personal data publicly exposed by NameCheap's WHOIS.<sup>137</sup>*

<sup>137</sup> In RDAP, Namecheap redacts personal data for the same domains. It should not matter which RDDS protocol is used – the personal data should be handled consistently.

Also, in order to have their personal data shielded as required by GDPR and ICANN policy, EU registrants are forced to be bound by the WhoisGuard legal Terms of Service.<sup>138</sup> Or put another way: by declining the WhoisGuard terms and conditions, EU registrants lose the GDPR protection they are entitled to.

NameCheap's practice may therefore violate GDPR and ICANN's Temporary Specification, because it conflicts with three fundamental GDPR principles:

1. EU data subjects generally cannot be forced to sign away their privacy rights as a condition of a contract. This is the reason why ICANN can no longer require the publication of the personal data of GDPR-covered individuals in RDDS services.<sup>139</sup>
2. Consent under GDPR requires a positive opt-in, *not an opt-out* as NameCheap offers. Data protection authorities state that opt-out options are not unambiguous indications of clear and affirmative consent by the data subject.<sup>140</sup>
3. The request for consent must be presented "in an intelligible and easily accessible form, using clear and plain language."<sup>141</sup> At NameCheap the implications are not made clear.

ICANN's Temporary Specification repeats those principles, requiring that consent to publish personal data must be obtained in a GDPR-complaint way:

7.2.3. Where such Consent is sought by Registrar, the request for Consent SHALL be presented in a manner which is clearly distinguishable from other matters (including other Personal Data Processed based on a legitimate interest). The request for Consent SHALL be in an intelligible and easily accessible form, using clear and plain language.

The WhoisGuard Terms of Service is a legal contract, designed to have a binding effect on registrants, and can have real effects on them. Domain contacts can lose their privacy and have their data published publicly for reasons that do not involve bad behavior, and the release can happen for reasons not allowed under GDPR guidelines.<sup>142</sup> For example, the agreement allows NameCheap to strip away the privacy protection, exposing the underlying personal data, if the domain holder:

- Does "not respond to communications from WhoisGuard, irrespective of whether WhoisGuard is forwarding an email or making an unrelated inquiry or communication". [*Note: the amount of time the customer has to respond is not defined*], or
- uses the domain to host any "adult content" or "nude" images, or
- provides the anonymized email address to anyone for use.<sup>143</sup>

<sup>138</sup> <http://www.whoisguard.com/legal-tos.asp>

<sup>139</sup> See GDPR Article 7(4).

<sup>140</sup> See GDPR Article 7, and the U.K. Information Commissioner's Office: "Consultation: GDPR Consent Guidance," at <https://ico.org.uk/media/about-the-ico/consultations/2013551/draft-gdpr-consent-guidance-for-consultation-201703.pdf>

<sup>141</sup> GDPR Article 7(2).

<sup>142</sup> See especially GDPR Article 6, which lists conditions under which personal data can be released to *specific* third parties who have proven legitimate interests. <https://www.privacy-regulation.eu/en/article-6-lawfulness-of-processing-GDPR.htm>

<sup>143</sup> A condition of the TOS is that "you represent and warrant that you will not provide any third party with the WhoisGuard addresses for the purpose of having such third party transmit communications to you through WhoisGuard."

- The Terms of Service also says that WhoisGuard (NameCheap) can change the terms and pricing at any time, at its sole discretion, for any reason.

In addition, domain holders are forced to consent that WhoisGuard (Namecheap) *is explicitly allowed to read the emails sent to the domain contacts*.<sup>144</sup> This is a potential loss of privacy for the domain holder. And it means that people who want to contact a domain holder have no privacy—they are forced to give up their identities and private business to the registrar.

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<sup>144</sup> “You agree that from time to time, WhoisGuard will review communications sent to the WhoisGuard addresses associated with your Protected Domain.” <http://www.whoisguard.com/legal-tos.asp>

## Network Solutions and Register.com

### Network Solutions:

Country: United States

IANA ID: 2

gTLD domains under management: 7,041,618

### Register.com:

Country: United States

IANA ID: 9

gTLD domains under management: 1,773,633

Network Solutions and Register.com are owned by Web.com. Web.com is one of the largest, best-resourced companies in the domain name industry,<sup>145</sup> and also owns SnapNames, NameJet, and Namesecure.

### Network Solutions:

WHOIS service: functionality and compliance	RDAP service: functionality and compliance	Compliant with Temp Spec?	Contactability info contained in RDDS output?	Contactability Mechanism functional? (web form or anonymized email)
FAIL	FAIL	NO	YES	problem

### Register.com:

WHOIS service: functionality and compliance	RDAP service: functionality and compliance	Compliant with Temp Spec?	Contactability info contained in RDDS output?	Contactability Mechanism functional? (web form or anonymized email)
OK	FAIL	problem	YES	YES

## WHOIS Service

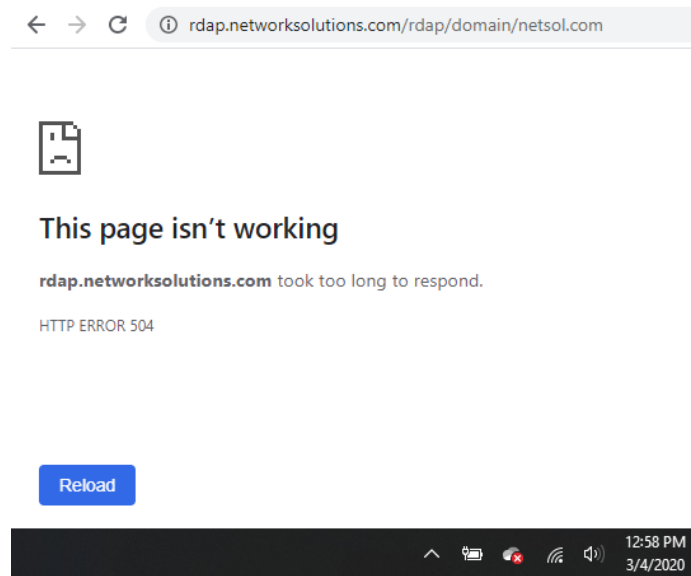
After we registered a .COM domain at Network Solutions, the domain immediately showed up in the Verisign registry WHOIS. But for more than two-and-a-half hours after registration, Network Solutions' WHOIS service did not provide WHOIS data for the domain. This violated the Service Level Agreement in

<sup>145</sup> See <https://www.globenewswire.com/news-release/2018/02/08/1336592/0/en/Web-com-Reports-Fourth-Quarter-and-Full-Year-2017-Financial-Results.html> and <https://en.wikipedia.org/wiki/Web.com>

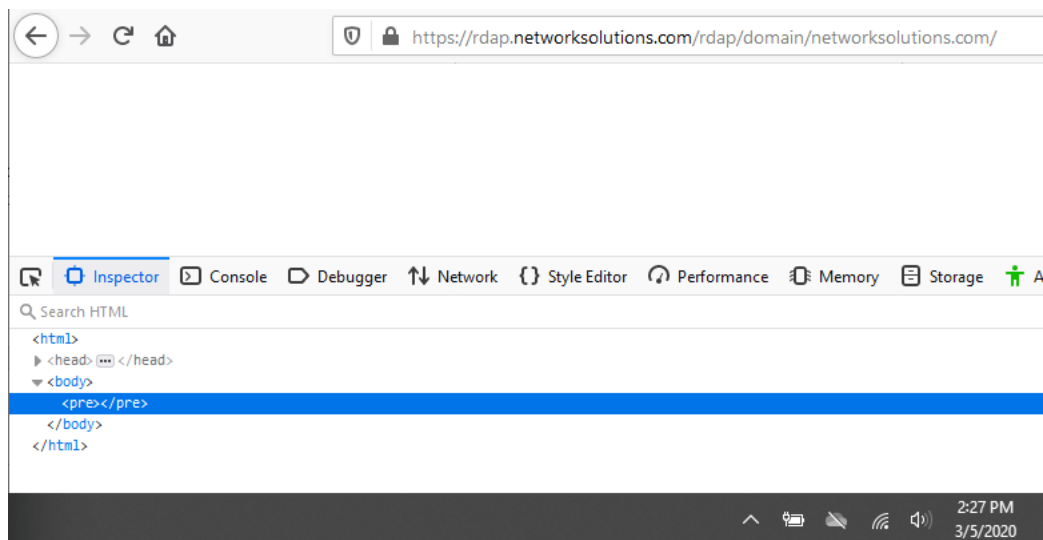
the 2013 Registrar Accreditation Agreement, which says that registrar WHOIS service data must be updated within 60 minutes, such as to reflect new registrations.<sup>146</sup>

## RDAP Service

According to our checks, the Network Solutions RDAP server was regularly offline/non-responsive, for periods of hours at a time, in January into March 2020. During these periods our queries resulted in 504 (timeout) errors:



and

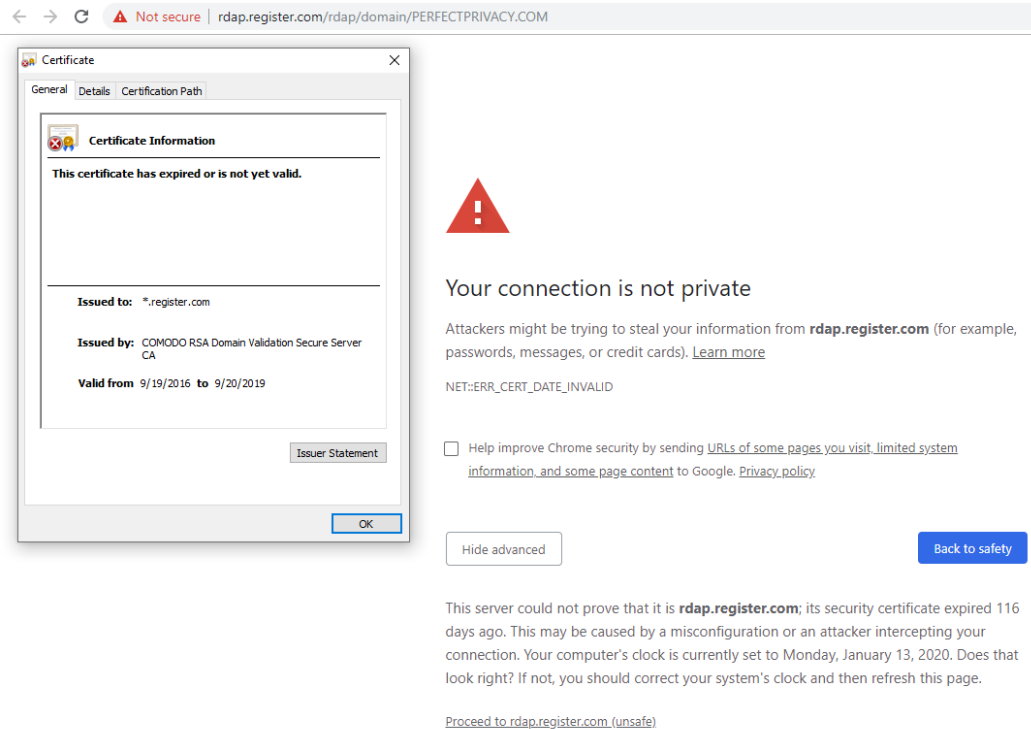


<sup>146</sup>Registration Data Directory Service (WHOIS) Specification, paragraph 2.2, at: <https://www.icann.org/resources/pages/approved-with-specs-2013-09-17-en#whois>

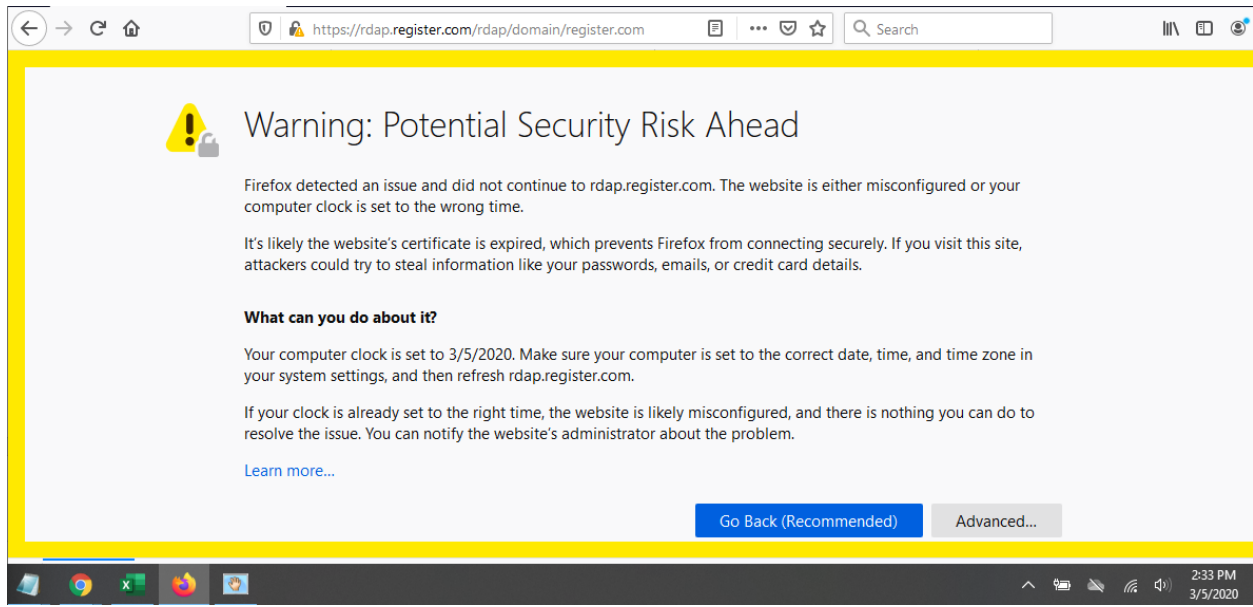


When the Network Solutions RDAP server did respond, its output did not comply with requirements because it is missing the required *"eventAction": "last update of RDAP database"* data. (See Tucows above for more about this piece of data.)

The registrar Register.com (IANA ID: 9) is also owned by Web.com. The Register.com RDAP server had an invalid certificate, which expired on 20 September 2019, and had still not been fixed by our last check on 4 March 2020:



Above: Chrome browser warning, invalid certificate at <https://rdap.register.com> on 13 January 2020



Above: Chrome browser warning, invalid certificate at <https://rdap.register.com> on 4 March 2020

Beyond that the Register.com RDAP server also failed on occasion, providing 504 errors like the Network Solutions RDAP server did.

We were able to get a response at one point. From it we saw that Register.com's RDAP output does not comply with requirements because it is missing the required `"eventAction": "last update of RDAP database"` data. (See Tucows above for more about this piece of data.)

## Temporary Specification Compliance

We encountered domains sponsored at Register.com that are masked using Tucow's Tiered Access system. These violate the Temporary Specification, which requires that the registrar publish a contact method for the Admin and Tech contacts:<sup>147</sup>

```
Domain Name: davidkeesling.com
Registry Domain ID: 2379279703_DOMAIN_COM-VRSN
Registrar WHOIS Server: WHOIS.REGISTER.COM
Registrar URL: WWW.REGISTER.COM
Updated Date: 2019-06-28T18:19:17.00Z
Creation Date: 2019-04-11T20:19:38.00Z
Registrar Registration Expiration Date: 2024-04-11T20:19:38.00Z
Registrar: REGISTER.COM, INC.
Registrar IANA ID: 9
```

<sup>147</sup> The Temporary Specification requires that the registrar provide an anonymized email address or a link to a web contact form as the "value of the 'Email' field of every contact (e.g., Registrant, Admin, Tech)". Temporary Specification for gTLD Registration Data, Appendix A, paragraphs 2.5 and 2.5.1, at: <https://www.icann.org/resources/pages/gtld-registration-data-specs-en/#appendixA>

Domain Status: clientTransferProhibited  
 https://www.icann.org/epp#clientTransferProhibited  
 Registrant Name: REDACTED FOR PRIVACY  
 Registrant Organization: REDACTED FOR PRIVACY  
 Registrant Street: REDACTED FOR PRIVACY  
 Registrant Street:  
 Registrant City: REDACTED FOR PRIVACY  
 Registrant State/Province: OK  
 Registrant Postal Code: REDACTED FOR PRIVACY  
 Registrant Country: US  
 Registrant Phone: REDACTED FOR PRIVACY  
 Registrant Phone Ext:  
 Registrant Fax: REDACTED FOR PRIVACY  
 Registrant Email: https://[tieredaccess.com/contact/fb70bb15-90fd-46a2-a9c5-19f474af7b19](https://tieredaccess.com/contact/fb70bb15-90fd-46a2-a9c5-19f474af7b19)  
 Admin Name: REDACTED FOR PRIVACY  
 Admin Organization: REDACTED FOR PRIVACY  
 Admin Street: REDACTED FOR PRIVACY  
 Admin Street:  
 Admin City: REDACTED FOR PRIVACY  
 Admin State/Province: REDACTED FOR PRIVACY  
 Admin Postal Code: REDACTED FOR PRIVACY  
 Admin Country: REDACTED FOR PRIVACY  
 Admin Phone: REDACTED FOR PRIVACY  
 Admin Phone Ext:  
 Admin Fax: REDACTED FOR PRIVACY  
 Admin Email: REDACTED FOR PRIVACY  
 Tech Name: REDACTED FOR PRIVACY  
 Tech Organization: REDACTED FOR PRIVACY  
 Tech Street: REDACTED FOR PRIVACY  
 Tech Street:  
 Tech City: REDACTED FOR PRIVACY  
 Tech State/Province: REDACTED FOR PRIVACY  
 Tech Postal Code: REDACTED FOR PRIVACY  
 Tech Country: REDACTED FOR PRIVACY  
 Tech Phone: REDACTED FOR PRIVACY  
 Tech Phone Ext:  
 Tech Fax: REDACTED FOR PRIVACY  
 Tech Email: REDACTED FOR PRIVACY  
 Name Server: NS.SOURCEDNS.COM  
 Name Server: NS1.SOURCEDNS.COM  
 DNSSEC: unsigned  
 Registrar Abuse Contact Email: abuse@WEB.COM  
 Registrar Abuse Contact Phone: +1.4042602594  
 URL of the ICANN WHOIS Data Problem Reporting System:  
 HTTP://WDPRS.INTERNIC.NET/  
 >>> Last update of WHOIS database: 2020-03-04T18:22:09.00Z <<<

Network Solutions currently offers the Perfect Privacy LLC service to registrants for free, on an opt-out basis. (Perfect Privacy LLC is owned by Web.com, which also owns Network Solutions.) This requires registrants to either accept Web.com's privacy service terms of service<sup>148</sup> or lose their privacy rights.

<sup>148</sup> <https://assets.web.com/legal/English/PrivateRegistrationService.pdf>

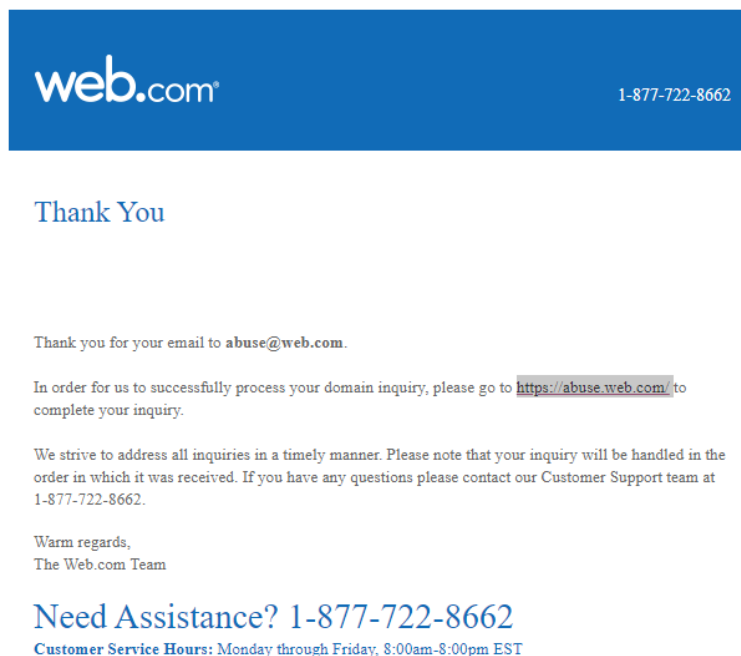
This situation may violate GDPR, and is similar to the situation described for NameCheap above – please see that case above for more information.

We registered a .COM domain at Network Solutions, using a Registrant contact in the USA and Admin and Tech contacts in the European Union, and opted out of the Perfect Privacy service. Network Solutions then *published the EU contact details in WHOIS, rather than redacting as required by ICANN's Temporary Specification*.

We later changed the Registrant contact to an address in the European Union. At that point Network Solutions replaced the contact fields (on all the contacts) with the label: “Statutory Masking Enabled”, apparently to apply GDPR masking per ICANN policy. Network Solutions also changed the three contacts’ email address to “abuse@web.com”. This is Web.com’s standard abuse mailbox, which it uses to receive spam and malware complaints; it is tended by its anti-abuse staff.

### Contactability Mechanism

We wrote an email to [abuse@web.com](mailto:abuse@web.com), requesting to make contact with our domain holder. We received back an email that told us to use the abuse complaint form at <https://abuse.web.com/> :



But the web form at <https://abuse.web.com/> is clearly labeled as an “Abuse Form,” which may discourage requestors from using it.

Listed in the “Inquiry type” drop-down are abuses such as phishing, malware, and trademark violations. Also listed is “Statutory WHOIS Masking Inquiry”:

abuse.web.com

# Report Abuse

Please complete the following required form in order for your abuse report to be processed accordingly. This information is necessary in order to serve our customers in a timely and efficient manner. You may also report abuse by contacting us at [abuse@web.com](mailto:abuse@web.com) or 1-877-722-8662.

Please note, that we reserve the right at our sole discretion to provide an appropriate response to each report.

**Enter Your Information** | \* Required Fields

**Name\***


**Email\***

**Phone Number\***

**Domain Inquiry\***

**Inquiry Type\***

- please choose one -  
 - please choose one - (pdf, doc, txt)  
 Statutory WHOIS Masking Inquiry  
 Inappropriate Content  
 Malware  
 Phishing  
 Spam  
 Trademark/Copyright

I'm not a robot 

The Web form then requires the user to select an inquiry category. The only ones allowed are “I want to purchase the domain” or a formal legal request:

**Inquiry Type\***

Statutory WHOIS Masking Inquiry

I want to purchase the domain

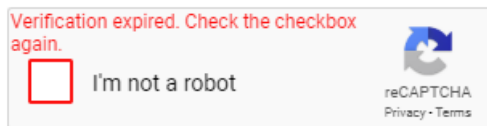
**Please include all relevant information regarding**

I want to purchase the domain  
 I am a member of a Law Enforcement agency  
 I have court documents for the Registrant  
 I have court documents for Web.com  
 I have a DMCA complaint  
 I have a TM/UDRP complaint

**Attach File(s) | (acceptable formats are jpg, pdf, doc, txt)**

So, domain contact requests are grouped with abusive activities, and are evidently handled by the abuse handling staff. This system also means that Web.com's abuse staff is reading every one of these messages sent to registrants, learning about what information the requestor wants forwarded to the domain contact. This is an unnecessary privacy violation, for both the requestor and the domain registrant. This is an example of registrar who acts as a strict gatekeep for its registrants, and probably in ways the registrants are unaware of.

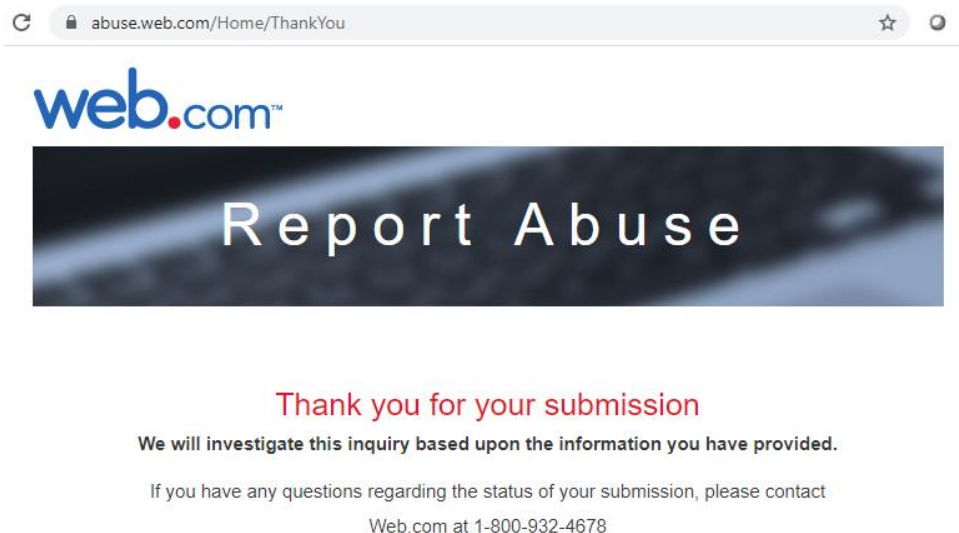
We tried using the form to send a "I want to purchase the domain" message to ourselves. On the first attempt, the web form failed to work. It "spun" for several minutes after submission, never completing, while the captcha timed-out several times:



- I hereby represent and warrant that all statements made above in my submission are truthful and accurate and that the domain name associated with this submission is registered with a registrar owned or otherwise operated by Web.com Group, Inc.



Several weeks later we tried again, inquiring about purchasing the domain that we had registered to a registrant identity. This time the submission form worked, and Web.com said it would "investigate this inquiry":



Fifteen minutes later our registrant's email account received a message from:

Web.com Abuse Support - Legal Support <level3@web.com>

The message was evidently been read by a Web.com staffer, who then forwarded it on to the registrant; the email was signed:

Kind Regards,  
Abuse Specialist  
Web.com

## Incorrect Statements about Privacy

Network Solutions currently offers the Perfect Privacy LLC service to its registrants for free. Perfect Privacy is a Web.com company. It supplies anonymized contact email addresses for registrants who wish to hide their contact data in RDDS output, and forwards message sent to those addresses on to the domain contacts.

The Perfect Privacy LLC home page ([perfectprivacy.com](http://perfectprivacy.com)) begins by saying that “Did you know that every time you register a domain name, the law requires that your personal information is added to the public ‘WHOIS’ database, where it becomes instantly available to anyone, anywhere, anytime?”

Not secure | [perfectprivacy.com](http://perfectprivacy.com)

**PERFECT PRIVACY** Private Domain Registrations

HOME  
HOW IT WORKS  
FAQ  
LEGAL

Worried about **protecting** your **privacy** online?

Protect Your Identity Online with Perfect Privacy®

Did you know that every time you register a domain name, the law requires that your personal information is added to the public “WHOIS” database, where it becomes instantly available to anyone, anywhere, anytime? By making your name, address, phone number, email and other personal information public, you, your business, and your family become vulnerable to spammers, scammers, and other Internet predators who can target you for solicitation, fraud, identity theft... or worse.

**Perfect Privacy® eliminates these risks** by ensuring that your personal information stays private. By signing up for Perfect Privacy when you register your domain, our information is published in the WHOIS database, instead of yours.

**Control. Protection. Peace of Mind.**

- ✓ Stop domain-related spam.
- ✓ Deter identity theft & fraud.
- ✓ Protect against unwanted solicitations or harassment.
- ✓ Keep your personal info away from data miners.
- ✓ Maintain complete control of your domain.

Spam Solicitations Harassment Legitimate e-mail

Legitimate e-mail

Equally as important, with Perfect Privacy you retain the full benefits of domain registration. You can sell, renew, cancel or transfer your domain; set-up name servers for your domain; and resolve disputes involving your domain.

To make your next domain registration private, **register with Web.com or other associated registrars and simply choose the Perfect Privacy option during sign up.**

Legal | [Privacy Policy](#) | [Terms of Use](#) | ©2020 Perfect Privacy, LLC, A Web.com Company. All rights reserved.

Perfect Privacy® is a registered trademark of Web.com Group, Inc. All other registered trademarks herein are the property of their respective owners.

That statement is not accurate. No law has ever required the public publication of gTLD domain contact data, ICANN policy has not required its publication since May 2018, and the GDPR law *prevents* relevant personal data from being available.



## Alibaba Cloud Computing (Beijing) Co., Ltd

Country: China

IANA ID: 420

gTLD domains under management: 7,020,473

Retail registration services offered at: aliyun.com

WHOIS service: functionality and compliance	RDAP service: functionality and compliance	Compliant with Temp Spec?	Contactability info contained in RDDS output?		Contactability Mechanism functional? (web form or anonymized email)
FAIL	FAIL	NO	WHOIS: problem	RDAP: NO	Web form; not tested

### WHOIS Service

This registrar's Web-based WHOIS sometimes fails and provides inaccurate results. For example, the domain HICHINA.COM is sponsored by Alibaba Cloud Computing:

```
Domain Name: hichina.com
Registry Domain ID: 1133552_DOMAIN_COM-VRSN
Registrar WHOIS Server: grs-whois.hichina.com
Registrar URL: http://whois.aliyun.com
...
Registrar: Alibaba Cloud Computing (Beijing) Co., Ltd.
Registrar IANA ID: 420
```

But a lookup at the registrar's site on 16 December 2019 said this domain does not exist:

Above: aliyun.com WHOIS, in Chinese (left) and translated to English (right)

But on other days, the lookup succeeded.

## RDAP Service

As of 4 March 2020, Alibaba still had no RDAP server listed at ICANN.<sup>149</sup> Neither did the related registrar Alibaba Cloud Computing Ltd. d/b/a HiChina (www.net.cn; IANA ID 1599).

DNS queries did not find resolving RDAP services at the domains commonly used by these registrars, including: rdap.aliyun.com, rdap.hichina.com, rdap.net.cn, rdap.alibaba-inc.com, and rdap.alibabadns.com.

## Temporary Specification Compliance and Contactability Information

In December 2019, Alibaba's WHOIS output didn't provide a way to contact the registrant:

```
Domain Name: hichina.com
Registry Domain ID: 1133552_DOMAIN_COM-VRSN
Registrar WHOIS Server: grs-whois.hichina.com
Registrar URL: http://whois.aliyun.com
Updated Date: 2019-03-14T13:22:27Z
Creation Date: 1996-04-23T04:00:00Z
Registrar Registration Expiration Date: 2020-04-24T04:00:00Z
Registrar: Alibaba Cloud Computing (Beijing) Co., Ltd.
Registrar IANA ID: 420
Reseller:
Domain Status: clientDeleteProhibited
https://icann.org/epp#clientDeleteProhibited
Domain Status: clientTransferProhibited
https://icann.org/epp#clientTransferProhibited
Registrant City:
Registrant State/Province: Bei Jing
Registry Registrant ID: Not Available From Registry
Name Server: NS1.HICHINA.COM
Name Server: NS2.HICHINA.COM
DNSSEC: unsigned
Registrar Abuse Contact Email: domainabuse@service.aliyun.com
Registrar Abuse Contact Phone: +86.95187
URL of the ICANN WHOIS Data Problem Reporting System:
http://wdprs.internic.net/
>>>Last update of WHOIS database: 2019-12-11T14:47:59Z <<<
```

In January 2020, Alibaba began publishing the required contactability information for registrants as required by the Temporary Specification:

```
Domain Name: hichina.com
Registry Domain ID: 1133552_DOMAIN_COM-VRSN
```

<sup>149</sup> <https://www.iana.org/assignments/registrar-ids/registrar-ids.xhtml>

```

Registrar WHOIS Server: grs-whois.hichina.com
Registrar URL: http://whois.aliyun.com
Updated Date: 2019-03-14T13:22:27Z
Creation Date: 1996-04-23T04:00:00Z
Registrar Registration Expiration Date: 2020-04-24T04:00:00Z
Registrar: Alibaba Cloud Computing (Beijing) Co., Ltd.
Registrar IANA ID: 420
Reseller:
Domain Status: clientDeleteProhibited
https://icann.org/epp#clientDeleteProhibited
Domain Status: clientTransferProhibited
https://icann.org/epp#clientTransferProhibited
Registrant City:
Registrant State/Province: Bei Jing
Registrant Country: CN
Registrant Email: https://whois.aliyun.com/whois/whoisForm
Registry Registrant ID: Not Available From Registry
Name Server: NS1.HICHINA.COM
Name Server: NS2.HICHINA.COM
DNSSEC: unsigned
Registrar Abuse Contact Email: domainabuse@service.aliyun.com
Registrar Abuse Contact Phone: +86.95187
URL of the ICANN WHOIS Data Problem Reporting System:
http://wdprs.internic.net/
>>>Last update of WHOIS database: 2020-01-10T18:07:49Z <<<

```

The output above still violates the Temporary Specification because it does not provide the required contact means (Email Address Field) for the Admin and Tech contacts.<sup>150</sup>

The registrar's Abuse Contact phone number above is invalid. It is far too short to be a working telephone number in China.

---

<sup>150</sup> The Temporary Specification requires that the registrar provide an anonymized email address or a link to a web contact form as the “value of the ‘Email’ field of every contact (e.g., Registrant, Admin, Tech)”. Temporary Specification for gTLD Registration Data, Appendix A, paragraph 2.5, at: <https://www.icann.org/resources/pages/gtld-registration-data-specs-en/#appendixA>

## eNom

Country: United States

IANA ID: 48

gTLD domains under management: 5,765,808

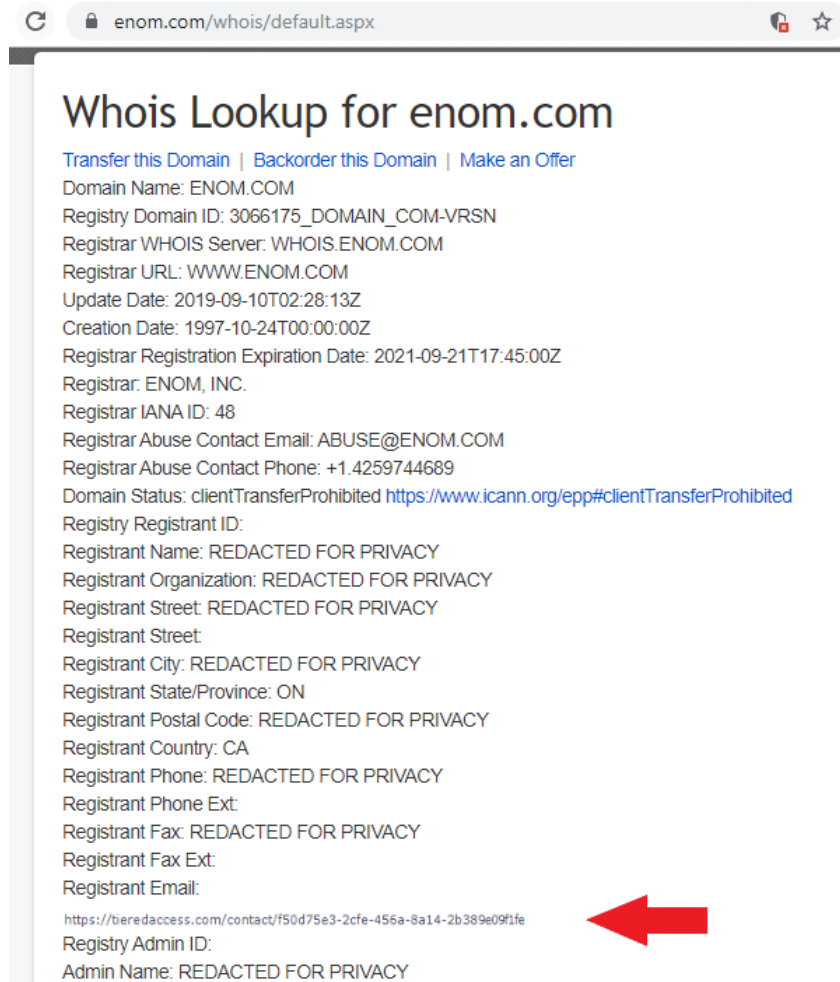
Ownership: eNom is owned by Tucows

WHOIS service: functionality and compliance	RDAP service: functionality and compliance	Compliant with Temp Spec?	Contactability info contained in RDDS output?		Contactability Mechanism functional? (web form or anonymized email)
Notable rate-limiting; non-responsive depending on location of user.	Notable rate-limiting; non-responsive depending on location of user.	NO	WHOIS: some missing.	RDAP: YES	YES; notable usability problems

### WHOIS Service and RDAP Service

eNom is owned by Tucows, and eNom uses Tucows' shared RDAP server. Access to eNom's data is tightly rate-limited just like Tucows' is. We sometimes had to go to extensive lengths to get even single responses about eNom-sponsored domains from the Tucows RDAP server, and access depended on our location. For more about this rate-limiting, please see Tucows, above.

To use eNom's Web-based WHOIS, the user must first complete a captcha, which is a standard practice to prevent unauthorized data mining. But then on the results page, after passing that human-only test, eNom makes the contact data very hard for humans to use. eNom presents the long, anonymized contact form URL in very small type that is difficult to read, and as an image that cannot be copy-and-pasted into a browser:



Whois Lookup for enom.com

[Transfer this Domain](#) | [Backorder this Domain](#) | [Make an Offer](#)

Domain Name: ENOM.COM  
 Registry Domain ID: 3066175\_DOMAIN\_COM-VRSN  
 Registrar WHOIS Server: WHOIS.ENOM.COM  
 Registrar URL: WWW.ENOM.COM  
 Update Date: 2019-09-10T02:28:13Z  
 Creation Date: 1997-10-24T00:00:00Z  
 Registrar Registration Expiration Date: 2021-09-21T17:45:00Z  
 Registrar: ENOM, INC.  
 Registrar IANA ID: 48  
 Registrar Abuse Contact Email: ABUSE@ENOM.COM  
 Registrar Abuse Contact Phone: +1.4259744689  
 Domain Status: clientTransferProhibited <https://www.icann.org/epp#clientTransferProhibited>  
 Registry Registrant ID:  
 Registrant Name: REDACTED FOR PRIVACY  
 Registrant Organization: REDACTED FOR PRIVACY  
 Registrant Street: REDACTED FOR PRIVACY  
 Registrant Street:  
 Registrant City: REDACTED FOR PRIVACY  
 Registrant State/Province: ON  
 Registrant Postal Code: REDACTED FOR PRIVACY  
 Registrant Country: CA  
 Registrant Phone: REDACTED FOR PRIVACY  
 Registrant Phone Ext:  
 Registrant Fax: REDACTED FOR PRIVACY  
 Registrant Fax Ext:  
 Registrant Email:  
<https://bieredaccess.com/contact/f50d75e3-2cfe-455a-8a14-2b389e09?fe>  
 Registry Admin ID:  
 Admin Name: REDACTED FOR PRIVACY

This URL is for the TIEREDACCESS.COM system operated by sister company Tucows.

The image is an anti-mining (anti-web-scraping) measure, but the use of the captcha already prevents mining, so the image serves no protective purpose. It simply makes the information hard to use.

## Temporary Specification Compliance

For redacted domains, such as those registered by EU registrants, eNom does not provide an email address or web form link for the Admin or Tech contacts. This does not comply with the Temporary Specification, which requires that the registrar provide such as the “value of the ‘Email’ field of every contact (e.g., Registrant, Admin, Tech)”.<sup>151</sup>

<sup>151</sup> (Or in the case when a privacy/proxy service is used: “Registrar MUST return in response to any query *full* WHOIS data, including the existing proxy/proxy pseudonymized email.” *Temporary Specification for gTLD Registration Data*, Appendix A: Registration Data Directory Services”, section 2.5, at: <https://www.icann.org/resources/pages/gtld-registration-data-specs-en>)

enom.com/whois/default.aspx

Admin Street: REDACTED FOR PRIVACY  
Admin Street:  
Admin City: REDACTED FOR PRIVACY  
Admin State/Province: REDACTED FOR PRIVACY  
Admin Postal Code: REDACTED FOR PRIVACY  
Admin Country: REDACTED FOR PRIVACY  
Admin Phone: REDACTED FOR PRIVACY  
Admin Phone Ext:  
Admin Fax: REDACTED FOR PRIVACY  
Admin Fax Ext:  
Admin Email: REDACTED FOR PRIVACY  
Registry Tech ID:  
Tech Name: REDACTED FOR PRIVACY  
Tech Organization: REDACTED FOR PRIVACY  
Tech Street: REDACTED FOR PRIVACY  
Tech Street:  
Tech City: REDACTED FOR PRIVACY  
Tech State/Province: REDACTED FOR PRIVACY  
Tech Postal Code: REDACTED FOR PRIVACY  
Tech Country: REDACTED FOR PRIVACY  
Tech Phone: REDACTED FOR PRIVACY  
Tech Phone Ext:  
Tech Fax: REDACTED FOR PRIVACY  
Tech Fax Ext:  
Tech Email: REDACTED FOR PRIVACY  
Name Server: DNS1.NAME-SERVICES.COM  
Name Server: DNS2.NAME-SERVICES.COM  
Name Server: DNS3.NAME-SERVICES.COM  
Name Server: DNS4.NAME-SERVICES.COM  
Name Server: DNS5.NAME-SERVICES.COM  
DNSSEC: unsigned  
URL of the ICANN WHOIS Data Problem Reporting System:  
[HTTP://WDPRS.INTERNIC.NET/](http://wdprs.internic.net/)  
>>> Last update of WHOIS database:2020-01-14T18:16:10Z <<<

The data in this whois database is provided to you for information purposes only, that is, to assist you in obtaining information about or related to a domain name registration record. We make this information available "as is," and do not guarantee its accuracy. By submitting a whois query, you agree that you will use this data only for lawful

This implementation disadvantages registrants because their Tech or Admin contacts cannot be reached.

## GDPR Compliance

eNom sells its IP Protect Service to customers who are already entitled to privacy protection, and eNom misstates ICANN policy while doing so.

During the registration process, eNom offers its ID Protect privacy/Proxy service, which costs \$8.00 a year. While doing so, eNom states to its customers (even EU residents protected by GDP), that:

Did you know that current ICANN regulations require that your Private contact information (Whois Info) be included in a publicly accessible database? This means your private information is displayed and made available to anyone who wants to see it, 24 hours and day, 365 days a year.

**ID Protect is OFF**

Your WhoIs Information (Registrant Information) is not protected and is accessible by the public. Scroll down or [click here](#) to see what information is being displayed.

**PROTECT YOUR INFORMATION**

Did you know that current ICANN regulations require that your Private contact information (WhoIs Info) be included in a publicly accessible Database?

This means that your private information is displayed and made available to anyone who wants to see it, 24 hours a day, 365 days a year.

Now you can protect your private WhoIs information by switching your "public" domain registration to a "private" unlisted registration through ID Protect.

**ID Protect works by:**

- Shielding your private information
- Forwarding important communication
- Offering you complete control

**"ID Protect is the best investment you can make on your domain name, if you value your privacy"**

I read the ID Protect Agreement and agree to its terms.

[buy ID protect](#)

**Adding ID Protect to your domain can shield you from...**

- Spam
- Identity Theft
- Data mining
- Name Hijackers
- and more...

Protect your Privacy with ID Protect.

**Only \$8.00/yr** (per domain)

Currently displayed WhoIs for [redacted].com

Organization Name:  
First Name:  
Last Name:  
Address 1:  
Address 2:  
City:  
State / Province:  
Postal / Zip Code:  
Country:  
Phone:  
Fax:

Above: screenshot from eNom.com domain registration process.

eNom's claim is not accurate. Since May 2018, ICANN has allowed registrars to *redact* personal contact data any time they want, and ICANN requires that the personal data of EU-based registrants be protected.

eNom's registrant panel can also tell registrants contradictory information. Above the panel tells us that our contact data is "not protected and is accessible by the public" – even though it redacted/protected because the registrant contact was in Europe and received GDPR redaction.

## GMO Internet d/b/a Onamae.com

Country: Japan

IANA ID: 49

gTLD domains under management: 5,295,887

Retail registration services offered at: onamae.com

GMO Internet is a public company listed on the Tokyo Stock Exchange (TYO). It is part of a larger company that offers Internet hosting, certificates, online advertising, mobile entertainment, and securities trading among other business lines.

WHOIS service: functionality and compliance	RDAP service: functionality and compliance	Compliant with Temp Spec?	Contactability info contained in RDDS output?		Contactability Mechanism functional? (web form or anonymized email)
FAIL	FAIL	NO	WHOIS: problem	RDAP: NO	Web form; not tested

### WHOIS Service

GMO's web-based WHOIS failed to function during two of our visits, on different days:

The screenshot shows the Onamae.com website interface. At the top, there is a navigation bar with links for '使い方とお得', 'GMOお名前ネット銀行', 'CM放送中', 'FX取引高 世界第1位 GMOクリック証券', and the 'GMO' logo. Below the navigation bar, there is a banner for '20th Anniversary' and 'お名前.com' with the text '登録実績2,200万件突破!' and '国内シェアNo.1\*のドメイン登録サービス'. The main content area is titled 'Whois検索' and contains the text 'ドメインのWhois情報を検索できます。'. Below this, there is a red error message box that reads: '予期せぬエラーが発生しました。時間をおいてから再度お試しください。' (An unexpected error has occurred. Please wait and try again.)

Above: the WHOIS search result reads in translation: "An unexpected error has occurred. Please wait and try again."

The below query was performed on 4 March 2020, but the "Last update of WHOIS database" timestamp says that GMO's WHOIS database was last updated on 12 December 2019:



```

Domain Name: onamae.com
Registry Domain ID: 15456920_DOMAIN_COM-VRSN
Registrar WHOIS Server: whois.discount-domain.com
Registrar URL: http://www.onamae.com
Updated Date: 2019-12-02T00:15:20Z
Creation Date: 1999-12-17T15:37:03Z
Registrar Registration Expiration Date: 2020-12-17T06:37:02Z
Registrar: GMO INTERNET, INC.
Registrar IANA ID: 49
Registrar Abuse Contact Email: abuse@gmo.jp
Registrar Abuse Contact Phone: +81.337709199
Domain Status: clientTransferProhibited
https://icann.org/epp#clientTransferProhibited
Registry Registrant ID: Not Available From Registry
Registrant Name: GMO Internet
Registrant Organization: GMO Internet, Inc.
Registrant Street: 26-1 Sakuragaoka-cho
Registrant Street: Cerulean Tower
Registrant City: Shibuya-ku
Registrant State/Province: Tokyo
...
Name Server: ns1.gmointernet.com
Name Server: ns1.gmointernet.jp
DNSSEC: unsigned
URL of the ICANN WHOIS Data Problem Reporting System:
http://wdprs.internic.net/
>>> Last update of WHOIS database: 2019-12-02T00:15:20Z <<<

```

GMO is displaying the wrong data in the “Last update of WHOIS database” field, in violation of the Registrar Accreditation Agreement, which requires that the registrar update its WHOIS database much more frequently in order to provide access to “up-to-date” data.<sup>152</sup> For a similar case, see the Tucows “RDAP Service” section above.

Queries at GMO’s Web-based WHOIS for domains in TLDs other than .COM and .NET returned data provided by the .INFO registry operator, Afilias:

```

Domain Name: ALIYUN.INFO
Registry Domain ID: D503300000378916432-LRMS
Registrar WHOIS Server:
Registrar URL: www.onamae.com
Updated Date: 2019-12-14T02:12:34Z
Creation Date: 2018-12-13T11:14:56Z
Registry Expiry Date: 2020-12-13T11:14:56Z
Registrar Registration Expiration Date:
Registrar: GMO Internet, Inc. d/b/a Onamae.com
Registrar IANA ID: 49
Registrar Abuse Contact Email: abuse@gmo.jp
Registrar Abuse Contact Phone: +81.337709199

```

<sup>152</sup> See Registrar Accreditation Agreement, paragraph 3.3.1, at <https://www.icann.org/resources/pages/approved-with-specs-2013-09-17-en> and Registration Data Directory Service (WHOIS) Specification, paragraph 2.2, at: <https://www.icann.org/resources/pages/approved-with-specs-2013-09-17-en#whois>

```

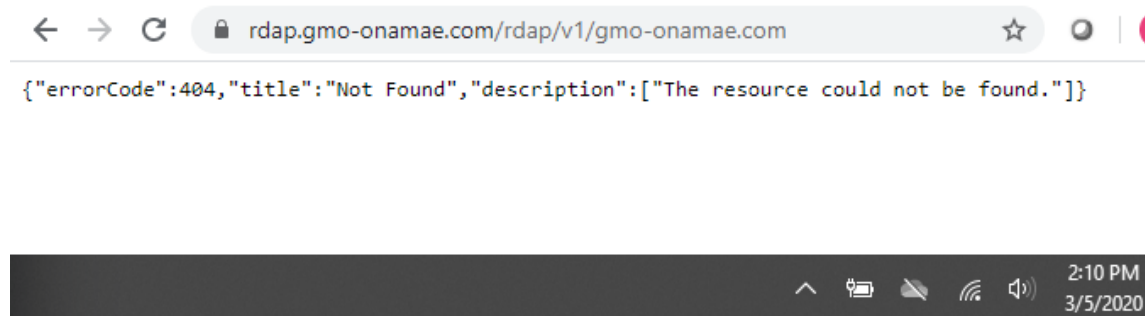
Reseller:
Domain Status: ok https://icann.org/epp#ok
Domain Status: autoRenewPeriod https://icann.org/epp#autoRenewPeriod
Registrant Organization: private
Registrant State/Province: Tokyo
Registrant Country: JP
Name Server: NSEXP1.VALUE-DOMAIN.COM
Name Server: NSEXP2.VALUE-DOMAIN.COM
DNSSEC: unsigned
URL of the ICANN Whois Inaccuracy Complaint Form is
https://www.icann.org/wicf/
>>> Last update of WHOIS database: 2019-12-17T00:40:39Z <<<
....
Access to AFILIAS WHOIS information is provided to assist persons in
determining the contents of a domain name registration record in the
Afilias registry database.

```

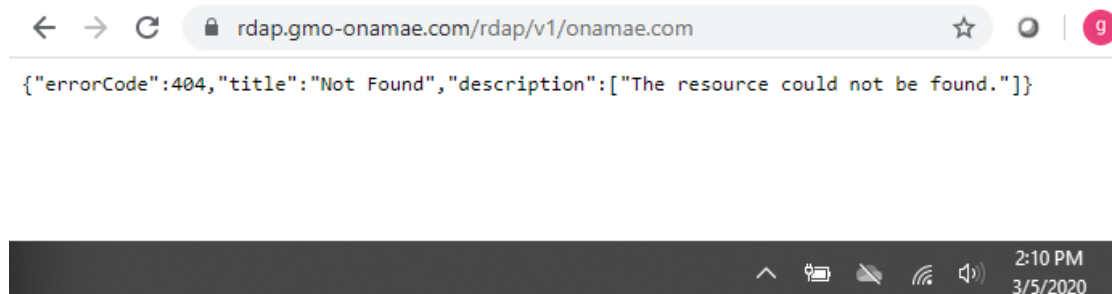
Such results don't provide the contactability information that is required by the Temporary Specification—there is no email address or link to a contact web form. For more information about similar cases, see the Tucows section above.

## RDAP Service

We were unable to obtain responses from GMO's listed RDAP server on several different days of testing from December 2019 into March 2020. For example, GMO-ONAMAE.COM is a domain that GMO sponsors, and it is the domain on which GMO runs its RDAP server. But on several days we tested, GMO's listed RDAP server could not provide a record for that domain name:



And the same for ONAMAE.COM, which is the home of GMO's registrar business web site:



On other days GMO's RDAP server responded properly, when queried from the same location, using the same browser, and checking the same names. The errors are due to technical failures on GMO's side.

GMO does not publish the registrar abuse contact information in its RDAP output, as required by ICANN's RDAP Response Profile.

### Temporary Specification Compliance

GMO's RDAP output has no email addresses or contact form URL in it. The email fields are missing even when the registrar displays the contacts' full names, street addresses, and phone numbers.

GMO does not provide the required contactability data for redacted domains in WHOIS either. For example this domain record does not have an anonymized email address or a link to a web form:

```

Domain Name: caudalie-japon.com
Registry Domain ID: 812303017_DOMAIN_COM-VRSN
Registrar WHOIS Server: whois.discount-domain.com
Registrar URL: http://www.onamae.com
Updated Date: 2020-01-30T16:08:30Z
Creation Date: 2007-02-13T18:26:10Z
Registrar Registration Expiration Date: 2021-02-13T09:26:09Z
Registrar: GMO INTERNET, INC.
Registrar IANA ID: 49
Registrar Abuse Contact Email: abuse@gmo.jp
Registrar Abuse Contact Phone: +81.337709199
Domain Status: ok https://icann.org/epp#ok
Registry Registrant ID: Not Available From Registry
Registrant Name: REDACTED FOR PRIVACY
Registrant Organization: REDACTED FOR PRIVACY
Registrant Street: REDACTED FOR PRIVACY
Registrant City: REDACTED FOR PRIVACY
Registrant State/Province: REDACTED FOR PRIVACY
Registrant Postal Code: REDACTED FOR PRIVACY
Registrant Country: REDACTED FOR PRIVACY
Registrant Phone: REDACTED FOR PRIVACY
Registrant Phone Ext: REDACTED FOR PRIVACY
Registrant Fax: REDACTED FOR PRIVACY
Registrant Fax Ext: REDACTED FOR PRIVACY
Registrant Email: REDACTED FOR PRIVACY
...
>>> Last update of WHOIS database: 2020-01-30T16:08:30Z <<<

```

We were unable to find a "contact registrant" form on the ONAMAE.COM web site.

## Xin Net Technology Corporation

Country: China

IANA ID: 120

gTLD domains under management: 5,105,935

Retail registration services offered at: xinnet.com

WHOIS service: functionality and compliance	RDAP service: functionality and compliance	Compliant with Temp Spec?	Contactability info contained in RDDS output?	Contactability Mechanism functional? (web form or anonymized email)
FAIL	FAIL	NO	NO	location of contact form revealed in Web WHOIS output only

### WHOIS Service

Xin Net's web-based WHOIS does not provide many of the fields required by ICANN's Registrar Accreditation Agreement: there are no contact data fields, no registrar abuse contact information, and no registrar ID:

The screenshot shows a web browser window with the URL `whois.xinnet.com/domains/xinnet.com#1`. The page title is "whois信息查询服务" (WHOIS Information Query Service). The search bar contains "xinnet.com" and a red "查询" (Query) button. Below the search bar, the page displays "域名 xinnet.com 的信息" (Information for domain xinnet.com). A green button "委托购买该域名" (Entrusted to purchase this domain) is visible. The update time is "2019-12-27 15:33:45". The table below provides the following information:

域名:	xinnet.com
注册商:	Xin Net Technology Corporation
注册人邮箱:	如需进行联系, 请在线填写信息
注册日期:	1999-12-17T11:53:46Z
到期日期:	2027-12-17T11:53:46Z
更新日期:	2018-05-16T02:25:42Z
域名状态:	clientdeleteprohibited(注册商禁止删除) https://icann.org/epp#clientdeleteprohibited clienttransferprohibited(注册商禁止转移) https://icann.org/epp#clienttransferprohibited serverdeleteprohibited(注册局禁止删除) https://icann.org/epp#serverdeleteprohibited servertransferprohibited(注册局禁止转移) https://icann.org/epp#servertransferprohibited serverupdateprohibited(注册局禁止更新) https://icann.org/epp#serverupdateprohibited
DNS服务器:	NS17.XINCACHE.COM NS18.XINCACHE.COM

## RDAP Service

Xin Net's RDAP output is out of compliance in several ways. It is missing required fields including contact data such as Registrant Country, the *EventAction* timestamp of when the response was served, and the required pointer to ICANN's data accuracy reporting form.

## Temporary Specification Compliance

Xin Net violates the Temporary Specification by not providing any contactability information. It redacts every piece of contact data (including required fields such as Registrant Country), and does not label the redactions as required:

```

Domain Name:xinnet.com
Registry Domain ID:15471342_domain_com-vrsn
Registrar WHOIS Server:whois.paycenter.com.cn
Registrar URL:http://www.xinnet.com
Updated Date:2018-05-16T02:25:43.00Z
Creation Date:1999-12-16T16:00:00.00Z
Registrar Registration Expiration Date:2027-12-16T16:00:00.00Z
Registrar:XINNET TECHNOLOGY CORPORATION
Registrar IANA ID:120
Registrar Abuse Contact Email:supervision@xinnet.com
Registrar Abuse Contact Phone:+86.1087128064
Reseller:Xin Net Technology Corp.
Domain Status:
Registry Registrant ID:
Registrant Name:
Registrant Organization:
Registrant Street:
Registrant City:
Registrant State/Province:
Registrant Postal Code:
Registrant Country:
Registrant Phone:
Registrant Phone Ext:
Registrant Fax:
Registrant Fax Ext:
Registrant Email:
Registry Admin ID:
Admin Name:
Admin Organization:
Admin Street:
Admin City:
Admin State/Province:
Admin Postal Code:
Admin Country:
Admin Phone:
Admin Phone Ext:
Admin Fax:

```

```

Admin Fax Ext:
Admin Email:
...
>>> Last update of WHOIS database: 2020-01-08T19:57:59.00Z <<<:

```

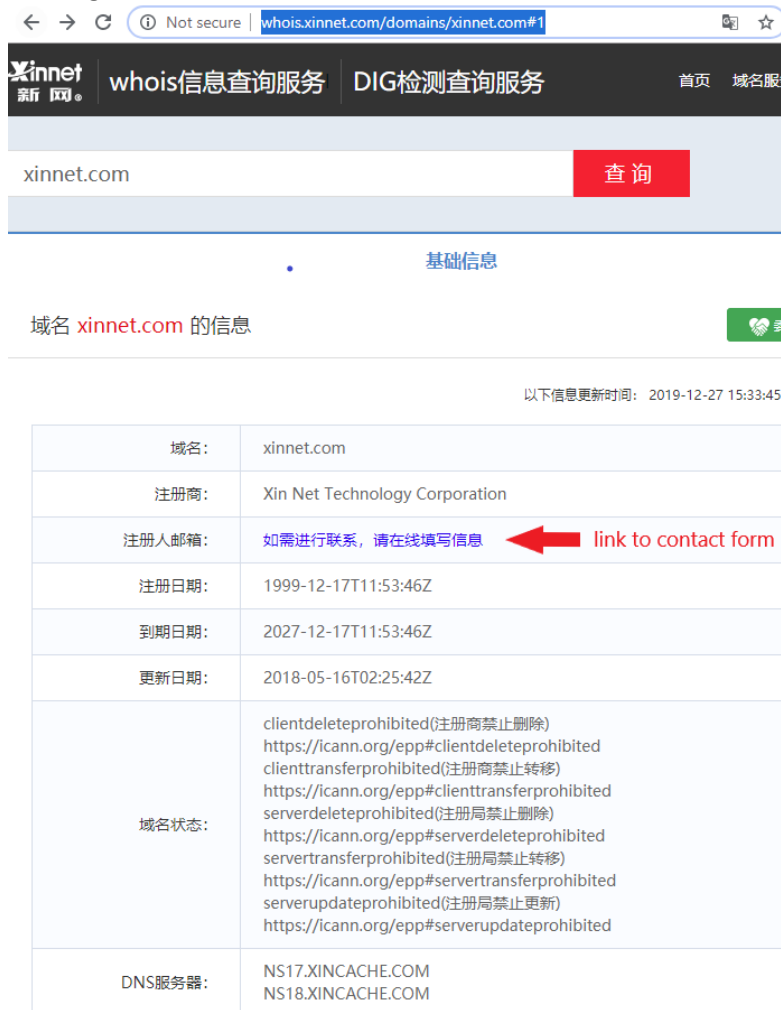
These are not attributable to the registrar complying with Chinese privacy law. Xin Net is a company and not an individual (who may have privacy rights), and the ICANN-mandated contactability mechanisms are not prohibited by Chinese law.

## Contactability Information

As seen in the above example, Xin Net does not provide a way to contact the registrant in the WHOIS output. Nor is there contactability information in the RDAP output.

## Contactability Mechanism

Xin Net offers a web contact form, but its location is not listed in port 43 WHOIS or RDAP. It is only revealed if one uses the registrar's Web-based WHOIS:



The screenshot shows the Xin Net web-based WHOIS interface for the domain xinnet.com. The page displays the following information:

- 域名: xinnet.com
- 注册商: Xin Net Technology Corporation
- 注册人邮箱: 如需进行联系, 请在线填写信息 (link to contact form)
- 注册日期: 1999-12-17T11:53:46Z
- 到期日期: 2027-12-17T11:53:46Z
- 更新日期: 2018-05-16T02:25:42Z
- 域名状态: clientdeleteprohibited(注册商禁止删除), https://icann.org/epp#clientdeleteprohibited, clienttransferprohibited(注册商禁止转移), https://icann.org/epp#clienttransferprohibited, serverdeleteprohibited(注册局禁止删除), https://icann.org/epp#serverdeleteprohibited, servertransferprohibited(注册局禁止转移), https://icann.org/epp#servertransferprohibited, serverupdateprohibited(注册局禁止更新), https://icann.org/epp#serverupdateprohibited
- DNS服务器: NS17.XINCACHE.COM, NS18.XINCACHE.COM

## 1&1 IONOS

Country: Germany, also with operations also in the USA

IANA ID: 83

gTLD domains under management: 4,969,122

Retail registration services offered at: ionos.com

WHOIS service: functionality and compliance	RDAP service: functionality and compliance	Compliant with Temp Spec?	Contactability info contained in RDDS output?	Contactability Mechanism functional? (web form or anonymized email)
OK	OK	YES	Yes	Yes; some usability problems

1&1 was one of only two registrars in this study that received green ratings across the board.

### Contactability Mechanism

1&1 makes people go through a two-step process to get a message to a domain contact. First, requestors must write an email to [dataprivacyprotected@1und1.de](mailto:dataprivacyprotected@1und1.de), which is a generic address that 1&1 applies to contacts inside and outside the EU:

Domain Name: 1and1.com  
 Registry Domain ID: 5210345\_DOMAIN\_COM-VRSN  
 Registrar WHOIS Server: whois.ionos.com  
 Registrar URL: <http://ionos.com>  
 Updated Date: 2016-09-28T07:02:50.000Z  
 Creation Date: 1997-09-28T04:00:00.000Z  
 Registrar Registration Expiration Date: 2020-09-27T04:00:00.000Z  
 Registrar: 1&1 IONOS SE  
 Registrar IANA ID: 83  
 ....  
 Registry Registrant ID: REDACTED FOR PRIVACY  
 Registrant Name: REDACTED FOR PRIVACY  
 Registrant Organization: 1&1 Internet Inc.  
 Registrant Street: REDACTED FOR PRIVACY  
 Registrant City: REDACTED FOR PRIVACY  
 Registrant State/Province: PA  
 Registrant Postal Code: REDACTED FOR PRIVACY  
 Registrant Country: US  
 Registrant Phone: REDACTED FOR PRIVACY  
 Registrant Phone Ext:  
 Registrant Fax: REDACTED FOR PRIVACY  
 Registrant Fax Ext:

Registrant Email: [domainprivacyprotected@1und1.de](mailto:domainprivacyprotected@1und1.de)

Then 1&1 sends a reply email to the requestor. This mail tells the requestor to fill out the Web form at the generic URL: [https://privacy.ionos.com/domains\\_raq/privacy](https://privacy.ionos.com/domains_raq/privacy)

So instead of just publishing the URL of the Web form in WHOIS and RDAP output (as registrars like GoDaddy do), 1&1 makes requestors complete an addition step.

The web form requires that users choose one of four “Reasons for Contact”: Legal, Abuse, Business Opportunities, or Compliance. However, the chosen category does not appear in the email message that 1&1 sends to the domain contact. The category may be a tool that 1&1 uses to monitor the usage of its contact form and what requestors are doing. The form also requires the user’s name, and requires the user to agree to the processing of his/her name.

1&1’s contact form gives the user just 255 characters for his or her message. That is not enough characters to deliver a legal notice, or to paste in a WHOIS record. It is barely enough to mention a purpose and a return name and address. (This paragraph contains far more than 255 characters.)

**IONOS** by 1&1 REGISTRAR

## Contact the Owner

To contact the owner of a domain, please use the form below.

Home Whois Complaints / Dispute About us

Domain Name

Reason for contact


E-mail Subject

Your Message

Your Name

Your E-mail Address

I agree to the processing of my name and email address for the purpose of contacting the domain name owner

I'm not a robot  reCAPTCHA  
 Privacy - Terms



## PDR Ltd.

Country: India

IANA ID: 303

gTLD domains under management: 4,737,408

PDR LTD. d.b.a. PUBLICDOMAINREGISTRY.COM is a wholly owned subsidiary of The Endurance International Group, Inc. PDR offers and utilizes services run by Endurance companies. Among these is the PrivacyProtect.org WHOIS privacy service.

WHOIS service: functionality and compliance	RDAP service: functionality and compliance	Compliant with Temp Spec?	Contactability info contained in RDDS output?	Contactability Mechanism functional? (web form or anonymized email)
problem	problem	YES	YES	YES; some usability problems

## WHOIS Service

The location of PDR's WHOIS server is WHOIS.PUBLICDOMAINREGISTRY.COM, as noted in its WHOIS output:

```

Domain Name: PRIVACYPROTECT.ORG
Registry Domain ID: D104921938-LROR
Registrar WHOIS Server: whois.publicdomainregistry.com
Registrar URL: http://www.publicdomainregistry.com
Updated Date: 2019-08-28T13:56:06Z
Creation Date: 2004-09-23T11:55:58Z
Registry Expiry Date: 2020-09-23T11:55:58Z
Registrar Registration Expiration Date:
Registrar: PDR Ltd. d/b/a PublicDomainRegistry.com

```

Unfortunately, that domain is deemed risky by browser providers and some security companies, because the site's certificate has been mismanaged:

← → ↻ Not secure | whois.publicdomainregistry.com

**Certificate**

General Details Certification Path

**Certificate Information**

This certificate is intended for the following purpose(s):

- Ensures the identity of a remote computer
- Proves your identity to a remote computer
- 1.3.6.1-4.1.6449.1.2.2.7
- 2.23.140.1.2.1

\* Refer to the certification authority's statement for details.

**Issued to:** foundationapi.com

**Issued by:** Sectigo RSA Domain Validation Secure Server CA

**Valid from:** 3/25/2019 to 4/15/2020

Issuer Statement

OK

**Your connection is not private**

Attackers might be trying to steal your information from **whois.publicdomainregistry.com** (for example, passwords, messages, or credit cards). [Learn more](#)

NET::ERR\_CERT\_COMMON\_NAME\_INVALID

Help improve Chrome security by sending URLs of some pages you visit, limited system information, and some page content to Google. [Privacy policy](#)

Hide advanced Reload

whois.publicdomainregistry.com normally uses encryption to protect your information. When Google Chrome tried to connect to whois.publicdomainregistry.com this time, the website sent back unusual and incorrect credentials. This may happen when an attacker is trying to pretend to be whois.publicdomainregistry.com, or a Wi-Fi sign-in screen has interrupted the connection. Your information is still secure because Google Chrome stopped the connection before any data was exchanged.

You cannot visit whois.publicdomainregistry.com right now because the website uses HSTS. Network errors and attacks are usually temporary, so this page will probably work later.

*Above: Chrome browser warning for whois.publicdomainregistry.com*

This problem gives the domain and the WHOIS server a low trustworthiness, and may dissuade or prevent users from accessing it by various means. The cert was invalid for a long period – at least from the first time we checked it on 2 December 2019, and continuing through 5 March 2020.

## RDAP Service: Invalid RDAP Location

ICANN's directory of registrar RDAP locations<sup>153</sup> is supposed to contain the base URLs of the registrar's RDAP server. The directory says that the base URL of PDR's RDAP server is:

`https://rdapserver.net/domain/`

This is an error: base URLs should not include the string `"/domain"`. The inclusion of `"/domain"` in the URL will cause anyone using the RDAP directory to perform lookups to the wrong location. That is

<sup>153</sup> <https://www.iana.org/assignments/registrar-ids/registrar-ids.xhtml>

precisely what is happening to ICANN's own Domain Name Registration Data Lookup tool<sup>154</sup>, which sends users to an invalid URL that fails:

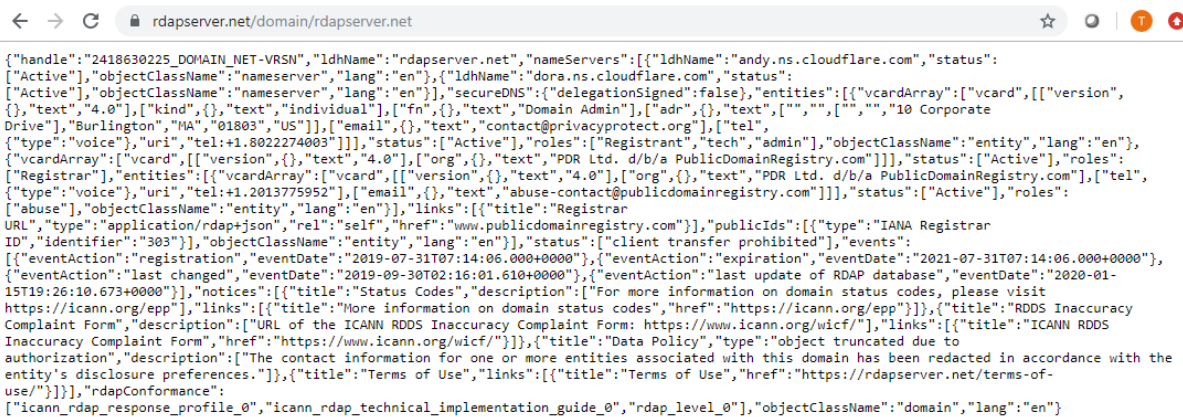


This shows that registrars have been submitting invalidly formatted RDAP base URLs to ICANN via ICANN's registrar service portal, that those bad URLs were not validated by ICANN, and they are not being corrected in ICANN's directory in a timely fashion.

The correct base URL is <https://rdapserver.net> and queries such as

<https://rdapserver.net/domain/rdapserver.net>

work correctly:



## Contactability Mechanism

Endurance makes people go through a two-step process to get a message to a domain contact. Domain registration data directs requestors to email [contact@privacyprotect.org](mailto:contact@privacyprotect.org), which is a generic address that Endurance/PrivacyProtect applies to all contacts:

Domain Name: 138IP.COM  
 Registry Domain ID: 358502536\_DOMAIN\_COM-VRSN  
 Registrar WHOIS Server: whois.publicdomainregistry.com  
 Registrar URL: [www.publicdomainregistry.com](http://www.publicdomainregistry.com)

<sup>154</sup> <https://lookup.icann.org/>

Updated Date: 2019-04-27T02:21:29Z  
Creation Date: 2006-02-26T05:48:16Z  
Registrar Registration Expiration Date: 2020-02-26T05:48:16Z  
Registrar: PDR Ltd. d/b/a PublicDomainRegistry.com  
Registrar IANA ID: 303  
Domain Status: clientTransferProhibited <https://icann.org/epp#clientTransferProhibited>  
Registry Registrant ID: Not Available From Registry  
Registrant Name: Domain Admin  
Registrant Organization: Privacy Protect, LLC (PrivacyProtect.org)  
Registrant Street: 10 Corporate Drive  
Registrant City: Burlington  
Registrant State/Province: MA  
Registrant Postal Code: 01803  
Registrant Country: US  
Registrant Phone: +1.8022274003  
Registrant Phone Ext:  
Registrant Fax:  
Registrant Fax Ext:  
Registrant Email: [contact@privacyprotect.org](mailto:contact@privacyprotect.org)  
...  
Admin Email: [contact@privacyprotect.org](mailto:contact@privacyprotect.org)  
...  
Tech Email: [contact@privacyprotect.org](mailto:contact@privacyprotect.org)

Then PrivacyProtect sends a reply email to the requestor. This mail tells the requestor to fill out the Web form at <https://privacyprotect.org>. So instead of just publishing the URL of the Web form in WHOIS and RDAP output (as allowed by ICANN, and as done by registrars such as GoDaddy), Endurance and its registrars make requestors jump through an additional hoop.

## Google Domains

Country: United States

IANA ID: 895

gTLD domains under management: 3,722,764

WHOIS service: functionality and compliance	RDAP service: functionality and compliance	Compliant with Temp Spec?	Contactability info contained in RDDS output?	Contactability Mechanism functional? (web form or anonymized email)
OK	OK	YES	Yes	Yes; somewhat difficult to use

Google Domains was one of only two registrars in this study that received green ratings across the board.

### Privacy Handling

Interestingly, Google has three levels of contact settings:

1. One setting is for “Privacy protection on”. Assumedly this is the most private.
2. One setting says “Privacy protection off: most personal WHOIS fields, such as contact details, will not be published in the WHOIS directory”, and
3. One setting allows the contact data to be fully revealed in WHOIS and RDAP.

**Privacy protection**

To help protect your info and prevent spam, a third party provides alternate contact info for your domain in the WHOIS directory at no extra cost. See their [terms of service](#). Or [learn more](#) about privacy protection.

Privacy protection on  
 Privacy protection off

Limit the personal info available to the public ?  
 Make all contact info public

Most personal WHOIS fields, such as contact details, will not be published in the WHOIS directory. [Learn more](#)

**Personal contact information**

It's unclear how options 1 and 2 above are different from each other. For domains on option 2, even for registrants outside the European Union, Google applies the maximum redaction and privacy possible under ICANN policy, including an anonymized email address:

Domain Name: blue1492.com  
Registry Domain ID: 2457319704\_DOMAIN\_COM-VRSN  
Registrar WHOIS Server: whois.google.com  
Registrar URL: https://domains.google.com  
Updated Date: 2019-11-19T22:14:01Z  
Creation Date: 2019-11-19T22:14:00Z  
Registrar Registration Expiration Date: 2020-11-19T22:14:00Z  
Registrar: Google LLC  
Registrar IANA ID: 895  
Registrar Abuse Contact Email: registrar-abuse@google.com  
Registrar Abuse Contact Phone: +1.8772376466  
Domain Status: clientTransferProhibited  
https://www.icann.org/epp#clientTransferProhibited  
Registrant Organization:  
Registrant State/Province: CA  
Registrant Country: US  
Registrant Email: c36r9q4793g273qwx@proxyregistrant.email  
....

The anonymization and privacy service is not provided not by Google. It is provided by Tucows, through Tucows' Contact Privacy, Inc. service.<sup>155</sup> The Terms of Service is actually a binding agreement between Google's registrants and Tucows, not between Google and its registrants.

---

<sup>155</sup> See <https://domains.google.com/tos?hl=en-US&gl=US> and terms of service at: [https://payments.google.com/payments/apis-secure/get\\_legal\\_document?ldi=17212](https://payments.google.com/payments/apis-secure/get_legal_document?ldi=17212)

## NameSilo

Country: United States

IANA ID: 1479

gTLD domains under management: 3,160,058

WHOIS service: functionality and compliance	RDAP service: functionality and compliance	Compliant with Temp Spec?	Contactability info contained in RDDS output?	Contactability Mechanism functional? (web form or anonymized email)
OK	FAIL	problems	YES	YES

### RDAP Service

NameSilo's RDAP output is missing many of the contractually required pieces of data, including:

- The domain's Creation Date
- The domain's Expiration Date
- The domain's Last Updated Date
- Registrar Abuse Contact
- Location of ICANN's RDDS inaccuracy reporting system
- Time that RDAP database was last updated.

### Temporary Specification and GDPR Compliance

When registering domain names, customers are asked to choose either NameSilo's "WHOIS Privacy" service or "No Privacy":

The screenshot shows the NameSilo shopping cart interface. At the top, the NameSilo logo and tagline "domains. cheap, easy and secure." are visible. Navigation buttons for "home", "register", "transfer", "hosting", and "marketplace" are present. The main heading is "Current Cart Contents" with a "HELP" button. Below this, a paragraph explains that items in the cart can be found below and that configuration options can be used to apply order settings and make changes to every item in the cart.

The "CONFIGURATION OPTIONS" section includes the following settings:

- Service Link: None (default)
- NameServers: Enter Name Servers
- Auto-Renew: Yes
- Privacy Setting: Select (dropdown menu is open showing "No Privacy" and "WHOIS Privacy")
- Set all years to: Select
- Next Discount: ?

Below the configuration options is a table of items:

ITEM	QTY	PRICE	SUB
<a href="#">thisisregistrationtest.com</a>			
Registration	1	\$8.99	\$8.99
WHOIS Privacy		\$0.00	\$0.00

NameSilo's "WHOIS Privacy" service is called PrivacyGuardian.org. Domain holders who choose to use it have anonymized email addresses appear in the RDDS output.

Users can click on the Privacy Settings "?" button to learn more:

The screenshot shows the "Domain Privacy Settings" page. It explains that as with all domains and registrars, NameSilo is required to publish information concerning the domain through a publicly available service called WHOIS. The WHOIS service allows anybody to view information such as your name, email, address, phone number, when the domain was registered and when it expires. Unfortunately, spammers have taken advantage of this WHOIS requirement which almost invariably results in SPAM directed at the information found within WHOIS. We therefore offer the following options to protect your information:

- No Privacy (Free)**  
All of your information will be made available through WHOIS
- WHOIS Privacy (Free)**  
With this option, we will use our default information for all applicable WHOIS fields. This will hide all of your "real" information from WHOIS. Please be sure to read the section on domain privacy options within our terms of service when choosing this option.

Please keep in mind that you may also change your privacy settings at any time after your order has been placed.



The above explanation is not correct, and has a major omission. Registrars are not always required to publish the registrant's personal data – registrars are in fact *contractually and legally required to redact* the data of domain holders who are subject to GDPR.

ICANN's Temporary Specification says that registrars must give domain holders the ability to consent to the publication of their data<sup>156</sup>—for example some companies want to publish their information in order to demonstrate their trustworthiness. However, the method used by NameSilo potentially violates GDPR. Here, domain holders subject to GDPR's protection are forced to either accept the NameSilo privacy service's Terms of Service, or have their data exposed publicly. They must either consent or lose their legally mandated privacy rights, and such a forcing is prohibited by GDPR. (See the section about NameCheap, above, for a similar case.)

*Our testing found that domain holders in the European Union who decline NameSilo's WHOIS Privacy service DO have their personally identifiable data publicly published via NameSilo's WHOIS and RDAP services.*

NameSilo's Terms and Conditions<sup>157</sup> are the legally binding contact between the registrar and the domain holder. It contains a number of situations in which the registrar has great discretion to reveal a domain contact's underlying personal information. One is if the domain holder fails to respond within three days, such as over a weekend:

“In the event that we or a third-party believe you to be infringing upon any part of this Agreement, we will contact you at the email address associated with your account. It is your responsibility to reply to any such communication within three (3) days. We are not responsible for any failure to deliver any such notification as things beyond our control may occur that could prevent delivery. If you fail to reply within the given time frame, or if, in our sole judgment, we believe your reply does not adequately address the points raised in our email, we reserve the right to immediately release your contact information and to suspend or terminate the WHOIS privacy service”...

Publicly disclosing the identities of EU data subjects for such contract breaches may violate GDPR. Under GDPR, personally identifiable data can be released under specific conditions, and to a specific third party who has a demonstrated legitimate interest that overrides the rights of the data subject.<sup>158</sup> GDPR is generally suspicious of data releases to the general public<sup>159</sup>, and a public release just because a subject did not respond to an email could be hard to justify.

## Contactability Mechanism

The Terms and Conditions state that NameSilo and PrivacyGuardian.org has absolute discretion as to whether it will deliver any messages sent to domain contacts under the ICANN-mandated mechanisms:

<sup>156</sup> Temporary Specification, paragraph 7.2

<sup>157</sup> <https://www.namesilo.com/popups/terms.php>

<sup>158</sup> See GDPR Article 6(1), especially 6(1)f, at <https://www.privacy-regulation.eu/en/article-6-lawfulness-of-processing-GDPR.htm>

<sup>159</sup> For example see: Article 10, which states that even data about criminal convictions must be protected; and Article 17 (the “right to be forgotten”).

“You authorize us, or the party referenced in the WHOIS record for your domains utilizing this service, to discard any and all postal mail and electronic mail addressed to the address provided in WHOIS. We are not responsible for forwarding any correspondence directed to your domain names. We will provide a mechanism for entities to make contact with you via a web page that will be referenced in the private WHOIS records. It is entirely at our discretion to forward none, some or all of the correspondence directed to you.”

Such provisions are designed to allow the registrar to filter out spam messages, which is reasonable when anonymized email addresses are used. However, such provisions also highlight a loophole: *ICANN has mandated that registrars provide contactability mechanisms, but those mechanisms are not required to function, or function with any degree of reliability.* Their effectiveness is left entirely to the registrars, and are not subject to any standards or binding service level requirements. We assume that ICANN’s Compliance Department does not test the functionality of these systems, because Compliance has no contractual tool to enforce improvements.

PrivacyGuardian regularly changes the email address assigned to a domain contact. This can reduce spam, but also eliminates the usability of any data stored by third parties, and gives requestors a limited window in which they can make a viable contact attempt before an old email address expires. (See also Tucows, above, for a detailed examination of a similar case.)

## Wild West

Country: United States

IANA ID: 440

gTLD domains under management: 2,750,299

Wild West is owned by GoDaddy. Wild West offers registration services to resellers.

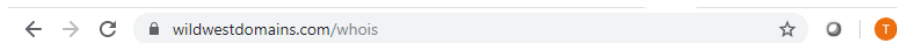
WHOIS service: functionality and compliance		RDAP service: functionality and compliance		Compliant with Temp Spec?	Contactability info contained in RDDS output?		Contactability Mechanism functional? (web form or anonymized email)
OK	notable rate-limiting	OK	notable rate-limiting	YES	WHOIS: YES. RDAP: NO	RDAP: NO	YES; some usability problems

### Rate-Limiting

Wild West rate-limits in the same way as its parent company GoDaddy (see above).

### Inaccurate Data Policy Statement

Wild West's web site states that all contact data is always public, and is required to be by ICANN, when in fact that is not the case:



What's in the WHOIS?

**The WHOIS database is a searchable list of every single domain currently registered in the world.** To find out who owns a particular domain name, all you have to do is type it into the box above.

The Internet Corporation of Assigned Names and Numbers (ICANN) requires accredited registrars to publish the registrant's contact information, domain creation and expiration dates and other information in the WHOIS listing as soon as a domain is registered.

So everyone can see my information?

**The short answer is yes.** The name, address and phone number you submit when you register your domain is publicly accessible by anyone at any time. This may be good news if you have a domain name you'd like to sell. Or it may be bad news if your name and contact info is collected by a spammer, hacker or other cyber-criminal.

## FastDomain / Bluehost

Country: United States

IANA ID: 1154

gTLD domains under management: 2,340,788

We examined the registration process and RDP practices at Bluehost, which is a reseller of FastDomain. Both Bluehost and FastDomain are owned by Endurance International Group. Bluehost is the seventh-largest web hosting company in the world.<sup>160</sup> Endurance is one of the largest and best-resourced companies in the gTLD industry: it is the parent of more than 80 hosting, domain name, and Internet services companies, including Domain.com, Constant Contact, resellerclub, and HostGator. Together, Endurance International's companies sponsor more than 12,000,000 domain names.<sup>161</sup>

Per ICANN's Registrar Accreditation Agreement, the registrar is ultimately responsible for all registrations made by its resellers, and for making sure that its resellers comply with all ICANN obligations.<sup>162</sup> Services for domains registered at Bluehost are listed in WHOIS as:

```
Registrar WHOIS Server: whois.bluehost.com
Registrar URL: http://www.bluehost.com/
Registrar: FastDomain Inc.
Registrar IANA ID: 1154
Registrar Abuse Contact Email: support@bluehost.com
Reseller: BlueHost.Com
```

WHOIS service: functionality and compliance	RDAP service: functionality and compliance	Compliant with Temp Spec?	Contactability info contained in RDDS output?	Contactability Mechanism functional? (web form or anonymized email)
FAIL	problem	OK	YES	NO for masked EU data

### WHOIS Service

Bluehost is non-compliant with the Registrar Accreditation Agreement because it serves incorrect timestamps for its WHOIS responses. This timestamp exists for SLA monitoring and compliance, and is important for forensic and evidentiary purposes.

<sup>160</sup> January 2020 ranking at <https://hostadvice.com/marketshare/>

<sup>161</sup> <https://www.endurance.com/our-customers>

<sup>162</sup> 2013 Registrar Accreditation Agreement, paragraph 3.12: "Registrar is responsible for the provision of Registrar Services for all Registered Names that Registrar sponsors being performed in compliance with this Agreement, regardless of whether the Registrar Services are provided by Registrar or a third party, including a Reseller. Registrar must enter into written agreements with all of its Resellers that enable Registrar to comply with and perform all of its obligations under this Agreement." <https://www.icann.org/resources/pages/approved-with-specs-2013-09-17-en>

For example, a WHOIS query performed on 17 January 2020 yielded:

```

Domain Name: BLUEHOST.COM
Registry Domain ID: 92239113_DOMAIN_COM-VRSN
Registrar WHOIS Server: whois.fastdomain.com
Registrar URL: http://www.fastdomain.com/
Updated Date: 2016-12-02T03:12:17Z
Creation Date: 2002-11-15T10:33:55Z
Registrar Registration Expiration Date: 2022-11-15T10:33:55Z
Registrar: FastDomain Inc.
Registrar IANA ID: 1154
...
Reseller: FastDomain Inc.
Domain Status: clientTransferProhibited
https://icann.org/epp#clientTransferProhibited
Registry Registrant ID:
Registrant Name: BLUEHOST INC
Registrant Organization: BLUEHOST, INC
Registrant Street: 560 E TIMPANOGOS PKWY
Registrant City: OREM
Registrant State/Province: UTAH
...
>>> Last update of WHOIS database: 2016-12-02T03:12:17Z <<<

```

The “Last Update of WHOIS database” field should show the time and date when the registrar last updated its WHOIS database, which per contract is supposed to be updated within 60 minutes of any change to any domain.<sup>163</sup> Instead, Bluehost tells the last time it updated this specific domain. The above output implies that the last time Bluehost performed an update to its WHOIS database was in 2016, which is certainly not accurate. (See Tucows, above, for a similar case.)

## Difficult-to-Find WHOIS

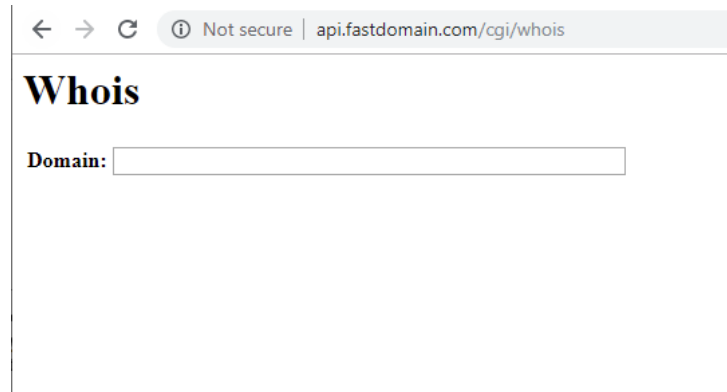
ICANN’s Registrar Accreditation Agreement requires that every registrar (and reseller) provide “a web-based Directory Service providing free public query-based access”.<sup>164</sup> However, the contract does not require this service to be in a place *where users can find it*. This is a shortcoming in the contract, especially since registrars are now the only source of gTLD domain contact and contactability information, which can no longer be obtained from the registry.

Bluehost is an example of a company that has made it very difficult to find its Web-based WHOIS service. We searched the Bluehost site for 15 minutes to find a link to the web-based WHOIS, but were unable to find any. Searching Bluehost’s FAQ section failed to reveal the location, either.

It turns out that the WHOIS search is on a page outside Bluehost’s site navigational structure:

<sup>163</sup> <https://www.icann.org/resources/pages/registry-agreement-raa-rdds-2015-04-27-en> paragraph 8

<sup>164</sup> Registration Data Directory (WHOIS) Service Specification, paragraph 1, at <https://www.icann.org/resources/pages/approved-with-specs-2013-09-17-en#whois>



It does not appear that any page on BLUEHOST.COM has a link to the WHOIS lookup page.<sup>165</sup> It appears that the page sits alone, isolated and not linked to from Bluehost. This makes it difficult for ordinary Internet users to find it and discover how to contact Bluehost's registrants.

In contrast, ICANN's Registrar Accreditation Agreement makes it mandatory for every registrar to prominently publish the email address of its abuse contact, "on the home page of Registrar's website (or in another standardized place that may be designated by ICANN from time to time)."<sup>166</sup>

## RDAP Service

FastDomain has provided an invalid base URL into ICANN's directory of registrar RDAP servers. This sends users to the wrong location, and the queries fail:



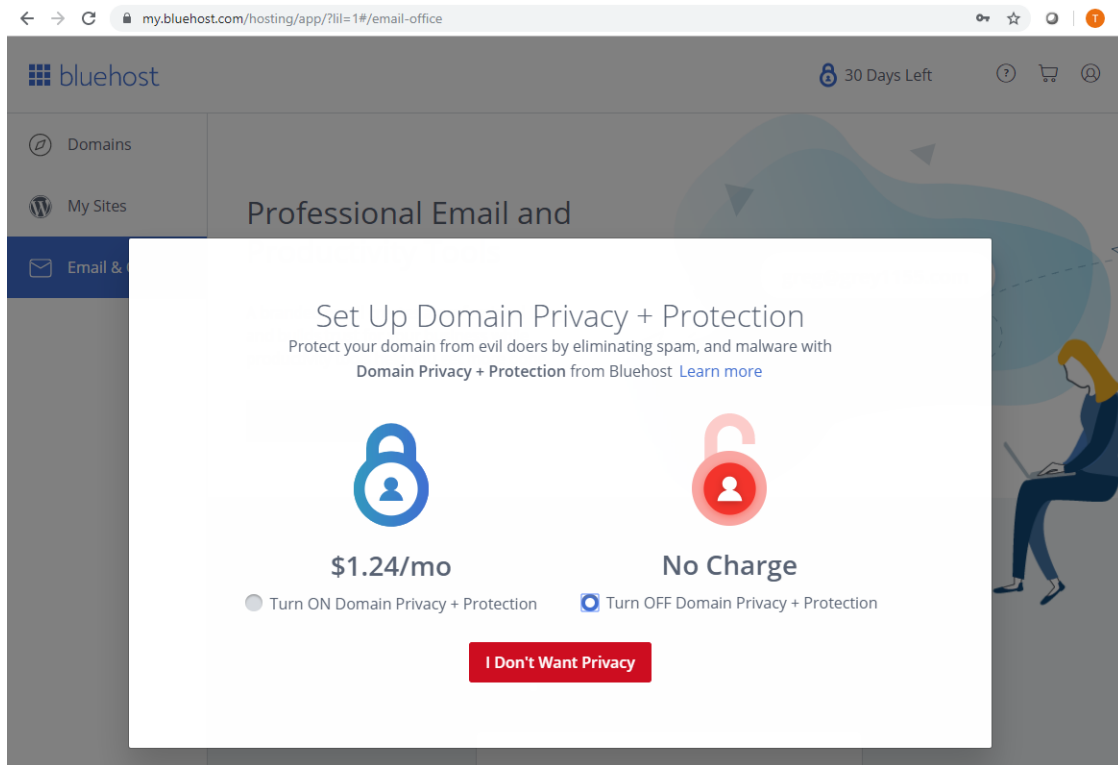
See the section about registrar PDR Ltd., above, for a fuller explanation of this problem.

## GDPR Compliance

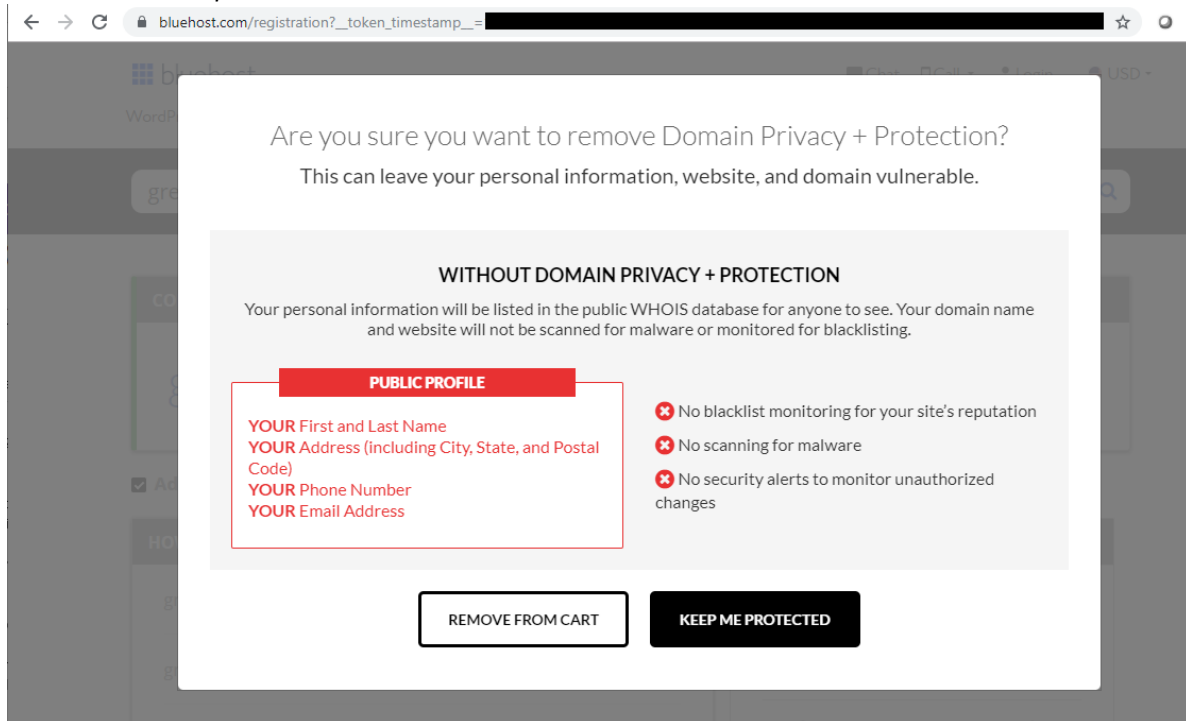
Bluehost adds privacy protection to the customer's shopping cart by default. Bluehost charges \$11.88 per year for the service, or \$1.24 on a monthly basis:

<sup>165</sup> We used three search tools to look whether any page on BLUEHOST.COM had a link to the WHOIS search page *api.fastdomain.com/cgi/whois*, or to the subdomain *api.fastdomain.com*. We were unable to find any.

<sup>166</sup> Paragraph 3.18



BlueHost then tells customers that if they do not accept the Domain Privacy + Protection product, their contact data *will be public*:



After registration, EU registrants who decline the Domain Privacy + Protection are told in the customer control panel that their contact data is both “private” and “public information and is displayed on the ICANN WHOIS public directory”:

my.bluehost.com/hosting/app/?lil=1#/domains/grey1155.com/contact

bluehost

My Domains / grey1155.com / Contact

Registrar: Bluehost | Registration Date: 2019 | Contact Info: Verified Private | Transfer Lock: 4 Day Lock

Contact info verified  
Domain registration contact information is considered public information and is displayed on the ICANN WHOIS public directory.

**Registrant**  
Person or organization who owns the domain name

Name: [REDACTED]  
Address 1: [REDACTED] FR  
Address 2: [REDACTED]  
Email: [REDACTED].com

When such registrants look up their data in WHOIS, they find that BlueHost (FastDomain) *does* apply masking, to protect the contact data per GDPR:

```

Domain Name: GREY1155.COM
Registry Domain ID: 2458662705_DOMAIN_COM-VRSN
Registrar WHOIS Server: whois.bluehost.com
Registrar URL: http://www.bluehost.com/
Updated Date: 2019-11-22T21:50:43Z
Creation Date: 2019-11-22T21:39:20Z
Registrar Registration Expiration Date: 2020-11-22T21:39:20Z
Registrar: FastDomain Inc.
Registrar IANA ID: 1154
Registrar Abuse Contact Email: support@bluehost.com
Registrar Abuse Contact Phone: +1.8017659400
Reseller: BlueHost.Com
Domain Status: clientTransferProhibited
https://icann.org/epp#clientTransferProhibited
Registry Registrant ID:
Registrant Name: GDPR MASKED
Registrant Organization: GDPR MASKED
Registrant Street: GDPR MASKED
Registrant City: GDPR MASKED
Registrant State/Province: GDPR MASKED

```

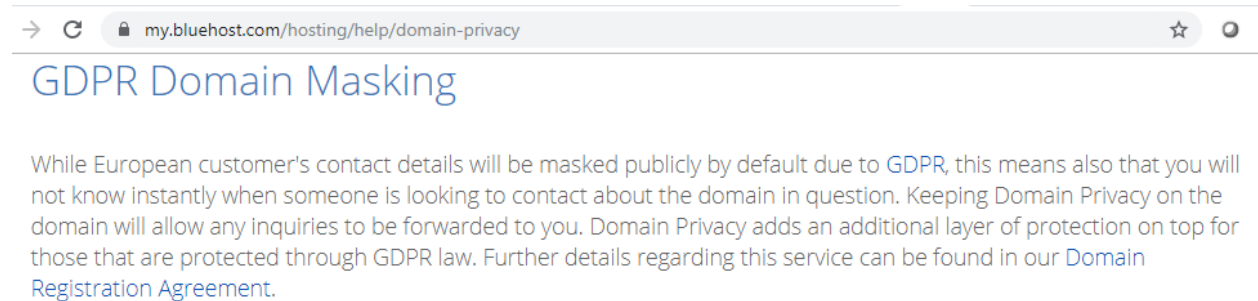


Registrant Postal Code: **GDPR Masked**  
 Registrant Country:  
 Registrant Phone: +0.0000000000  
 Registrant Phone Ext:  
 Registrant Fax: +0.0000000000  
 Registrant Fax Ext:  
 Registrant Email: **GDPR-MASKING@FASTDOMAIN.COM**

On one hand, this result is proper: EU-based contacts get the protection they are guaranteed under GDPR, they are not charged for the right, and they are not forced into the Domain Privacy + Protection product's contract/terms of service.

On the other hand, the process has problems. It may confuse EU-based registrants about what happens to their data. It erroneously tells them that their data will be exposed unless they purchase the protection service. The process sells privacy protection even to EU-based registrars who are entitled to protection for free under GDPR. And then the customer's online account gives conflicting information about what data is published in WHOIS or RDAP. These conflict with the GDPR's requirement that the processing of an individual's data be performed only when the terms of consent are presented "in an intelligible and easily accessible form, using clear and plain language."<sup>167</sup>

It takes reading of an addendum to Endurance's Privacy Policy<sup>168</sup> or a reading in Bluehost's FAQ section to find out that European customers' contact details will be masked:



The screenshot shows a browser window with the address bar containing "my.bluehost.com/hosting/help/domain-privacy". The page title is "GDPR Domain Masking". The main text reads: "While European customer's contact details will be masked publicly by default due to GDPR, this means also that you will not know instantly when someone is looking to contact about the domain in question. Keeping Domain Privacy on the domain will allow any inquiries to be forwarded to you. Domain Privacy adds an additional layer of protection on top for those that are protected through GDPR law. Further details regarding this service can be found in our [Domain Registration Agreement](#)."

Further, the FAQ states that EU registrants who receive masking will "not know instantly when someone is looking to contact [you] about the domain in question. Keeping Domain Privacy on the domain will allow any inquiries to be forwarded to you." In other words, EU registrants are disadvantaged, and are encouraged to purchase privacy protection so that they can actually be reached.

Regarding data retention, ICANN's Temporary Specification states that:

7.1. Notices to Registered Name Holders Regarding Data Processing. Registrar SHALL provide notice to each existing, new or renewed Registered Name Holder stating... 7.1.10 The period for which the Personal Data will be stored, or if it is not possible to indicate the period, the criteria that will be used to determine that period;

<sup>167</sup> GDPR Article 7(2)

<sup>168</sup> See "EU/EEA natural persons" at <https://www.endurance.com/privacy/domains-addendum>

Registrations made at FastDomain are subject to Endurance’s Privacy Policy.<sup>169</sup> It states that Endurance companies may retain the personal information of domain contacts for “no more than seven years” (or longer if required by law) after it is no longer needed to provide service:

We retain your personal information to provide services to you and as otherwise necessary to comply with our legal obligations, resolve disputes, and enforce our agreements. We will retain your personal information for no more than seven years following the later of (i) the date on which you terminate your use of the Services or (ii) May 25, 2018, unless we are otherwise required by law or regulation to retain your personal information for longer.

It does not state an actual retention length for domain contacts subject to GDPR, just a notice that it will be “as long as necessary.” As described above (see Tucows, above), many registrars believe that under GDPR, retention for no more than a year is appropriate.

### Contactability Mechanism

We sent an email to GDPR-MASKING@FASTDOMAIN.COM, inquiring about a domain we registered at FastDomain, using a different email address for the registrant. Neither the sending address nor the registrant’s email address received any communication from or through FastDomain: no auto-response, no forwarding of the original message, nor any other communication. There are two possible explanations: BlueHost/FastDomain never forwarded the message, or the forwarded message was not delivered by the registrant contact’s email provider, Microsoft, which decided it was too risky to deliver into the spam folder.

---

<sup>169</sup> <https://www.endurance.com/privacy/privacy> and <https://www.endurance.com/privacy/domains-addendum>

## OVH SAS

Country: France

IANA ID: 433

gTLD domains under management: 2,119,173

WHOIS service: functionality and compliance	RDAP service: functionality and compliance	Compliant with Temp Spec?	Contactability info contained in RDDS output?			Contactability Mechanism functional? (web form or anonymized email)
FAIL	FAIL	OK	Web-based: NO	WHOIS: YES	RDAP: YES	YES

### WHOIS Service Compliance

The registrar's web-based WHOIS does not provide output from OVH's own database or port 43 server, not even for .COM domains. Instead it provides data sourced from Verisign's port 43 server:

← → ↻ [ovh.com/fr/cgi-bin/tools/check\\_whois.pl](https://ovh.com/fr/cgi-bin/tools/check_whois.pl)

Résultat des opérations:  
**Whois**  
 Domain Name: OVH.COM  
 Registry Domain ID: 1938925\_DOMAIN\_COM-VRSN  
 Registrar WHOIS Server: whois.ovh.com  
 Registrar URL: http://www.ovh.com  
 Updated Date: 2016-01-11T16:45:19Z  
 Creation Date: 1997-02-07T05:00:00Z  
 Registry Expiry Date: 2025-02-08T05:00:00Z  
 Registrar: OVH sas  
 Registrar IANA ID: 433  
 Registrar Abuse Contact Email: abuse@ovh.net  
 Registrar Abuse Contact Phone: +33.972101007  
 Domain Status: clientDeleteProhibited <https://icann.org/epp#clientDeleteProhibited>  
 Domain Status: clientTransferProhibited <https://icann.org/epp#clientTransferProhibited>  
 Name Server: DNS.OVH.NET  
 Name Server: DNS10.OVH.NET  
 Name Server: DNS200.ANYCAST.ME  
 Name Server: NS.OVH.NET  
 Name Server: NS10.OVH.NET  
 Name Server: NS200.ANYCAST.ME  
 DNSSEC: unsigned  
 URL of the ICANN Whois Inaccuracy Complaint Form: <https://www.icann.org/wicf/>  
 >>> Last update of whois database: 2020-02-15T22:18:34Z <<<

For more information on Whois status codes, please visit <https://icann.org/epp>

NOTICE: The expiration date displayed in this record is the date the registrar's sponsorship of the domain name registration in the registry is currently set to expire. This date does not necessarily reflect the expiration date of the domain name registrant's agreement with the sponsoring registrar. Users may consult the sponsoring registrar's Whois database to view the registrar's reported date of expiration for this registration.

TERMS OF USE: You are not authorized to access or query our Whois database through the use of electronic processes that are high-volume and automated except as reasonably necessary to register domain names or modify existing registrations; the Data in VeriSign Global Registry Services' ("VeriSign") Whois database is provided by VeriSign for information purposes only and to assist persons in obtaining information

This means that users cannot find contactability information, because registry output does not contain that. For more about problem, please see the WHOIS Service section for Tucows, above.

ICANN registrar contract states that the “Last Update of WHOIS database” field should show the time and date when the registrar last updated its WHOIS database, which per contract is supposed to be updated within 60 minutes of any change to any domain.<sup>170</sup> But a query on 15 January 2019 found that OVH’s WHOIS database was supposedly last updated in August 2019:

```
Domain Name: ovh.com
Registry Domain ID: 1938925_DOMAIN_COM-VRSN
Registrar WHOIS Server: whois.ovh.com
Registrar URL: https://www.ovh.com
Updated Date: 2016-01-11T15:45:19.0Z
Creation Date: 1997-02-07T04:00:00.0Z
...
>>> Last update of WHOIS database: 2019-08-21T10:02:08.0Z <<<
```

## RDAP Service Compliance

OVH’s RDAP output fails to provide required fields including:

- the {"eventAction": "last update of RDAP database", "eventDate":} data required by ICANN’s RDAP Response Profile. (See Tucows, above, for more about this field.)
- the pointer to ICANN RDDS inaccuracy reporting system.

```
{
  "notices": [
    {
      "title": "Terms of Use",
      "links": [
        {
          "href": "https://rdap.ovh.com/terms_of_use.html",
          "value": "https://rdap.ovh.com/terms_of_use.html",
          "type": "text/html",
          "rel": "related"
        }
      ],
      "description": "URL of the ICANN RDDS Inaccuracy Complaint Form: https://icann.org/wicf",
      "links": [
        {
          "value": "https://icann.org/wicf",
          "type": "text/html",
          "href": "https://icann.org/wicf",
          "rel": "related"
        },
        {
          "title": "RDDS Inaccuracy Complaint Form",
          "description": "For more information on domain status codes, please visit https://icann.org/epp",
          "events": [
            {
              "eventAction": "registration",
              "eventDate": "1997-02-07T04:00:00.0Z",
              "eventDate": "2025-02-08T04:00:00.0Z",
              "eventAction": "expiration",
              "eventDate": "2016-01-11T15:45:19.0Z",
              "eventAction": "last update",
              "port43": "whois.ovh.com",
              "status": [
                "client delete prohibited",
                "client transfer prohibited"
              ],
              "handle": "1938925_DOMAIN_COM-VRSN",
              "objectClassName": "domain",
              "rdapConformance": [
                "rdap_level_0",
                "icann_rdap_response_profile_0",
                "icann_rdap_technical_implementation_guide_0"
              ],
              "unicodeName": "ovh.com",
              "nameservers": [
                {
                  "ldhName": "ns.ovh.net",
                  "objectClassName": "nameserver",
                  "ldhName": "ns10.ovh.net",
                  "objectClassName": "nameserver",
                  "ldhName": "ns10.ovh.net"
                },
                {
                  "objectClassName": "nameserver",
                  "ldhName": "dns.ovh.net",
                  "objectClassName": "nameserver",
                  "ldhName": "dns10.ovh.net"
                },
                {
                  "objectClassName": "nameserver",
                  "ldhName": "dns200.anycast.me",
                  "objectClassName": "nameserver",
                  "ldhName": "ns200.anycast.me"
                }
              ],
              "entities": [
                {
                  "remarks": [
                    {
                      "description": "Some of the data in this object has been removed",
                      "title": "REDACTED FOR PRIVACY",
                      "type": "object redacted due to authorization"
                    }
                  ],
                  "vcardArray": [
                    {
                      "version": {},
                      "text": "4.0",
                      "org": {
                        "text": "OVH SAS"
                      },
                      "adr": {
                        "text": [
                          "",
                          "",
                          "",
                          "",
                          "",
                          "FR"
                        ],
                        "contact-uri": [
                          {
                            "text": "t9w48ym5nsrq3543eu10@p.o-w-o.info"
                          }
                        ],
                        "roles": [
                          "registrant"
                        ],
                        "objectClassName": "entity",
                        "roles": [
                          "registrant"
                        ],
                        "technical": [
                          {
                            "administrative": {
                              "vcardArray": [
                                {
                                  "version": {},
                                  "text": "4.0",
                                  "adr": {
                                    "text": [
                                      "",
                                      "",
                                      "",
                                      "",
                                      "",
                                      ""
                                    ],
                                    "contact-uri": [
                                      {
                                        "text": "ihcsntv17uevwhn1n4ba@z.o-w-o.info"
                                      }
                                    ],
                                    "remarks": [
                                      {
                                        "title": "REDACTED FOR PRIVACY",
                                        "type": "object redacted due to authorization",
                                        "description": "Some of the data in this object has been removed"
                                      }
                                    ],
                                    "handle": "433",
                                    "objectClassName": "entity",
                                    "roles": [
                                      "registrant"
                                    ],
                                    "vcardArray": [
                                      {
                                        "version": {},
                                        "text": "4.0",
                                        "fn": {
                                          "text": "OVH, SAS"
                                        },
                                        "publicids": [
                                          {
                                            "identifier": "433",
                                            "type": "IANA Registrar ID"
                                          },
                                          {
                                            "port43": "whois.ovh.com",
                                            "vcardArray": [
                                              {
                                                "version": {},
                                                "text": "4.0",
                                                "tel": [
                                                  {
                                                    "work": {
                                                      "voice": {
                                                        "pref": "1",
                                                        "uri": "tel:+33.972101007",
                                                        "email": {
                                                          "type": "work",
                                                          "text": "abuse@ovh.net"
                                                        }
                                                      },
                                                      "objectClassName": "entity",
                                                      "handle": "433",
                                                      "roles": [
                                                        "abuse"
                                                      ]
                                                    },
                                                    "secureDNS": {
                                                      "delegationSigned": false,
                                                      "lang": "en-US"
                                                    },
                                                    "links": [
                                                      {
                                                        "href": "https://rdap.ovh.com/domain/ovh.com",
                                                        "type": "application/rdap+json",
                                                        "value": "https://rdap.ovh.com/domain/ovh.com",
                                                        "rel": "self",
                                                        "ldhName": "ovh.com"
                                                      }
                                                    ]
                                                  }
                                                ]
                                              }
                                            ]
                                          }
                                        ]
                                      }
                                    ]
                                  }
                                ]
                              }
                            }
                          }
                        ]
                      }
                    }
                  ]
                }
              ]
            }
          ]
        }
      ]
    }
  ]
}
```

<sup>170</sup> <https://www.icann.org/resources/pages/registry-agreement-raa-rdds-2015-04-27-en> paragraph 8

## Temporary Specification Compliance

The registrar's output does not comply with the labeling requirements of the Temporary Specification, which states that redacted fields for GDPR-protected data "MUST provide in the value section of the redacted field text substantially similar to the following: 'REDACTED FOR PRIVACY'."<sup>171</sup> OVH simply leaves them blank:

```
Domain Name: ovh.com
Registry Domain ID: 1938925_DOMAIN_COM-VRSN
Registrar WHOIS Server: whois.ovh.com
Registrar URL: https://www.ovh.com
Updated Date: 2016-01-11T15:45:19.0Z
Creation Date: 1997-02-07T04:00:00.0Z
Registrar Registration Expiration Date: 2025-02-08T04:00:00.0Z
Registrar: OVH, SAS
Registrar IANA ID: 433
Registrar Abuse Contact Email: abuse@ovh.net
Registrar Abuse Contact Phone: +33.972101007
Domain Status: clientDeleteProhibited
https://icann.org/epp#clientDeleteProhibited
Domain Status: clientTransferProhibited
https://icann.org/epp#clientTransferProhibited
Registry Registrant ID:
Registrant Name:
Registrant Organization: OVH SAS
Registrant Street:
Registrant City:
Registrant State/Province:
Registrant Postal Code:
Registrant Country: FR
Registrant Phone:
Registrant Phone Ext:
Registrant Fax:
Registrant Fax Ext:
Registrant Email: t9w48ym5nsrq3543eu10@p.o-w-o.info
```

---

<sup>171</sup> Temporary Specification for gTLD Registration Data, Appendix A, paragraph 2.2, at: <https://www.icann.org/resources/pages/gtld-registration-data-specs-en/#appendixA>

## Key-Systems GmbH

Country: Germany

IANA ID: 269

gTLD domains under management: 1,396,386

Key-Systems provides registration services on the domains DOMAINDISCOUNT24.COM and RRPPROXY.COM, with KEY-SYSTEMS.NET as a corporate Web site.

WHOIS service: functionality and compliance	RDAP service: functionality and compliance	Compliant with Temp Spec?	Contactability info contained in RDDS output?		Contactability Mechanism functional? (web form or anonymized email)
FAIL	FAIL	problems	Web WHOIS: problem	RDAP: OK	Web form; not tested

### WHOIS Service Compliance

The Key-Systems web-based WHOIS does not work for any domains other than .COM and .NET. This is a violation of the Registrar Accreditation Agreement, which requires every registrar's web-based WHOIS to provide "data concerning *all* active Registered Names sponsored by Registrar *in any gTLD*" [emphasis added].<sup>172</sup>

For example the domain KEY-SYSTEMS.INFO is sponsored by Key-Systems. The domain shows up in the registry WHOIS. But the Key-Systems WHOIS tells users that KEY-SYSTEMS.INFO *does not exist*:

<sup>172</sup> 2013 Registrar Accreditation Agreement, Registrar Data Directory Service (WHOIS) Specification, paragraph 1, at: <https://www.icann.org/resources/pages/approved-with-specs-2013-09-17-en#whois>. The italicized language below states that the Web-based service must provide data for the registrar's sponsored names in all gTLDs, while the underlined language says that the expectation is different for the registrar's port 43 server, which must provide data for the thin .COM and .NET TLDs only: "Registrar shall provide *an interactive web page and, with respect to any gTLD operating a 'thin' registry, a port 43 Whois service* (each accessible via both IPv4 and IPv6) *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 in any gTLD*. Until otherwise specified by a Consensus Policy, such data shall consist of the following elements as contained in Registrar's database:..."

The image shows two browser windows side-by-side. The left window is at [whoisweb.afilias.net](http://whoisweb.afilias.net) and shows a successful WHOIS lookup for `key-systems.info`. The domain name `KEY-SYSTEMS.INFO` is highlighted with a red arrow. The right window is at [whois-web.rrproxy.net](http://whois-web.rrproxy.net) and shows a failed WHOIS lookup for `key-systems.info`. The message "The queried object does not exist" is highlighted with a red arrow.

*Above left: WHOIS from the registry shows that the domain exists. Above right: the Key-Systems WHOIS says the domain doesn't exist.*

This prevents visitors to the registrar's site from looking up information of any kind—including contact and contactability information—about hundreds of thousands of domains sponsored by Key-Systems, including all the .ORG and all the new gTLD domains that Key-Systems has sold.

## RDAP Compliance

Key-Systems' RDAP output does not comply with requirements in ICANN's RDAP Response Profile because it is missing the required pointer to ICANN's RDDS inaccuracy reporting form.<sup>173</sup>

<sup>173</sup> RDAP Response Profile, Paragraph 2.1, at <https://www.icann.org/en/system/files/files/rdap-response-profile-15feb19-en.pdf>

## Temporary Specification and GDPR Compliance

Key-Systems offers a WHOIS privacy service that customers can opt into:

The screenshot shows the 'thisexample1.com' registration in the cart. The price is \$10.20 (€9.18) for a 1-year period. A banner offers the 'Whois Privacy Service' for activation. The subtotal is \$10.20 (€9.18) and the total amount is \$10.20 (€9.18). The payment method is 'Not set up (setup)'. A 'Redeem' button is visible for a promotion code.

Product	Period	Options	Price incl. VAT
thisexample1.com Registration	1 Year		<del>\$13.06</del> \$ 10.20
<input type="checkbox"/> I wish immediate execution of my order (see <a href="#">Withdrawal</a> ) and acknowledge and accept the general terms and conditions, as well as the registration policies and the trustee agreements.			Subtotal \$ 10.20 (€ 9.18) + 0% VAT \$ 0.00 (€ 0.00) <b>Amount \$ 10.20 (€ 9.18)</b>

Key-Systems charges €3.33 for the service, and says of the service: “Whois privacy prevents the disclosure of your personal data”:

The screenshot shows the 'thisexample1.com' registration in the cart with the 'Whois Privacy Service' selected. The price is now \$13.53 (€12.18) for a 1-year period. A callout box states: 'Whois privacy prevents the disclosure of your personal data.' The subtotal is \$13.53 (€12.18) and the total amount is \$13.53 (€12.18). The payment method is 'Not set up (setup)'. A 'Redeem' button is visible for a promotion code.

Product	Period	Options	Price incl. VAT
thisexample1.com Remove from cart	1 Year		<del>\$13.06</del> \$ 10.20 Plus Whois Privacy \$ 3.33
<input type="checkbox"/> I wish immediate execution of my order (see <a href="#">Withdrawal</a> ) and acknowledge and accept the general terms and conditions, as well as the registration policies and the trustee agreements.			Subtotal \$ 13.53 (€ 12.18) + 0% VAT \$ 0.00 (€ 0.00) <b>Amount \$ 13.53 (€ 12.18)</b>

Registrants may therefore believe that their data will be exposed unless they purchase the service. What Key-Systems does not tell its customers during the registration process is that Key-Systems is *not allowed* to publish personal contact data for *any* gTLD domains, because Key-Systems is located in the



European Union and subject to GDPR. It is unclear to customers what will happen to their private data, and some customers may pay for privacy when they don't need to.

It is unclear if or how Key-Systems's control panel offers registrants the ability to affirmatively consent to make their data be published in RDDS, as required by the Temporary Specification:

7.2.1. As soon as commercially reasonable, Registrar MUST provide the opportunity for the Registered Name Holder to provide its Consent to publish the additional contact information outlined in Section 2.3 of Appendix A for the Registered Name Holder [this data includes Registrant Name, Registrant Street Address, and Registrant Phone Number]

In contrast, Key-Systems' Domain-contact.org site notes that contact data isn't displayed anymore because of GDPR:

#### FAQ

**Why do I need to use this website to get in touch with a contact for a domain?**

Under the new European General Data Protection Regulation (GDPR) whois data is not displayed publicly any more for many domains. As a consequence contact data, such as name and email address is not published. Instead a link to this website published and its purpose is to provide a method to send a message to the domain contact.

The Key-Systems Domain Registration Agreement states that "Registrar is authorized to permanently store the data required for billing purposes in accordance with legal provisions." This is contradictory, confusing language. Under GDPR, storage of this kind of data cannot be both "permanent" and legal. GDPR only allows retention of data for a reasonable period after it is no longer being used for the purpose for which it was collected.

### Contactability Mechanism

Key-Systems makes people go through a two-step process to get a message to a domain contact. Key-Systems redacts all contact data, no matter where its registrants are located in the world.<sup>174</sup> First, requestors must write an email to the default address that Key-Systems assigns to domains, [info@domain-contact.org](mailto:info@domain-contact.org):

```
Domain Name: make-more-room.com
Registry Domain ID: 2468605461_DOMAIN_COM-VRSN
Registrar WHOIS Server: whois.rrpproxy.net
Registrar URL:
Updated Date: 2019-12-18T08:18:31Z
```

<sup>174</sup> Except when a privacy/proxy service is used by the registrant.

Creation Date: 2019-12-18T05:45:19Z  
 Registrar Registration Expiration Date: 2020-12-18T05:45:19Z  
 Registrar: Key-Systems GmbH  
 Registrar IANA ID: 269  
 ...  
 Registrant Name: REDACTED FOR PRIVACY  
 Registrant Organization: REDACTED FOR PRIVACY  
 Registrant Street: REDACTED FOR PRIVACY  
 Registrant Street: REDACTED FOR PRIVACY  
 Registrant Street: REDACTED FOR PRIVACY  
 Registrant City: REDACTED FOR PRIVACY  
 Registrant State/Province: REDACTED FOR PRIVACY  
 Registrant Postal Code: REDACTED FOR PRIVACY  
 Registrant Country: REDACTED FOR PRIVACY  
 Registrant Phone: REDACTED FOR PRIVACY  
 Registrant Phone Ext: REDACTED FOR PRIVACY  
 Registrant Fax: REDACTED FOR PRIVACY  
 Registrant Fax Ext: REDACTED FOR PRIVACY  
 Registrant Email: [info@domain-contact.org](mailto:info@domain-contact.org)

Then Key-Systems sends a reply email back to the requestor:

Dear Sender,

The contact you are trying to reach has not provided consent for the disclosure of his email address in the public whois.

In order to contact the person you are trying to reach please visit: <http://www.domain-contact.org>

Thank you!

So instead of just publishing the URL of the Web form in the email field, as other registrars such as GoDaddy do, Key-Systems makes requestors go through an additional and unnecessary step.<sup>175</sup>

Key-Systems also provides contradictory information to visitors to its site. It tells visitors: “If you want to get in contact with a domain owner (registrant), please refer to the publicly available Whois data provided by the respective TLD registry”:

---

<sup>175</sup> Buried at the bottom of WHOIS output for .COM and .NET domains, Key-Systems does include this note: “To contact the registered registrant please proceed to: <https://www.domain-contact.org>.” This is difficult to find. And since Key-Systems does not provide WHOIS output for all the other gTLDs it sells, that pointer is not available for the other domains that Key-Systems sponsors.

← → ↻ 🔒 rrp-proxy.net/Contact/How\_to\_Contact\_a\_Domain\_Owner

+49 (0) 68 94 - 939 68 70 English WHOIS API WIKI

**RRP** proxy™  
The Metaregistry

Domains Hosting

## Contact Domain Owner

If you want to get in contact with a domain owner (registrant), please refer to the publicly available Whois data provided by the respective TLD registry.

Following data privacy requirements, Key-Systems does not publish contact data of its registrant customers in the public Whois for many top level domains.

To contact these registrants, please visit the website [domain-contact.org](https://domain-contact.org) and send a message to a registrant of a domain managed through us via a contact form.

But Key-Systems knows that most registries no longer provide that contact information. Registries such as .ORG stopped publishing email, phone, and street address contact fields in WHOIS when GDPR and ICANN's Temporary Specification went into effect in July 2018, because the registrars are deciding what contact data to disclose or not disclose and are the sole source of the information.

Indeed, the .ORG registry WHOIS only provides the following bare-bones data, which contains no contactability info:

```
Domain Name: KEY-SYSTEMS.ORG
Registry Domain ID: D92131822-LROR
Registrar WHOIS Server: whois.rrp-proxy.net
Registrar URL: http://www.key-systems.net
Updated Date: 2019-11-13T01:24:11Z
Creation Date: 2002-11-12T14:42:38Z
Registry Expiry Date: 2020-11-12T14:42:38Z
Registrar Registration Expiration Date:
Registrar: Key-Systems GmbH
Registrar IANA ID: 269
Registrar Abuse Contact Email: abuse@key-systems.net
Registrar Abuse Contact Phone: +49.68949396850
Reseller:
Domain Status: clientDeleteProhibited
https://icann.org/epp#clientDeleteProhibited
Domain Status: clientTransferProhibited
https://icann.org/epp#clientTransferProhibited
Registrant Organization: Key-Systems GmbH
Registrant State/Province:
Registrant Country: DE
Name Server: NS1.DOMAINDISCOUNT24.NET
Name Server: NS3.DOMAINDISCOUNT24.NET
Name Server: NS2.DOMAINDISCOUNT24.NET
DNSSEC: unsigned
```

URL of the ICANN Whois Inaccuracy Complaint Form  
<https://www.icann.org/wicf/>)  
>>> Last update of WHOIS database: 2020-02-06T20:23:45Z <<<

### **Privacy of Those Who Contact**

The Domain-Contact.org site collects three pieces of data from the user: the user's email address, a subject field, and the text of the message the user wants to send to the domain contact. The service site and its terms of use do not say whether Key-Systems keeps the messages. The Privacy Policy states that Key-Systems may keep personally identifiable data such as the email addresses for a minimum of a year:

We will store your personal data that is processed for business purposes for a minimum of one year after the termination of the service it was collected for, or longer if required by legal requirements, such as the tax code.

## Gandi SAS

Country: France

IANA ID: 81

gTLD domains under management: 1,306,894

WHOIS service: functionality and compliance	RDAP service: functionality and compliance	Compliant with Temp Spec?	Contactability info contained in RDDS output?	Contactability Mechanism functional? (web form or anonymized email)
OK	FAIL	YES	YES	YES

### RDAP Service

According to ICANN's RDAP registry, Gandi's RDAP server is at <https://rdap.gandi.net/> But queries to that location fail to provide data in the required format, and are missing most required fields.<sup>176</sup> The response body also notes that

"This experimental service strictly reserved for RDAP development."

```

{"objectClassName": "domain", "nameservers": [{"objectClassName": "nameserver", "ldhName": "dns0.gandi.net",
"ipAddresses": {"v6": ["2001:4b98:d:1::39"], "v4": ["217.70.177.39"]}}, {"objectClassName": "nameserver", "ldhName":
"dns1.gandi.net", "ipAddresses": {"v6": ["2001:4b98:d:1::45"], "v4": ["217.70.177.45"]}}, {"objectClassName":
"nameserver", "ldhName": "dns2.gandi.net", "ipAddresses": {"v6": ["2001:4b98:d:589::211"], "v4": ["217.70.183.211"]}}],
"links": [{"rel": "https://rdap.io/tpda/nameservers", "href": "https://partners.gandi.net/nameservers/v1"}, {"rel":
"https://rdap.io/tpda/cdscheck", "href": "https://cdscheck.gandi.net/v1/domains/gandi.net/cds"}, {"port43":
"whois.gandi.net", "handle": "6683836_DOMAIN_NET-VRSN", "rdapConformance": ["rdap_level_0", "registrar_api_0"], "notices":
[{"title": "Terms of Use", "description": ["This experimental service strictly reserved for RDAP development."]}],
"entities": [{"handle": "ANONYMOUS", "objectClassName": "entity", "roles": ["owner"]}, {"handle": "NG270-GANDI",
"objectClassName": "entity", "roles": ["administrative"]}, {"handle": "NG270-GANDI", "objectClassName": "entity", "roles":
["technical"]}, {"handle": "NG270-GANDI", "objectClassName": "entity", "roles": ["billing"]}, {"handle": "Gandi SAS",
"objectClassName": "entity", "roles": ["registrar", "sponsor"], "publicIds": [{"identifier": "81", "type": "IANA Registrar
ID"}], "links": [{"rel": "service", "value": "https://www.gandi.net/", "href": "https://www.gandi.net/"}], "ldhName":
"gandi.net"}

```

It's possible that either:

- Gandi's RDAP server is simply not compliant with ICANN requirements, or

<sup>176</sup> The output doesn't provide required elements such as any "event Actions" (registration dates, etc.), the registrar's abuse contact, contact Country field, the pointer to ICANN's RDDS inaccuracy reporting form, etc.

- Gandi has a better RDAP server somewhere else, but didn't provide a new URL to ICANN, or
- Gandi's has a better RDAP server elsewhere and Gandi did provide its URL to ICANN, but ICANN had not published the new URL in ICANN's RDAP directory by the time of our tests.

Any of these situations represent a failure for users of the service. This case demonstrates how important it is for ICANN Organization to be vigilant about compliance, and about the content of the RDAP directories ICANN maintains.

### Contactability Mechanism

As a registrar located in the European Union, Gandi redacts the data of all its domain contacts per GDPR and ICANN's Temporary Specification. Gandi provides each contact with an anonymized email address for Contactability, and the system efficiently forwards messages to the domain contact; these cleared spam filters at major email providers.

## 123-Reg Limited

Country: United Kingdom

IANA ID: 1515

gTLD domains under management: 856,664

We examined the registration and contact processes at 123-REG.CO.UK. 123-Reg is part of the Host Europe Group, which is owned by Go Daddy Operating Company.<sup>177</sup> The Go Daddy Operating Company has 14 offices around the globe, sponsors 78 million gTLD and ccTLD domain names, and claims 19 million customers.<sup>178</sup> 123-Reg utilizes the services of other companies in the Host Europe Group family, including Mesh Digital and DomainBox.

123-Reg is headquartered in the United Kingdom. While the U.K. “Brexit” from the EU on 22 January 2020, the GDPR still applies in the United Kingdom at least through the year 2020.<sup>179</sup>

Services for domains registered at 123-REG.ORG.UK are listed in WHOIS as:

```
Registrar WHOIS Server: whois.meshdigital.com
Registrar URL: http://www.domainbox.com
Registrar: 123-Reg Limited
Registrar IANA ID: 1515
Registrar Abuse Contact Email: support@domainbox.com
```

WHOIS service: functionality and compliance	RDAP service: functionality and compliance	Compliant with Temp Spec?	Contactability info contained in RDDS output?	Contactability Mechanism functional? (web form or anonymized email)
problems	FAIL	FAIL	YES	FAIL

### WHOIS Service

The registrar’s web-based WHOIS is difficult to find on the 123-REG.CO.UK site. There is no link to it from the registrar’s home page, its domain registration pages, its “look for a domain to register” search results, or the registrar’s FAQs about WHOIS. The Google search “whois site:123-reg.co.uk” revealed that the web-based WHOIS is located at WHOIS.123-REG.CO.UK

Date data that the registrar provides differs from what is in the registry. This is a problem when a party needs domain registration data that contains accurate and specific timestamps, such as during investigations of domain hijackings, transfer disputes, billing disputes, and criminal uses of domains. It also makes it unclear to users which data source is authoritative: the registry or the registrar.

<sup>177</sup> As stated at <https://www.123-reg.co.uk/terms/privacy/>

<sup>178</sup> As stated at <https://aboutus.godaddy.net/about-us/overview/default.aspx>

<sup>179</sup> See <https://www.itgovernance.co.uk/eu-gdpr-uk-dpa-2018-uk-gdpr>

The .COM registry WHOIS provides the exact timestamps for all dates, down to the second, as envisioned in ICANN contracts and RFCs:

```
Domain Name: PARKERPLANNINGSERVICES.COM
Registry Domain ID: 2377909711_DOMAIN_COM-VRSN
Registrar WHOIS Server: whois.123-reg.co.uk
Registrar URL: http://www.meshdigital.com
Updated Date: 2019-04-08T11:35:24Z
Creation Date: 2019-04-08T11:35:23Z
Registry Expiry Date: 2021-04-08T11:35:23Z
Registrar: 123-Reg Limited
Registrar IANA ID: 1515
```

In contrast, 123-Reg merely provides the day—but no real hour, minute, or second data:

```
Domain Name: PARKERPLANNINGSERVICES.COM
Registry Domain ID: 2377909711_DOMAIN_COM-VRSN
Registrar WHOIS Server: whois.meshdigital.com
Registrar URL: http://www.domainbox.com
Updated Date: 2019-04-08T00:00:00Z
Creation Date: 2019-04-08T00:00:00Z
Registrar Registration Expiration Date: 2021-04-08T00:00:00Z
Registrar: 123-Reg Limited
Registrar IANA ID: 1515
```

ICANN's Registrar Accreditation Agreement states that date and time events must appear in the extended format specified in EPP RFCs 5731.<sup>180, 181</sup> Technically, the registrar is following the format requirements—the hour, minute, and second fields are present. But the *values* are not present, and the data itself is not synched and consistent with the registry.

This is an example of how registration data facts can vary depending on which party one asks, and how registrar-provided RDDS allows inconsistencies.

## RDAP Service and Temporary Specification Compliance

It appears that 123-Reg has misconfigured its RDAP server. The registrar is serving some data that should be redacted, and is redacting data that should be public. The ICANN Temporary Specification requires that if data is redacted (for example because of GDPR), the registrant's City information must be redacted, because it is considered too personal. And it is required to publish the registrant's

<sup>180</sup> Registration Data Directory Services (WHOIS) Specification, paragraph 1.5, at <https://www.icann.org/resources/pages/approved-with-specs-2013-09-17-en>

<sup>181</sup> RFC 5731 paragraph 2.4 states that "Date and time attribute values MUST be represented in Universal Coordinated Time (UTC) using the Gregorian calendar. The extended date-time form using upper case "T" and "Z" characters defined in [W3C.REC-xmlschema-2-20041028] MUST be used to represent date-time values..." <https://tools.ietf.org/html/rfc5731>

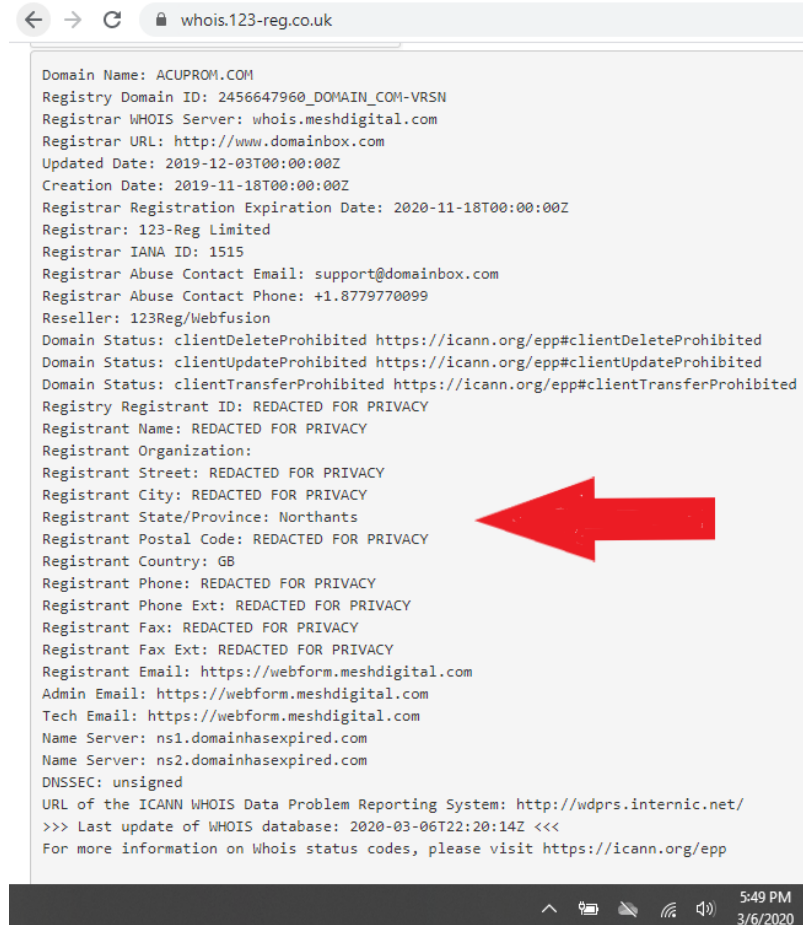


State/Province, because that is non-personally-identifiable. These requirements are also stated in ICANN's RDAP Response Profile.

An example can be seen in 123-<sub>reg</sub>'s WHOIS output for the domain name ACUPROM.COM, which says:

```
Registrant State/Province: Northants
```

“Northants” is short for the county of Northamptonshire in the United Kingdom.



```

Domain Name: ACUPROM.COM
Registry Domain ID: 2456647960_DOMAIN_COM-VRSN
Registrar WHOIS Server: whois.meshdigital.com
Registrar URL: http://www.domainbox.com
Updated Date: 2019-12-03T00:00:00Z
Creation Date: 2019-11-18T00:00:00Z
Registrar Registration Expiration Date: 2020-11-18T00:00:00Z
Registrar: 123-Reg Limited
Registrar IANA ID: 1515
Registrar Abuse Contact Email: support@domainbox.com
Registrar Abuse Contact Phone: +1.8779770099
Reseller: 123Reg/Webfusion
Domain Status: clientDeleteProhibited https://icann.org/epp#clientDeleteProhibited
Domain Status: clientUpdateProhibited https://icann.org/epp#clientUpdateProhibited
Domain Status: clientTransferProhibited https://icann.org/epp#clientTransferProhibited
Registry Registrant ID: REDACTED FOR PRIVACY
Registrant Name: REDACTED FOR PRIVACY
Registrant Organization:
Registrant Street: REDACTED FOR PRIVACY
Registrant City: REDACTED FOR PRIVACY
Registrant State/Province: Northants
Registrant Postal Code: REDACTED FOR PRIVACY
Registrant Country: GB
Registrant Phone: REDACTED FOR PRIVACY
Registrant Phone Ext: REDACTED FOR PRIVACY
Registrant Fax: REDACTED FOR PRIVACY
Registrant Fax Ext: REDACTED FOR PRIVACY
Registrant Email: https://webform.meshdigital.com
Admin Email: https://webform.meshdigital.com
Tech Email: https://webform.meshdigital.com
Name Server: ns1.domainhasexpired.com
Name Server: ns2.domainhasexpired.com
DNSSEC: unsigned
URL of the ICANN WHOIS Data Problem Reporting System: http://wdprs.internic.net/
>>> Last update of WHOIS database: 2020-03-06T22:20:14Z <<<
For more information on Whois status codes, please visit https://icann.org/epp
  
```

In contrast, the registrar's RDAP output for ACUPROM.COM does not mention Northants at all. It should, because the registrar is required to publish the name of the State/Province.

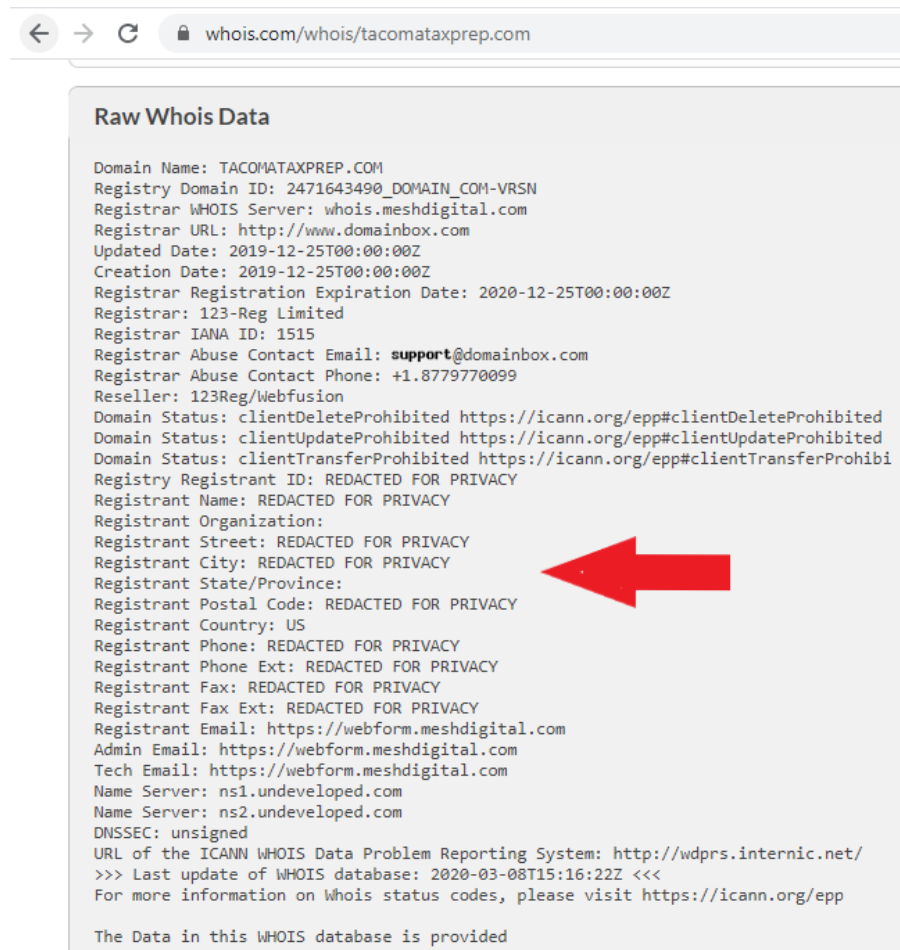
Instead, the RDAP output says:

```
["adr", {}, "text", [{"", "", "", "", "Wellingborough", "", "GB"}]], "roles":
["registrant"]
```

This reveals the registrant's *City* data. (Wellingborough is a town in Northamptonshire.) In this case the *City* data should *not* be exposed. Note that both the registrar and the registrant are in a country subject to GDPR. We found the *City/State* mistake extends to output for registrants in other countries, outside the UE.

The registrar's RDAP output is also missing the pointer to ICANN's RDDS data inaccuracy reporting form, which is required by the RDAP Response Profile.

For this registrant in the United States ,123-Reg does *not* provide State data, which should be collected and published per the Temporary Specification:



```

Raw Whois Data

Domain Name: TACOMATAXPREP.COM
Registry Domain ID: 2471643490_DOMAIN_COM-VRSN
Registrar WHOIS Server: whois.meshdigital.com
Registrar URL: http://www.domainbox.com
Updated Date: 2019-12-25T00:00:00Z
Creation Date: 2019-12-25T00:00:00Z
Registrar Registration Expiration Date: 2020-12-25T00:00:00Z
Registrar: 123-Reg Limited
Registrar IANA ID: 1515
Registrar Abuse Contact Email: support@domainbox.com
Registrar Abuse Contact Phone: +1.8779770099
Reseller: 123Reg/Webfusion
Domain Status: clientDeleteProhibited https://icann.org/epp#clientDeleteProhibited
Domain Status: clientUpdateProhibited https://icann.org/epp#clientUpdateProhibited
Domain Status: clientTransferProhibited https://icann.org/epp#clientTransferProhibi
Registry Registrant ID: REDACTED FOR PRIVACY
Registrant Name: REDACTED FOR PRIVACY
Registrant Organization:
Registrant Street: REDACTED FOR PRIVACY
Registrant City: REDACTED FOR PRIVACY
Registrant State/Province:
Registrant Postal Code: REDACTED FOR PRIVACY
Registrant Country: US
Registrant Phone: REDACTED FOR PRIVACY
Registrant Phone Ext: REDACTED FOR PRIVACY
Registrant Fax: REDACTED FOR PRIVACY
Registrant Fax Ext: REDACTED FOR PRIVACY
Registrant Email: https://webform.meshdigital.com
Admin Email: https://webform.meshdigital.com
Tech Email: https://webform.meshdigital.com
Name Server: ns1.undeveloped.com
Name Server: ns2.undeveloped.com
DNSSEC: unsigned
URL of the ICANN WHOIS Data Problem Reporting System: http://wdprs.internic.net/
>>> Last update of WHOIS database: 2020-03-08T15:16:22Z <<<
For more information on Whois status codes, please visit https://icann.org/epp

The Data in this WHOIS database is provided
  
```

## Contact Mechanism

123-Reg's domain contact mechanism is difficult to use, and a message sent using it never reached the domain contact for which it was intended. The process demonstrated that the registrar has poor emailing practices, so poor that it disrupts contactability.

First, we registered a .COM domain name at 123-REG.CO.UK. The registrar is located in a country subject to GDPR, and appropriately redacted the contact data in WHOIS. The WHOIS output gave the URL of a Web form for contactability, per ICANN's Temporary Specification:

Registrant Email: <https://webform.meshdigital.com>

The web form takes only the user's email address and the domain the user is interested in. The form does not allow the user to type in any kind of message – it merely allows the user to choose one of three predetermined “reasons for contact”:

- *Interested in knowing who owns this domain name*
- *Would be interested in acquiring this domain name*
- *Other*

← → ↻ 🔒 webform.meshdigital.com ☆ |

## Registrant Contact Form

This form is for use specifically for contacting domain name registrants. You will need to provide the domain name you are interested in enquiring about, your reason for contacting the registrant and a valid and verified email address. Once your request is submitted and verified by you, if the domain is found on our system your message will be delivered. We act as the conduit between your request and the domain name registrant, as such we cannot guarantee a response to your message.

### Contact Form

All fields are required, this information is not stored or shared with 3rd parties it is used to verify your request.


██████████.com

██████████@outlook.com

### Reason for Contact

Interested in knowing who owns this domain name.  
 Would be interested in acquiring this domain name.  
 Other

SEND MESSAGE

I'm not a robot
 
  
reCAPTCHA  
Privacy - Terms

This minimalist approach may dissuade domain contacts from responding. It does not let the contacting party provide any details that might elicit a response. The categories are also inadequate and vague; they do not let a party specify the nature of the communication – such as a legal inquiry, a security issue, a technical problem, or misuse of the domain. Nor does the form allow the user to choose between the Registrant, Admin, or Tech contact. The result is that the registrant contact must then turn around and ask for more detail from the party who initiated contact. This implementation dissuades communication more than facilitating it.

The form says that the registrar does NOT store the user's email address. (Unlike other registrars such as Tucows, above.) The form is also sensitive to input; it calls domain names “invalid” if they are entered in capital letters.

We completed the form using an @OUTLOOK.COM email address, and submitted it. A results page stated that the request “has been processed successfully”:

## Registrant Contact Form

This form is for use specifically for contacting domain name registrants. You will need to provide the domain name you are interested in enquiring about, your reason for contacting the registrant and a valid and verified email address. Once your request is submitted and verified by you, if the domain is found on our system your message will be delivered. We act as the conduit between your request and the domain name registrant, as such we cannot guarantee a response to your message.

Your request has been processed successfully.


## Contact Form

All fields are required, this information is not stored or shared with 3rd parties it is used to verify your request.

Domain
Email

## Reason for Contact

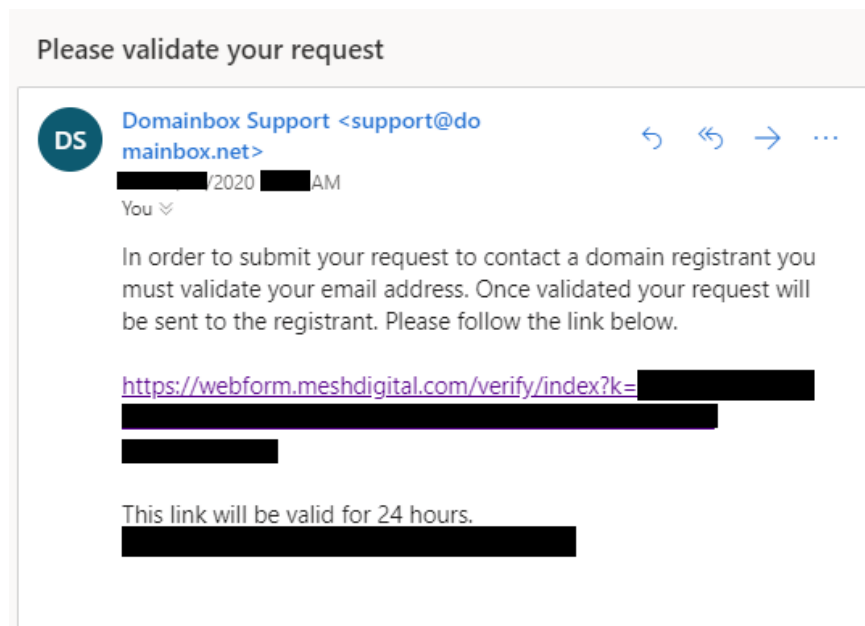
- Interested in knowing who owns this domain name.
- Would be interested in acquiring this domain name.
- Other

I'm not a robot   
reCAPTCHA  
Privacy · Terms

SEND MESSAGE

We therefore assume the message was emailed to the registrant.

The registrar's system then sent an email not to the registrant contact, *but back to the party who filled out the form*. It required the requestor to click on the link in order to confirm that the email address is valid:



Unfortunately, the above verification email message went straight into Outlook's spam folder. Microsoft, which runs the Outlook email service, found the email suspicious enough to hide it, which indicates poor sending practices by the registrar. And unless the requestor looks in the spam holder, he or she will not find the mail, will not be able to validate the request, and therefore will not have his or her message delivered to the registrant. We clicked the confirmation link and received a confirmation page that said our request had been verified.

The domain we inquired about was registered by us, and the registrant contact was set up with a Gmail email address. We validated the message per the above procedure at 15:38 UTC (09:38am Eastern USA), and waited for the registrar to deliver the contact request to our registrant's Gmail account.

The message eventually came through to the registrant's Gmail inbox –*19 hours and 22 minutes later*. According to timestamps, the registrar's contactability system held the message for that time, and sent the email to the registrant at exactly 12:00 UTC time the next day (noon UTC, or 07:00am Eastern time USA). The email's detailed headers showed that once the mail was sent, it arrived in one second. *The registrar simply delayed the sending of the contact email for almost a day.*

We then repeated the experiment, sending a message later in the day. Again, the registrar held the message for many hours, and again sent the message to the registrant at 12:00 UTC time the next day. It therefore appears that the registrar's system holds all contact messages and does a batch email send job at 12:00 UTC each day. This prevents parties from getting timely messages to domain contacts.

We also requested contact *from* a user on a Gmail account, attempting to reach a 123-Reg registrant we set up with an OUTLOOK.COM email address on file. Gmail sent the validation email into the requestor's Gmail spam folder, again indicating a problem with the registrar's email deliverability, this time failing to get through Google's anti-spam filters. We clicked on the link in the email to validate our contact attempt. The mail never came through to the Outlook account, not even into its spam folder. Apparently Microsoft's Outlook filtering judged that the email was too spammy to even deliver to the spam folder.

While email senders do not have ultimate control of mail filtering on the receiving side, and therefore whether a commercial email will be delivered to any given user, it's also rare for professionally run senders to be filtered as we saw in this case. 123-Reg and its provider/sister company Mesh Digital do bear responsibility for the email deliverability problems here. Commercial email senders are in the business of getting the mail through, and should know how to keep their emails deliverable and out of spam filters, especially those of major email providers like Microsoft and Google. Gmail and Outlook offer sender guidelines to ensure deliverability. For example, Gmail provides standard practices that all legitimate senders should use, such as email authentication, and monitoring of third-party email providers.<sup>182</sup>

The mails to the registrant contacts were presented as being from "DomainBox Support" and "support@domainbox.net". (And a closer examination reveals that the email was sent from domainboxsupport@meshdigital.net.) It is not unusual for the sending domain to not match the domain in the "From:" address. The problem here is that registrants who register domains at 123-Reg may not know who DomainBox and MeshDigital are...they did not purchase any products from DomainBox. Will

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<sup>182</sup> Gmail sender guidelines, <https://support.google.com/mail/answer/81126?hl=en>

they trust and open an email about their domain name that is from a company they don't know, and may not have any idea is related to their registrar? These days, customers often throw away emails like these, fearing they are phishing or scam attempts. Note again that 123-Reg does not let the sender compose a message that would help the registrant understand the nature or importance of the communication

*While the registrar provides a contactability mechanism per ICANN requirements, the mechanism doesn't work well, and fails to deliver get mail to the registrar' in-boxes in some cases. Overall the system is executed in such a way that discourages use by both the sender and the registrant, posing technical, trust, and usability problems.*

*In these matters, ICANN's contract does not guarantee an effective system for forwarding email to domain contacts, or a way for ICANN to enforce effectiveness.*

## GDPR Compliance

During the registration process, 123-Reg offers privacy protection, bundled with other services, for £11.99 per year, discounted to £5.99 for the first year. During the registration process, 123-Reg added the privacy service to the customer's order by default, and customers must *opt out* of it.

The screenshot shows a web browser window at the URL `order.123-reg.co.uk/offers`. The page header features the 123-Reg logo and a progress bar with steps: Offers, Basket, Details, Payment, and Done. Below the progress bar, a notification states "Domains - [redacted].com Added to your basket". The main content area is a blue banner with the heading "We've added Domain Ownership Protection to your domain." and a sub-heading "All prices exclude VAT @ 20%". The banner lists three benefits of the protection: "Password protection for increased domain security", "Complete identity protection through removal from the WHOIS database", and "Guaranteed failsafe renewal if yours fails for any reason". To the right, a summary box shows the domain "[redacted].com" with a "Sale!" badge, a price of "Was £11.99" crossed out, and "£5.99 per year". Below this, there are two buttons: "Protected" (with a green checkmark) and "Unprotect". At the bottom of the banner, it states "Domain Ownership Protection renews at £11.99 per year for .com". Below the banner, a light grey bar contains the text "Why not take advantage of these great offers?"

However, registrants who decline the protection do receive masking of their data in WHOIS, per GDPR and ICANN policy.

123-Reg's RDAP output says that users of the RDAP service are subject to GoDaddy's Universal Terms of Service agreement.<sup>183</sup> The GoDaddy ToS is much longer and contains more provisions than the 123-Reg ToS. Among other things, the GoDaddy ToS requires all users of its RDAP server to submit to binding arbitration in the United States of America, users must waive their rights to a court proceeding, and waive their right to bring class actions suits.<sup>184</sup> Such requirements may conflict with GDPR, which entitles individuals in the European Union to pursue GDPR claims in court or with a government administrative or supervisory authority.<sup>185</sup>

---

<sup>183</sup> {"title": "Terms of Use", "description": ["By submitting an inquiry, you agree to these Universal Terms of Service", "and limitations of warranty. In particular, you agree not to use this", "data to allow, enable, or otherwise make possible, dissemination or", "collection of this data, in part or in its entirety, for any purpose,", "such as the transmission of unsolicited advertising and solicitations of", "any kind, including spam. You further agree not to use this data to enable", "high volume, automated or robotic electronic processes designed to collect", "or compile this data for any purpose, including mining this data for your", "own personal or commercial purposes, or use this data in any way that violates", "applicable laws and regulations."], "links": [{"value": "[https://www.godaddy.com/agreements/showdoc?pageid=5403](\"https://www.godaddy.com/agreements/showdoc?pageid=5403\")", "rel": "related", "href": "https://www.godaddy.com/agreements/showdoc?pageid=5403", "type": "text/html"}]}}

<sup>184</sup> Users may opt out of the arbitration provision if they send notice to GoDaddy within 30 days.

<sup>185</sup> See GDPR Article 79: "Right to an effective judicial remedy against a controller or processor", Article 80: "Representation of data subjects", and Article 82: "Right to compensation and liability"

## Registrar of Domain Names REG.RU LLC (REG.COM)

Country: Russia

IANA ID: 1606

gTLD domains under management: 727,287

WHOIS service: functionality and compliance	RDAP service: functionality and compliance	Compliant with Temp Spec?	Contactability info contained in RDDS output?		Contactability Mechanism functional? (web form or anonymized email)
FAIL	FAIL	FAIL	WHOIS: NO	RDAP: YES	FAIL

### RDAP Compliance

REG.RU's output does not provide required elements, including:

- Does not provide the pointer to ICANN's RDDS Inaccuracy Complaint Form, as required by the RDAP Response Profile and Temporary Specification.
- Does not provide the {"eventAction": "last update of RDAP database", "eventDate":] data required by ICANN's RDAP Response Profile. (See Tucows, above, for more about this data.)

### Temporary Specification Compliance

We registered a domain name at REG.RU, using a registrant contact in the European Union. REG.RU properly redacted the registrant's name, street address and phone number, stating:

```
["Resultset truncated due to authorization reason.", "Data are hidden because
of General Data Protection Regulation for EU contacts."]
```

But REG.RU then *revealed the registrant's email address*. This is a violation of the Temporary Specification, which requires that the real email addresses of EU registrants be redacted per GDPR.



## WHOIS and Temporary Specification Compliance

REG.RU fails to publish required contact fields in port 43 output, and does not label redactions as required.<sup>186</sup> In violation of the ICANN Temporary Specification, the registrar does not offer either an anonymized email address or the URL of a contact form in WHOIS output:

```
Domain Name: CANCELLFLIGHT.COM
Registry Domain ID: 2449991688_DOMAIN_COM-VRSN
Registrar WHOIS Server: whois.reg.com
Registrar URL: http://www.reg.ru
Updated Date: 2019-10-31T16:11:57Z
Creation Date: 2019-10-31T16:11:56Z
Registry Expiry Date: 2020-10-31T16:11:56Z
Registrar: REGISTRAR OF DOMAIN NAMES REG.RU LLC
Registrar IANA ID: 1606
Registrar Abuse Contact Email: abuse@reg.ru
Registrar Abuse Contact Phone: +74955801111
Domain Status: clientTransferProhibited
https://icann.org/epp#clientTransferProhibited
Name Server: NS1.REG.RU
Name Server: NS2.REG.RU
DNSSEC: unsigned
URL of the ICANN Whois Inaccuracy Complaint Form:
https://www.icann.org/wicf/
```

On its Web-based WHOIS, the registrar offers email information for some .COM domains but not others. For the above domain, the registrant purchased privacy protection, and received an anonymized email address, CANCELLFLIGHT.COM@regprivate.ru.

But for a domain we registered to an EU-based registrant, REG.RU's web WHOIS doesn't provide the required contact means:

---

<sup>186</sup> Temporary Specification, Appendix A, paragraph 2.2

https://www.whois.reg.ru/whois/

### По данным WHOIS.REG.RU

Domain name	RED9876.COM
Registry Domain ID	2459476916_DOMAIN_COM-VRSN
Registrar WHOIS Server	whois.reg.com
Registrar URL	https://www.reg.com
Registrar URL	https://www.reg.ru
Updated Date	2019-11-25T17:28:34Z
Creation Date	2019-11-25T17:28:33Z
Registrar Registration Expiration Date	2020-11-25T17:28:33Z
Registrar	Registrar of domain names REG.RU LLC
Registrar IANA ID	1606
Registrar Abuse Contact Email	abuse@reg.ru
Registrar Abuse Contact Phone	+7.4955801111
Status	clientTransferProhibited <a href="http://www.icann.org/epp#clientTransferProhibited">http://www.icann.org/epp#clientTransferProhibited</a>
Name Server	<a href="http://ns1.hosting.reg.ru">ns1.hosting.reg.ru</a>
Name Server	<a href="http://ns2.hosting.reg.ru">ns2.hosting.reg.ru</a>
DNSSEC	Unsigned
URL of the ICANN WHOIS Data Problem Reporting System	<a href="http://wdprs.internic.net/">http://wdprs.internic.net/</a>
>>> Last update of WHOIS database	2020.01.28T22:40:56Z <<<
TERMS OF USE	The Whois and RDAP services are provided by REG.RU, and contain

Получить дополнительные сведения о кодах статуса Whois можно [по ссылке](#).

### Получить больше информации о домене

This disadvantages EU registrants.

## Contactability Failure

We then wrote to REG.RU, asking how we could contact a registrant. REG.RU's support staff told us to use REG.RU's contact web form. But the Web form does not allow users to send messages to gTLD contacts. It only allows messages to .RU, .SU, and .PФ domain contacts:

reg.ru/whois/admin\_contact

REG.RU Войти

**Ошибка!**  
Домен должен быть в одной из трех зон: .RU, .SU или .RF

## Отправить письмо администратору домена

С помощью этой формы вы можете отправить письмо администратору домена .RU, .SU или .RF, зарегистрированного в REG.RU.  
Все поля обязательны для заполнения.

Имя домена  
[redacted].com

Имя отправителя  
[redacted]

Электронная почта отправителя  
[redacted]@outlook.com

Тема письма  
Hello -- there is a potential trademark issue with this domain name. Please contact me at your earliest opportunity to discuss this issue.

Помощь

22,000,000 Results Any time

Russian (detected) English

Ошибка!  
Домен должен быть в одной из трех зон: .RU, .SU или .RF

Error!  
The domain should be in one of three zones: .RU, .SU or .RF

64/5000

Data from: Microsoft Translator

*Above: REG.RU's contact form, with Google Translate phrase below.*

## OnlineNIC

Country: United States / China

IANA ID: 82

gTLD domains under management: 718,439

WHOIS service: functionality and compliance	RDAP service: functionality and compliance	Compliant with Temp Spec?	Contactability info contained in RDDS output?		Contactability Mechanism functional? (web form or anonymized email)
FAIL	FAIL	FAIL	WHOIS: YES	RDAP: NO	Web form; not tested

### WHOIS Service

OnlineNIC's WHOIS does not follow requirements in the 2013 Registrar Accreditation Agreement (RAA).

OnlineNIC's Web-based WHOIS does not output the required field "Last update of WHOIS database", which provides a vital timestamp. The port 43 WHOIS provides the field, but supplies inaccurate data in it, not in keeping with the spec.

The RAA specification says that Registrant Fields must be labeled "Registrant Name:", "Registrant Email:" etc.<sup>187</sup> But OnlineNIC calls them "Registration Name," "Registration Email" etc. This prevents parsing of the data.

```

Domain Name: emchecker.com
Registry Domain ID: 2382322791_DOMAIN_COM-VRSN
Registrar WHOIS Server: whois.onlinenic.com
Registrar URL: http://www.onlinenic.com
Updated Date: 2019-04-19T23:05:18Z
Creation Date: 2019-04-19T20:45:14Z
Registrar Registration Expiration Date: 2020-04-19T20:45:14Z
Registrar: Onlinenic Inc
Registrar IANA ID: 82
Registrar Abuse Contact Email: abuse@onlinenic.com
Registrar Abuse Contact Phone: +1.5107698492
Domain Status: clientTransferProhibited
https://icann.org/epp#clientTransferProhibited
Registration Name: Odeschak Oleg
Registration Organization: emchecker.com
Registration Street: Gonti 1

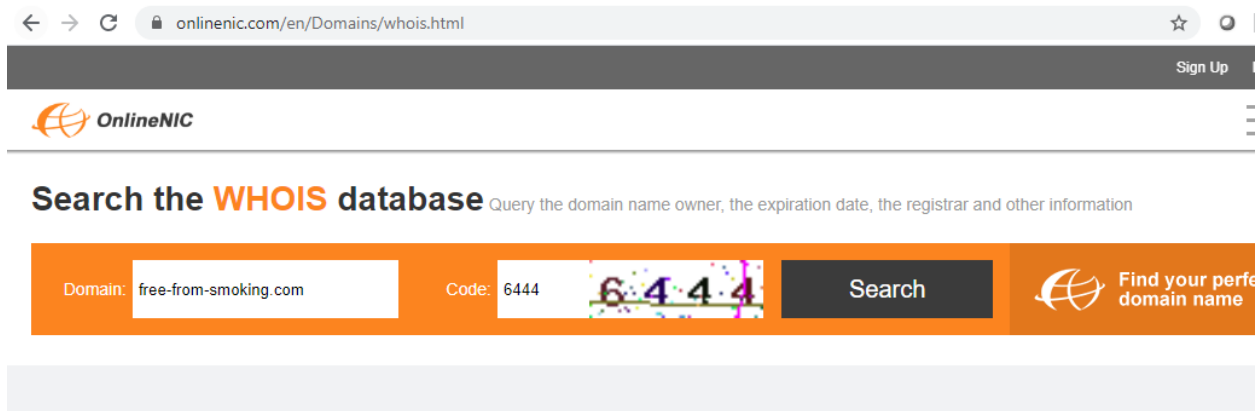
```

<sup>187</sup> Registration Data Directory Service (WHOIS) Specification, paragraph 1.4.2, at: <https://www.icann.org/resources/pages/approved-with-specs-2013-09-17-en#whois>

Registration City: Zimoviy Voda  
 Registration State/Province: Zimoviy Voda  
 Registration Postal Code: 81110  
 Registration Country: UA  
 Registration Phone: +380.443640571  
 Registration Email: olezhyk5@gmail.com


Oddly, this mis-labeling appears to occur only in output on OnlineNIC's web-based WHOIS, but not its port 43 server.

OnlineNIC's web-based WHOIS contains bugs, which prevent the lookup of some domains. For example the first domain we happened to search for was FREE-FROM-SMOKING.COM, registered at OnlineNIC:




← → ↻ onlinenic.com/en/Domains/whois.html ☆

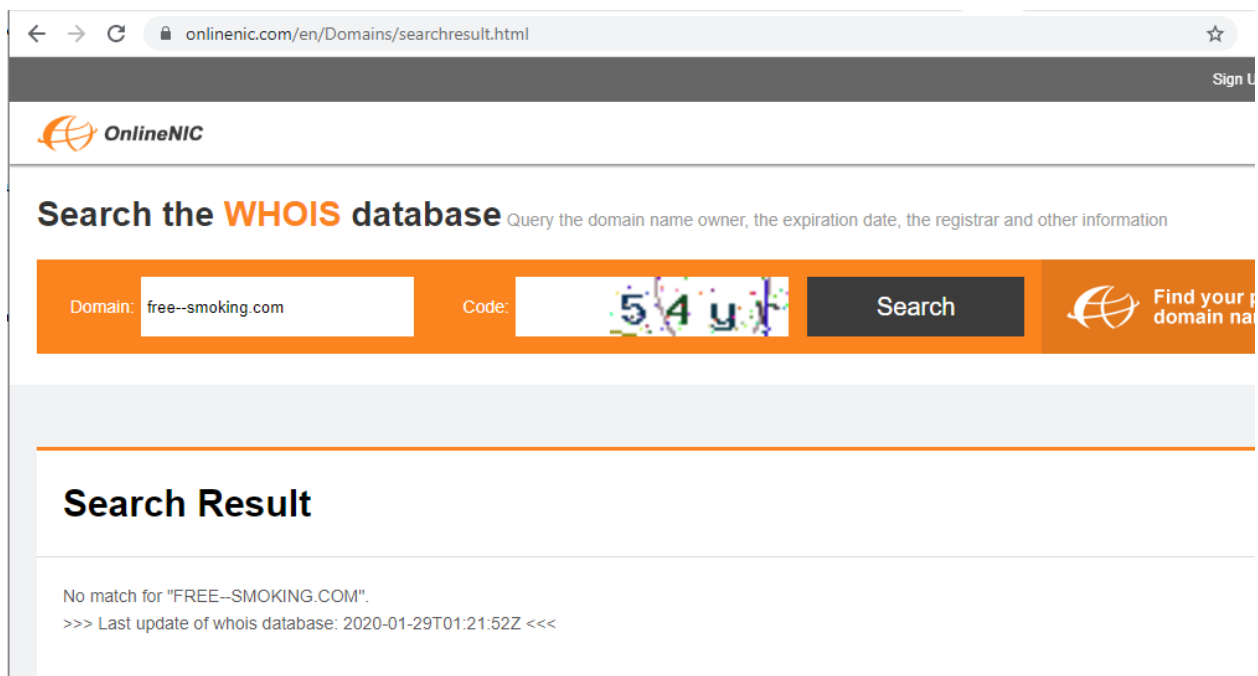
Sign Up

 OnlineNIC

**Search the WHOIS database** Query the domain name owner, the expiration date, the registrar and other information


Domain:  Code:   

But the web form then cut out part of the domain, searching instead for the non-existent domain FREE--SMOKING.COM:




← → ↻ onlinenic.com/en/Domains/searchresult.html ☆

Sign U

 OnlineNIC

**Search the WHOIS database** Query the domain name owner, the expiration date, the registrar and other information

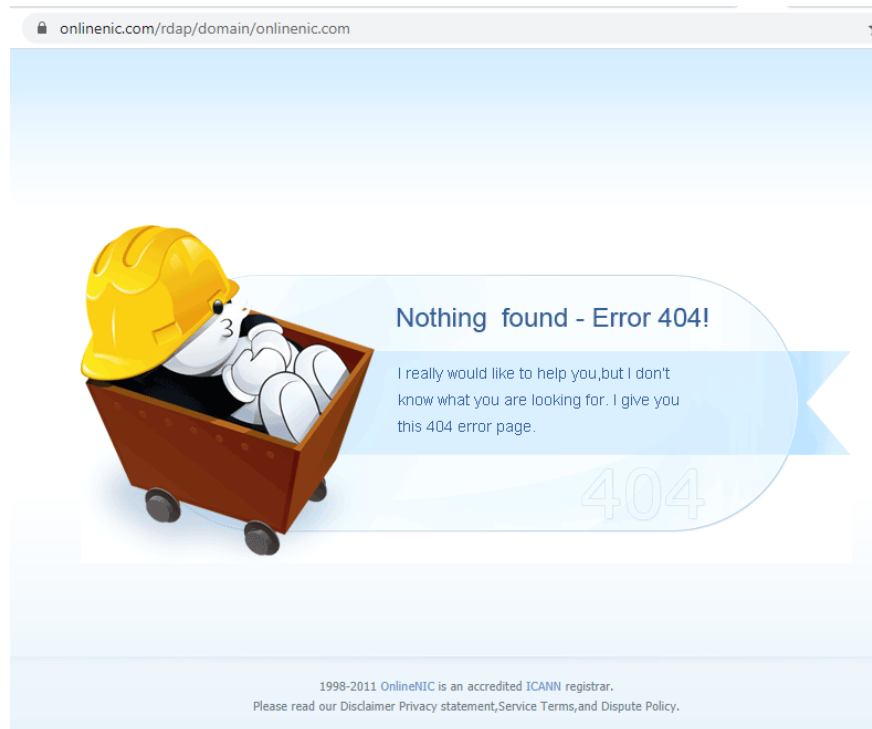
Domain:  Code:   

**Search Result**

No match for "FREE--SMOKING.COM".  
 >>> Last update of whois database: 2020-01-29T01:21:52Z <<<

## RDAP Service

OnlineNIC's RDAP server was offline on the multiple days we checked it. Queries to the RDAP server location published at IANA simply failed, yielding a 404 (not found) error:



Above: results page for query to <https://onlinenic.com/rdap/domain/onlinenic.com>

## Temporary Specification

The registrar does not comply with the labeling requirements of the Temporary Specification, which states that redacted fields for GDPR-protected data “MUST provide in the value section of the redacted field text substantially similar to the following: ‘REDACTED FOR PRIVACY’.”<sup>188</sup> An example is as follows, where the Registrant Name and Street Address fields are simply missing:

```
Domain Name: andamsazan.com
Registry Domain ID: 1898086295_DOMAIN_COM-VRSN
Registrar WHOIS Server: whois.onlinenic.com
Registrar URL: http://www.onlinenic.com
Updated Date: 2019-12-24T07:17:28Z
Creation Date: 2015-01-25T11:06:51Z
Registrar Registration Expiration Date: 2021-01-25T11:06:51Z
Registrar: Onlinenic Inc
```

<sup>188</sup> Temporary Specification for gTLD Registration Data, Appendix A, paragraph 2.2, at: <https://www.icann.org/resources/pages/gtld-registration-data-specs-en/#appendixA>

Registrar IANA ID: 82  
Registrar Abuse Contact Email: abuse@onlinenic.com  
Registrar Abuse Contact Phone: +1.5107698492  
Domain Status: clientTransferProhibited  
<https://icann.org/epp#clientTransferProhibited>  
Registry Registration ID:  
Registration Organization: 4varzesh  
Registration State/Province: null  
Registration Country: NL  
Registration Email: Contact holder at  
<https://www.domainidshield.com/gdpr>  
Admin Email: Contact holder at <https://www.domainidshield.com/gdpr>  
Tech Email: Contact holder at <https://www.domainidshield.com/gdpr>  
Name Server: ns46.azaranweb.com  
Name Server: ns47.azaranweb.com

## West263 International Limited

Country: China

IANA ID: 1915

gTLD domains under management: 681,449

Retail registration sites: west.cn, west.xyz

WHOIS service: functionality and compliance	RDAP service: functionality and compliance	Compliant with Temp Spec?	Contactability info contained in RDDS output?	Contactability Mechanism functional? (web form or anonymized email)
FAIL	FAIL	NO	YES	FAIL

### WHOIS Service

The 2013 RA requires that registrar WHOIS output contain the domain ID assigned by the registry:<sup>189</sup>

Domain Name: EXAMPLE.TLD

Registry Domain ID: D1234567-TLD

But West263 masks that information:

Domain Name: edc06.com

Registry Domain ID: **whois protect**

See also the “Temporary Specification Compliance” section below.

### RDAP Service

The RDAP server listed at IANA fails and returns an error for registered domains:

<sup>189</sup> <https://www.icann.org/resources/pages/approved-with-specs-2013-09-17-en#whois> paragraph 1.4.2





While the WHOIS does provide records:

```
Domain Name: edc06.com
Registry Domain ID: whois protect
Registrar WHOIS Server: whois.hkdns.hk
Registrar URL: www.hkdns.hk
Updated Date: 2019-05-23T06:17:12.0Z
Creation Date: 2019-05-23T06:17:12.0Z
Registrar Registration Expiration Date: 2020-05-23T06:17:12.0Z
Registrar: West263 International Limited
Registrar IANA ID: 1915
```

### Temporary Specification

We registered the below domain name, using a registrant contact with an address in the European Union. *But in the WHOIS output, the registrar has altered the contact data and states that the registrant is in China.* This is a falsification of the data.

This situation would be understandable if the registrar was applying its own privacy service, which could be a company with an address in China. But apparently the registrar is not applying a privacy/proxy service – if it was, then the domain record should state the contact info of the privacy service.<sup>190</sup> Also, the “REDACTED FOR PRIVACY” labels indicate that the registrar is applying redaction per the Temporary Specification. It almost looks as if the registrar applied a privacy service and then redacted the privacy service’s data:

```
Domain Name: white2222.com
Registry Domain ID: whois protect
```

<sup>190</sup> Temporary Specification Appendix A, paragraph 2.6: "in the case of a domain name registration where a privacy/proxy service used (e.g. where data associated with a natural person is masked), Registrar MUST return in response to any query full WHOIS data"

```

Registrar WHOIS Server: whois.hkdns.hk
Registrar URL: www.hkdns.hk
Updated Date: 2019-11-25T21:39:43.0Z
Creation Date: 2019-11-25T21:39:43.0Z
Registrar Registration Expiration Date: 2020-11-25T21:39:43.0Z
Registrar: West263 International Limited
Registrar IANA ID: 1915
Reseller:
Domain Status: ok http://www.icann.org/epp#ok
Registry Registrant ID: Not Available From Registry
Registrant Name: REDACTED FOR PRIVACY
Registrant Organization: REDACTED FOR PRIVACY
Registrant Street: REDACTED FOR PRIVACY
Registrant City: Chengdu
Registrant State/Province: Sichuan
Registrant Postal Code: REDACTED FOR PRIVACY
Registrant Country: CN
Registrant Phone: REDACTED FOR PRIVACY
Registrant Phone Ext:
Registrant Fax: REDACTED FOR PRIVACY
Registrant Fax Ext:
Registrant Email: link at
http://www.hkdns.hk/web/whoisform.asp?domain=white2222.com
...
Name Server: ns5.myhostadmin.net
Name Server: ns6.myhostadmin.net
DNSSEC: signedDelegation
Registrar Abuse Contact Email: Abuse@hkdns.hk
Registrar Abuse Contact Phone: +85235979075
URL of the ICANN WHOIS Data Problem Reporting System:
http://wdprs.internic.net/
>>> Last update of WHOIS database: 2019-11-25T21:49:22.0Z <<<

```

We have no idea why the domain record contains Chinese City, State, and Country information, or exactly what kind of privacy handling the registrar has applied. Registrar implementations like this one:

- confuse domain holders about what kind of protection they are getting and under what terms,
- makes data look untruthful,
- make it difficult for ICANN to perform compliance activities.

The registrar's customer control panel had a functionality problem that prevented us from viewing and changing the domain's contact data.

## Contactability Mechanism

In its WHOIS output, West263 provides a URL for a contact Web form. For example:

Registrant Email: link at  
<http://www.hkdns.hk/web/whoisform.asp?domain=edc06.com>  
 and  
 Tech Email: link at  
<http://www.hkdns.hk/web/whoisform.asp?domain=howfeng.com>

However, these links do not lead to the required contact form. Instead, they all redirect to the registrar's corporate "About Us" page:

Not secure | hkdns.hk/aboutus/contact.asp

用戶名:  密碼:  [登錄](#) [注冊](#) [忘記密碼?](#) | [快捷登錄](#) [購物車 0](#) [最新公告](#) [幫助中心](#)

**環球萬維**  
WWW.HKDNS.HK

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**关于我们**  
ABOUT US

公司名稱: 西部數碼國際有限公司 (West263 International Limited)  
 網站品牌: 環球萬維  
 公司地址: 12/F, SAN TOI BUILDING, 137-139 CONNAUGHT ROAD CENTRAL HK  
 聯繫電話: 00852 35979225  
 企業郵箱: cao@hkdns.hk  
 濫用投訴郵箱: abuse@hkdns.hk

*It is therefore impossible to contact any of this registrar's masked registrants.*

## NetEarth

Country: United Kingdom

IANA ID:1005

gTLD domains under management: 142,822

We registered a .COM domain at Intellitech Domains ([www.intellitechdomains.com](http://www.intellitechdomains.com)), which is a reseller of registrar NetEarth. The registration back-end systems are provided by Public Domain Registry (PDR Ltd. d/b/a PublicDomainRegistry.com), which is a business unit of the large industry player Endurance International. Per ICANN's Registrar Accreditation Agreement, the registrar is responsible for all registrations, and for making sure that resellers comply with all ICANN obligations.<sup>191</sup>

Domains registered via Intellitech show in WHOIS as:

```
Registrar WHOIS Server: whois.netearthone.com
Registrar URL: http://www.netearthone.com
Registrar: NetEarth One, Inc.
Registrar IANA ID: 1005
```

WHOIS service: functionality and compliance	RDAP service: functionality and compliance	Compliant with Temp Spec?	Contactability info contained in RDDS output?	Contactability Mechanism functional? (web form or anonymized email)
problem	OK	YES	YES	problems

### WHOIS Service

The registrar's WHOIS server location is:

Registrar WHOIS Server: [whois.netearthone.com](http://whois.netearthone.com)

In December 2019, users were being warned away from that location because it had an invalid certificate:

<sup>191</sup> 2013 Registrar Accreditation Agreement, paragraph 3.12: ““Registrar is responsible for the provision of Registrar Services for all Registered Names that Registrar sponsors being performed in compliance with this Agreement, regardless of whether the Registrar Services are provided by Registrar or a third party, including a Reseller. Registrar must enter into written agreements with all of its Resellers that enable Registrar to comply with and perform all of its obligations under this Agreement.” <https://www.icann.org/resources/pages/approved-with-specs-2013-09-17-en>

← → ↻ ⚠ Not secure | whois.netearthone.com

**Certificate**

General Details Certification Path

**Certificate Information**

**This certificate is intended for the following purpose(s):**

- Ensures the identity of a remote computer
- Proves your identity to a remote computer
- 1.3.6.1.4.1.6449.1.2.2.7
- 2.23.140.1.2.1

\* Refer to the certification authority's statement for details.

**Issued to:** foundationapi.com

**Issued by:** Sectigo RSA Domain Validation Secure Server CA

**Valid from:** 3/25/2019 to 4/15/2020

Issuer Statement

OK

**Your connection is not private**

Attackers might be trying to steal your information from **whois.netearthone.com** (for example, passwords, messages, or credit cards). [Learn more](#)

NET:ERR\_CERT\_COMMON\_NAME\_INVALID

Help improve Chrome security by sending [URLs of some pages you visit](#), [limited system information](#), and [some page content](#) to Google. [Privacy policy](#)

Advanced Back to safety

This problem was fixed in January 2020.

## Contactability

NetEarth's registrants in the EU receive contact masking, and are assigned one common email address, *gdpr-masking@gdpr-masked.com*. For example:

```

Domain Name: NETEARTHONE.COM
Registry Domain ID: 841266078_DOMAIN_COM-VRSN
Registrar WHOIS Server: whois.netearthone.com
Registrar URL: http://www.netearthone.com
Updated Date: 2020-01-27T09:46:46Z
Creation Date: 2007-02-26T18:17:43Z
Registrar Registration Expiration Date: 2023-02-26T18:17:43Z
Registrar: NetEarth One, Inc.
Registrar IANA ID: 1005
Domain Status: clientTransferProhibited
https://icann.org/epp#clientTransferProhibited
Registry Registrant ID: GDPR Masked
Registrant Name: GDPR Masked
Registrant Organization: GDPR Masked
Registrant Street: GDPR Masked
Registrant City: GDPR Masked
Registrant State/Province: London
Registrant Postal Code: GDPR Masked
Registrant Country: GB

```

Registrant Phone: GDPR Masked  
Registrant Phone Ext:  
Registrant Fax: GDPR Masked  
Registrant Fax Ext:  
Registrant Email: [gdpr-masking@gdpr-masked.com](mailto:gdpr-masking@gdpr-masked.com)

Parties who write to [gdpr-masking@gdpr-masked.com](mailto:gdpr-masking@gdpr-masked.com) then receive an email back, telling them to fill out a web form:

Hello,

You have received this message because you attempted to contact a domain name registrant whose email address has been masked in accordance with privacy laws.

In order to contact the domain holder of any domain name that is using the email address [gdpr-masking@gdpr-masked.com](mailto:gdpr-masking@gdpr-masked.com), please use the contact form on <http://gdpr-masked.com/>

Thank you.

GDPR-Masked.com

So instead of just publishing the URL of the Web form in WHOIS and RDAP output, as some other registrars do, NetEarth makes requestors go through an additional step.

The web form is operated by NetEarth's provider PDR. For some reason the web form does not accept most punctuation—for example no @ symbols, colons, or dashes are allowed. This prevents users from entering email addresses in the body of the message, and from pasting in WHOIS data (which contains colons). The form does allow users to attach files, though.

Using the form, we sent a simple message (with no attachment) to a domain registrant contact we had created, which uses a Yahoo email account. The mail from the web form was sent to the registrant's Yahoo spam folder, due to poor sending practices by PDR.

## About Interisle Consulting Group

### About the Author:

Greg Aaron is an internationally recognized authority on the use of domain names for cybercrime, and is an expert on domain name registry operations, DNS policy, and domain name intellectual property issues. He is a regular speaker on these topics.

Mr. Aaron is Senior Research Fellow for the Anti-Phishing Working Group. As a member of ICANN's Security and Stability Advisory Committee (SSAC), he advises the international community regarding the domain name and numbering system that makes the Internet function. He was the Chair of ICANN's Registration Abuse Policy Working Group (RAPWG), and has been a member of ICANN's EPDP Working Group, which has been creating registration data access policies. He was the senior industry expert on a team that evaluated the policy and technical merits of more than one thousand new TLD applications to ICANN in 2012-2013. He works with industry, researchers, and law enforcement to investigate and mitigate cybercrime, and is also a licensed private detective. He has created products and services used by organizations to discover and track Internet-based threats, and has managed large top-level domains around the world, including .INFO, .ME, and .IN. He is President of Illumintel, Inc., a consulting company. For a list of his publications and presentations, please visit: [www.illumintel.com](http://www.illumintel.com)

### About Interisle Consulting Group, LLC

Interisle's principal consultants are experienced practitioners with extensive track records in industry and academia and world-class expertise in business and technology strategy, Internet technologies and governance, financial industry applications, and software design. For more about Interisle, please visit: [www.interisle.net](http://www.interisle.net)

**Report Editor:** Dave Piscitello is a partner at Interisle Consulting Group, LLC. Dave has been involved in Internet technology and security for more than 40 years. Until July 2018, Mr. Piscitello was Vice President for Security and ICT Coordination at ICANN, where he participated in global collaborative efforts by security, operations, and law enforcement communities to mitigate Domain Name System abuse. He also coordinated ICANN's security capacity building programs, and was an invited participant in the Organisation for Economic Co-operation and Development (OECD) Security Expert Group. Dave is an Associate Fellow of the Geneva Centre for Security Policy. He serves on the Boards of Directors at the Anti-Phishing Working Group (APWG) and Consumers Against Unsolicited Commercial Email (CAUCE). He was the recipient of M3AAWG's 2019 Mary Litynski Award, which recognizes the lifetime achievements of individuals who have significantly contributed to making the Internet safer.

The author wishes to thank Interisle partner Lyman Chapin for his valuable input to this report.