

Assessment of Registration Data Accuracy Scenarios

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TABLE OF CONTENTS

I. Executive Summary	3
II. Background	4
III. Accuracy Research Proposals and Efforts Following ICANN73	5
A. GNSO Council/Accuracy Scoping Team Engagement	6
B. ICANN’s Scenario Assessments	6
1. Scenario 1: Analyze publicly available registration data for syntactical and operational accuracy (as was done previously in the WHOIS ARS program).	7
2. Scenario 2: Proactive Contractual Compliance audit of registrar compliance with registration data validation and verification requirements.	7
3. Scenario 3: Analyze a (representative) sample of full registration data provided by registrars to ICANN.	8
4. Scenario 4: Registrar registration data accuracy survey (voluntary).	8
IV. Proposed Next Steps	9
A. Provide historical data via ICANN’s existing audit program	9
B. Engage with contracted parties on current European ccTLD identity verification practices	10
V. Conclusion	10

I. Executive Summary

In August 2021, the [GNSO Registration Data Accuracy Scoping Team](#) (Accuracy Scoping Team) was chartered to scope the issue of gTLD registration data accuracy for a possible policy development process. The aim of the Accuracy Scoping Team was to understand current efforts at accuracy enforcement and reporting, as well as to define and measure levels of accuracy. Early discussions identified a lack of data concerning accuracy that the Accuracy Scoping Team deemed necessary to inform its work.

In an attempt to advance the community's efforts, the ICANN Board requested ICANN staff (ICANN) to prepare specific scenarios for which it would consult with the European Data Protection Board (EDPB) concerning the legality of the proposed data processing under the General Data Protection Regulation (GDPR). ICANN initially proposed four scenarios that it would assess to determine whether they could produce useful material for the Accuracy Scoping Team, taking into account current contractual requirements and applicable laws. These included: 1) analyzing publicly available registration data; 2) conducting a compliance audit regarding current contractual requirements; 3) analyzing a set of full registration data provided by registrars and performing checks similar to those conducted for the WHOIS Accuracy Reporting System (WHOIS ARS); and 4) a voluntary registrar survey. The scenarios were socialized with the Accuracy Scoping Team in May 2022.

ICANN conducted a comprehensive assessment of the four scenarios, as well as Data Protection Impact Assessments (DIPA) on scenarios two and four, and identified several deficiencies and challenges in pursuing them. Specifically, ICANN identified that: 1) it is unclear whether they would provide useful data to inform the Accuracy Scoping Team's efforts; 2) the scenarios are not expected to provide data as it relates to identity verification of the registrant or veracity of the contact information (i.e., the data belongs to the data subject); 3) the costs associated with a full scale registrar audit may be prohibitive when taking into account the relatively low level of insight the audit may yield; 4) ICANN does not have the authority to mandate collection of nonpublic registration data necessary to conduct reviews outside of auditing current contractual requirements; and 5) ICANN may not be able to demonstrate that the purpose of some of the data processing outweighs the rights of the impacted data subject. These challenges are discussed in further detail herein to aid the GNSO Council on next steps as it concerns the deliberations of the Accuracy Scoping Team.

In addition to and in light of these obstacles, ICANN has identified alternative steps that can be taken, which may provide information that helps advance the Accuracy Scoping Team's work, including:

- **ICANN Contractual Compliance RAA Audit Program:** ICANN Contractual Compliance prepared a detailed report of historical audit data (spanning 2016 to 2023) concerning accuracy-related requirements under the Registrar Accreditation Agreement (RAA), including a description of the registrar's validation and verification procedures and evidence demonstrating how it complies (See Annex A). This information is included as part of ICANN Contractual Compliance's regular RAA audit

program, which takes place on a rolling basis. ICANN Contractual Compliance will continue to include these questions in subsequent audit rounds and similar data can be made available, should the Accuracy Scoping Team determine this data is beneficial to its work. It is important to note that a full “accuracy” audit as originally identified in accuracy scenario 2 will not produce information beyond levels of compliance with current obligations under the RAA or more granular data than what is already available through the regular RAA audit program. In addition, as discussed further herein, such an audit would require extensive resources and may be cost prohibitive in light of the information that is already and can continue to be made available.

- **Engage with ICANN’s contracted parties on current developments with respect to European policymaking:** This engagement will focus on the likelihood that policymakers may put forward requirements for accuracy of registration data, including verification practices, through legislation—in this case, current European ccTLD identity verification practices. European ccTLD practices, which typically have more onerous registration data accuracy requirements than those for gTLDs, are likely to influence policymakers’ choices for new legislation. ICANN is compiling these practices and intends to share them with its contracted parties to demonstrate the potential for more complex requirements that could be implemented outside but in parallel to the policies adopted through ICANN’s multistakeholder model, should the ICANN consensus policymaking process be considered ineffective in addressing the issue.

II. Background

The accuracy of registration data has been a longstanding topic of discussion within the ICANN community. When registration data was more freely available via the public WHOIS system, the community and ICANN had opportunities to review registration data and address potential areas of noncompliance. This could be done for example, by submitting “[WHOIS Inaccuracy Complaints](#)” to ICANN Compliance, as well as the [WHOIS Accuracy Reporting System](#) (WHOIS ARS). Following redaction of much of the registration data in the public WHOIS, diverging opinions about how that may have impacted the accuracy of registration data began to develop. For instance, some stakeholders believe that levels of inaccuracy have worsened, as registration data is no longer visible to the public. Others believe it may have improved, now that personal registration data is not subject to publication in most cases. As a result, the [GNSO Registration Data Accuracy Scoping Team](#) (Accuracy Scoping Team) was created to further explore the issue of registration data accuracy.

The Accuracy Scoping Team was [chartered](#) to scope the topic of registration data accuracy for a possible policy development process by understanding current enforcement and reporting. The team would also look at measurement of accuracy, including providing recommendations for how accuracy levels can be determined and measured; whether the current contractual data accuracy obligations are effective at ensuring that registered name holders provide “accurate and reliable” contact information; and assessing whether any policy changes should be recommended to improve accuracy levels.

As an initial charter question, the Accuracy Scoping Team was tasked with considering whether there is an agreed definition of registration data accuracy and, if not, considering what working definitions should be used in the context of the Accuracy Scoping Team's deliberations. Unable to achieve an agreed definition of accuracy in the context of registration data, the Accuracy Scoping Team elected to, instead of developing a working definition: “refer to a current description of how existing accuracy requirements are understood and enforced,” referencing registration data validation and verification requirements in the RAA’s RDDS Accuracy Program Specification.¹

Leading up to ICANN73, the discussions of the Accuracy Scoping Team centered around the need for data to inform its work. Some in the community have pointed to the pausing of the WHOIS ARS as an important trigger point for further work on accuracy requirements, noting that the data produced by the ARS is no longer available. Others have noted the limited utility of the data produced from those studies.² The ICANN Board [expressed their view](#) prior to ICANN73 that clarification from the competent European authorities on issues regarding the application of the GDPR to efforts concerning registration data accuracy could further inform discussions on this topic. The ICANN Board “requested ICANN to prepare a number of specific scenarios [for assessing registration data accuracy] for which it will consult the EDPB on whether or not ICANN has a legitimate purpose that is proportionate (i.e., not outweighed by the privacy rights of the individual data subject(s)) to request Contracted Parties to provide access to individual records as well as bulk access to registration data in order to review the accuracy of registration data.”

III. Accuracy Research Proposals and Efforts Following ICANN73

The Accuracy Scoping Team found that there is no established definition of accuracy in an ICANN context, and the team diverged on what a definition should include. The Accuracy Scoping Team also identified a lack of data measuring accuracy, which made it difficult for the team to deliver on its charter, although it did not specify what measurements would confirm accuracy of the registration data. For example: It is unclear whether the Accuracy Scoping Team seeks to understand the level of compliance with current registration data validation and verification requirements in the RAA. Alternatively, the team may want to understand whether the registrant contact data collected and retained by registrars is “accurate” in the sense that the data corresponds to the registrant’s identity (i.e. that the registrant is who the registrant’s contact data claims to be.) It is important to note that the latter (confirming that a registrant is who they say they are) is beyond existing contractual obligations.

Notwithstanding these challenges, and in response to the request from the Board, ICANN identified four scenarios concerning specific steps that ICANN could consider to review the state of compliance with current requirements and registrar processes regarding registration data collection to assist the Accuracy Scoping Team’s deliberations. These included: 1)

¹ See “[Deliberations & Findings for Assignments #1 and #2](#),” submitted to the GNSO Council on 2 September 2022, at p. 11.

² See “[ICANN Org Memo on the WHOIS Accuracy Reporting System \(ARS\)](#)” for further info.

analyzing publicly available registration data; 2) conducting a compliance audit regarding current contractual requirements; 3) analyzing a set of full registration data voluntarily provided by registrars; and 4) a voluntary registrar survey. These scenarios are discussed in more detail below. ICANN proposed these scenarios because, assuming ICANN could gain access to the data, these actions would be permitted under ICANN's current agreements with the registrars or were otherwise feasible based on registrars' voluntary participation. Because the RAA does not require registrars to verify a registrant's identity, ICANN could not require registrars to provide evidence of this for an ICANN study under the current RAA. ICANN shared these scenarios with the Accuracy Scoping Team [in May 2022](#).

A. GNSO Council/Accuracy Scoping Team Engagement

ICANN understands that the Accuracy Scoping Team also conducted its own analysis on the recommended next steps in its work and proposed three [recommendations](#): 1) requesting ICANN to carry out a registrar survey (Scenario 4); 2) collaborating with ICANN to explore the option of conducting a registrar audit (Scenario 2); and 3) pausing its work pending certain actions that may provide further insight into the viability of proposed accuracy assessments. These could include requesting that ICANN proceed with its outreach to the European Data Protection Board, requesting that ICANN proceed with a Data Protection Impact Assessment in connection with certain scenario(s), and emphasizing the importance of finalizing the data protection agreement (DPA) between ICANN and the contracted parties.

During its November 2022 meeting, the GNSO Council adopted recommendation 3, but deferred its consideration of recommendations 1 and 2. Pursuant to recommendation 3, ICANN prepared this report to provide its assessment of the viability of the proposed accuracy assessments, as well as its findings regarding the Data Protection Impact Assessments (DPIA) performed in connection with scenarios 2 and 3.

ICANN previously provided [updates](#) on its assessments of the proposed scenarios, including some challenges outlined below (e.g., the studies would not provide information as to confirming the identity of the registrant or the veracity of the contact information). The GNSO Council has since resolved to pause the work of the Accuracy Scoping Team and its consideration of recommendations until certain dependencies are met or six months lapse, most recently from its last [resolution](#) in July 2023.

B. ICANN's Scenario Assessments

ICANN has completed a comprehensive assessment of the four original accuracy assessment scenarios, in addition to detailed DPIA on two of the four. After an early assessment, Scenario 1 was discarded as unlikely to prove useful. Through the remaining assessments, ICANN identified significant challenges, based both on the feasibility of conducting the studies under applicable privacy laws and the relatively low level of insight that the studies may yield into the study of registration contact data. Based on ICANN's assessment, these challenges may make it unlikely that the scenarios contribute meaningfully to the work of the Accuracy Scoping Team.

1. Scenario 1: Analyze publicly available registration data for syntactical and operational accuracy (as was done previously in the WHOIS ARS program).

As a result of the [Temporary Specification for gTLD Registration Data](#), which was adopted following the enactment of GDPR and similar privacy regulations around the globe, registrars have removed the majority of personal registration data, including registrant contact information, from public view. Accordingly, ICANN determined that Scenario 1 would not yield meaningful insight into the accuracy of registration data for consideration of the Accuracy Scoping Team and was therefore dropped from consideration as a viable study.

2. Scenario 2: Proactive Contractual Compliance audit of registrar compliance with registration data validation and verification requirements.

Pursuant to Section 3.15 of the RAA, ICANN may conduct Contractual Compliance audits of individual registrars up to twice per calendar year, which must be “tailored to achieve the purpose of assessing compliance.” ICANN Compliance advised that a Contractual Compliance audit would be limited to testing compliance with related/existing requirements, including the RAA’s RDDS Accuracy Program Specification, which requires that registrars validate the format of contact information within registration data and verify that either the registrant’s email address or telephone number are operable. The audit would serve to: (1) determine whether registrars are complying with registration data validation and verification requirements, and (2) address identified instances of non-compliance with the RDDS Accuracy Program Specification requirements to validate and verify contact information, and to take action in the event that a registrar fails to remediate an identified deficiency.³

As part of its assessment of the proposed audit, ICANN ran a DPIA, which demonstrated that it could perform a narrowly tailored registration data validation and verification audit of registrars’ compliance with RAA requirements in compliance with the GDPR. The DPIA also concluded that ICANN is not required to consult with a competent supervisory authority prior to conducting this audit.

While the audit would provide data regarding the level of compliance with the current contractual obligations, this data would not provide any meaningful insight as to whether the underlying data is accurate as it relates to the registrant or data subject. For instance, it will not confirm the identity of the registrant, or that the physical address or email/phone number belong to the registrant. Further, it is expected that a full targeted audit of all ICANN-accredited registrars would require extensive resources, costing upwards of \$750,000 USD, which is mainly attributed to vendor-related costs (or approximately \$300 per registrar audit, noting that the total cost may be reduced substantially by auditing only a sample of registrars or auditing registrar families at the account level).

³ As discussed below, these requirements are already tested as part of the regular ICANN Compliance RAA Audit Program.

3. Scenario 3: Analyze a (representative) sample of full registration data provided by registrars to ICANN.

The purpose of this exercise would be for ICANN to independently validate and review gTLD registration contact data. This would include analyzing both public and nonpublic data to determine whether the contact information complies with applicable contractual requirements of the RAA, such as formatting standard and functionalities of the email or telephone (similar to WHOIS ARS).

A threshold concern with conducting an assessment under Scenario 3 is whether ICANN may request registrars to provide some subset of registration data for this purpose. Under RAA 3.4.3, ICANN may request certain registration data, but this collection must be based on limited transactions or circumstances that are the subject of a compliance-related inquiry. Because the purpose of the collection under this scenario appears beyond the scope of Section 3.4.3, additional contract or policy provisions would be necessary to compel registrars to provide registration data.

With the assumption that ICANN would be able to access the registration data, ICANN conducted a DPIA for Scenario 3. Scenario 3 is more theoretical in nature, focusing on whether it would be possible to conduct a proactive assessment under the GDPR, despite current limitations under ICANN's agreements and policies. During the DPIA, ICANN identified that there is considerable risk in that it may have no legal basis for such processing. Indeed, ICANN's legitimate interest in maintaining accurate and complete databases of domain name registration data to ensure the security, stability, and resilience of the DNS is very likely outweighed by the rights of the impacted data subjects under GDPR Article 6(1)f, unless ICANN can demonstrate that the processing of the representative data sample is a suitable, necessary and proportionate means to achieve its legitimate interest.

Further, it is important to note that this assessment may provide statistical data on the level of accuracy of the registration contact data but will still not confirm the identity of the registrant, which some within the community correlate with their definition of "accuracy." Additionally, as this exercise would be similar to the data collected and [reported on](#) from prior WHOIS ARS studies, it is unclear whether this information would help move the community conversation forward. WHOIS ARS was placed on hold due to ICANN's continuing assessment of the legalities of processing the data in light of GDPR, as well as lack of available data in the public directories.

4. Scenario 4: Registrar registration data accuracy survey (voluntary).

Consideration of a voluntary registrar survey regarding data accuracy (as recommended by the Scoping Team (see "[Deliberations & Findings for Assignments #1 and #2](#),")) has been paused, as requested by the GNSO Council. The Council is awaiting feedback from ICANN on whether/if it anticipates registration data will be requested and processed in the context of analyzing it in light of current requirements and/or assessing its "accuracy".

Based on the voluntary nature of the survey, should a significant portion of registrars not participate, information collected may be statistically disproportionate to registration data that exists across all registered gTLD domain names (e.g., e, if data is provided by only a subset of registrars participating in the policy development and/or scoping work, which may implement stricter verification processes or have higher rates of compliance with current contractual requirements). Notwithstanding these shared concerns, ICANN understands that some members of the Accuracy Scoping Team believe that the survey may still provide insight into actual registrar practices regarding registration data collection/verification, including those that may go above and beyond what is currently required by the RAA. Others have inquired into whether there may be incentives offered to participating registrars to encourage participation.

IV. Proposed Next Steps

Based on the challenges identified during ICANN's assessment of the scenarios outlined above, including whether they would effectively assess "accuracy", ICANN began considering what steps can be taken to better address the charter topics posed to the Accuracy Scoping Team and would help inform further community discussions, factoring in the legal as well as resource limitations that exist. These steps are outlined below.

A. Provide historical data via ICANN's existing audit program.

While assessing the viability and value that a targeted contractual compliance audit would provide as envisioned in Scenario 2, ICANN determined that ICANN Compliance's existing audit program may provide a more suitable and less costly avenue for assessing current validation and verification requirements under the RAA.

It is important to note that as part of its standard audit program, ICANN Compliance conducts registrar audits concerning requirements under the 2013 RAA, which include questions pertaining to compliance with Section 3.7.8 (including a description of their validation and verification procedures and evidence demonstrating how it complies). These questions were included in the last three registrar audit rounds, for a sample of ICANN-accredited registrars or family of registrars, beginning in 2016, with the most recent concluding in 2023. Compliance has prepared a more detailed summary report of these past audit rounds, as it relates to compliance with registrar validation and verification procedures (see Annex A).

While the data from the audits is historical, these requirements will continue to be the subject of ongoing compliance audits as part of the standard RAA audit program. The program typically takes place over a rolling period for a selected group of registrars (selection criteria varies and typically consists of approximately 50 to 200 registrars).

B. Engage with contracted parties on current European ccTLD identity verification practices.

ICANN is currently reviewing the verification and accuracy practices of EU ccTLDs. In light of the implementation at the national level, Member States are expected to draw from existing practices put in place by European ccTLDs. European authorities have identified these as “best practices” in tackling a variety of societal concerns. ICANN thus believes that analyzing existing accuracy and verification practices in Europe could give a useful indication of the NIS2 requirements in the national law, which may prove instructive for contracted parties, as they weigh how to engage in accuracy policy-related discussions at ICANN.

European ccTLDs’ practices typically are more onerous. Registration data accuracy requirements are sometimes guided by national laws and may include identity verification, bank authentication, or other methodologies. These types of practices are likely to influence policymakers’ choices for new legislation. ICANN is compiling these practices and intends to share them with ICANN’s contracted parties to demonstrate the potential for more complex requirements that may come outside ICANN’s multistakeholder model, should the ICANN consensus policymaking process be considered ineffective in addressing the issue.

V. Conclusion

ICANN identified several challenges following its comprehensive review of the original four accuracy assessment scenarios, which informed ICANN of the need to find alternative ways to assess registration data accuracy. ICANN has identified alternatives, and shares these with the community to help determine whether these alternatives better align with the objectives of the Accuracy Scoping Team, in light of applicable laws and contractual and resource limitations that exist.



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ANNEX A

Background

The Internet Corporation for Assigned Names and Numbers' ("ICANN") Contractual Compliance team (Compliance) enforces ICANN's agreements with domain name registries and registrars which incorporate the consensus policies developed by the ICANN community. Compliance ensures that these agreements are implemented to preserve and enhance the security, stability, and resiliency of the Domain Name System (DNS). Compliance undertakes enforcement actions resulting from complaints received from external users, proactive monitoring, and audit-related activities.

The objectives of the Registrar Audit Program are to identify, communicate, and ensure remediation of instances in which selected registrars are not in compliance with their agreements with ICANN. These agreements are the Registrar Accreditation Agreement (RAA) and the consensus policies developed by the ICANN community. These audits help to ensure that contracted parties (CPs) with validated deficiencies (i.e., audit findings requiring a specific action to be in compliance) implement proper controls to remain in compliance with their contractual obligations.

In September 2016, ICANN Compliance incorporated into the Registrar Audit Program the testing and validation of Registrars' compliance with the RDDS¹ [Registration Data Directory Services] Accuracy Program Specification (RAPS) obligations. This report summarizes the validated deficiencies and highlights the testing that was performed.

RDDS Accuracy Program Specification Obligations

RAA Section 3.7.8 states the following:

3.7.8 Registrar shall comply with the obligations specified in the RDDS Accuracy Program Specification. In addition, notwithstanding anything in the RDDS Accuracy Program Specification to the contrary, Registrar shall abide by any Consensus Policy requiring reasonable and commercially practicable (a) verification, at the time of registration, of contact information associated with a Registered Name sponsored by Registrar or (b) periodic re-verification of such information. Registrar shall, upon notification by any person of an inaccuracy in the contact information associated with a Registered Name sponsored by Registrar, take reasonable steps to investigate that claimed inaccuracy. In the event Registrar learns of inaccurate contact information associated with a Registered Name it sponsors, it shall take reasonable steps to correct that inaccuracy.

The 2013 Registrar Accreditation Agreement's RDDS Accuracy Program Specification can be found [here](#).

RDDS Accuracy Program Specification Testing

As part of the Registrar Audit Program, Compliance validates compliance with RAPS obligations in two ways. Both are described below:

¹ Formally WHOIS Accuracy Program Specification

ANNEX A

Test #1

Via the Request for Information (RFI), ICANN asks Registrars, *“Please describe to us your Registrar’s validation process with respect to Whois’ information and account holder contact information during initial registration”*.

In assessing their response, ICANN confirms that their process meets ***at least*** the following requirements:

- They complete validation within 15 days of registration or change in RDDS information.
- They validate the presence of data for all fields required under Subsection 3.3.1 of the RAA for the applicable country or territory.
- They validate that all email addresses are in the proper format according to RFC 5322
- They validate that telephone numbers are in the proper format according to the ITU-T E.123 notation for international telephone numbers.
- They validate that postal addresses are in a proper format for the applicable country or territory as defined in UPU S42 address templates or other standard format.

Test #2

ICANN includes a sample of domain names in the RFI and asks Registrars, *“Please upload the following documentation: Example of record(s) of verification of the registrant’s email address or telephone number at the time of initial registration, inbound transfer, or any change of RNH’s information.”*

In assessing the registrars’ documentation, ICANN confirms that:

- They completed verification within 15 days of registration/change/inbound transfer.

Results

Since September 2016, ICANN has conducted three Registrar Audit Program rounds in which we tested compliance with RAPS obligations. Eighty (80) registrars were tested during this period, including 43 Registrars in 2016, 22 in 2017, and 15 in 2022. The 80 registrars combined had over 100M domains under management (DUMs) at the time of the audits.

During these audits, ICANN Compliance identified four main categories of deficiencies (areas of non-compliance):

1. Registrar confirmed that it did not have a process in place to validate the format of registration data as required by Section 1(a)-(d) of RAPS.
2. Registrar demonstrated that it has a process in place to validate the format of registration data, but its process was deficient to demonstrate compliance with Section 1(a)-(d) (validation).
3. Registrar was unable to produce records to demonstrate compliance with Section 3.7.8 of the RAA required to be maintained under Section 3.4 of the RAA and the Data Retention Specification of the RAA.

ANNEX A

4. Registrar did not complete verification of the registrant contact information required by Section 1(f) of RAPS.

Examples of each validated deficiency category is below.

Deficiency Ref #	Deficiency Category	Examples
1	No contact information validation process in place	1) Registrar confirmed they do not have a contact information validation process in place compliant with RAPS requirements.
2	Contact information validation process in place, but deficient validation methods	<p>1) Registrar confirmed their RAPS process does not include validating that telephone numbers are in a proper format according to the ITU-T E.164 notation for international telephone numbers.</p> <p>2) Registrar contact information validation process was in compliant with RAPS but did not take action when there were changes to information.</p> <p>3) Registrar confirmed their RAPS process does not include validating that postal addresses are in a proper format for the applicable country or territory as defined in UPU Postal addressing format templates (S42 address templates).</p>
3	Deficient data retention procedure	<p>1) Registrar was unable to produce sufficient documentation of RAPS verification for one of the domain samples and was not able to explain why.</p> <p>2) Registrar had a data storage failure that resulted in the destruction of electronic records relating to various communications, including the RAPS verification communications.</p> <p>3) Registrar did not provide contact verification records for the 15 sample domains, as records were not being retained.</p>
4	Deficient verification process	1) At least one sample domain did not complete the verification process and no action was taken by the Registrar.

ANNEX A

A breakout of validated deficiencies across each audit year is provided in the table below:

Year	Total Rrs Audited	Total Domains Represented	Deficiency Description	No. (Percent) of Registrars with Deficiencies	No. (Percent) of Domains Potentially Affected
2016	43	31,490,631	No contact information validation process in place	4 (9%)	3,466,027 (11%)
			Contact information validation process in place, but deficient validation methods	4 (9%)	9,265,731 (29%)
			Deficient data retention procedure	2 (5%)	14,454,653 (46%)
			Deficient verification process	N/A	N/A
2017	22	13,119,968	No contact information validation process in place	5 (23%)	2,046,452 (16%)
			Contact information validation process in place, but deficient validation methods	N/A	N/A
			Deficient data retention procedure	1 (5%)	4,605 (0.04%)
			Deficient verification process	1 (5%)	24,725 (0.2%)
2022	15	83,143,064	No contact information validation process in place	1 (7%)	3,614 (0.004%)
			Contact information validation process in place, but deficient validation methods	2 (13%)	538,665 (0.6%)
			Deficient data retention	1 (7%)	1,243 (0.001%)
			Deficient verification process	N/A	N/A

Year	Total Rrs Audited	Total Domains Represented	Deficiency Description	No. (Percent) of Registrars with Deficiencies	No. (Percent) of Domains Potentially Affected
2016-2022	80	127,753,663	No contact information validation process in place	10 (12%)	5,516,093 (4%)
			Contact information validation process in place, but deficient validation methods	6 (8%)	9,804,396 (8%)
			Deficient data retention procedure	4 (5%)	14,460,501 (11%)
			Deficient verification process	1 (1%)	24,725 (.02%)

ⁱ The RFI in future audit rounds will replace “Whois information” with “RDDS information”