

Registration Directory Service (RDS)-WHOIS2 Review

Final Report

RDS-WHOIS2 Review Team
3 September 2019



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1 Executive Summary

1.1 Overview

1.1.1 Introduction

This is the Final Report of the RDS-WHOIS2 Review in accordance with ICANN Bylaws Section 4.6(e).

1.1.2 Subject Background

The Internet Corporation for Assigned Names and Numbers (ICANN) is responsible for, among other things, the establishment of policies related to the creation and use of Generic Top-Level Domains (gTLDs). Within each Top-Level Domain (TLD) individuals and organizations may register domain names. For each registration a record is maintained of information about that registration including who the registrant is and their contact information.

This registration record is traditionally referred to as a “WHOIS” record and more recently is referred to as a Registration Directory Service (RDS) record. When ICANN was created, it was established that information in the RDS (WHOIS) database be public, but privacy demands soon led to informal privacy/proxy mechanisms to meet privacy wishes. It also led to letters from European data protection commissioners, indicating that the public directory violated data protection laws.

The ICANN Board establishes policy associated with gTLD RDS (WHOIS) on the recommendation of the Generic Names Supporting org (GNSO). Current RDS (WHOIS) policy is a combination of enacted policy, contractual obligations placed on Registrars and Registries, and de facto policy left over from the Internet’s early days. A more thorough and exhaustive WHOIS history can be found in a variety of places on ICANN’s website, including [here](#) and [here](#).

As part of its prior agreement with the United States Department of Commerce, and more recently under its own Bylaws, ICANN is required to periodically review the RDS (WHOIS) system. The first such review was carried out between 2010 and 2012, and the present review is the second such effort.

The development of a cohesive, single RDS (WHOIS) policy that meets the needs of multiple stakeholder groups has been a topic of discussion and debate in ICANN for over 15 years. The recommendations of the first WHOIS review team (hereafter referred to as the WHOIS1 Review Team) resulted in an Expert Working Group (EWG) studying WHOIS and the creation of a GNSO Policy Development Process (PDP) to establish a new RDS Policy Framework to replace WHOIS (referred to as the Next-Generation gTLD RDS). In mid-2017, ICANN began efforts to address European Union privacy regulations - the General Data Protection Regulation (GDPR). GDPR impacts ICANN and its registrars’ and registries’ current RDS (WHOIS) regime and the ability to continue to publish RDS (WHOIS) information - specifically personal data from, or processed in, the European Union and neighboring countries in the European Economic Area. While the former data protection regime under the Data Protection Directive 95/46 also had been shown to preclude publication of personal information in the WHOIS, the new regulation brought much stronger enforcement provisions.

1.1.3 Review Scope

There were a number of community proposals to both limit the scope of this RDS-WHOIS2 Review to only assess the WHOIS1 Review Team's recommendations, and also proposals to include a range of other issues over and above those mandated in the Bylaws.

Formally, the scope of a Review is the responsibility of the review team. The RDS-WHOIS2 Review Team discussed and decided that it would review all of the Bylaw mandated areas, except that referring to the OECD Guidelines, as they were under consideration by the Next-Generation gTLD RDS PDP and were judged to be less relevant, particularly in relation to the GDPR. Additionally, the RDS-WHOIS2 Review Team included a review of new policy adopted by ICANN since the WHOIS1 Review Team published its report. It also decided to perform a substantive review of Contractual Compliance with the intent of (a) assessing the effectiveness and transparency of ICANN enforcement of existing policy relating to RDS (WHOIS) through ICANN Contractual Compliance actions, structure and processes, including consistency of enforcement actions and availability of related data, (b) identifying high-priority procedural or data gaps (if any), and (c) recommending specific measurable steps (if any) the team believes are important to fill gaps.

The RDS-WHOIS2 Review Team explicitly did not focus on ICANN's actions in response to the relatively new European Union GDPR. Those actions are ongoing and the outcomes are not sufficiently finalized as to allow them to be reviewed here. However, the review team recognized the issue is of significant importance and that it would probably impact several policies related to registrant data. To the extent GDPR and its effects on the RDS (WHOIS) could be factored in, the RDS-WHOIS2 Review Team did so.

1.1.4 Methodology

Mandated by ICANN's Bylaws, Specific Review teams may include up to twenty-one members representing the seven Supporting Organizations (SO) and Advisory Committees (AC). The RDS-WHOIS2 Review Team has ten members representing the At-Large Advisory Committee (ALAC), the Governmental Advisory Committee (GAC) and the Generic Names Supporting Organization (GNSO), plus one member representing the ICANN Board. The other SO/ACs declined to participate in this review. All meetings (both teleconferences and face-to-face) allowed observers and all review team documents and mailing lists are publicly viewable.

The 16 recommendations from the WHOIS1 Review Team were grouped into nine subject areas: Strategic Priority, Single WHOIS Policy, Outreach, Contractual Compliance, Data Accuracy, Privacy/Proxy, Common RDS (WHOIS) Interface, Internationalized Registration Data,¹ and Implementation Planning/Reports. A subgroup of the RDS-WHOIS2 Review Team was formed to address each topic. Subgroups were created to address topics beyond recommendations produced by the WHOIS1 Review Team (Law Enforcement, Consumer Trust, Safeguards and Post-WHOIS1 Policies and Procedures, referred to as "Anything New"). The new topic on Contractual Compliance Actions, Structure, and Processes was handled by the subgroup reviewing the original WHOIS1 Compliance recommendations.

Each subgroup performed an analysis of its subject matter, and drafted its report including any new recommendations. Many subgroups held teleconferences to carry out their work, in

¹ The WHOIS1-Final Report incorrectly titles the section on Internationalized Registration Data as "Internationalized Domain Names". As the report itself makes clear, the problem is not with the domain names which are handled by the DNS and WHOIS by translating them into ASCII (Punycode), but in the registration data such as the registrant name or mailing address. WHOIS only allows 7-bit ASCII for those, and the need to be able to enter such data in local scripts exists for non-IDN domains as well.

addition to e-mail discussions. The subgroup's documents and its conclusions were then reviewed in depth by the entire review team. If possible, decisions were made by consensus and ultimately all recommendations acquired full consensus.

The RDS-WHOIS2 Review Team conducted 49 ~90-minute teleconferences and met face-to-face four times for a total of 10 days prior to issuing this Report.

1.1.5 Summary Findings

This section provides a brief description of the issues and findings for each subject area. Full text of all resultant recommendations appears in the section that follows.

Strategic Priority: WHOIS1 Recommendation #1 required ICANN to treat RDS (WHOIS) as a strategic priority. This recommendation was deemed to have been partially implemented as it failed to achieve the original aim of instilling a culture of proactive monitoring and planned improvement in RDS (WHOIS).

Single WHOIS Policy: WHOIS1 Recommendation #2 required ICANN to create a single RDS (WHOIS) policy document. This was done by creating a web-based document, linking to the various documents that, in total, comprise ICANN RDS (WHOIS) policy. Although this was not a single policy that was envisioned by some on the WHOIS1 Review Team, it did address the recommendation and was deemed to be fully implemented.

Outreach: WHOIS1 Recommendation #3 required ICANN to perform outreach, including to communities outside of ICANN, to improve understanding of RDS (WHOIS) and promote consumer awareness. Significant web-based documentation was created, but it was not well integrated with other registration and RDS (WHOIS)-related parts of the ICANN website. Abundant outreach was done, but little to communities not normally involved with ICANN. The recommendation was therefore deemed to be partially implemented.

Contractual Compliance: WHOIS1 Recommendation #4 required that the ICANN Contractual Compliance function be managed in accordance with best practice principles and overseen by a dedicated senior executive. There has been significant improvement since the recommendation was made, but it was found to be only partially implemented.

In addition to reviewing the implementation of WHOIS1 Recommendation #4, this subgroup was also responsible for the additional study of Contractual Compliance Actions, Structure, and Processes as described under [Section 1.1.3 Review Scope](#). A number of issues were identified, resulting in several new recommendations.

Data Accuracy: WHOIS1 Recommendations #5-9 dealt with several issues related to RDS (WHOIS) accuracy. The implementation of these recommendations resulted in a significant effort on behalf of ICANN organization and there is now a better understanding of the issue. However, there are still many gaps in our understanding of accuracy issues. Although the syntactic accuracy of data has improved, it is less clear what the impact has been on whether the data allows identification of and contact with registrants. GDPR will obscure accuracy even more by making it more difficult to assess whether the data within the RDS (WHOIS) repository is accurate or not. Two of the recommendations were deemed to be fully implemented and three were partially or not implemented.

Privacy/Proxy: The GNSO Policy Development Process (PDP) on Privacy and Proxy service providers was triggered by WHOIS1 Recommendation #10. The PDP has completed, and the Implementation Review Team is in the process of finalizing implementation. Since the ICANN Board acted fully on the recommendation, it is deemed to have been fully implemented.

However, since the RDS-WHOIS2 Review Team could not assess implementation effectiveness, the review team has asked that the ICANN Board recommend that the next RDS (WHOIS) Review Team address that. There is also a fallback recommendation in the case that the Privacy/Proxy policy implementation is unduly delayed.

Common RDS (WHOIS) Interface: WHOIS1 Recommendation #11 required that a single RDS (WHOIS) portal be created and operated by ICANN to provide the community with a “one-stop shop” for all RDS (WHOIS) queries. That was done and the recommendation is deemed to be fully implemented. However, there is a follow-on recommendation suggesting metrics and/or a service level agreement for the portal to ensure full effectiveness. Compliance efforts with respect to GDPR have also broken some aspects of the portal (since the registry is no longer the definitive source for thick RDS (WHOIS) information) and a recommendation addresses this new issue.

Internationalized Registration Data: WHOIS1 Recommendations #12-14 relate to the use of internationalized character sets for registration data (name, address, etc.)² A number of studies and a PDP were carried out in response to these WHOIS1 recommendations. The resultant policy and practices are not yet in place because they depend on a new RDS (WHOIS) system which is not yet implemented (using the Registration Data Access Protocol – RDAP). Because all of the work requested was carried out, the recommendations are deemed to have been fully implemented. As with Recommendation #10 Privacy/Proxy, the ICANN Board is requested to recommend that the next RDS-WHOIS Review Team review the effectiveness of the actual implementation.

Planning/Reports: WHOIS1 Recommendations #15-16 addressed the need for planning and reporting implementation of WHOIS1 recommendations. These plans and reports were done, but were not found to be as complete or as useful as intended. The recommendations were therefore found to be partially implemented.

Anything New: All new RDS (WHOIS)-related policies and procedures enacted since the WHOIS1 Review Team published its recommendations were inventoried and inspected by the RDS-WHOIS2 Review Team. Most were not deemed to be problematic, but one was found to require further recommendations which were included in the comparable sections related to the WHOIS1 Recommendations.

Law Enforcement: The ICANN Bylaws call for each RDS-WHOIS Review to assess whether the RDS (WHOIS) effectively meets the needs of Law Enforcement. A survey was carried out to assess this, and was also used to try to understand, in a preliminary way, whether GDPR was likely to have an impact on meeting those needs. In summary, it would appear that RDS (WHOIS) is an important tool for Law Enforcement and that preliminary input indicates that the GDPR may have a significant impact. This report details the results of this survey in [Section 5](#).

Consumer Trust: The assessment of whether RDS (WHOIS) enhances consumer trust is also a requirement mandated by the ICANN Bylaws for each RDS-WHOIS review. This was carried out by examining available documentation, and specifically a careful review of how WHOIS1 addressed the issue. The impact of WHOIS on both end users and registrants is considered. No new recommendations are being made.

Safeguarding Registrant Data: The assessment of RDS (WHOIS) safeguards for registrant data looked at privacy, whether registrant data was adequately protected from access or

² The WHOIS1 Report incorrectly classified these recommendations under the title Internationalized Domain Names (IDNs). In fact, the need for internationalized registration data applies to both IDNs as well as traditional names.

change, and whether appropriate breach notices are contractually required. In the original WHOIS, there was no attempt to address registrant data privacy, and changes made to RDS (WHOIS) requirements to enable GDPR compliance will obviously improve registrant data privacy. The ICANN contracts with registries, registrars and escrow agents include varying requirements for how data is to be protected from inappropriate access or change. One of the contracts requires that ICANN be notified in the case of breach, and the others were silent on this topic. A recommendation is made to address these issues.

ICANN Bylaws: The Bylaw governing the RDS-WHOIS2 Review allows each review team to make recommendations on revision of the Bylaws. The RDS-WHOIS2 Review Team noted that the requirement to review safeguarding of registrant data and the section referring to OECD Guidelines were somewhat redundant. Moreover, the current focus on privacy and the GDPR has made the reference to the voluntary OECD guidelines less relevant. The review team is recommending that these two references be removed and replaced with a more generic requirement to review to what extent RDS (WHOIS) policy and practice safeguards registrant data and addresses applicable data protection and cross border data transfer requirements.

1.1.6 Review Conclusions

ICANN organization implementation reports for the 16 recommendations from the WHOIS1 Review Team state that all 16 have been fully implemented.

The RDS-WHOIS2 Review Team's conclusions are that of the 16 recommendations, eight were fully implemented, seven were partially implemented, and one was not implemented.³

As a result of the analysis of the past WHOIS1 Review Team recommendations, as well as this review team's new findings and recommendations, the RDS-WHOIS2 Review Team is making 22 new recommendations which are summarized in the following section.

1.2 Review Team Recommendations

The RDS-WHOIS2 Review Team's recommendations are summarized in this table.

Recommendation Rx.n are recommendations that follow up on Recommendation x⁴ of the first WHOIS Review. Recommendations LE.n, SG.n, CC.n and BY.n are recommendations related to the new work done by the present review team under its investigations related to Law Enforcement, Safeguarding Registrant Data, Contractual Compliance and the Bylaw governing Specific Reviews. Each full recommendation, with related findings and rationale, may be found in the corresponding sections of the full Final Report.

Implementation of all recommendations identified as High Priority should begin as soon as possible once approved by the Board and once all preconditions are met. Recommendations assigned medium or low priority need to be considered with respect to overall ICANN priorities, but should not be deferred indefinitely.

³ Although the intent of the recommendation was partially addressed in a number of ways, the actual recommendation was deemed to be not feasible in the original ICANN organization evaluation and that did not change.

⁴ In the case of R5.n, R12.n and R15.n, they are follow-up recommendation of the original R5-9, R12-14 and R15-16 respectively.

The consensus level of for each recommendation was determined by polling all review team members. The member representing the ICANN Board chose to abstain since the recommendations are being made to the Board. One other review team member chose to stop participating in the review team for personal reasons and the review team decided that it was too late in the process to bring a new person onto the team. As a result, the consensus level was determined based on the nine remaining team members.

Although Priority indicated the overall position of the review team, the impact, feasibility and implementation guidelines will all need to be considered when considering Board approval and implementation.

#	Recommendation	Priority	Consensus
R1.1	To ensure that RDS (WHOIS) is treated as a strategic priority, the ICANN Board should put into place a forward-looking mechanism to monitor possible impacts on the RDS (WHOIS) from legislative and policy developments around the world.	High	Full Consensus
R1.2	To support this mechanism, the ICANN Board should instruct the ICANN organization to assign responsibility for monitoring legislative and policy development around the world and to provide regular updates to the ICANN Board.	High	Full Consensus
R1.3	The ICANN Board, in drafting the Charter of a Board working group on RDS, should ensure the necessary transparency of the group's work, such as by providing for records of meetings and meeting minutes, to enable future review of its activities.	Medium	Full Consensus
R3.1	The ICANN Board should direct the ICANN organization to update all of the information related to RDS (WHOIS) and by implication other information related to the registration of second-level gTLDs domains. The content should be revised to make the information readily accessible and understandable, and it should provide details of when and how to interact with ICANN organization or contracted parties. Although not the sole focus of this recommendation, interactions with ICANN organization Contractual Compliance, such as when filing WHOIS Inaccuracy Reports, should be a particular focus. The revision of this web documentation and instructional material should not be undertaken as a purely internal operation but should include users and potentially focus groups to ensure that the final result fully meets the requirements. The resultant outward facing documentation of registrant and RDS (WHOIS) issues should be kept up to date as changes are made to associated policy or processes.	Medium	Full Consensus

#	Recommendation	Priority	Consensus
R3.2	With community input, the ICANN Board should instruct the ICANN organization to identify groups outside of those that routinely engage with ICANN organization, and these should be targeted through RDS (WHOIS) outreach. An RDS (WHOIS) outreach plan should then be developed, executed, and documented. There should be an ongoing commitment to ensure that as RDS (WHOIS) policy and processes change, the wider community is made aware of such changes. WHOIS inaccuracy reporting was identified as an issue requiring additional education and outreach and may require a particular focus. RDS (WHOIS) outreach should be included when considering communications in underserved regions. The need for and details of the outreach may vary depending on the ultimate General Data Protection Regulation (GDPR) implementation and cannot be detailed at this point.	High	Full Consensus
R4.1	The ICANN Board should initiate action to ensure ICANN Contractual Compliance is directed to proactively monitor and enforce registrar obligations with regard to RDS (WHOIS) data accuracy using data from incoming inaccuracy complaints and RDS accuracy studies or reviews to look for and address systemic issues. A risk-based approach should be executed to assess and understand inaccuracy issues and then take the appropriate actions to mitigate them.	High	Full Consensus
R4.2	The ICANN Board should initiate action to ensure that ICANN Contractual Compliance is directed to cross-reference existing data from incoming complaints and studies such as the ARS to detect patterns of failure to validate and verify RDS (WHOIS) data as required by the RAA. When such a pattern is detected, compliance action or an audit should be initiated to review compliance of the Registrar with RDS (WHOIS) contractual obligations and consensus policies.	High	Full Consensus
R5.1	The Accuracy Reporting System, which was instituted to address concerns regarding RDS (WHOIS) contact data accuracy, has demonstrated that there is still an accuracy concern and therefore such monitoring must continue. ICANN organization should continue to monitor accuracy and/or contactability through either the ARS or a comparable tool/methodology.	High	Full Consensus

#	Recommendation	Priority	Consensus
R10.1	The Board should monitor the implementation of the PPSAI. If the PPSAI policy does not become operational by 31 December 2019, the ICANN Board should ensure an amendment to the 2013 RAA (or successor documents) is proposed that ensures that the underlying registration data of domain name registrations using Privacy/Proxy providers affiliated with registrars shall be verified and validated in application of the verification and validation requirements under the RAA unless such verification or validation has already occurred at the registrar level for such domain name registrations.	Low	Full Consensus
R10.2	Reviewing the effectiveness of the implementation of WHOIS1 Recommendation #10 should be deferred. The ICANN Board should recommend that review be carried out by the next RDS (WHOIS) Review Team after PPSAI Policy is implemented.	Low	Full Consensus
R11.1	The ICANN Board should direct the ICANN organization to define metrics or SLAs to be tracked and evaluated to determine consistency of results of queries and use of any common interface (existing or future) used to provide one-stop access to registration data across all gTLDs and registrars/resellers. Specific metrics that should be tracked for any such common interface include: <ul style="list-style-type: none"> ● How often are RDS (WHOIS) fields returned blank? ● How often is data displayed inconsistently (for the same domain name), overall and per gTLD? ● How often does the tool not return any results, overall and per gTLD? ● What are the causes for the above results? 	Low	Full Consensus
R11.2	The ICANN Board should direct the ICANN organization to ensure that the common interface displays all applicable output for each gTLD domain name registration as available from contracted parties, including multiple versions when the outputs from registry and registrar differ. The common interface should be updated to address any policy or contractual changes to maintain full functionality.	High	Full Consensus
R12.1	Reviewing the effectiveness of the implementation of Recs #12-14 should be deferred. The ICANN Board should recommend that review to be carried out by the next RDS Review Team after RDAP is implemented, and the translation and transliteration of the registration data launches.	Low	Full Consensus

#	Recommendation	Priority	Consensus
R15.1	The ICANN Board should ensure that implementation of RDS-WHOIS2 Review Team recommendations is based on best practice project management methodology, ensuring that plans and implementation reports clearly address progress, and applicable metrics and tracking tools are used for effectiveness and impact evaluation.	Medium	Full Consensus
LE.1	The ICANN Board should resolve that ICANN organization conduct regular data gathering through surveys and studies to inform a future assessment of the effectiveness of RDS (WHOIS) in meeting the needs of law enforcement. This will also aid future policy development (including the current Temporary Specification for gTLD Registration Data Expedited Policy Development Process and related efforts).	High	Full Consensus
LE.2	The ICANN Board should consider conducting comparable surveys and/or studies (as described in LE.1) with other RDS (WHOIS) users working with law enforcement on a regular basis.	High	Full Consensus
SG.1	The ICANN Board should require that the ICANN org, in consultation with data security and privacy expert(s), ensure that all contracts with contracted parties (to include Privacy/Proxy services when such contracts exist) include uniform and strong requirements for the protection of registrant data and for ICANN to be notified in the event of any data breach. The data security expert(s) should also consider and advise on what level or magnitude of breach warrants such notification. In carrying out this review, the data security and privacy expert(s) should consider to what extent GDPR regulations, which many but not all ICANN contracted parties are subject to, could or should be used as a basis for ICANN requirements. The ICANN Board should initiate action intended to effect such changes. The ICANN Board should consider whether and to what extent notifications of breaches that it receives should be publicly disclosed.	Medium	Full Consensus
CC.1	The ICANN Board should initiate action intended to ensure that gTLD domain names suspended due to RDS (WHOIS) contact data which the registrar knows to be incorrect, and that remains incorrect until the registration is due for deletion, should be treated as follows: (1) The RDS (WHOIS) record should include a notation that the domain name is suspended due to incorrect data; and (2) Domain names with this notation should not be unsuspending without correcting the data.	High	Full Consensus

#	Recommendation	Priority	Consensus
CC.2	The ICANN Board should initiate action intended to ensure that all gTLD domain name registration directory entries contain at least one full set of either registrant or admin contact details comparable to those required for new registrations under the 2013 RAA (or any subsequent version thereof) or applicable policies.	Medium	Full Consensus
CC.3	The ICANN Board should take steps to ensure that ICANN Contractual Compliance is adequately resourced factoring in any increase in workload due to additional work required due to compliance with GDPR or other legislation/regulation.	High	Full Consensus
CC.4	The ICANN Board should recommend the GNSO adopt a risk-based approach to incorporating requirements for measurement, auditing, tracking, reporting and enforcement in all new RDS policies.	Low	Full Consensus
BY.1	The ICANN Board should take action to extend the reference to “safeguarding registrant data” in ICANN Bylaws section 4.6(e)(ii) and replace section 4.6(e)(iii) of the ICANN Bylaws (which refers to the OECD Guidelines) with a more generic requirement for RDS (WHOIS) Review Teams to assess how well RDS (WHOIS) policy and practice addresses applicable data protection and cross border data transfer regulations, laws and best practices.	Medium	Full Consensus

2 Review Background

The Registration Directory Service (RDS, formerly known as "WHOIS") is the system that can answer the question: *Who is responsible for a domain name?* Every year, millions of individuals, businesses, organizations and governments register domain names. For all such registrations of generic TLDs (as opposed to ccTLD registrations), each of those domain name "registrants" must provide information about themselves and about contacts associated with their domain name. This information is collectively referred to as "registration data" or "WHOIS data." However, the RDS (WHOIS) is not a single, centrally-operated database. Instead, registration data is managed by independent entities known as "registrars" and "registries" which enter into contractual agreements with ICANN organization.

Based upon existing consensus policies and contracts, ICANN organization has stated that it is committed to implementing measures to maintain timely access to accurate and registration (WHOIS) data for generic top-level domain names (gTLDs), subject to applicable laws. To accomplish this, ICANN requires registrars and registries to provide access to specified registration data, allowing anyone to query the RDS (WHOIS) to obtain information about each domain name's registrant and associated technical and administrative contacts. In May 2018, ICANN adopted a temporary policy to facilitate compliance with the EU General Data Protection Regulation (GDPR), thereby limiting RDS (WHOIS) access to personally-identifiable information about certain domain name registrants and contacts. An Expedited Policy Development Process (EPDP) is currently deliberating how this temporary policy should be modified going forward.

ICANN Bylaws require the ICANN organization to use commercially reasonable efforts to enforce its RDS-related policies, while exploring structural changes to improve accuracy and access to generic top-level domain registration data, as well as considering safeguards for protecting such data. ICANN's performance in reaching its commitments is measured through periodic reviews that are carried out to assess the effectiveness of the current gTLD RDS (today's WHOIS) and whether implementation meets the legitimate needs of law enforcement, promotes consumer trust and safeguards registrant data. The review process was initially created through the [Affirmation of Commitments](#) (AoC) (signed with the US Department of Commerce in 2009), and was later moved to [ICANN Bylaws](#) in 2016, as part of the IANA Stewardship Transition. This review effort is anchored in the portfolio of Specific Reviews, which address the following range of topics in addition to Registration Directory Services (RDS): Accountability and Transparency (ATRT), Competition, Consumer Trust and Consumer Choice (CCT), and Security, Stability and Resiliency (SSR).

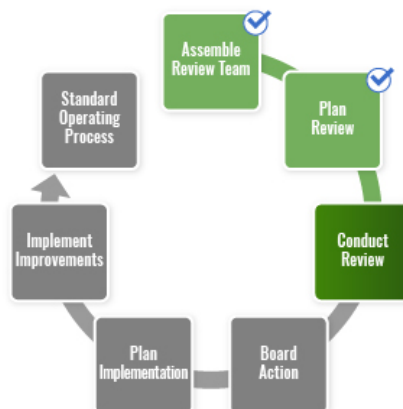
- The WHOIS1 Review was completed in 2012 and produced [16 recommendations](#).
- The second review has now been conducted by the RDS-WHOIS2 Review Team. This report details draft findings and recommendations produced by the RDS-WHOIS2 Review Team.

The RDS-WHOIS2 Review began with a call for qualified volunteers to serve on the review team. Choosing from a pool of candidates seeking nominations, ICANN's Supporting Organizations and Advisory Committees (SO/ACs) nominated a list of candidates to inform SO/AC Chairs' discussions and decision as they assembled the review team. An ICANN Board member serves on the review team. The Country Code Names Supporting Organization (ccNSO) opted to not participate in the review after consideration of the scope. Team members are listed below, along with their affiliation.

Name	Sex	Representing	Region
Alan Greenberg (Chair)	M	ALAC	NA
Carlton Samuels	M	ALAC	LAC
Dmitry Belyavsky	M	ALAC	EUR
Cathrin Bauer-Bulst (Vice Chair)	F	GAC	EUR
Lili Sun	F	GAC	AP
Thomas L. Walden, Jr.	M	GAC	NA
Erika Mann	F	GNSO	EUR
Stephanie Perrin	F	GNSO	NA
Susan Kawaguchi (Vice Chair)	F	GNSO	NA
Volker Greimann	M	GNSO	EUR
Chris Disspain	M	ICANN Board	AP

The RDS-WHOIS2 Review Team has been ably supported by ICANN organization staff Lisa Phifer, Alice Jansen, Jean-Baptiste Deroulez and Jackie Treiber.

Together, RDS-WHOIS2 Review Team members have conducted the RDS-WHOIS2 Review by following ICANN's defined process for Specific Reviews, illustrated below.



Prior to this review, SO/AC leaders considered a [proposal for a Limited Scope review](#). During the second half of 2017, the assembled review team planned this review by considering that proposal and SO/AC input (see Appendix C) and then reaching consensus on objectives, methodology, and milestones. The RDS-WHOIS2 Review Team's agreed objectives are briefly summarized below and presented in detail throughout this report.

1. Evaluate the extent to which the ICANN organization has implemented each prior Directory Service Review (WHOIS1) recommendation (16 in total) and whether implementation of each recommendation was effective.
2. Review changes since WHOIS1 to assess impact on RDS (WHOIS) effectiveness.
3. Assess the extent to which the implementation of today's RDS (WHOIS):
 - a. Meets legitimate needs of law enforcement for swiftly accessible, accurate and complete data;
 - b. Promotes consumer trust; and
 - c. Safeguards registrant data.

4. Assess effectiveness and transparency of ICANN organization enforcement of existing RDS (WHOIS)-related policy through Contractual Compliance actions, structure and processes.
5. Identify any portions of Bylaws Section 4.6(e), Registration Directory Service Review, which the RDS-WHOIS2 Review Team believes should be changed, added or removed.

Additionally, the RDS-WHOIS2 Review Team agreed that this Review's objectives would NOT include:

1. Further review of the OECD Guidelines,
2. Review of the Registration Data Access Protocol (RDAP),
3. Review of the WHOIS protocol,
4. Comprehensive review of GDPR impact on the RDS (WHOIS) landscape, or
5. Review of GDPR implementation impact.

These objectives, methodologies, and milestones were published in the RDS-WHOIS2 Terms of Reference (see Appendix B) and Work Plan (see Appendix D). These documents were [submitted to the ICANN Board](#) on 9 February 2018. Per [Board resolution 2017.02.03.10](#), the Board was invited to ensure that the review team's scope and timeline were consistent with the requirements of the ICANN Bylaws. A Board Caucus Group was formed to provide input to the review team on the scope of work, feasibility of recommendations and other key matters. The review team also engaged with the Board Caucus Group, as it progressed through its completion of the terms of reference and draft report.

To conduct this review, subgroups consisting of a rapporteur and two-four team members were formed to research facts associated with each objective, summarized below:

Review Objective	Assigned To Subgroup
1	WHOIS1 Rec #1 - Strategic Priority
	WHOIS1 Rec #2: Single WHOIS Policy
	WHOIS1 Rec #3: Outreach
	WHOIS1 Rec #4: Compliance
	WHOIS1 Recs #5-9: Data Accuracy
	WHOIS1 Rec #10: Privacy/Proxy Services
	WHOIS1 Rec #11: Common Interface
	WHOIS1 Recs #12-14: Internationalized Registration Data
	WHOIS1 Recs #15-16: Plan & Annual Reports
2	Anything New
3	Law Enforcement Needs
4	Consumer Trust
5	Safeguarding Registrant Data
6	Contractual Compliance Actions, Structure, & Policies (this subgroup was combined with WHOIS1 Rec #4)
7	ICANN Bylaws

Informed by ICANN organization briefings and available documentation, these subgroups analyzed this input to identify possible issues and then formulate recommendations (if any) to address those issues.

To ensure full transparency, the review team operated in an open fashion where all review team calls and meetings were open to observers, with publicly-accessible recordings and transcripts.

3 Objective 1: Assessment of WHOIS1 Recommendations Implementation

3.1 Introduction

The 16 recommendations from the WHOIS1 Review Team were grouped into nine subject areas (Strategic Priority, Single WHOIS Policy, Outreach, Contractual Compliance, Data Accuracy, Privacy/Proxy, Common RDS (WHOIS) Interface, Internationalized Registration Data, and Implementation Planning/Reports) and a Subgroup of the RDS-WHOIS2 Review Team was formed to address each topic.

Each of those subgroups was tasked with investigating, analyzing, and drafting recommendations (if needed) to address the following Review objective:

Consistent with ICANN's mission and Bylaws, Section 4.6(e)(iv), the review team will (a) evaluate the extent to which ICANN organization has implemented each prior Directory Service Review recommendation (noting differences if any between recommended and implemented steps), (b) assess to the degree practical the extent to which implementation of each recommendation was effective in addressing the issue identified by the prior RT or generated additional information useful to management and evolution of WHOIS (RDS), and (c) determine if any specific measurable steps should be recommended to enhance results achieved through the prior RT's recommendations. This includes developing a framework to measure and assess the effectiveness of recommendations, and applying that approach to all areas of WHOIS originally assessed by the prior RT (as applicable).

This section contains the output produced by each subgroup when assessing the implementation of WHOIS1 recommendations.

Note that this review explicitly did not focus on ICANN organization's actions in response to GDPR. Those actions are being addressed in the GNSO EPDP and the outcomes are not sufficiently finalized as to allow them to be reviewed here. But the review team did not ignore the issue and conducted its review recognizing that the GDPR is an issue of significant importance and that it will probably impact several policies related to registrant data. To the extent the RDS-WHOIS2 Review Team could factor in GDPR and its effects on the RDS (WHOIS), these impacts are presented in each subgroup's sections.

3.1.1 Consensus Determination

The consensus level for each recommendation was determined by polling all review team members. Chris Disspain, the member representing the ICANN Board chose to abstain since the recommendations are being made to the Board. Thomas Walden representing the GAC chose to stop participating in the review team for personal reasons and the review team decided that it was too late in the process to bring a new person onto the team. As a result, the consensus level was determined based on the nine remaining team members.

3.2 WHOIS1 Rec #1: Strategic Priority

3.2.1 Topic

The specific [WHOIS1 Recommendation](#) assessed by the WHOIS1 Recommendation #1 Strategic Priority subgroup appears below:

WHOIS1 Recommendation #1: Strategic Priority

Recommendation 1.a – It is recommended that WHOIS, in all its aspects, should be a strategic priority for ICANN the organization.

Recommendation 1.b – It is recommended that WHOIS form the basis of staff incentivization (including the CEO's) and organizational objectives

Recommendation 1.c – The Board should create a committee that includes the CEO to be responsible for priority and key actions

- Implementation of this report's recommendations;*
- Fulfillment of data accuracy objectives over time;*
- Follow up on relevant reports (e.g. NORC data accuracy study);*
- Reporting on progress on all aspects of WHOIS (policy development, compliance, and advances in the protocol / liaison with SSAC and IETF);*
- Monitoring effectiveness of senior staff performance and the extent to which ICANN Compliance function is effective in delivering WHOIS outcomes, and taking appropriate action to remedy any gaps.*

Recommendation 1.d – ICANN should issue public updates on progress against targets for all aspects of WHOIS

To support its recommendations, the WHOIS1 Review Team provided the following findings:

"WHOIS policy and its implementation are one of four central issues highlighted in the Affirmation of Commitments, the others being Accountability and Transparency, Security and Stability, and Consumer Trust. That WHOIS placed alongside such issues shows that the authors of the Affirmation of Commitments, the US Government and ICANN's senior executive, viewed it as one of the four barometers of ICANN's effective performance and service to the Internet Community. One reason for this may be that, although WHOIS services are provided by ICANN's contracted parties, WHOIS lookups have now become detached from the domain name supply chain. Users of WHOIS tend not to be customers of registries and registrars, but are law enforcement, or those enforcing private law rights, and those seeking to get in touch with registrants for whatever reason. There are no income streams associated with providing WHOIS. It is viewed by many in the industry as a cost and is often difficult to locate on registrar websites. As a result, it is not a priority for many of ICANN's contracted parties - who provide funding for ICANN the corporation. It is, however, a high priority for many users who are outside the ICANN inner circle, but for whatever reason their needs have not found organizational priority to date."

To address this objective, the subgroup agreed to consider two overarching questions:

- Has the ICANN organization made RDS (WHOIS) a strategic priority from a formal perspective, by putting into place the appropriate resources and procedures?
- Has the ICANN organization made RDS (WHOIS) a strategic priority from a substantive perspective?

In addition, the subgroup identified two check-in questions to guide its work:

- Has the ICANN organization issued public updates on progress against targets for all aspects of RDS (WHOIS)?
- Based on findings of other subgroups, how have the updated complaints and other compliance procedures impacted the accuracy and functionality of the RDS (WHOIS)?

3.2.2 Analysis & Findings

For ease of reference, the WHOIS1's recommendation is broken down into smaller parts, which are addressed below. The structure followed for each part is: 1) Part of the recommendation covered ("WHOIS1-Recommended Principle"), 2) Relevant questions asked of ICANN Subject Matter Experts (SMEs); 3) Analysis. At the conclusion of this section-by-section assessment, an overall analysis is provided.

3.2.2.1 RDS (WHOIS) as Strategic Priority

"It is recommended that WHOIS, in all its aspects, should be a strategic priority for ICANN the organization. It should form the basis of staff incentivization and published organizational objectives."

3.2.2.1.1 Questions and Materials Requested

- How has RDS (WHOIS) been integrated into the organizational objectives? Did the ICANN organization five-year Operating Plan contain any specific references to RDS (WHOIS) and what year were they incorporated in that Plan? If it was and is no longer included in the ICANN organization operational plan, what year did it roll away? Were metrics developed that are connected to any RDS (WHOIS) activity or outcomes? Are there specific measurable outcomes connected to contracted parties for RDS (WHOIS) outcomes?
- How has the ICANN organization CEO complied with instruction from the ICANN Board to oversee improvements to the contractual conditions relating to gTLD RDS (WHOIS) data in the gTLD Registry and Registrar agreements? What concrete actions has the CEO or his staff taken to facilitate improvements to the conditions (e.g. meetings, outreach, suggestions for improvement, facilitation of community dialogue aimed at improvements)? Are there any documents (meeting minutes, internal or external memos, etc.) that can demonstrate these actions?
- How has the ICANN organization CEO complied with the instruction from the ICANN Board to create appropriate reporting of these improvements and to implement ICANN organization staff incentivization? Are there standard clauses in relevant employee contracts reflecting such incentivization, and how is the incentivization structured? Have any other measures been taken to incentivize ICANN organization staff to implement the strategic priority recommendation? How often does ICANN organization staff report to the ICANN organization CEO or the ICANN Board on RDS (WHOIS)?

improvements and what form does that take? Are there any documents (internal reporting, meeting minutes, memos etc.) that can demonstrate compliance?

- Is there evidence to show that the definition as a strategic priority has had a positive impact on the RDS (WHOIS) in view of the objectives that it serves?

In addition, the review team requested the following materials:

- Records of ICANN Board/CEO Committee on RDS (WHOIS) including terms of reference/charter, minutes of meetings, work plan, objectives and outputs.
- Any other written materials that can provide responses to the subgroup's questions (detailed below).

3.2.2.1.2 Analysis

On 8 November 2012, the ICANN Board adopted an Action Plan for Recommendation #1:

"a) Board agrees that gTLD WHOIS is a strategic priority for ICANN.

b) Consistent with advice from Security and Stability Advisory Committee (SSAC) (SAC055), Board directs the CEO to create an expert working group to create material to launch GNSO policy work and inform contractual negotiations, as appropriate. Working group output is expected within 90 days and will ideally include a straw-man model for managing gTLD registration data.

c) The working group's output will form the basis for an Issues Report to accompany Board-initiated, expedited GNSO policy work that is expected to result in consensus policy that, at a minimum, addresses the purpose of collecting, maintaining and making available gTLD registration data, and related accuracy, data protection, and access issues.

d) The Board will also call upon the registrars, registries, and the staff to address the working group's output in contractual negotiations and registry contracts, as appropriate.

e) The CEO will oversee improvements to the enforcement of the contractual conditions relating to gTLD WHOIS in the gTLD registry and gTLD registrar agreements. Appropriate reporting of these improvements will be developed, and the CEO will be responsible for appropriate staff incentives.

f) The Board will incorporate performance of the WHOIS strategy into the incentive program for the CEO."

There is also a reflection of these changes in ICANN organization steering documents:

- ICANN organization included the WHOIS in its 2016-2020 Strategic Plan as part of its objective 2.1 to foster and coordinate a healthy, secure, stable, and resilient identifier ecosystem. As one of the key outcomes/success factors, it lists "Globally accepted, reliable, secure, and trusted services to facilitate access to, and update of, identifier registration data." The strategic plan also recognizes an associated strategic risk, namely that of "Failure of the identifier registration data services to gain acceptance by, or meet the needs of, the users of the identifier ecosystem." ICANN organization

furthermore sets the objective of acting as a steward of the public interest (5.1), of which the WHOIS is an important aspect but is not mentioned specifically here. The associated risk that the "ICANN community does not reach consensus on best practices related to the public interest" is also listed.

In terms of resources specifically dedicated to this process, the ICANN organization furthermore informed the review team that the ICANN organization Global Domain Division (GDD) had added an overall coordination, oversight, and management role for the RDS portfolio of activities. This role:

- Monitors both the RDS Policy Development Process (PDP) and Review with an eye toward implementation of the recommendations.
- Identifies synergistic opportunities across initiatives and explore ways to leverage that synergy to achieve cost-saving, maximum benefit, and effective implementations.
- Coordinates activities to ensure alignment with overall direction and strategy.
- Manages interdependencies across activities to ensure streamlined and efficient execution.
- Provides holistic reporting of all RDS related activities to the community.

This role is reflected in the ICANN organization's most recent fiscal year FY17 Operating Plan and Budget under the RDS (WHOIS) Core Function/Service and Improvements portfolio and is budgeted with a relatively low resource of 0.6 full time equivalent (FTE). It is listed under "Proactively Plan for Changes in the Use of Unique Identifiers and Develop Technology Roadmaps to Help Guide ICANN Activities" rather than under the relevant strategic sub-objective 2.1 Foster and Coordinate a Healthy, Secure, Stable, and Resilient Identifier Ecosystem.

ICANN organization's proposed 2019 update to its five-year plan lists a number of planned and past activities related to RDS (WHOIS), such as the publication of accuracy reports and support for the Next-Generation gTLD RDS PDP and review team.⁵ It does not reference assessment of the impact of compliance efforts on the quality of RDS.

However, ICANN organization's previous Operating Plans and Budgets did not include specific key performance indicators or measures for success in achieving strategic objective 2.1. To pick an example, the [FY16 Operating Plan and Budget](#),⁶ like the 2017 one, lists the RDS (WHOIS) portfolio under strategic objective 2.2 and includes a Technical Reputation Index tracking number of documents published, number of training sessions and other activities related to the CTO team's work on building technical capacity. While this is no doubt useful in tracking the success of technical competence building efforts, it does not seem to be able to reflect any achievements related to RDS (WHOIS).

The review team could not find evidence of metrics or other key performance indicators (KPIs) that would provide a reliable assessment of whether progress has been made on RDS (WHOIS) as a strategic priority. Reference was made by the ICANN organization to the Accountability Indicators and specifically to indicator 3.2 which refers to the overall availability of digital services provided by the ICANN organization, which include the RDS (WHOIS) portal and lookup tool.⁷ ICANN organization furthermore referred to the ICANN organization Contractual Compliance reports, which provide an overview of the activities of the ICANN organization Compliance Team.⁸

⁵ <https://www.icann.org/en/system/files/files/proposed-opplan-2016-2020-fy19-19jan18-en.pdf>, p. 18 and following.

⁶ <https://www.icann.org/en/system/files/files/adopted-opplan-budget-fy16-25jun15-en.pdf>, p. 40

⁷ <https://www.icann.org/accountability-indicators>.

⁸ Latest available report at time of writing: <https://www.icann.org/en/system/files/files/compliance-update-mar18-en.pdf>.

As outlined above, the ICANN organization CEO was furthermore instructed by the ICANN Board to oversee improvements to the enforcement of the contractual conditions relating to gTLD RDS (WHOIS) in the gTLD registry and gTLD registrar agreements. For an analysis of these aspects, please see the [Section 8](#) of this report. We note that the CEO was instructed to oversee changes related to specific areas and not all of the changes recommended. That notwithstanding, all recommendations were in fact acted upon.

In terms of developments not specifically envisaged by this ICANN Board instruction, a detailed RDS (WHOIS) “policy”⁹ has been set out in the 2013 Registrar Accreditation Agreement and in particular in its RDS (WHOIS) specification¹⁰. This RDS (WHOIS) policy sets out specific details such as the data fields to be provided, formats and access ports. Please also refer to the Single WHOIS Policy section of this report ([section 3.3](#)).

In response to the request for minutes, written records of decisions etc., no further information was available.

3.2.2.2 Creation of ICANN Board Committee

"To support WHOIS as a strategic priority, the ICANN board should create a committee that includes the CEO."

3.2.2.2.1 Questions and Materials Requested

- Has the ICANN Board created a committee including the CEO that is responsible for the RDS (WHOIS) and for key actions? If yes, has the committee met? And are the activities of the committee recorded and archived? Are the documents available for viewing or sharing?

In addition, the review team requested the following materials:

- Records of ICANN Board/CEO Committee on RDS (WHOIS) including terms of reference/charter, minutes of meetings, work plan, objectives and outputs

3.2.2.2.2 Analysis

In July 2015 - more than two and a half years after the adoption of the Action Plan - the ICANN Board formed a Board Working Group on Registration Data Directory Services (BWG-RDS)¹¹ to (i) liaise with the GNSO on the policy development process to examine the Expert Working Group’s (EWG) recommended model and propose policies to support the creation of the next generation registration directory services, and (ii) oversee the implementation of the remaining projects arising from the Action Plan adopted by the ICANN Board in response to the WHOIS1 Review Team’s recommendations. The ICANN Board appointed the ICANN organization CEO as a member of the BWG.

The BWG-RDS was given a Charter outlining its responsibilities, which in addition to the two items outlined above also included any other issues related to WHOIS or Registration Data

⁹ The contractual requirements for the collection, use and disclosure of registrant data are not a “policy” as they were not the product of the GNSO policy development process but rather the result of historical practice of contractual negotiation. They are, however, the only statement of required registrant data management available during the periods under review.

¹⁰ The RAA (<https://www.icann.org/resources/pages/approved-with-specs-2013-09-17-en#whois>) specifies contractual requirements, developed in the absence of comprehensive consensus policy for RDS (WHOIS).

¹¹ <https://www.icann.org/resources/board-material/minutes-2015-07-28-en#1.d>.

Directory Services that may be referred to it by the Board or the Board Governance Committee.¹²

No minutes or other records of specific activities of the BWG-RDS in relation to RDS (WHOIS) as a strategic priority were available. The ICANN organization pointed out that most Board Working Groups did not have minutes as they were not decisional bodies. Therefore, no archives were available, neither public nor restricted.

Prior to the creation of the BWG-RDS, the implementation of the recommendations was overseen by the ICANN organization, on the basis of the 2012 Board resolution referred to above. In terms of specific meetings and activities of the BWG-RDS, the ICANN organization referred to the regular Board meeting with the GNSO Council at ICANN meetings where, as relevant, the GNSO PDP on registration data directory services is discussed. There are records of written communication between the chair of the ICANN Board and the GNSO Council leadership relating to organizational matters on the Next-Generation gTLD RDS PDP. Furthermore, from interventions at ICANN meetings it is clear that the Board, in particular individual members, took an active interest in the progress of that PDP.

The review team could not find evidence that strategic considerations on RDS (WHOIS) and possible future developments beyond the EWG and Next-Generation gTLD RDS PDP took place at the Board or BWG-RDS level. This also would have been beyond the mandate of the BWG-RDS unless a question was specifically referred to it by the ICANN Board or the Board Governance Committee.

3.2.2.3 Committee Responsibilities: Implementation of Recommendations

"The committee should be responsible for advancing the strategic priorities required to ensure the following: Implementation of this report's recommendations;"

3.2.2.3.1 Questions

- How often does ICANN organization staff report to ICANN organization CEO or the ICANN Board on RDS (WHOIS) improvements and what form does that take? Are there any documents (internal reporting, meeting minutes, memos etc.) that can demonstrate compliance?
- Has ICANN organization taken any other actions reflecting the strategic priority given to the RDS (WHOIS), beyond those specifically recommended by the WHOIS1 Review Team in its final report? If yes, which actions has it taken? Are there any written traces of these actions?

3.2.2.3.2 Analysis

On a trimester basis, the ICANN Board receives CEO updates on the status of ICANN's key organizational activities. These updates include RDS (WHOIS) improvements. Furthermore, ICANN organization provided public updates of the implementation of the recommendations, which are also available to the BWG-RDS.¹³ There is no record of BWG-RDS or full ICANN Board discussions or decisions on the status of the implementation and on whether implementation has been completed satisfactorily.

¹² <https://www.icann.org/en/system/files/files/chapter-rds-28jul15-en.pdf>.

¹³ <https://community.icann.org/display/WHO/WHOIS+Review+Implementation+Home>

After the Draft of this Report was issued, the review team was told that the BWG-RDS was no longer active.

3.2.2.4 Committee Responsibilities: Data Accuracy

"The committee should be responsible for advancing the strategic priorities required to ensure the following:

[...]

- Fulfillment of data accuracy objectives over time;*
- Follow up on relevant reports (e.g. NORC data accuracy study);"*

There is no specific record of BWG-RDS follow-up on efforts to improve data accuracy. Please refer to [Section 3.6](#) of this report for further details on those efforts.

3.2.2.5 Committee Responsibilities: Progress Reporting

"The committee should be responsible for advancing the strategic priorities required to ensure the following:

[...]

- Reporting on progress on all aspects of WHOIS (policy development, compliance, and advances in the protocol / liaison with SSAC and IETF);"*

There is no specific record of BWG-RDS follow-up on efforts to improve reporting. Please refer to [Section 3.10](#) of this report for further details on those efforts.

3.2.2.6 Committee Responsibilities: Monitoring Effectiveness

"The committee should be responsible for advancing the strategic priorities required to ensure the following:

[...]

- Monitoring effectiveness of senior staff performance and the extent to which ICANN Compliance function is effective in delivering WHOIS outcomes, and taking appropriate action to remedy any gaps (see Recommendation 4 for more discussion of compliance)."*

3.2.2.6.1 Questions

- How often does ICANN organization staff report to ICANN organization CEO or the ICANN Board on RDS (WHOIS) improvements and what form does that take? Are there any documents (internal reporting, meeting minutes, memos etc.) that can demonstrate compliance?

3.2.2.6.2 Analysis

According to feedback from ICANN organization, the ICANN Board receives CEO updates, on a trimester basis, on the status of ICANN organization's key organizational activities, including RDS (WHOIS) improvements. No documents were provided to demonstrate compliance.

3.2.2.7 Staff Incentivization

"Advancement of the WHOIS strategic priority objectives should be a major factor in staff incentivization programs for ICANN staff participating in the committee, including the CEO."

3.2.2.7.1 Questions and Materials Requested

- How has RDS (WHOIS) been implemented in ICANN organization staff incentivization including for the ICANN organization CEO? Are there specific clauses in ICANN organization staff contracts, including the CEO's, that link compensation to RDS (WHOIS) implementation or management outcomes?
- Were KPIs developed? Were these part of the at-risk compensation portion or the general compensation? What percentage of the overall compensation, at-risk or otherwise, could be connected to RDS (WHOIS) matters?
- What aspects of the RDS (WHOIS) are serving as incentive[s] or part of the organizational objectives? Are these aspects amenable to measurement? And if so, what were the measurement criteria adopted? Can the outcomes be shared?
- The following materials were requested:
Information on incentivization measures for ICANN organization staff including CEO ([standard] contract clauses, internal guidance, memos, meeting minutes etc.)

3.2.2.7.2 Analysis

ICANN organization responded that staff is incentivized through ICANN organization's compensation system, as RDS (WHOIS) projects are identified in both WorkFront and the Halogen management system, which the review team understands are the systems that serve to organize staff management within the organization. Detailed examples were provided of the types of activities that form part of the annual planning, such as support for the review team and the policy development process.

ICANN organization also explained that the ICANN organization CEO's compensation was tied to performance against the strategic objectives of ICANN organization as laid out in the Strategic Plan, which includes references to RDS (WHOIS). ICANN Board sets specific goals for the CEO as part of his annual performance process. The strategic goals of the organization are taken into account when setting the CEO goals. There was no detailed information available on the breakdown of incentivization, e.g. as relates to the actual impact of the RDS (WHOIS) performance on contractual compensation.

ICANN organization's staff "Remuneration Practices" document does not address specific incentives for staff, and accordingly also does not cover relevant incentives related to the RDS (WHOIS) as recommended by the WHOIS1 Review Team.¹⁴ However, as outlined above, there is a link to the strategic objectives and the related activities in the planning. Again, there were no details available on the precise impacts of the incentivization on ICANN organization staff compensation or other benefits.

Therefore, while RDS (WHOIS) has apparently been integrated into compensation, a more precise assessment of any impact of the incentivization cannot be provided. For example, it is unclear whether the lack of timely compliance with legal requirements would have any impact on the compensation of any individual within the organization. The lack of measurable data to track implementation of the recommendation may point to a specific downside of the

¹⁴ <https://www.icann.org/en/system/files/files/remuneration-practices-fy18-01jul17-en.pdf>

recommendation to incentivize ICANN organization staff, as it appears that any review team will not be in a position to properly assess implementation.

3.2.2.8 Annual reporting

"Regular (at least annual) updates on progress against targets should be given to the Community within ICANN's regular reporting channels, and should cover all aspects of WHOIS including protocol, policy development, studies and their follow up."

- Please refer to [Section 3.10](#) of this report for further information.

3.2.3 Problem/Issue

ICANN organization and ICANN Board have clearly taken a number of steps to work towards implementation of the recommendation. A key element - the creation of a dedicated Board committee including the CEO - was only put into place very late in the process but did eventually take place.

However, from the mandate of the Board Working Group on Registration Data Directory Services and the feedback from ICANN organization in response to specific questions, as well as from the overall documentation available, a clear picture emerges as to ICANN organization's understanding of the nature of the strategic priority: it was interpreted as making sure that the recommendation was implemented, and to launch the policy development process and support other Community actions related to the RDS (WHOIS). While these actions represent a first step towards achieving the intended aim, they could not replace a strategic outlook and advance planning for issues not yet explicitly addressed in specific community actions, as became evident in the issues surrounding compliance with GDPR:

- ICANN organization's current focus on compliance with GDPR appears to indicate that the new regulation had caught ICANN organization unaware. Given the fact that the GDPR was initiated in 2012, and some global corporations acted promptly to ensure compliance as soon as the regulation was approved, the review team notes that ICANN organization was not swift in ensuring its compliance with national law. A greater focus on compliance with existing data protection law earlier (e.g. EU national legislation that complied with Directive 95/46) would have been beneficial and in keeping with ICANN organization's obligations to comply with national law.
- This failure to address the need to comply with data protection law is a risk to the organization and the community, and impacts the ability to develop a sound strategic plan for Registration Data. The lack of a strategic priority on a central RDS (WHOIS) policy based on consensus policy, compliant with law and in keeping with acceptable risk management practice impacts several other policies. It also leads to disjointed development of policies and procedures, which produces a lack of congruity.

As a result, while ICANN organization's Strategic Plan and Mission already seeks to reflect the strategic priority given to RDS (WHOIS), the focus is too much on compliance and support for Community processes, rather than providing a real advance planning and strategic function within the ICANN Board and organization. Therefore, the recommendation failed to achieve its original aim of instilling a culture of proactive monitoring and improvements on RDS (WHOIS).

3.2.4 Recommendations

Based on its analysis, members of this subgroup agreed that this WHOIS1 recommendation has been partially implemented. Further recommendations are provided here to address the problems/issues identified above.

RECOMMENDATION NOTATION: Recommendation numbers of the form Rx.n are recommendations that follow up on Recommendation x¹⁵ of the first WHOIS Review. Recommendations LE.n, SG.n, CC.n and BY.n are recommendations related to the new work done by the present review team under its investigations related to Law Enforcement, Safeguarding Registrant Data, Contractual Compliance and the Bylaw governing Specific Reviews.

Recommendation R1.1

To ensure that RDS (WHOIS) is treated as a strategic priority, the ICANN Board should put into place a forward-looking mechanism to monitor possible impacts on the RDS (WHOIS) from legislative and policy developments around the world.

Recommendation R1.2

To support this mechanism, the ICANN Board should instruct the ICANN organization to assign responsibility for monitoring legislative and policy development around the world and to provide regular updates to the ICANN Board.

Findings:

While steps were taken towards making RDS (WHOIS) a strategic priority for the organization, the record of actions over the last years, including the challenging situation regarding compliance with data protection requirements, show that ICANN organization did not take action to address related community concerns in a timely manner. See also discussion of RDS (WHOIS) policy development actions in [Section 3.3](#). Therefore, implementation of this recommendation is not yet sufficient.

Rationale:

The intent behind these recommendations is to ensure that ICANN as an organization is well placed to address future policy issues that may arise from legislation or from community concerns. It will be important to also take into account relevant non-legislative developments, such as soft policy measures or guidance provided by authorities on the implementation of relevant legislation.

The issues identified could best be addressed by an improved implementation of the original recommendation. For these purposes, further elements are proposed in a re-shaped recommendation to provide concrete targets for the ICANN Board and organization.

The potential impact of not addressing the recommendation could create further situations of organizational unpreparedness, making it less possible to assume its responsibilities in a timely manner. Given the challenging process ahead as compliance with data protection rules and obligations under the Bylaws will take significant additional time, improved implementation could help the organization to better address such issues in the future.

These recommendations are also within the scope of the review team's efforts.

¹⁵ In the case of R5.n, R12.n and R15.n, they are follow-up recommendation of the original R5-9, R12-14 and R15-16 respectively.

Impact of Recommendation:

These recommendations would impact the work of the Board and ICANN organization leadership. It would contribute to the legitimacy and efficiency of the organization, by ensuring that it is better prepared to meet future challenges and to serve community needs, including registrants, RDS users and contracted parties. It would also impact the ICANN organization, in that it would require resources to perform the requisite analysis, and require updates to the ICANN Board on a regular basis.

Feasibility of Recommendation:

Given that the ICANN Board has already resolved in the past to make RDS (WHOIS) a strategic priority, this updated recommendation should also be feasible. A risk remains in that any such attempt at providing a global "policy scan" might fail to properly assess relevant developments, as may have been the case with the GDPR and other data protection rules: the potential for conflicts with the law was highlighted many years ago but no change was made in time through the normal ICANN processes.

Implementation:

The implementation has to be provided by the ICANN Board and leadership, with ICANN organization staff support. A successful implementation would consist of a comprehensive and clear Charter for an ICANN Board working group on Registration Data Directory Services, which should be created if not already in place. This should be implemented as soon as possible and at the latest within 6 months¹⁶. This could dovetail with ongoing efforts to ensure swift and constructive cooperation between the Board, ICANN leadership, and the GNSO representing the EPDP on the Temporary Specification for gTLD Registration Data. The working group would need to be supported by appropriate dedicated resources from ICANN organization, who would provide the requisite analysis of global policy developments and supply the ICANN Board with regular updates, which could also be shared with the full ICANN community.

Priority: High.

These recommendations provide the backbone for ICANN organization's efforts on RDS (WHOIS), which should be driven by a strategic and coherent overall approach. It is therefore considered essential.

Note that all recommendations identified as High Priority should begin implementation as soon as possible once approved by the Board and once all preconditions are met.

Level of Consensus: Full Consensus

Recommendation R1.3

The ICANN Board, in drafting the Charter of a Board working group on RDS, should ensure the necessary transparency of the group's work, such as by providing for records of meetings and meeting minutes, to enable future review of its activities.

Findings:

It is difficult to assess the forward-looking nature of the work done by the previous BWG-RDS in the absence of any record of its activities. The Board should conduct its work transparently and with Community involvement, rather than acting alone in these matters which are of key importance to the entire Community and beyond.

¹⁶ All implementation timelines are from when the ICANN Board accepts the recommendation.

Rationale:

Given the strategic importance of RDS (WHOIS) and related activities, it is expected that the work of the previous BWG-RDS or any successor entity would be of interest to future reviews. Accountability and transparency of the group's work, and an account of its activities needs to be created and made available to the ICANN Community.

Impact of Recommendation:

This recommendation impacts the ICANN Board members and ICANN Board support staff participating in any BWG and increases its administrative burden.

Feasibility of Recommendation:

The recommendation would create a new administrative burden on the ICANN Board and on relevant support staff. However, given the limited burden of keeping meeting records and minutes, its implementation should not be overly burdensome and is therefore considered feasible.

Implementation:

The implementation has to be provided by the ICANN Board, with staff support. A successful implementation could consist in a Charter providing for an obligation to create records or summaries of Board working group meetings and corresponding meeting minutes, which the Board should resolve to create as soon as possible and at the latest within 6 months.

Priority: Medium.

This Recommendation serves to create overall accountability and transparency of the Board's activities in a key field, and is therefore of strategic importance.

Level of Consensus: Full Consensus

3.2.5 Possible Impact of GDPR and Other Applicable Laws

The previous review team's recommendation was shown to be of particular importance by the coming into effect of the GDPR. However, its principal nature - to inspire ICANN organization to make RDS (WHOIS) a priority in spite of a lack of commercial interest and to take a forward-looking approach with respect to changing laws and policies is worth emphasis. Clearly that inspiration was not sufficient. There is therefore no particular GDPR impact on this aspect; rather, the significant GDPR impact in other areas is a symptom of its lacking implementation.

3.3 WHOIS1 Rec #2: Single WHOIS Policy

3.3.1 Topic

The specific [WHOIS1 Recommendation](#) assessed by the WHOIS1 Recommendation 2 Single WHOIS Policy subgroup appears below:

WHOIS1 Recommendation #2: Single WHOIS Policy

The ICANN Board should oversee the creation of a single WHOIS policy document, and reference it in subsequent versions of agreements with Contracted Parties. In doing so, ICANN should clearly document the current gTLD WHOIS policy as set out in the gTLD Registry and Registrar contracts and GNSO Consensus Policies and Procedure.

This subgroup addressed the task by:

- Reviewing the ICANN Board’s comments on reception of the WHOIS1 Final Report and pursuant to the Action Plan for addressing the recommendations
- Reviewing ICANN organization staff reports on implementation
- Analyzing the Implementation Action Plan that emerged from the ICANN Board’s instructions to ICANN organization
- Assessing the implementation outcomes from ICANN organization staff reports

3.3.2 Analysis & Findings

The Board discussions around the WHOIS1 Final Report demonstrate that the ICANN Board accepted the lack of a single RDS (WHOIS) policy as fact. They further acknowledged that the current policy framework was not anchored on first principles as the SSAC opined; the purpose for collecting and maintaining registration data. They were also keenly aware of the contours of the policy making processes in the ICANN environment; the Board itself could only give a temporary policy prescription but permanent consensus policymaking was the province of the Supporting Organizations, in this case the GNSO.

In the Action Plan that emerged after the ICANN Board’s consideration of the Single WHOIS policy recommendation, the ICANN Board reasoned that “... there is not a comprehensive gTLD WHOIS policy that addresses all of the issues raised in the review team report” but rather “...There is a set of existing contractual conditions that have been developed over time by negotiation between ICANN organization and registries and registrars, and a small set of consensus policies that address some aspects of the management of domain name registration data.” All “presently available conditions and policies” would be curated and made accessible from a single source.”

They went on: “The fundamental questions of the purpose of collecting and maintaining gTLD registration data have not been addressed through a successful policy PDP”. The report nevertheless acknowledged earlier attempts by the GNSO to achieve such a policy prescription in footnotes.

The implementation of a single RDS (WHOIS) policy document was effected by creating a webpage where all content pertaining to RDS (WHOIS) requirements and conditions (often implied by contractual obligations within registry and registrar contracts) plus pertinent GNSO-developed gTLD consensus policies can be accessed. That website can be accessed [here](#).

At its special Board Meeting on 8th Nov 2012, the ICANN Board accepted the essence of the SSAC's response as outlined. It acknowledged that the WHOIS1 Final Report re-ignited concerns surrounding a fundamental policy prescription for the purpose for collecting and publishing registration data and was a catalyst for "launching a new approach to long-standing directory services challenges." In its [Resolution 1](#), the ICANN Board then directs the CEO to "launch a new effort to redefine the purpose of collecting, maintaining and providing access to gTLD registration data, ...as a foundation for new gTLD policy and contractual negotiations...as part of a Board-initiated GNSO policy development process."

See the Board Resolution [here](#).

Implementation of that directive resulted in the [establishment of the Expert Working Group on Next Generation Registration Data Services](#) (EWG). The EWG mandate was to "re-examine and define the purpose of collecting and maintaining gTLD registration data, consider how to safeguard the data, and propose a next-generation solution that will better serve the needs of the global Internet community." This was interpreted as to also include consideration for providing access to gTLD registration (WHOIS) data. The EWG delivered its [Final Report](#) in June 2014.

In April 2015 the ICANN Board adopted a series of resolutions that affirmed the EWG Report as a guide and foundation for development of a new comprehensive and unifying gTLD RDS (WHOIS) policy. It outlined the [next steps](#) following on its acceptance of the EWG's Report. That action can be found [here](#).

The EWG's Final Report detailed models and principles advised for framing the GNSO PDP and the general controversial nature of the RDS (WHOIS) matter. The Board raised a collaborative group of select Board members plus GNSO Councilors to seek common ground on a [3-phase framework](#) of action. That group agreed on a Preliminary Issues Report based on this 3-phase framework that would be used to guide the work of the pending GNSO PDP[s].

The [Issue Report](#) was issued in October 2015 and the GNSO [set the three-phase PDP in motion](#) as the Next Generation gTLD Registration Directory Services to Replace WHOIS PDP. The Working Group began January 2016. The charter for the PDP WG can be found [here](#).

After 27 months of contentious deliberations on the Phase 1 portion of its road mapped work plan, the Next-Generation gTLD RDS PDP WG meetings were [suspended until further notice](#) in April 2018. Following the initiation of the EPDP, the Next-Generation gTLD RDS PDP was terminated. Its working documents are available for examination [here](#).

Notwithstanding, there are ongoing developments pertaining to the adoption of a single RDS (WHOIS) policy. In light of the GDPR that came into force in May 2018 and the projected impact on domain name registration data collection, access and publication, the ICANN Board provided a [temporary specification](#) in May 2018 that seeks "to allow ICANN and gTLD registry operators and registrars to continue to comply with existing ICANN contractual requirements and community-developed policies in light of the GDPR." With this specification, the ICANN Board is announcing that it will conform to the GDPR requirements even as it seeks to maintain "the existing WHOIS system to the greatest extent possible". To that end, [some elements of the Temporary Specification are now in contention by a contracted party and the subject of a lawsuit in an EU state](#).

With the normal policy development process for registration data upended by the shuttered PDP WG, the Temporary Specification that has emerged to address this matter remains a Board-developed policy adopted under emergency conditions. It must be ratified or adapted

for ratification by the GNSO-chartered policy development process within one (1) year. The GNSO has already initiated an EPDP that will consider the ICANN Board-adopted Temporary Specification for gTLD Registration Data and hopefully, from here may emerge the single RDS (WHOIS) Policy. The [charter](#) gives very concrete guidance to the EPDP Team regarding the questions to be answered in order for the output to be considered fit for purpose.

The primary question which this review team had to answer regarding this rapidly evolving series of events surrounding RDS (WHOIS) policy is whether this webpage is a sufficient substitute for a 'single RDS (WHOIS) policy document' and, whether it conforms to the original WHOIS1 Review Team's recommendation 2?

Findings:

The RDS-WHOIS2 Review Team confirms the webpage intended to collect all RDS (WHOIS)-related commitments contractually required of registries and registrars as well as GNSO developed consensus policies and procedures is available. The RDS-WHOIS2 Review Team can also confirm that it lists a number of RDS (WHOIS)-related agreements with registries and registrars plus GNSO consensus RDS (WHOIS)-related policies and procedures. These are hyperlinked to details of those policies and procedures. Considering the evidence, it appears that the Board's response to the WHOIS1 Review Team's recommendation as outlined in the Action Plan was executed.

Secondly, whether the contents and format of the webpage furthers the objective of "a clear, concise, well-communicated RDS (WHOIS) Policy."?

Findings:

It is the RDS-WHOIS2 Review Team's view that the contents of the website demonstrate collection, curation and publication of all of ICANN organization's RDS (WHOIS)-related content. Those include contracts, consensus policies and other peripheral matters.

Thirdly there is the question of whether the decision to authorize the EWG and the broad guidelines given for its work constitutes a good faith effort by the Board to initiate the single RDS (WHOIS) policy framework? Furthermore, does this fulfil the commitment to fix gaps in the RDS (WHOIS) policy framework and holistically address fragmented and decentralized RDS (WHOIS) policy, itself a result of history and the structural framework for the ICANN policy development process?

Findings:

The RDS-WHOIS2 Review Team believes that the evidence provided by the charter for the Expert Working Group, the Final Report delivered to the ICANN Board and its subsequent deliberations and published outcomes from those deliberations, show that the ICANN Board responded to the WHOIS1 Review Team's recommendation. The ICANN Board initiated the broad reconsideration of the fragmented RDS (WHOIS) policy with the objective of a single RDS (WHOIS) policy emerging at the end.

Finally, the subgroup considered whether [the Board's request](#) and process framework for a Next-Generation gTLD RDS PDP, using the EWG Final Report as input to (and, if appropriate, a foundation for) a new gTLD policy, was effective in producing the single comprehensive RDS (WHOIS) policy envisioned by the WHOIS1 Review Team.

Findings:

The RDS-WHOIS2 Review Team believes that had the plan been executed to completion, a single comprehensive RDS (WHOIS) policy could have emerged. In any event, the ICANN Board adopted the Temporary Specification with the side benefit that the consensus policy emerging from the Expedited PDP will deliver a Single WHOIS Policy.

3.3.3 Problem/Issue

While the RDS-WHOIS2 Review Team believes the website is a sufficient substitute for a single document for RDS (WHOIS)-related policies, the team believes the organization of the content could be further optimized for navigation and readability. However, as GDPR implementation progresses, the existing website and its contents become archival artifacts. That said, reorganization of its contents is moot and no longer an active matter.

3.3.4 Recommendations

None.

3.3.5 Possible Impact of GDPR and Other Applicable Laws

The ICANN Board's considerations and the emergence of the Temporary Specification on gTLD Registration Data is a direct result of the GDPR and has implications for the collection, publication and curation of registration data. The charter of the EPDP specifically obliges the EPDP Team to specifically address compliance with the GDPR.

All stakeholders will be impacted by these developments.

3.4 WHOIS1 Rec #3: Outreach

3.4.1 Topic

The specific [WHOIS1 Recommendation](#) assessed by the WHOIS1 Recommendation #3 Outreach subgroup appears below:

WHOIS1 Recommendation #3: Outreach

ICANN should ensure that WHOIS policy issues are accompanied by cross-community outreach, including outreach to the communities outside of ICANN with a specific interest in the issues, and an ongoing program for consumer awareness.

The subgroup reviewed all of the multiple "outreach" resources with a specific focus on:

- Identifying areas where there are inconsistencies, errors and out of date information
- Identifying gaps in the documentation

The subgroup also reviewed the various outreach events and activities.

3.4.2 Analysis & Findings

ICANN organization has developed a wide variety of documents and resources designed to educate various communities on issues related to RDS (WHOIS). Some were undertaken as a result of the WHOIS1 Review Team's recommendations on Outreach, and others were done as parts of other processes. RDS (WHOIS) issues are interwoven with other material related to gTLD domain names. This is reasonable, since from a registrant's point of view, RDS (WHOIS) is just one aspect related to the complex world of domain names.

The subgroup found that the material associated with the RDS (WHOIS) Portal created as a result of the WHOIS1 Review Team's recommendations is well organized and the level of information is reasonable. However, the material is vast, so it is less than clear how it should be used. Moreover, the hierarchical organization is opaque and cannot easily be viewed. There are important things listed on sub-menus that are not listed or implied at the top level, resulting in no practical way to discover such material.

The other material available on the ICANN organization website generally pre-dates the Portal, and no attempt was made to update this material, or integrate it.

As an example, the Portal points to a document entitled "Registrant's Benefits and Responsibilities". The document includes two sections, "Domain Name Registrants' Rights" and "Domain Name Registrants' Responsibilities" (note the lack of a section entitled Benefits). It is written in seemingly simple and clear language, but hidden within it is complexity ("You must review your Registrar's current Registration Agreement, along with any updates." - Sounds simple but doing this is not at all simple). There is only one explicit reference to RDS (WHOIS), but there are many implied references.

Delving into the 2013 Registrar Accreditation Agreement (RAA), there is a reference to a document called Registrant Rights and Responsibilities as well as a Registrant Benefits and Responsibilities. The Rights and Responsibilities is a long and legalistic document which only applies to the 2009 RAA and has been supplanted by the Registrant Benefits and Responsibilities (which as mentioned has sections on Rights and Responsibilities).

Another cache of information is a set of registrant education videos. They are on a completely separate part of the ICANN organization site dedicated to registrars (not registrants) and not likely to be found by accident. They are low-level introductions, and done reasonably well, but are now very dated and do not integrate with the RDS (WHOIS) Portal. For instance, to perform an RDS (WHOIS) operation, they point the user to Internic.net instead of the Common Interface Portal (whois.icann.org).

A fourth excellent repository is within the section of the ICANN organization website devoted to ICANN organization Contractual Compliance. Lastly, there are beginners guides at [ICANN E-Learning](#) and courses at [ICANN Learn](#).

In summary, the WHOIS1 Review Team's Recommendation #3 to make information available was carried out, but that information was not well integrated with other RDS (WHOIS)-related information. The WHOIS1 review of contractual compliance issues noted that there was a particular problem related to filing WHOIS Inaccuracy Reports, and this should be addressed as well.

With regard to outreach, significant outreach to communities within ICANN organization has been carried out. There is little evidence that there was any substantive outreach to non-ICANN groups. The RDS-WHOIS2 Review Team was told that such outreach would be done by Global Stakeholder Engagement and RDS (WHOIS) is one of the topics that may touch on, but there were no records that specifically address RDS (WHOIS)-specific outreach described in this recommendation.

To what extent there are parties who are not affiliated with ICANN organization but interested in RDS (WHOIS) is a relevant question. Certainly, there are examples of civil society consumer protection organizations and government consumer protection organizations that may fall into this category. And one has to wonder whether the entire GDPR issue would have unfolded differently if ICANN organization had reached out to EU data protection commissioners long before the issue became important to ICANN organization in mid-2017. Law enforcement is another area which might have been approached through outreach. Lastly, although the ICANN RDS (WHOIS) Portal targeted those registrants who came looking for information, there is an argument to consider more active outreach to registrants, particularly in relation to whatever changes GDPR brings.

Findings Summary: Recommendation 3 of the WHOIS1 Review Team was partially implemented.

3.4.3 Problem/Issue

There is a wide variety of information related to RDS (WHOIS), some is well integrated and some very disjointed. Of necessity this information is somewhat interwoven with other information related to second-level gTLD domain names.

RDS (WHOIS)-related information and documents cover several "generations" and do not integrate well.

Moreover, a typical user or registrant will not be able to readily identify where they need to look for RDS (WHOIS)-related information, and identifying one of the multiple locations will not lead them to the others.

The problem is exacerbated by the introduction of the terms "RDS" (and at times "RDDS") to replace "WHOIS."

Regarding outreach, there is little strong evidence that any outreach targeted at non-ICANN audiences was contemplated or carried out.

3.4.4 Recommendations

Based on its analysis, this review team agrees that this WHOIS1 recommendation has been partially-implemented. Further recommendations are provided here to address the problems/issues identified above.

Recommendation R3.1

The ICANN Board should direct the ICANN organization to update all of the information related to RDS (WHOIS) and by implication other information related to the registration of second-level gTLDs domains. The content should be revised to make the information readily accessible and understandable and it should provide details of when and how to interact with ICANN organization or contracted parties. Although not the sole focus of this recommendation, interactions with ICANN organization Contractual Compliance, such as when filing WHOIS Inaccuracy Reports, should be a particular focus. The revision of this web documentation and instructional material should not be undertaken as a purely internal operation but should include users and potentially focus groups to ensure that the final result fully meets the requirements. The resultant outward facing documentation of registrant and RDS (WHOIS) issues should be kept up to date as changes are made to associated policy or processes.

Findings:

The recommendation to provide outreach was correctly interpreted in that significant RDS (WHOIS)-related documentation was required. Although the resultant Portal is somewhat lacking in navigation tools, it was generally very well done. The current topic headings on the Portal main page are suited to those who are looking for information on specific issues (that is, they already understand the basics) but could benefit from groupings aimed at novices looking for an introduction, or targeted at specific groups (such as current registrants). The Portal was not well integrated with other registrant-related information or with earlier RDS (WHOIS)-related documentation and tutorial efforts. Documentation related to WHOIS Inaccuracy Reports was noted as needing a particular focus.

Rationale:

The original recommendation was not explicit as to what documentation was required or how it should be integrated. Although the work that was done was of high quality, the lack of integration makes it significantly less effective that it could have been. Although it is currently unclear to what extent RDS (WHOIS) information will be publicly viewable, such information will always be collected and thus ICANN organization has an obligation to document it clearly. Moreover, if there is tiered access to RDS (WHOIS) data at some point in the future, there will have to be extensive documentation on who can access such additional information and how that process is carried out.

Impact of Recommendation:

All gTLD registrants should have full information on why their data is collected, how it can be used, and how they may make use of such data. Similarly, others who may have an interest in the registrant of a gTLD domain, or how to interact with that registrant should have ready access to such information and how to proceed if there is a problem to be resolved.

Feasibility of Recommendation:

The documentation and educational materials requested are standard types of offerings.

Implementation:

The implementation should begin once it is moderately clear how GDPR will be addressed with relation to gTLD RDS (WHOIS). Should the implementation of this recommendation be deferred past FY2020, the then existing RDS (WHOIS)-related parts of the ICANN website must be amended to cross-link the various sections on the RDS (WHOIS) portal, ICANN Contractual Compliance, Registrar and ICANN Learn.

As policies and processes change, so should the related user-oriented documentation.

Priority: Medium.

Level of Consensus: Full Consensus

Recommendation R3.2

With community input, the ICANN Board should instruct the ICANN organization to identify groups outside of those that routinely engage with ICANN organization, and these should be targeted through RDS (WHOIS) outreach. An RDS (WHOIS) outreach plan should then be developed, executed, and documented. There should be an ongoing commitment to ensure that as RDS (WHOIS) policy and processes change, the wider community is made aware of such changes. WHOIS inaccuracy reporting was identified as an issue requiring additional education and outreach and may require a particular focus. RDS (WHOIS) outreach should be included when considering communications in underserved regions. The need for and details of the outreach may vary depending on the ultimate General Data Protection Regulation (GDPR) implementation and cannot be detailed at this point.

Findings:

There is little evidence of outreach as described in the original recommendation and such outreach is still felt to have merits.

Rationale:

The need for non-traditional outreach on RDS (WHOIS) was clearly understood by the WHOIS1 Review Team. This need was further supported by parts of the ICANN community. However, the apparent lack of insight by others to understand how GDPR might impact Internet communities demonstrates why such outreach is crucial and must include both traditional and non-traditional parties.

Impact of Recommendation:

The potential impact and reach of such outreach will be determined during the first phase of consultation.

Feasibility of Recommendation:

Although such outreach implementing the original recommendation was apparently not carried out to any great extent, there is no reason to believe that it is not feasible.

Implementation:

The implementation should begin once it is moderately clear how GDPR will be addressed with relation to gTLD RDS (WHOIS). Implementation should not be a one-time effort but should have an ongoing component.

Priority: High.

Level of Consensus: Full Consensus

3.4.5 Possible impact of GDPR and other applicable laws

GDPR and other data protection laws will have a significant impact on implementation of this recommendation. There is uncertainty on timelines, and uncertainty as to what extent RDS (WHOIS) information will continue to be publicly available, even in parts of the world that do not have data protection law. For that reason, it is not possible to predict whether, by the time this recommendation is approved by the ICANN Board, there will be sufficient stability to begin the recommended outreach efforts.

3.5 WHOIS1 Rec #4: Compliance

3.5.1 Topic

The specific [WHOIS1 Recommendation](#) assessed by the WHOIS1 Recommendation #4 Compliance subgroup appears below:

WHOIS1 Recommendation #4: Compliance

ICANN should ensure that its compliance function is managed in accordance with best practice principles, including full transparency on resourcing and structure; provide annual reports; appoint a senior executive whose sole responsibility would be to oversee and manage ICANN's compliance function (reporting to Board Committee); provide all necessary resources to manage and scale compliance team's activities.

Questions the subgroup attempted to answer when assessing this objective include:

- a) Do the current reports provide the details described above? Are they transparent and complete?
- b) Is the current appointment of a senior executive appropriate? Who does this person report to?
- c) Does the Compliance team have all necessary resources?

3.5.2 Analysis & Findings

This subgroup's objectives when analyzing its findings were to:

- Identify the extent to which ICANN organization has implemented each prior Directory Service Review recommendation (noting differences if any between recommended and implemented steps),
- Assess the extent to which implementation of each recommendation was effective in addressing the issue identified by the WHOIS1 Review Team or generated additional information useful to management and evolution of RDS (WHOIS),
- Assess the effectiveness and transparency of ICANN enforcement of existing policy relating to RDS (WHOIS) through Contractual Compliance actions, structure and processes, including consistency of enforcement actions and availability of related data.

The following table presents the specific compliance principles recommended by the WHOIS1 Review Team, the questions this subgroup asked to assess implementation of those principles, and our findings and analysis for each.

WHOIS1-Recommended Principle	Question	Findings and Analysis
<i>a. There should be full transparency regarding the resourcing and structure of its compliance function. To help achieve this ICANN should, at a minimum, publish annual reports that detail the following relevant</i>	Do the current reports provide the details described above? Are they transparent and complete?	The Compliance team has made significant progress in reporting metrics and data in their annual report. They also allocate time during ICANN meetings to meet with the community and provide additional details on their work.

WHOIS1-Recommended Principle	Question	Findings and Analysis
<p><i>to ICANN's compliance activities: staffing levels; budgeted funds; actual expenditure; performance against published targets; and organizational structure (including the full lines of reporting and accountability).</i></p>		<p>The reports are very helpful and quite an improvement over reporting in 2012. In reading the reports it is hard to make an assessment of the issues that are still problematic. 66% of reports to the ICANN Contractual Compliance team are WHOIS Inaccuracy Reports which comprises the largest areas of the Compliance team workload. What is not evident in the data reported is what are the problem areas, what could be improved to assist the Compliance team with its work. ICANN Contractual Compliance has an ongoing continuous improvement cycle based on survey feedback, working group and review teams, lessons learned and internal reviews which also drive change. The RDS-WHOIS2 Review Team appreciates that the Compliance team is working hard to receive input from the community. The review team heard from users of the inaccuracy tool that there is an inconsistency in experience and results received when submitting a report.</p> <p>The Compliance team provided additional information to the subgroup. This information is reflected in the overall review of Compliance.</p>
<p><i>b. This senior executive should report directly and solely to a sub-committee of the ICANN Board. This sub-committee should include Board members with a range of relevant skills, and should include the CEO.</i></p>	<p>Is the current appointment of a senior executive appropriate? Who does this person report to?</p>	<p>The Compliance team provided an organizational chart for the reporting structure of the team. Although, the Senior Vice President Contractual Compliance & Consumer Safeguards reports directly to the CEO the recommendation explicitly states "report directly and solely to a Board sub-committee."</p> <p>There is no indication that the recommended reporting structure was implemented. The Board action on this recommendation</p>

WHOIS1-Recommended Principle	Question	Findings and Analysis
		<p>indicates they thought the implemented reporting structure to be adequate. At this point in time the RDS-WHOIS2 Review Team does not believe the recommendation was fully implemented. The intention of the WHOIS1 Review Team was to ensure this role had the independence needed to perform the compliance function without restriction from the rest of the organization.</p> <p>Additional review would be needed to determine feasibility of adhering to the intentions of the WHOIS1 recommendation.</p>
<p><i>c. ICANN should provide all necessary resources to ensure that the ICANN Contractual Compliance team has the processes and technological tools it needs to efficiently and pro-actively manage and scale its compliance activities. The review team notes that this will be particularly important in light of the new gTLD program, and all relevant compliance processes and tools should be reviewed and improved, and new tools developed where necessary, in advance of any new gTLDs becoming operational.</i></p>	<p>Does the ICANN Contractual Compliance team have all necessary resources?</p>	<p>It appears that the Compliance team has all the necessary resources to manage compliance activities. They have improved technology over the years and implemented new systems. The ICANN organization has provided the budget for the ICANN Contractual Compliance team to grow. They currently have 25 employees compared to 6 during the WHOIS1 Review. They have implemented a bulk WHOIS inaccuracy reporting tool and improved the single input WHOIS inaccuracy tool since the WHOIS1 Review.</p> <p>It is this RDS-WHOIS2 Review Team's opinion that the ICANN Contractual Compliance team has sufficient resources but does not utilize data for proactive assessment and enforcement.</p>

Furthermore, it appears that the Compliance team does little in proactive actions to discover and remediate issues with RDS (WHOIS) data. It is a registrar's responsibility to enforce the contractual requirements of data accuracy with their registrants. When the subgroup asked the ICANN Contractual Compliance team about this, they responded that they performed proactive monitoring of the RDS (WHOIS) verification review in the APAC region. Other than this, it appears that reactive enforcement is the norm. When a ticket is filed it is actioned and responded to. This is not optimal for the security and stability of the Internet.

The ICANN Contractual Compliance team does have access to other sources of data through the Domain Activity Abuse Reporting (DAAR)¹⁷ reports. Although DAAR data is non-authoritative, it is used globally to add to the security and stability of the Internet.

Based on this analysis, the subgroup identified the following problems/issues:

Proactive analysis and enforcement by the ICANN Contractual Compliance team would contribute to the security and stability of the Internet. By only reacting to reported compliance issues opportunities are missed to find systemic issues. Enforcement against single reports will miss the bigger picture of issues that require deeper analysis. If the Compliance team created a risk-based enforcement strategy this would lead to more effective and measurable enforcement. A risk-based enforcement strategy is critical when voluntary compliance is not sufficient. A strategy would include a rigorous and systematic approach to identifying and responding to risk. It is necessary to identify and assess the risk associated with non-compliance with policies or contractual obligations.

Factoring in this risk assessment, decisions regarding compliance and enforcement are based on the following:

- the nature and intensity of compliance and enforcement action for each policy or contractual requirement
- what monitoring and information-gathering mechanisms are needed
- the focus and timing of audit and inspection programs
- public reporting on compliance and enforcement activity to encourage voluntary compliance.

Compliance and enforcement activities should be proportionate with the relevant risks. The more escalated enforcement tools and severe enforcement responses should be used to address situations where the risks associated with non-compliance are the highest. Resources and actions should be focused where the risks are greatest.

- Probability of non-compliance
- Determine likelihood of whether or not one or more entities will not comply with the policy or contractual requirement.
- Take into account past compliance action history.

Impact of non-compliance:

- Determine the nature and types of impacts that may occur and how they will be measured.
- Which risks become acceptable or intolerable.
- It may also be worthwhile having the risk assessment reviewed by an independent, objective third party.

Implementation:

The success of a compliance and enforcement strategy will depend in large part on the way in which it is implemented. The following criteria are critical:

- Strategy should be applied in a consistent manner,
- Monitoring and data collection is necessary to detect instances of non-compliance and to provide evidence to support the enforcement action,
- The data should be reviewed and analyzed by ICANN organization staff with appropriate skills and experience,
- External and internal reporting of compliance actions is critical.

¹⁷ DAAR is an activity of OCTO, the ICANN Office of the Chief Technology Officer – see <https://www.icann.org/octo-ssr/daar>.

It may also be worthwhile having the risk assessment reviewed by an independent, objective third party. This approach helps to ensure that risk is managed effectively, efficiently and properly by the enforcement body.

3.5.3 Problem/Issue

One issue related to Recommendation #4 is described in [Section 3.5.2](#).

In addition, issues related to Recommendation #4, identified by the Data Accuracy subgroup, are described in [Section 3.6.3.2](#).

3.5.4 Recommendations

Based on its analysis, members of this subgroup agree that this WHOIS1 recommendation has been partially-implemented.

Further recommendations are provided here to address the problems/issues identified by the Rec4 subgroup in [Section 3.5.3](#) and by the Recommendations # 5-9 subgroup in [Section 3.6.4](#).

Recommendation R4.1

The ICANN Board should initiate action to ensure ICANN Contractual Compliance is directed to proactively monitor and enforce registrar obligations with regard to RDS (WHOIS) data accuracy using data from incoming inaccuracy complaints and RDS accuracy studies or reviews to look for and address systemic issues. A risk-based approach¹⁸ should be executed to assess and understand inaccuracy issues and then take the appropriate actions to mitigate them.

Findings:

As detailed in [Section 3.5.2](#), currently, the ICANN Contractual Compliance team's responsibilities are mainly reactive in responding to WHOIS Inaccuracy Reports and working with the GDD on the results of the ARS reports. The Compliance team could be more proactive in their approach and when they see suspected systemic issues, inaccuracy complaints reported, RDS accuracy studies or reviews or DAAR reports to, research, analyze and enforce against inaccuracy in the registration data. With the number of registered domain names growing daily it becomes vital to security and stability to ensure that registrant data is accurate.

Rationale:

Data produced by ICANN's DAAR system is an additional resource that the ICANN Contractual Compliance team has available and is not currently including in their research and analysis. The use of DAAR data as one of many input sources (along with the sources cited above in Findings) would provide a different perspective for the ICANN Contractual Compliance team. Although DAAR data is non-authoritative, it is used globally to add to the security and stability of the Internet. Bulk WHOIS Inaccuracy Reports may also be helpful in addressing systemic issues. Reports through this tool may be indicative of widespread problems and use of these reports could assist in enforcement. All the resources of information already received as input to ICANN should be considered when investigating compliance issues.

¹⁸ Risk-based actions means that to the extent possible, risk-assessment is performed before action is taken. This new practice would ensure that all policies are measured, audited, tracked, reported and enforced by the ICANN Contractual Compliance team.

Impact of Recommendation:

This recommendation could positively impact the accuracy of registrant data. The Compliance team could implement this, unless it requires a new policy, in which case a GNSO Policy Development Process may be required. If this recommendation is not implemented the effectiveness of compliance actions will be lessened. As systemic issues increase and sophistication of attacks are on the rise the ICANN Contractual Compliance teams needs more effective tools and detection information to resolve issues. This recommendation is aligned with ICANN's Mission and within scope of the review team.

Feasibility of Recommendation:

This recommendation would not be difficult for the Compliance team to implement, unless it requires a new policy, in which case contract negotiation or a PDP may be required.

Implementation:

The Community and ICANN organization would create a framework/policy for this recommendation. This recommendation will be successful when the percentage of accurate registrant data records increases. There is currently no specific work underway on this issue except that the DAAR data is available and ready for evaluation. This recommendation could be implemented immediately upon approval by the ICANN Board.

Priority: High.

Level of Consensus: Full Consensus

Recommendation R4.2

The ICANN Board should initiate action to ensure that ICANN Contractual Compliance is directed to cross-reference existing data from incoming complaints and studies such as the ARS to detect patterns of failure to validate and verify RDS (WHOIS) data as required by the RAA. When such a pattern is detected, compliance action or an audit should be initiated to review compliance of the Registrar with RDS (WHOIS) contractual obligations and consensus policies.

Findings:

As detailed in [Section 3.6.2.2](#), all current RDS (WHOIS) accuracy-related compliance activities are separate and conducted individually. ARS sampled RDS (WHOIS) records to do accuracy tests, the Audit program samples registrars to conduct audits, and no synergies appear to have been gained through these different action tracks.

Rationale:

A follow up audit would help in cases where a pattern of failure to validate and verify RDS (WHOIS) data as required by the RAA is detected, to help to mitigate issues regarding the identified registrar.

Impact of Recommendation:

Registrars that do not consistently adhere to the requirement to verify and validate the data in the RDS (WHOIS) record will be impacted by this recommendation. If a pattern is detected for lack of adherence to RAA requirements, then the Registrar will be subjected to an audit of their verification and validation of RDS (WHOIS) records by the Compliance team. This could result in education of the Registrar, better understanding of the requirements required by ICANN policy, and an improvement in RDS (WHOIS) data accuracy. Compliance actions could be applied if the Registrar refuses to comply with the RAA. If this recommendation is not implemented, systemic issues will not be detected and there will continue to be Registrars that are not complying.

This recommendation is aligned with ICANN's Strategic Plan and Mission and is within the scope of the review team.

Feasibility of Recommendation:

This recommendation will make the Audit program more targeted. The ICANN Contractual Compliance team may need further assessment of resources to implement this recommendation.

Implementation:

Registrants, registrars, registries and ICANN Contractual Compliance will all be responsible for the implementation of this recommendation. Successful implementation will result in a **reduction in percentage of Inaccuracy Reports for audited registrars and improved accuracy** of RDS (WHOIS) records. There is no current work underway on this issue. This recommendation should be implemented immediately after approval by the ICANN Board.

Priority: High.

Level of Consensus: Full Consensus

3.5.5 Possible Impact of GDPR and Other Applicable Laws

It is currently unclear to what extent Contractual Compliance will have access to RDS (WHOIS) information, nor what procedures it may have to follow to gain such access. Depending on the final GDPR implementation, the ability of Contractual Compliance to address issues that it did prior to GDPR may be affected and/or the amount of resources (time and staff) required may increase, perhaps substantially. Little or no access to registrant data could hamper Compliance actions causing the workload to increase significantly. Action might need to be taken to compensate by increasing staff or resources.

Whether Contractual Compliance will in fact be able to verify RDS (WHOIS) information at all is still not clear. If they must request the information from the registrar or registry, they have no guarantee that the information returned is what is actually in the database. It is only with direct access to the database (as was previously the case) that they have firm evidence of its contents.

3.6 WHOIS1 Recs #5-9: Data Accuracy

3.6.1 Topic

The specific [WHOIS1 Recommendations](#) assessed by the WHOIS1 Recommendations #5-9 Data Accuracy subgroup appear below:

WHOIS1 Recommendations #5-9: Data Accuracy

Recommendation 5 – ICANN should ensure that the requirements for accurate WHOIS data are widely and proactively communicated, including to current and prospective Registrants, and should use all means available to progress WHOIS accuracy, including any internationalized WHOIS data, as an organizational objective.

Recommendation 6 – ICANN should take appropriate measures to reduce the number of WHOIS registrations that fall into the accuracy groups Substantial Failure and Full Failure (as defined by the NORC Data Accuracy Study, 2009/10) by 50% within 12 months and by 50% again over the following 12 months.

Recommendation 7 – ICANN shall produce and publish an accuracy report focused on measured reduction in WHOIS registrations that fall into the accuracy groups Substantial Failure and Full Failure, on an annual basis.

Recommendation 8 – ICANN should ensure that there is a clear, unambiguous and enforceable chain of contractual agreements with registries, registrars, and registrants to require the provision and maintenance of accurate WHOIS data. As part of these agreements, ICANN should ensure that clear, enforceable and graduated sanctions apply to registries, registrars and registrants that do not comply with its WHOIS policies. These sanctions should include de-registration and/or de-accreditation as appropriate in cases of serious or serial non-compliance.

Recommendation 9 – Board should ensure that the Compliance Team develop metrics to track the impact of the annual WHOIS Data Reminder Policy (WDRP) notices to registrants; metrics should be used to As per (1) above, the Board will initiate a policy on the purpose of the gTLD WHOIS service, and this will help drive the principles behind privacy/proxy develop and publish performance targets, to improve data accuracy over time; if this is unfeasible, Board should ensure that an alternative, effective policy is developed and implemented that achieves the objective of improving data quality, in a measurable way.

To address this review objective, the subgroup agreed to investigate the following:

- The implementation progress of the “WHOIS Accuracy Program Specification” (WAPS) in the 2013 RAA.
- The progress of WHOIS Accuracy Reporting System (ARS) project and to what extent the inaccuracy has been reduced.
- The accuracy rate of RDS (WHOIS) data which uses Privacy/Proxy service.
- Are the measures which have been taken effective in achieving the objectives?
- Can data accuracy be measured when RDS (WHOIS) contact data becomes mostly hidden (non-public)?

3.6.2 Analysis & Findings

WHOIS1 Recommendations 5-9 could be grouped into 3 levels:

- **Registrant education:** Recommendation 5 clearly requested that ICANN communicate to current and prospective registrants the requirements for accurate RDS (WHOIS) data, and circulate the Registrant Rights and Responsibilities document to all new and renewing registrants.
- **Contractual Requirements:** Develop a clear, unambiguous and enforceable chain of contractual agreements with registries, registrars, and registrants to require the provision and maintenance of accurate RDS (WHOIS) data.
- **Accuracy Improvement:** Take appropriate measures to reduce the number of RDS (WHOIS) data that falls into the accuracy groups of Substantial Failure and Full Failure (as defined by the NORC Data Accuracy Study, 2009/2010). To also report annually on above reduction in a measurable way, and to develop metrics used by the ICANN Contractual Compliance Team to track the impact of the WHOIS Data Reminder Policy (WDRP).

The following measures were either in effect or have been taken by ICANN organization to progress RDS (WHOIS) accuracy since the WHOIS1 review.

1. An RDS (WHOIS) Informational Website has been established as policy documentation, to educate registrants on RDS (WHOIS), their rights and responsibilities, and to allow Internet users to submit inaccuracy complaints about RDS (WHOIS) data.
2. The 2013 RAA introduced contractual obligations for registrars to validate and verify RDS (WHOIS) data upon registration, domain transfer, or information changes by registrants within 15 days.
3. ICANN is in the midst of developing a WHOIS Accuracy Reporting System (ARS), to proactively identify potentially inaccurate gTLD registration data; explore using automated tools, and forward potentially inaccurate records to gTLD registrars for action.
4. The WHOIS Data Reminder Policy (WDRP), adopted by ICANN as a consensus policy on 27 March 2003 and now in effect, requires a registrar to present to the registrant the current RDS (WHOIS) information on an annual basis, and to remind registrants to review their data, and make any corrections.

3.6.2.1 Implementation Review of Recommendation 5

An RDS (WHOIS) Informational Website has been established as policy documentation, to educate registrants about RDS (WHOIS). There they may learn their rights and responsibilities, and it allows Internet users to submit complaints about RDS (WHOIS) inaccuracy. ICANN explicitly specifies the following registrant responsibilities, both on the RDS ([WHOIS](#) [Informational Website](#)) and in the 2013 RAA:

Domain Name Registrants' Responsibilities:

- 1. You must comply with the terms and conditions posted by your Registrar, including applicable policies from your Registrar, the Registry and ICANN.*
- 2. You must review your Registrar's current Registration Agreement, along with any updates.*
- 3. You will assume sole responsibility for the registration and use of your domain name.*
- 4. You must provide accurate information for publication in directories such as WHOIS, and promptly update this to reflect any changes.*
- 5. You must respond to inquiries from your Registrar within fifteen (15) days, and keep your Registrar account data current. If you choose to have your domain name registration renew automatically, you must also keep your payment information current.*

The 2013 RAA obligates each registrar to publish on its website(s) and/or provide a link to the Registrants' Benefits and Responsibilities Specification. ICANN's Contractual Compliance Team checks to determine whether registrars are publishing this information and follows up to bring the Registrar into compliance if it is not doing so.

The 2013 RAA clearly indicates that a registrant's willful breach of the RDS (WHOIS) accuracy policy above will lead to suspension and/or cancellation of the registered domain name.

The RDS (WHOIS) accuracy policy was specified both in the 2009 RAA and the 2013 RAA; it is therefore assumed that all new and renewing registrants have been exposed to the above responsibilities.

In conclusion, it is our view that WHOIS1 Recommendation #5 has been fully implemented. However, the effectiveness of that implementation needs to be further assessed.

3.6.2.2 Implementation Review of Recommendation 6

To address Recommendation #6 (and Recommendation #7), ICANN initiated the [Accuracy Reporting System](#) (ARS) project, with the aim to "*proactively identify inaccurate gTLD registration data, explore the use of automated tools, forward potentially inaccurate records to registrars for action, and publicly report on the resulting actions to encourage improvement.*"

The ARS was designed to be implemented through three Phases based on the types of validations described in the [SAC058 Report](#) (syntax, operability, and identity).

- (1) [Phase 1](#): Syntax Accuracy
- (2) [Phase 2](#): Syntax + Operability Accuracy
- (3) Phase 3: Syntax + Operability + Identity Accuracy

Phase 1 was completed in August 2015 and assessed the format of RDS (WHOIS) records (i.e., Is the record correctly formatted? Is there an "@" symbol in the email address? Is there a country code in the telephone number?)

Phase 2 reviews both the syntax and operability accuracy of RDS (WHOIS) records by assessing the functionality of the information in a record (e.g., Does the email go through?)

Does the phone ring? Will the mail be delivered?). Phase 2 is ongoing with a new report published every 6 months, detailing the leading types of non-conformance, trends and comparisons of RDS (WHOIS) accuracy across regions, Registrar Accreditation Agreement (RAA) versions and gTLD types. The newest Phase 2 Cycle 6 report was published in June 2018¹⁹.

Phase 3 has not started yet. According to the [latest updates](#) from ICANN Org, due to cost and feasibility issues arising from identity verification or validation, ICANN is not currently pursuing this path.

It is worth mentioning that only a sample of RDS (WHOIS) records is used for accuracy testing. A two-stage sampling method is used to provide a sample to reliably estimate subgroups of interest, such as ICANN region, New gTLD or Prior gTLD, and RAA type. As further detailed in ARS reports, two samples are prepared at the beginning of each report cycle:

- (1) An initial sample of 100,000-200,000 RDS (WHOIS) records
- (2) A sub-sample of the initial sample of 10,000-12,000 records, which is then used for accuracy testing

Sub-sample records may fall under either the 2009 RAA or the 2013 RAA. Collection of the registrant's email address and telephone number are not required under the 2009 RAA. However, the 2013 RAA requires the contact data in RDS (WHOIS) records to be more complete and to be formatted per more specific requirements than the 2009 RAA. As a result, the accuracy tests were designed in such a way that all records in the analyzed sub-sample were only evaluated against a set of baseline requirements, derived from the requirements of the 2009 RAA.

During this review, the RDS-WHOIS2 Review Team mainly focused on assessing Phase 2 ARS results. All ARS Phase 2 reports can be accessed [here](#). The following table shows syntax and operability accuracy results produced by ARS from December 2015 through June 2018, broken down by geographic region.

¹⁹ As noted later, the ARS has since been suspended due to GDPR.

	Jun-18	Dec-17	Jun-17	Dec-16	Jun-16	Dec-15
North America						
Syntax	89.70%	89.4%	88.3%	85.7%	82.8%	83.9%
Operability	74.40%	84.9%	81.2%	77.0%	80.2%	73.2%
Latin America						
Syntax	84.80%	80.7%	78.1%	67.0%	64.7%	56.9%
Operability	78.60%	70.2%	74.2%	68.0%	71.6%	72.7%
Africa						
Syntax	45.20%	45.2%	46.1%	31.3%	29.3%	29.8%
Operability	38.00%	35.2%	51.6%	49.5%	64.6%	57.0%
Asia/Australia/Pacific Islands						
Syntax	74.30%	73.9%	68.8%	37.0%	45.0%	39.5%
Operability	32.70%	37.5%	42.1%	51.9%	57.6%	49.4%
Europe						
Syntax	75.90%	73.0%	74.5%	65.4%	60.6%	58.8%
Operability	35.00%	41.9%	59.3%	55.6%	63.1%	59.8%
Overall						
Syntax	82.20%	81.5%	79.3%	66.6%	67.2%	67.2%
Operability	55.50%	63.4%	65.4%	65.1%	70.2%	64.7%

ICANN's Contractual Compliance team supports the ARS effort by receiving reports of identified syntax and operational failures and following up with contracted parties to resolve areas of non-compliance. However, one of the challenges with the ARS process is that it takes approximately up to six months between when the sample population is polled to when the potentially inaccurate records are available for follow-up by ICANN Contractual Compliance. It can then take several months for Contractual Compliance to get to a particular ticket. The result is that some records sent to ICANN Contractual Compliance are outdated. As such, over 50% of ARS-generated tickets were closed before 1st notice due to one of the following reasons:

- Data sampled by ARS differed from data at the time the ticket was processed,
- The domain name was no longer registered when the ticket was processed,
- The domain name was suspended or cancelled when the ticket was processed,
- The format issue involved a domain name grandfathered under the 2013 RAA, or
- The domain is registered through a known Privacy/Proxy service.

For remaining tickets that went to a 1st or further notice, more than 60% of those tickets led to domain name suspension or cancellation.

Phase 2 Metrics are summarized as below:

Cycle 1: Among 10,000 subsample records, 2,688 tickets were created. 1,324 tickets were closed before 1st notice. For the 1,362 tickets that went to 1st or further notice, 60.1% of the related domains were suspended or canceled, 28.2% of the tickets led to registrar change or update of RDS (WHOIS) data. Four registrars received a Notice of Breach for tickets created. Of the four, one registrar was suspended and then terminated.

Cycle 2: Among 12,000 subsample records, 4,001 tickets were created. 2,481 tickets were closed before 1st notice. For the 1,524 tickets went to 1st or further notice, 60.6% of the tickets related domains were suspended or canceled. 25.4% of the tickets led to registrar change or update of RDS (WHOIS) data. No registrars received a Notice of Breach for tickets created.

Cycle 3: Among 12,000 subsample records, 4,552 tickets were created. 2,662 tickets were closed before 1st notice. For the 1,897 tickets that went to 1st or further notice, 65% of the related domains were suspended or canceled. 21.5% of the tickets led to registrar change or update of RDS (WHOIS) data. No registrars received a Notice of Breach for tickets created.

Cycle 4: Among 12,000 subsample records, 4,681 tickets were created. 2,669 tickets were closed before 1st notice. For the 2,012 tickets that went to 1st or further notice, 69.5% of the related domains were suspended or canceled. 16.3% of the tickets led to registrar change or update of RDS (WHOIS) data. No registrars received a Notice of Breach for tickets created.

Cycle 5: Among 12,000 subsample records, 4,639 tickets were created. As of 1 October 2018, 2,150 tickets were closed before 1st notice, 938 tickets were closed after at least one notice. There are still 1,550 tickets pending process due to the ARS program suspension due to GDPR.

Cycle 6: Among 12,000 subsample records, 5,600 tickets were created. As of 1 October 2018, 1,152 tickets were closed before 1st notice, 18 tickets were closed after at least one notice. There are still 4,431 tickets pending process.

The table below shows the comparison between different Cycles of Phase 2.

		Cycle 1	Cycle 2	Cycle 3	Cycle 4	Cycle 5	Cycle 6
Sample records		10,000	12,000	12,000	12,000	12,000	12,000
Tickets created		2,688	4,001	4,552	4,681	4,639	5,600
Tickets closed before 1 st notice		1,324	2,481	2,662	2,669	2,150	1,151
Closure reasons for tickets closed before 1 st notice	WHOIS data when ticket processed different from sampled WHOIS data	40.9%	59.7%	60.1%	49.7%	56.9%	14.8%
	Domain not registered when ticket processed	30.4%	12.5%	7.7%	18.2%	24.4%	72.1%
	Domain suspended when ticket processed	16.4%	13.6%	7.9%	11.8%	10.2%	12.9%
	Known Privacy/Proxy service	0.5%	3.1%	6.3%	7.0%	7.2%	0.0%
	WHOIS format issue identified for 2013 Grandfathered Domain	5.6%	9.9%	14.3%	13.3%	1.2%	0.0%

		Cycle 1	Cycle 2	Cycle 3	Cycle 4	Cycle 5	Cycle 6
Tickets closed after at least one notice		1,364	1,524	1,897	2,012	938	18
Closure reasons for tickets closed after at least on notice	Domains were suspended or canceled after 1st or further notice	60.1%	60.6%	65%	69.5%	79.7%	83.3%
	RDS (WHOIS) data changed or updated after 1st or further notice	28.2%	25.4%	21.5%	16.3%	12.2%	11.1%
	Registrar corrected RDS (WHOIS) format	1.7%	6.1%	7.2%	6.0%	1.5%	0.0%
	Registrar verified that sampled RDS (WHOIS) data is correct	6.6%	4.9%	3.9%	5.9%	5.5%	5.6%
Registrars received a Notice of Breach		4	0	0	0	0	0
Registrar suspended or terminated		1	0	0	0	0	0

Looking at ARS Phase 2 and ICANN Contractual Compliance Metrics, the review team had several observations:

1. Even without an identity accuracy check, the ARS project is an effective way to motivate the related registrants and registrars to improve RDS (WHOIS) data quality. However, only the sampled (exposed) registrations will be affected.
2. For those tickets that went to 1st or further notice, more than 60% of the related domains were subsequently suspended or canceled, and around 20% of the tickets

led to registrar change or update of RDS (WHOIS) data. Based on these facts, the confirmed RDS (WHOIS) data inaccuracy rate across the domain space is still high (30~40%). If identity accuracy checks were conducted at the same time, the inaccuracy rate could be even higher.

3. Throughout the cycles of WHOIS ARS project Phase 2, there has been a consistently high percentage (around 40%) of ARS-generated tickets closed with no action due to the WHOIS record has been changed in between. It is understood that the time window was up to six months between when sample records were polled to when the potentially inaccurate records were available for follow-up by ICANN Contractual Compliance. Further communications with ICANN Contractual Compliance showed that it took additional time for ICANN Contractual Compliance to process the ARS-generated tickets. As such, sometimes it took one year or even longer for the ticket to be processed. Still, the review team had difficulties fully understanding the issue of high ratio of RDS (WHOIS) updating for sampled domains when there is no evidence that all domains have a similarly high update ratio.
4. The ARS project has only checked a small fraction of RDS (WHOIS) records (70,000), as compared to the [342.4 million registered domain names in Q3 2018](#). The improvement of RDS (WHOIS) data quality across the whole gTLD domain space is therefore still very limited but the intent of the ARS was not to de facto improve accuracy but to report on it.

Considering that ARS has not been fully implemented as planned, it is our view that WHOIS Recommendation #6 is partially implemented.

3.6.2.3 Implementation Review of Recommendation 7

Instead of an annual RDS (WHOIS) accuracy report focused on measuring reduction in substantial and full failure rates and in addition to the ARS, ICANN has produced and published Annual Reports on WHOIS Improvements for [2013](#), [2014](#), [2015](#) and [2016](#) separately, which outline the progress of all RDS (WHOIS) policy-related working streams.

In the 2013 Annual Report on WHOIS Improvements, the conclusion of 2013 RAA negotiations, the establishment of the RDS (WHOIS) Informational Website and ICANN Contractual Compliance Function enhancements were highlighted as the first year of progress towards fulfilling ICANN's commitment to improve RDS (WHOIS).

In the 2014 Annual Report on WHOIS Improvements, in addition to the progress of other parallel action streams, the ARS project was introduced. The ARS pilot study results revealed that Registrars under the 2013 RAA experienced better accuracy rates for email addresses than Registrars under prior versions of the RAA. This improvement may be directly related to the new validation and verification requirements specified by the 2013 RAA. The report indicated that, as more registrars and more gTLD registrations transition to the new 2013 RAA requirements, accuracy rates should continue to improve.

In the 2015 Annual Report on WHOIS Improvements, a Quality Review Process referred to as "WHOIS QR" was introduced. In 2014, ICANN launched the WHOIS QR with the objective of determining if registrars continued to comply with the RDS (WHOIS) Accuracy obligations as specified in the 2009 and 2013 RAAs, with an emphasis on RDS (WHOIS) inaccuracy complaints that were closed because the domain name was suspended. ICANN organization staff conducts internal monitoring on regular basis to ensure that registrars are complying with their obligations when removing domain name suspension. Hereafter is a brief summary of WHOIS QR in 2015 from the 2015 [Contractual Compliance Report](#).

“In 2015, the Contractual Compliance team continued to conduct WHOIS quality review (QR) monitoring efforts. WHOIS QR reviews the previously closed WHOIS inaccuracy complaints to ensure continued compliance with contractual obligations. In 2015, 1,209 WHOIS QR reviews were conducted for the January thru June period of which 32 needed to be resent to the registrar; a 50% drop from last year’s follow-up with the registrars. The 2015 WHOIS QR effort resulted in one notice of breach to a registrar for non-compliance”

In the 2016 Annual Report on WHOIS Improvements, the shift from the Affirmation of Commitments (AoC) to new ICANN Bylaws was highlighted. RDS (WHOIS) obligations originally established by the AoC were replaced by obligations specified in the new ICANN Bylaws. Those Bylaws require ICANN to periodically conduct review of the effectiveness of RDS (WHOIS), and use commercially-reasonable efforts to enforce related policies. According to the report, RDS (WHOIS) complaints about data accuracy and record format were still the most common registrar compliance issue addressed by ICANN in 2016.

The Annual Report on WHOIS Improvements presented a big picture of the improvements on RDS (WHOIS) policy development, including several working streams that had a positive impact on RDS (WHOIS) accuracy. However, measured reductions in domain name registrations that fall into the RDS (WHOIS) accuracy groups Substantial Failure and Full Failure were not included in those Annual Reports.

According to written answers to questions from the compliance and [data accuracy subgroups](#), ICANN Contractual Compliance takes some proactive actions to improve RDS (WHOIS) accuracy, including an Audit program and WHOIS Quality Reviews. In our view, the Audit program (further discussed under Recommendation #9) is only sample-based, and the WHOIS Quality Review is only a follow-up to RDS (WHOIS) inaccuracy complaints. The review team does not consider these proactive actions sufficient to oversee RDS (WHOIS) accuracy across the domain space.

As such, it is our view that WHOIS1 Recommendation #7 has been partially implemented.

3.6.2.4 Implementation Review of Recommendation 8

ICANN-accredited registrars have several RDS (WHOIS) obligations, including:

1. Provision of free public RDS (WHOIS) service on Port 43 and via web with output appearing in the required format and according to certain service level requirements;
2. Submitting all required RDS (WHOIS) data elements to the registries;
3. Obtaining, retaining and updating data elements in a timely manner;
4. Escrowing data elements;
5. Providing for bulk access to RDS (WHOIS) data in accordance with the required bulk access agreement;
6. Taking reasonable steps to investigate, and where appropriate, correct inaccuracies upon discovery of information or notification suggesting an inaccuracy exists; and
7. Providing annual RDS (WHOIS) data reminders to registrants.

Similarly, registry operators have contractual obligations related to RDS (WHOIS), including: provision of free public RDS (WHOIS) service on Port 43 and via web with output appearing in the required format and according to certain service level requirements.

The 2013 RAA includes additional enforcement provisions and sanctions applicable to registrars, registrants, and resellers with regards to RDS (WHOIS), including de-accreditation if a registrar fails to respond to reports of inaccurate RDS (WHOIS) information. New gTLD Registry agreements include enhanced RDS (WHOIS) obligations. Existing gTLDs renewals include enhanced RDS (WHOIS) obligations. To some extent, ICANN has an enforceable chain of contractual agreements with registries and registrars.

However, regarding the registrar's contractual obligations to validate and verify RDS (WHOIS) data as outlined in the 2013 RAA, enforcement only happens when there is an RDS (WHOIS) inaccuracy complaint or an ARS-generated inaccuracy ticket. Furthermore, while several thousand inaccuracy tickets were generated by ARS, these tickets seldom resulted in Notices of Breach issued to registrars.

Thus, it is our view that WHOIS1 Recommendation #8 has been partially implemented.

3.6.2.5 Implementation Review of Recommendation 9

This [2013 WHOIS Improvements Annual Report](#) indicates that the Board's Resolution addressing Recommendation #9 offered an alternative approach to achieving the intended result of this recommendation, which referred back to the implementation of Recommendation #5-7. As the Board's justifications for this alternative approach are not clear to the review team, the RDS-WHOIS2 Review Team still reviewed the implementation of WHOIS Data Reminder Policy (WDRP).

The WHOIS Data Reminder Policy (WDRP), an ICANN-approved as a 2003 consensus policy 3, requires registrars to annually present registrants with current RDS (WHOIS) information, and to remind registrants that provision of false RDS (WHOIS) information can be grounds for cancellation of their domain name registration. Thus, registrants must review their RDS (WHOIS) data, and make any needed corrections.

WDRP is intended to be an additional step towards improving RDS (WHOIS) data accuracy. All ICANN-accredited registrars must comply with the WDRP with respect to registrations they sponsor in all top-level domains for which they are accredited. If the RDS (WHOIS) information is correct and up-to-date, no further action is needed from registrant side. If the registrant does need to update the RDS (WHOIS) information, the registrant will be directed by their registrar on how to update. Notably, registrations under privacy and/or proxy service are subject to WDRP as well.

According to [Implementation of the WHOIS Data Reminder Policy \(WDRP\) – 30 November 2004](#), a total of 254 registrars (70% of all ICANN-accredited registrars at that time) responded to the "WHOIS Data Reminder Policy Survey and Compliance Audit.", and only 44% (111 out of 254) of the respondent registrars sent WDRP Notices. For surveyed registrars who sent out WDRP Notices, most registrars covered 50% or less of all registrations under sponsorship, and many WDRP Notices were undeliverable. Besides these issues, there were still at least several thousands of WDRP Notices that led to changes in registrant data. Although there is evidence (from the ARS and elsewhere that the WDRP has a positive impact, we still are not able to measure its effectiveness.

There have been no further updates from ICANN on the implementation of WDRP for the following years, beyond a [FAQ webpage](#) dated February 25, 2012. WDRP compliance has been audited since 2012 as one of the many 2009 & 2013 RAA provisions; more detailed information can be found at the [Contractual Compliance Audit Program page](#). According to ICANN Contractual Compliance Registrar Audit Reports of [2012](#), [2013](#), [2014](#), [2015](#), [2016\[1\]](#) and [2016\[2\]](#), only selected (or sampled) registrars were audited during each audit round.

Beyond the 20%-35% of registrars found to be non-compliant with WDRP, there was no further detail about these compliance deficiencies or registrars remediation efforts. However, audit reports indicated that most of the identified registrars were able to completely remediate deficiencies noted in their respective audit reports.

It is not clear what impact WDRP has had in improving RDS (WHOIS) accuracy. Given that there has been no metrics-based assessment of RDS (WHOIS) data quality improvements resulting from implementation of WHOS1 Recommendation #5-7, it is our view that WHOIS1 Recommendation #9 has not been implemented.

3.6.3 Problem/Issue

RDS (WHOIS) accuracy remains as one of ICANN's toughest issues to resolve. In addition to ICANN's initiatives and policy development, RDS (WHOIS) needs more proactive improvement efforts from both registrant and registrar. After looking into all of the implementation actions and RDS (WHOIS) improvements so far, there are still gaps to be bridged to meet the prior WHOIS1 review Data Accuracy recommendations.

3.6.3.1 RDS (WHOIS) Identity Accuracy Checks Have Not Yet Been Implemented

For RDS (WHOIS) data to enable contact with registrants, it needs to be accurate. How does one determine whether the data displayed in an RDS (WHOIS) Record is accurate? There may be contact information that appears correct (i.e. that represents a valid and viable name and address, electronic and/or physical) but that is not necessarily accurate (i.e., does not correspond to the person/entity registering, managing or owning the domain name.)

Until adoption of the 2013 RAA, registrars were not required to verify or validate RDS (WHOIS) data. The 2013 RAA includes obligations to validate certain RDS (WHOIS) data fields, and verify either the email address or telephone number. In addition to these contractual obligations in the 2013 RAA, ICANN launched the ARS project to proactively identify inaccurate RDS (WHOIS) data for improvement.

However, neither the WHOIS Accuracy Program Specification in the 2013 RAA, nor the ARS project, has touched upon the identity accuracy of RDS (WHOIS) data. RDS (WHOIS) records can comply with RAA requirements and pass ARS checks but yet still fall into the accuracy groups "Substantial Failure" and "Full Failure" as defined by the NORC Data Accuracy Study, 2009/10. A pragmatic approach for validation and verification of RDS (WHOIS) data, including identity accuracy checks, is still missing.

Actually, registrars (or resellers) are in the best position to validate and verify RDS (WHOIS) data. As indicated in the [Implementation of the WHOIS Data Reminder Policy \(WDRP\) – 30 November 2004](#), one registrar noted that most accurate contact information is contained in its internal accounting system. That registrar wrote that "[w]e have been fairly successful in keeping this data up to date as registrants who are interested in keeping their domain keep their billing information accurate." Another registrar also suggested that "the billing contact information" be shown on any given RDS (WHOIS) record.

Some best practices for verification of RDS (WHOIS) data have emerged. After years of fighting Avalanche (a phishing group), in April 2009, Spanish registrar Interdomain began [requiring a confirmation code delivered by mobile phone](#), which successfully forced Avalanche to stop registering fraudulent domains with Interdomain.

3.6.3.2 RDS (WHOIS) Inaccuracy is Believed to be Largely Under-Reported

RDS (WHOIS) had been a free public lookup service for years. Although ICANN encourages the ICANN community to submit complaints to ICANN regarding incomplete or incorrect RDS (WHOIS) data, there are no resources for the general public to judge the accuracy of RDS (WHOIS) data, let alone determine whether the RDS (WHOIS) data corresponds to the registrant of the domain name. As outlined in the [WHOIS Inaccuracy Complaint Form](#), the general public is only capable of reporting missing information, incorrect addresses, no such person or entity, etc., in a given domain name's RDS (WHOIS) record.

Furthermore, as analyzed in the implementation of Recommendation #6, the confirmed RDS (WHOIS) data inaccuracy rate across sampled domains is still high (30~40%). The ARS project has only checked a small fraction of the whole gTLD domain space. Thus, there is reasonable ground to believe that the RDS (WHOIS) inaccuracy is largely under-reported.

3.6.3.3 Contractual Obligations for RDS (WHOIS) Accuracy Have Only been Passively Enforced

ARS project reports of identified syntax and operational failures have been given to the ICANN Contractual Compliance team for follow-up since 2015. Looking at ICANN Contractual Compliance Annual Reports for [2016](#) and [2017](#), the most common issues with regards to registrar compliance with RDS (WHOIS) accuracy requirements are:

1. *Registrars failing to verify or validate RDS (WHOIS) information as required by the WHOIS Accuracy Program Specification (WAPS) of the 2013 RAA.*
2. *Registrars not distinguishing between the terms "verification" (which means to confirm or correct) and "validate" (which means to ensure data is consistent with standards) as used in WAPS.*
3. *Registrars asking their resellers to confirm the accuracy of the RDS (WHOIS) information of domain names of which ICANN received complaints, rather than providing confirmation from the registrant.*
4. *Registrars failing to provide supporting documentation for updated or changed RDS (WHOIS) information.*
5. *Registrars failing to suspend domain names within 15 calendar days of receiving an RDS (WHOIS) inaccuracy complaint and the Registered Name Holder failing to respond as required by WAPS.*

In other words, the identified registrars usually did not comply with the contractual obligations on RDS (WHOIS) accuracy. The conclusion here is also in line with the findings of the implementation review of Recommendation #6.

As indicated in our review of Recommendation #8, enforcement of registrar contractual obligations to validate and verify RDS (WHOIS) data only happens when there are RDS (WHOIS) inaccuracy complaints or ARS-generated Inaccuracy Tickets. Similarly, as long as the related RDS (WHOIS) record is not identified by ARS as inaccurate, or a complaint is not lodged by an RDS (WHOIS) user, there are no repercussions for registrants who falsify RDS (WHOIS) data. These measures are not enough to improve data accuracy.

3.6.3.4 RDS (WHOIS) Accuracy for Domain Names that Utilize Privacy and Proxy Services is Unknown

Regarding the RDS (WHOIS) accuracy of domain names that use Privacy and Proxy Services, ICANN's criteria is whether the information listed in public RDS (WHOIS) -- that is, the service provider's contact information -- is accurate, not whether the underlying customer data collected by the Privacy/Proxy service provider is accurate. This is a deviation from the RDS (WHOIS) data user's expectations.

Actually, the underlying Privacy/Proxy service customer data was not touched upon by the ARS project. According to [ARS Contractual Compliance Metrics](#), all tickets relating to known Privacy/Proxy services were closed before 1st Notice.

According to a [written briefing from ICANN](#), although ICANN Contractual Compliance receives and processes RDS (WHOIS) inaccuracy complaints regarding domain names that utilize Privacy/Proxy Services, the proportion of such complaints is unknown. In the absence of a fully-implemented accreditation system for Privacy/Proxy service providers (see [Section 3.7](#)), ICANN Contractual Compliance deems it difficult to automate the accurate identification of domain names subject to Privacy/Proxy services in RDS (WHOIS) inaccuracy complaints.

As such, the accuracy of contact information for domain names using Privacy/Proxy services is unknown to this review team.

3.6.3.5 The Accuracy Reporting System Has Demonstrated RDS (WHOIS) Accuracy Concerns

As analyzed in previous subsections, for those ARS-generated tickets closed before 1st notice there were above 75% were closed with no action from Cycle 1 to Cycle 4²⁰ of ARS Phrase 2, due to RDS (WHOIS) record updating, domain suspension and cancellation, etc. For those ARS-generated tickets that went to 1st or further notice, more than 60% of the related domains were subsequently suspended or canceled, and around 20% of the tickets led to registrar change or update of RDS (WHOIS) data. It is clear that the RDS (WHOIS) data quality issue is still an issue based on the facts above.

3.6.4 Recommendations

Based on this analysis, the RDS-WHOIS2 Review Team agrees that:

WHOIS1	Has Been	Rationale
Rec # 5	Fully-implemented	However, effectiveness in improving RDS (WHOIS) accuracy still needs to be assessed
Rec # 6	Partially-implemented	Because the ARS project is still ongoing, and the identity accuracy checks originally proposed as Phase 3 have not yet been implemented.
Rec # 7	Partially-implemented	Because "Substantial Failure" and "Full Failure" rates are missing from Annual reports on WHOIS Improvements.
Rec # 8	Partially-implemented	Because enforcement only happens when there is an RDS (WHOIS) inaccuracy complaint or an ARS-generated

²⁰ The inaccuracy records identified in Cycle 5&6 have not been fully processed due to the Temp Spec and the suspension of ARS.

WHOIS1	Has Been	Rationale
		inaccuracy report, the review team does not believe this is a proactive approach to enforcing contractual obligations related to RDS (WHOIS) accuracy.
Rec # 9	Not implemented	Because there has been no metrics-based assessment of overall RDS (WHOIS) data quality improvement, through either WDRP or other alternative policies to achieve Recommendation #9's objective of improving data quality.

Recommendation R5.1

The Accuracy Reporting System, which was instituted to address concerns regarding RDS (WHOIS) contact data accuracy, has demonstrated that there is still an accuracy concern and therefore such monitoring must continue. ICANN organization should continue to monitor accuracy and/or contactability through either the ARS or a comparable tool/methodology.

Findings:

The ARS had been the only proactive measure to monitor existing RDS (WHOIS) data quality. As analyzed in [subsection 3.6.3.2](#), the current data quality issue disclosed by ARS confirmed RDS (WHOIS) data inaccuracy rate across the gTLD domain space is still high (30~40%) even without identity accuracy checks. The most common reported cause was that the registrars failed to validate and verify RDS (WHOIS) data in the first place.

Rationale:

RDS (WHOIS) data accuracy was identified as a major area for improvement by WHOIS1 Review Team, and the proposed Recommendation #5-9 aimed to improve RDS (WHOIS) data quality in a systematic and measurable way. Regardless of whether the RDS (WHOIS) data is public accessible or not, the data quality is key to serve the purposes for which they are processed. According to the results of the Law Enforcement Needs Survey conducted by the review team, when it came to the way that RDS (WHOIS) did not meet their needs, inaccurate data was the most frequently highlighted issue. The ARS has been suspended due to Temporary Specification, and the resuming of ARS or the way forward is contingent on appropriate EPDP actions to sanction such processing. Once the EPDP has concluded, the data quality monitoring mechanism (either ARS or other comparable tool/methodology) must continue. The focus should be not only the contactability, but also the reliability (corresponding to the registrant). It is highly recommended that any improvements be measured on an annual basis.

Impact of Recommendation:

The ARS project team, the registrars receiving ARS-generated tickets, potentially the registrants and (probably) the ICANN Contractual Compliance team will be impacted by this recommendation. If this recommendation is successfully implemented, the ratio of ARS-generated tickets closed without action may be reduced. If this recommendation is not implemented, there could be anomalies in detection or processing that reduce ARS benefits. Currently, the ARS project represents a major effort to improve RDS (WHOIS) accuracy. However, given the considerable number of ARS-generated tickets closed with no action refining ARS methodology will contribute the effectiveness of ARS.

Feasibility of Recommendation:

For every ARS-generated ticket, the ARS project team has worked closely with the identified registrar. To implement this recommendation, further actions are needed to examine ARS-generated tickets that result in closure with no action to determine and analyze the underlying causes. Depending upon common underlying cause(s), investigation and action could involve the ARS Team, ICANN Contractual Compliance, and, if needed, with the registrar. The review

team acknowledges that root cause analysis would add to the workload of affected parties, but believe this effort is feasible and manageable.

Implementation:

As described above, ICANN organization would be responsible for implementing this recommendation.

Priority: High.

Consensus: Full Consensus

Further recommendations are provided in other Sections as listed below to address the problems/issues identified above.

Problems/issues	Addressed by Recommendation(s)
3.5.4.1 RDS (WHOIS) identity accuracy checks have not yet been implemented	None proposed at this time.
3.5.4.2 RDS (WHOIS) inaccuracy is believed to be largely under-reported	Outreach R3.1, R3.2 Compliance R4.2, CC.4
3.5.4.3 Contractual obligations for RDS (WHOIS) accuracy have only been passively enforced	Compliance R4.1, CC.2
3.5.4.4 RDS (WHOIS) accuracy for domain names that utilize Privacy and Proxy Services is unknown	Privacy/Proxy R10.1

3.6.5 Possible Impact of GDPR and Other Applicable Laws

Since GDPR came into effect, registrars and registries have already redacted personal contact information in RDS (WHOIS) and in many cases contact information for legal persons has been redacted as well. According to the latest briefing from ICANN Org, ARS does not have access to non-public RDS (WHOIS) data, and the ARS has been suspended due to the Temporary Specification. The resuming of ARS or the way forward is contingent of appropriate EPDP actions to sanction such processing. The redaction of personal contact information will also hinder RDS (WHOIS) inaccuracy reporting by the community.

3.7 WHOIS1 Rec #10: Privacy/Proxy Services

3.7.1 Topic

The specific [WHOIS1 Recommendation](#) assessed by the WHOIS1 Recommendation #10 Privacy/Proxy (P/P) Services subgroup appears below:

WHOIS1 Recommendation #10: Privacy/Proxy Services

The review team recommends that ICANN should initiate processes to regulate and oversee privacy and proxy service providers.

- ICANN should develop these processes in consultation with all interested stakeholders.
- This work should take note of the studies of existing practices used by proxy/privacy service providers now taking place within the GNSO.
- The review team considers that one possible approach to achieving this would be to establish, through the appropriate means, an accreditation system for all proxy/privacy service providers. As part of this process, ICANN should consider the merits (if any) of establishing or maintaining a distinction between privacy and proxy services.
- The goal of this process should be to provide clear, consistent and enforceable requirements for the operation of these services consistent with national laws, and to strike an appropriate balance between stakeholders with competing but legitimate interests. At a minimum, this would include privacy, data protection, law enforcement, the industry around law enforcement and the human rights community.
- ICANN could, for example, use a mix of incentives and graduated sanctions to encourage proxy/privacy service providers to become accredited, and to ensure that registrars do not knowingly accept registrations from unaccredited providers.
- ICANN could develop a graduated and enforceable series of penalties for proxy/privacy service providers who violate the requirements, with a clear path to de-accreditation for repeat, serial or otherwise serious breaches.

Noting that:

1. The 2013 RAA introduced a specification on privacy and proxy registrations requiring registrars to comply with certain requirements regarding such registrations through affiliated Privacy/Proxy Service Providers as a first step towards implementing this recommendation,
2. The Privacy/Proxy Services Accreditation Issues (PPSAI) Implementation Review Team (IRT) is currently working on an implementation of this recommendation that will also include unaffiliated providers of such services.

The subgroup agreed that this review should encompass the work completed both through the RAA specification and the PPSAI Policy Development Process (PDP), and whether the agreed upon details adhere to WHOIS1 Recommendation #10.

3.7.2 Analysis & Findings

WHOIS1 Recommendation 10 advises that consideration be given to several specific objectives, enumerated in the table below. The subgroup's initial findings for each objective are also given in the table below.

WHOIS1 Recommendation 10 Objective	Subgroup's Initial Findings
<p><i>1. Clearly labeling RDS (WHOIS) entries to indicate that registrations have been made by a privacy or proxy service,</i></p>	<ul style="list-style-type: none"> ⦿ This is a requirement that is included in PPSAI working group report ⦿ For the purpose of policy unity, this requirement could also be included in the Consistent Labeling and Display policy, which would have to be amended accordingly.
<p><i>2. Providing full RDS (WHOIS) contact details for the privacy/proxy service provider, which are contactable and responsive,</i></p>	<ul style="list-style-type: none"> ⦿ Included in the PPSAI working group report. Providers must provide full data and be contactable and responsive within a reasonable timeframe. Final details of the response timeframe for law enforcement requests are still under deliberation.
<p><i>3. Adopting agreed standardized relay and reveal processes and timeframes; (these should be clearly published, and proactively advised to potential users of these services so they can make informed choices based on their individual circumstances),</i></p>	<ul style="list-style-type: none"> ⦿ The basic consensus relay and reveal process model included in the PDP final report meets this objective for both IP and law enforcement. ⦿ Partially defined under 2.4.5 of the RAA spec.
<p><i>4. Registrars should disclose their relationship with any proxy/privacy service provider,</i></p>	<ul style="list-style-type: none"> ⦿ Included in PPSAI working group report ⦿ Partially defined under 2.3 of the RAA spec
<p><i>5. Maintaining dedicated abuse points of contact for each provider,</i></p>	<ul style="list-style-type: none"> ⦿ Partially defined under 2.4.1 and 2.4.2 of the RAA spec ⦿ Already agreed by Implementation Review Team.
<p><i>6. Conducting periodic due diligence checks on customer contact information,</i></p>	<ul style="list-style-type: none"> ⦿ Already addressed by PPSAI WG: <i>“The WG recommends that P/P service customer data be validated and verified in a manner consistent with the requirements outlined in the Accuracy Program Specification of the 2013 RAA (as updated from time to time). Moreover, in the cases where a P/P service provider is Affiliated with a registrar and that Affiliated registrar has carried out validation and verification of the P/P customer data, re-verification by the P/P service provider of the same, identical, information should not be required.”</i> ⦿ Until implementation of the WG recommendations is complete a review of the effectiveness of this recommendation is not feasible. However, based on the

WHOIS1 Recommendation 10 Objective	Subgroup's Initial Findings
	<p>positive effects of the Accuracy Program Specification of the 2013 RAA on registration data quality and Registered Name Holder contactability, the RDS-WHOIS2 Review Team expects that the adoption of its principles for Privacy/Proxy services will meet this objective.</p>
<p><i>7. Maintaining the privacy and integrity of registrations in the event that major problems arise with a privacy/proxy provider,</i></p>	<ul style="list-style-type: none"> ⊙ Included in PPSAI working group report by mandating data escrow. ⊙ Partially defined under 2.5 of the RAA spec.
<p><i>8. Providing clear and unambiguous guidance on the rights and responsibilities of registered name holders, and how those should be managed in the privacy/proxy environment.</i></p>	<ul style="list-style-type: none"> ⊙ Partially defined under 2.4.4, 2.4.5 and 2.4.6 of the RAA spec. ⊙ How clear are these rights and responsibilities regarding the effectiveness of proxy registrations and the protection of rights of others? ⊙ The 2013 RAA is fairly clear on the rights and responsibilities of the registered name holders. <p><i>3.7.7.3 Any Registered Name Holder that intends to license use of a domain name to a third party is nonetheless the Registered Name Holder of record and is responsible for providing its own full contact information and for providing and updating accurate technical and administrative contact information adequate to facilitate timely resolution of any problems that arise in connection with the Registered Name. A Registered Name Holder licensing use of a Registered Name according to this provision shall accept liability for harm caused by wrongful use of the Registered Name, unless it discloses the current contact information provided by the licensee and the identity of the licensee within seven (7) days to a party providing the Registered Name Holder reasonable evidence of actionable harm.</i></p> <p><i>The Proxy service provider assumes all liabilities of the domain name if they refuse to disclose the contact information.</i></p> <p><i>If the Proxy service provider does disclose the contact information then the underlying registrant assumes all liabilities.</i></p>

3.7.3 Problem/Issue

Between changes in RAA 2013 Specification on Privacy and Proxy Registrations and GNSO-initiated policy work by the PDP Working Group (WG) on Privacy & Proxy Services Accreditation Issues approved by the GNSO council and the ICANN board, the original recommendation has been fully implemented even though the implementation work on the recommendations of the PDP is still ongoing.

The RDS-WHOIS2 Review Team has found no evidence of any part of the original recommendations not having at least been deliberated upon by the PDP WG. Any issue raised by the WHOIS1 Review Team's original recommendation of that was not directly addressed by a recommendation of the PPSAI PDP was therefore determined to not be included by the community, the GNSO council and the board who all approved the PPSAI PDP Final Report.

The subgroup concludes that no new recommendations need to be proposed to the WHOIS1 Review Team's recommendation. However, as the IRT work has not concluded and seems delayed in its progress, the subgroup has identified the following issues.

Issue #1: The WHOIS1 Review Team's recommendation suggests as non-binding options using a mix of incentives and sanctions to encourage adoption by service providers and enforce this policy once implemented. ICANN and the IRT should be encouraged to discuss incentives, as the current focus of the program's envisioned implementation seems to solely rely on sanctions and fees. The RDS-WHOIS2 Review Team is concerned the current intent of ICANN is to fund the Privacy/Proxy service accreditation program solely by charging providers accreditation and annual fees comparable to the fees payable by ICANN accredited registrars. The RDS-WHOIS2 Review Team considers that such fees could be counterproductive to the overall goal of the program. The new policy requirements will create a cost barrier at a time when the use of such services is expected to decline due to the effects of GDPR and will likely cause low adoption of the accreditation program by providers.

Issue #2: As ICANN establishes temporary specification requirements for contracted parties with respect to the GDPR, it is likely that the market for such services will start to shrink. The RDS-WHOIS2 Review Team is however unable to assess the exact impact of GDPR data redaction requirements on privacy services at this time. Further study may be required.

Issue #3: The RDS-WHOIS2 Review Team is unaware of any need beyond the completion of the legal review of the proposed recommendation as mandated by the PDP recommendations to delay the implementation of the accreditation program due to the GDPR. The RDS-WHOIS2 Review Team notes that the legal review is currently delayed due to unknown factors not currently explained by ICANN organization staff. The results of the legal review may impact the deployment of the policy.

Issue #4: The RDS-WHOIS2 Review Team was unable to determine whether domain names using privacy or proxy services had a higher propensity for abusive registrations as the reviewed Privacy/Proxy studies did not provide a consistent picture in this regard. It may be beneficial for a future review to consider the relationship, if any, between the use of such services and abusive use of domain names. Such a review should also take into account any impact of the PPSAI program – once implemented - on abusive registrations using such services. Such a review would depend on the proper data collection to track any trends of abusive use of domain names using privacy services.

There is no direct link between these issues and the information in 3.7.2 as they reference issues not included in any of the binding recommendations.

3.7.4 Recommendations

While the RDS-WHOIS2 Review Team considers Recommendation 10 as fully implemented, it notes that the failure of the PPSAI IRT to complete its work in a timely manner may result in a delay of the completion of a policy as envisioned by the WHOIS1 Review Team. The RDS-WHOIS2 Review Team therefore proposes the following recommendation, which would become obsolete once the IRT completes its work.

Recommendation R10.1

The Board should monitor the implementation of the PPSAI. If the PPSAI policy does not become operational by 31 December 2019, the ICANN Board should ensure an amendment to the 2013 RAA (or successor documents) is proposed that ensures that the underlying registration data of domain name registrations using Privacy/Proxy providers affiliated with registrars shall be verified and validated in application of the verification and validation requirements under the RAA unless such verification or validation has already occurred at the registrar level for such domain name registrations.

Findings:

The PPSAI PDP recommendations are expected to ensure that verification and validation requirements are expanded to also encompass the underlying registration details of privacy and proxy service providers. Due to the absence of an accreditation system for Privacy/Proxy service providers, all inaccurate tickets generated by WHOIS ARS project relating to known Privacy/Proxy service were closed before 1st Notice. The RDS-WHOIS2 Review Team understands from existing registrar practices that registrars often already include such processes even though there is no such requirement but this is not known to be a standard practice employed by all accredited registrars.

Rationale:

In case the IRT does not result in implemented policy, the policy loophole to the verification and validation of registration data would remain for registrations through such registrars that do not act in this manner. While ICANN would have no ability to take enforcement action against non-affiliated, non-accredited providers, the addition of such a requirement to the RAA could eliminate this issue for a large number of services. This recommendation is not intended to require duplicate verification or validation for the same domain name registrations, but only to ensure that the current requirement incumbent on registrars under the RAA cannot be circumvented by use of an affiliated privacy / proxy service provider.

Impact of Recommendation:

Ensure better data quality and contactability of the underlying contact owner for registrations using privacy services. This would require amending the RAA.

Feasibility of Recommendation:

Amendment process of RAA is envisioned in the RAA itself. It would merely expand already existing practices to all registrations using registrar-affiliated privacy services.

Implementation:

Use of the RAA amendment process by mutual agreement between ICANN and accredited registrars.

Priority: Low.

Level of Consensus: Full Consensus

Recommendation R10.2

Reviewing the effectiveness of the implementation of WHOIS1 Recommendation #10 should be deferred. The ICANN Board should recommend that review be carried out by the next RDS (WHOIS) Review Team after PPSAI Policy is implemented.

Findings:

The PDP process has completed its work and the policy is now in its implementation stage.

Rationale:

As no review of the effectiveness of a policy is possible prior to its implementation, this work should be deferred.

Impact of Recommendation:

This will allow better assessment of the effective results of the policy.

Feasibility of Recommendation:

Easy Implementation: Carrying out this recommendation would fall to the next RDS-WHOIS review team, when constituted.

Implementation:

Carrying out this recommendation would fall to the next RDS-WHOIS Review Team, when constituted.

Priority: Low.

Level of Consensus: Full Consensus

3.7.5 Possible Impact of GDPR and Other Applicable Laws

The review team is currently unable to assess the impact of GDPR on the use and availability of Privacy/Proxy services, as there is not yet sufficient data available to make a determination. The RDS-WHOIS2 Review Team notes that in the current implementation of privacy considerations under the Temporary Specification for gTLD Registration Data, GDPR and similar privacy regimes seem to confer many of the benefits of such services to the affected registrants already, thereby reducing the apparent need for additional services that prevent the open disclosure of private information, which could conceivably render the entire Privacy/Proxy Service Accreditation program obsolete. However, such impacts would have to be assessed in concert with any future review of the effectiveness of this policy.

3.8 WHOIS1 Rec #11: Common Interface

3.8.1 Topic

The specific [WHOIS1 Recommendation](#) assessed by the WHOIS1 Recommendation #11 Common Interface subgroup appears below:

WHOIS1 Recommendation #11: Common Interface

It is recommended that the Internic Service is overhauled to provide enhanced usability for consumers, including the display of full registrant data for all gTLD domain names (whether those gTLDs operate thin or thick WHOIS services); operational improvements should include enhanced promotion of the service to increase user awareness.

Noting the target of the above recommendation, the subgroup agreed to examine operational improvements, including enhanced promotion of the service to increase user awareness. Specifically, the subgroup agreed to examine these questions:

- Has the creation and deployment of the RDS (WHOIS) microsite at the direction of the Board met this recommendation, considering the old InterNIC service still exists unchanged?
- Does the RDS (WHOIS) query service provided through the microsite (the common interface) provide clear and reliable access to full registrant data for all gTLD domain names?
- What promotional efforts has ICANN undertaken to increase user awareness of the common interface?
- Does the common interface provide clear instructions on how to notify ICANN, the sponsoring registrar and/or the registrant regarding data accuracy issues?

3.8.2 Analysis & Findings

This recommendation has been fully implemented by provision of the new portal at “whois.icann.org”. Over 4 million queries were made over a six month period in 2017, showing significant usage.

The ICANN organization briefing indicates that the common interface was accessible 99% of the time (meaning the time that the common interface was reachable from the Internet), but other statistics on usage are not tracked.

Individual team members have raised the issue that access to RDS (WHOIS) data through the common interface may have become less reliable in recent months. They cite timeouts or rate-limitations implemented by contracted parties to prevent data access by users through the common interface.

According to information provided by ICANN Org, it may not be practical to track other common interface usage data such as causes of lookup failures.

ICANN organization indicated that even the number of lookup failures cannot be calculated with precision. Because the current WHOIS protocol does not enforce any standard error handling, failures must be inferred. As the failure rate is not currently being calculated or tracked, no information was available on failure causes and frequency of failures.

ICANN Contractual Compliance proactively monitors registrar RDS (WHOIS) availability and will send registrars a compliance notice if RDS (WHOIS) doesn't meet the required scope of the RDS (WHOIS) service level agreements (SLAs). Registrar and registry web-based RDS (WHOIS) services are also tested during registry and registrar audits.

If the registry or registrar results are blank or provides very little data, then the webpage could fields would be blank. If the returned results are in an unrecognizable format this too could result in blank fields. In either case, users could look at the raw record displayed below the form for more information.

Users are encouraged to file a complaint ticket if they identify any issues with the RDS (WHOIS) record. A link to file a ticket is provided on the page where lookup results are displayed.

3.8.3 Problem/Issue

The WHOIS1 common interface recommendation was intended to ensure that anyone looking up an RDS (WHOIS) record could do so easily and from one source. The InterNIC was not overhauled, but a common interface was provided as an additional resource. No indication is present on InterNIC that it's usage is depreciated nor that there is a replacement facility.

However, the common interface has no metrics to determine its overall effectiveness. Metrics and SLAs could be used to address this and also to proactively detect non-compliance. Lack of tracked metrics to ensure the tool provides the data it should or is providing data consistently inhibits full assessment of the effectiveness of the implementation.

The lack of metrics on failures and causes also did not allow any analysis of whether failure rates in lookup requests have increased in recent months. We have found several error messages in using the tool referenced below:

- *The requested second-level domain was not found in the Registry or Registrar's WHOIS Server. (the domain name was confirmed to be registered with the registry)*
- *Sorry, but the Registry or Registrar WHOIS Server responded with a rate limit message due to high query volumes or has closed the connection without a response. Please try your request again later.*
- *ICANN received a timeout while querying the Registry or Registrar's WHOIS Server*

The review team also noted that contracted parties can have valid reasons to reasonably limit the ability of third parties to access their RDS (WHOIS) data. For instance, such parties may want to as prevent abusive harvesting by third parties, ensure the stability of their service, and other reasons that may evolve over time. Limiting contracted parties' own limitations may be too restrictive and prevent adoption of necessary measures to discourage or prevent abuse. Although abusive behavior via the common interface needs to be considered and handled by the WHOIS Portal in a professional manner, rate limiting by contracted parties should not be applied.

The review team further noted that as a result of the implementations of the GDPR Temporary Specification by contracted parties, registrar and registry interpretations may now result in different registration data returned by RDS (WHOIS) for the same domain name For example, the registry may redact data that the registrar may display and the registrar must provide contact details that the registry does not have or show. As a result, access to RDS (WHOIS) data in the common interface has become less reliable, as only one of the two possible results is displayed.

3.8.4 Recommendations

Based on its analysis, the review team agrees that this WHOIS1 recommendation has been fully-implemented. However, to address the issues identified above and to ensure future

usability, the recommendations below are provided. These recommendations should apply to the current common interface as well as any future replacements for it.

Recommendation R11.1

The ICANN Board should direct the ICANN organization to define metrics or SLAs to be tracked and evaluated to determine consistency of results of queries and use of any common interface (existing or future) used to provide one-stop access to registration data across all gTLDs and registrars/resellers. Specific metrics that should be tracked for any such common interface include:

- How often are RDS (WHOIS) fields returned blank?
- How often is data displayed inconsistently (for the same domain name), overall and per gTLD?
- How often does the tool not return any results, overall and per gTLD?
- What are the causes for the above results?

Findings:

The current common interface (whois.icann.org) has no metrics that can be used to determine its effectiveness. It is therefore difficult to determine if effectiveness can and/or needs to be improved and what specific steps would be necessary for such improvement.

Rationale:

Metrics and SLAs could address this and to proactively spot non-compliance or implementation issues that affect the provision of the service.

The significance of the recommendation can only be appropriately assessed after its implementation as the prevalence of lookup failures is currently unknown. Anecdotal evidence suggests the existence of lookup issues. By generating metrics that will assist in recognizing systemic issues or non-compliance, the recommendation aligns well with ICANN's Strategic Plan and Mission as it helps to foster a healthy, resilient and secure identifier ecosystem. The recommendation is in compliance with the review team's scope.

Impact of Recommendation:

This recommendation will impact RDS (WHOIS) service SLAs and data accessibility by identifying potential issues with service delivery by contracted parties. ICANN Contractual Compliance will be impacted by receiving an additional tool to verify compliance with contractual service levels. RDS (WHOIS) users will be positively impacted by reductions in lookup failures as a result of these metrics.

Feasibility of Recommendation:

The review team believes this recommendation is feasible. Basic log data for analysis is already being collected and the generation of metrics from this data should not create a significant operational or technical impact.

Implementation:

Initially, the ICANN community should define (by public comment or other mechanisms) what metrics should be tracked. Based on this determination, ICANN organization should analyze whether the service generated logs currently provide sufficient data for these metrics, and if necessary (and legally possible) expand the logs generated. Building upon the logs, ICANN should create the recommended metrics in regular intervals for ICANN Contractual Compliance to analyze. This will allow them to proactively investigate failure causes and if possible, create or suggest remedies. This recommendation should be implemented by existing teams and is not primarily directed at initiating compliance action but rather at

providing data for further review... however, should compliance-related issues be noted, they should be acted upon.

Priority: Low.

Level of Consensus: Full Consensus

Recommendation R11.2

The ICANN Board should direct the ICANN organization to ensure that the common interface displays all applicable output for each gTLD domain name registration as available from contracted parties, including multiple versions when the outputs from registry and registrar differ. The common interface should be updated to address any policy or contractual changes to maintain full functionality.

Findings:

As noted above, registry and registrar interpretations of GDPR and the differential requirements for registries and registrars under the Temporary Specification for gTLD Registration Data, registry and registrar lookups may result in different registration data returned by RDS (WHOIS) for the same domain name, depending on where the lookup is performed.

Rationale:

The common interface must be maintained to adapt to such changes, to ensure that it continues to display all publicly-available RDS (WHOIS) output, regardless of which source is more complete or more authoritative. This recommendation is intended to provide users of the common interface with a more complete result to their queries.

Impact of Recommendation:

A display of divergent results between registry and registrar may cause some level of confusion in users, but ultimately having more complete information available will benefit common interface users.

Feasibility of Recommendation:

This recommendation will need to be assessed for compliance with applicable laws.

Implementation:

This recommendation can be directly implemented by ICANN after the legal assessment is completed. This recommendation should be implemented by the existing teams responsible for maintenance of the common interface.

Priority: High.

Level of Consensus: Full Consensus

3.8.5 Possible Impact of GDPR and Other Applicable Laws

GDPR and other applicable laws may result in legal issues for ICANN with regard to the public display of personal information through its common interface portal. Certain impacts, such as inconsistent results from registries and registrars, already exist. Therefore, ICANN must keep abreast of current and future legal and technical requirements and keep the common interface functional for its users.

3.9 WHOIS1 Recs #12-14: Internationalized Registration Data

3.9.1 Topic

The specific [WHOIS1 Recommendations](#) assessed by the WHOIS1 Recommendations #12-14 Internationalized Registration Data subgroup appear below:

WHOIS1 Recommendations #12-14: Internationalized Registration Data²¹

Recommendation 12 - ICANN should task a working group within six months of publication of this report, to determine appropriate internationalized domain name registration data requirements and evaluate available solutions (including solutions being implemented by ccTLDs). At a minimum, the data requirements should apply to all new gTLDs, and the working group should consider ways to encourage consistency of approach across the gTLD and (on a voluntary basis) ccTLD space. The working group should report within a year of being tasked.

Recommendation 13 - The final data model, including (any) requirements for the translation or transliteration of the registration data, should be incorporated in the relevant Registrar and Registry agreements within 6 months of adoption of the working group's recommendations by the ICANN Board. If these recommendations are not finalized in time for the next revision of such agreements, explicit placeholders for this purpose should be put in place in the agreements for the new gTLD program at this time, and in the existing agreements when they come up for renewal.

Recommendation 14 - Metrics should be developed to maintain and measure the accuracy of the internationalized registration data and corresponding data in ASCII, with clearly defined compliance methods and targets.

3.9.2 Analysis & Findings

3.9.2.1 Board Action Related to Recommendations 12-14:

The Board directs the CEO to have staff:

- 1. Task a working group to determine the appropriate internationalized domain name registration data requirements, evaluating any relevant recommendations from the SSAC or GNSO,*
- 2. Produce a data model that includes (any) requirements for the translation or transliteration of the registration data, taking into account the results of any PDP initiated by the GNSO on translation/ transliteration, and the*

²¹ The WHOIS1 Report incorrectly classed these recommendations under the title Internationalized Domain Names (IDNs). In fact, the need for internationalized registration data applies to both IDNs as well as traditional names.

standardized replacement protocol under development in the IETF's Web-based Extensible Internet Registration Data Working Group,

3. *Incorporate the data model in the relevant Registrar and Registry agreements within 6 months of adoption of the working group's recommendations by the ICANN Board or put explicit placeholders in place for gTLD program agreements, and existing agreements,*
4. *Evaluate available solutions (including solutions being implemented by ccTLDs),*
5. *Provide regular updates on technical development of internationalized registration data (IRD), including the estimated timeline or roadmap of such technical development, so that the ICANN community, particularly the Internationalized Domain Name (IDN) gTLD applicant, can fully prepare for implementation of IRD features in its operation,*
6. *Investigate using automated tools to identify potentially inaccurate internationalized gTLD domain name registration data in gTLD registry and registrar services, and forward potentially inaccurate records to gTLD registrars for action.*

3.9.2.2 Results Related to Recommendation 12:

The ICANN Board adopted an Action Plan in response to the WHOIS1 Final Report that instructs ICANN organization staff to implement these recommendations. Subsequently, a set of related efforts were formed to implement the WHOIS1 Review Team recommendations.

These are:

- An expert working group to determine the requirements for the submission and display of internationalized registration data.
- A commissioned study to evaluate available solutions for internationalized registration data.
- A Policy Development Process (PDP) to determine whether translation or transliteration of contact information is needed. If so, specify who should bear the burden of the transformation.

WHOIS1 Review Team Internationalized Registration Data (IRD) Expert Working Group was created²².

The IRD Working Group proposed two high-level requirements for community consideration:

- Registrants should only be required to input registration data in a language(s) or script(s) in which they are skilled,
- Unless explicitly stated otherwise, all data elements should define Requirements for Internationalized Registration Data, and be tagged with the language(s) and script(s) in use. This information should always be available with the data element.

²² <https://www.icann.org/en/system/files/bm/briefing-materials-1-08nov12-en.pdf>

The Board requested that the GNSO Council review the broader policy implications of the IRD Final Report as they relate to other GNSO policy development work on RDS (WHOIS) issues. At a minimum, they should have forwarded the IRD Final Report as an input to the GNSO PDP on the Next Generation Registration Directory Services to Replace WHOIS (that has since been terminated). Presumably the IRD will be used during the implementation of the results of the EPDP related to the Temporary Specification for gTLD Registration Data (<https://gns0.icann.org/en/correspondence/crocker-to-bladel-11may16-en.pdf>).

Conclusion: The review team treats recommendation #12 as fulfilled. See also findings related to recommendation #13.

3.9.2.3 Results Related to Recommendation 13:

As the translation and transliteration of the registration data requirements were not finalized in time for the revision of the documents in 2013, the placeholders can be found both in Registry Agreement (RA) and Registrar Accreditation Agreement (RAA):

RA-2013, Specification 4

(<http://newgtlds.icann.org/sites/default/files/agreements/agreement-approved-09jan14-en.docx>) says:

Registration Data Directory Services.

Until ICANN requires a different protocol, Registry Operator will operate a RDS (WHOIS) service available via port 43 in accordance with RFC 3912, and a web-based Directory Service at <whois.nic.TLD> providing free public query-based access to at least the following elements in the following format. ICANN reserves the right to specify alternative formats and protocols, and upon such specification, the Registry Operator will implement such alternative specification as soon as reasonably practicable.

Registry Operator shall implement a new standard supporting access to domain name registration data (SAC 051) no later than one hundred thirty-five (135) days after it is requested by ICANN if: 1) the IETF produces a standard (i.e., it is published, at least, as a Proposed Standard RFC as specified in RFC 2026); and 2) its implementation is commercially reasonable in the context of the overall operation of the registry.

RAA-2013, Registration Data Directory Services (WHOIS) Specification, (<https://www.icann.org/en/resources/registrars/raa/approved-with-specs-27jun13-en.htm#whois>) says:

Registration Data Directory Services.

Until ICANN requires a different protocol, Registrar will operate a WHOIS service available via port 43 in accordance with RFC 3912, and a web-based Directory Service providing free public query-based access to at least the elements set forth in Section 3.3.1.1 through 3.3.1.8 of the Registrar Accreditation Agreement in the format set forth in Section 1.4 of this Specification. ICANN reserves the right to specify alternative formats and

protocols, and upon such specification, the Registrar will implement such alternative specification as soon as reasonably practicable.

Following the publication by the IETF of a Proposed Standard, Draft Standard or Internet Standard and any revisions thereto (as specified in RFC 2026) relating to the web-based directory service as specified in the IETF Web Extensible Internet Registration Data Service working group, Registrar shall implement the directory service specified in any such standard (or any revision thereto) no later than 135 days after such implementation is requested by ICANN. Registrar shall implement internationalized registration data publication guidelines according to the specification published by ICANN following the work of the ICANN Internationalized Registration Data Working Group (IRD-WG) and its subsequent efforts, no later than 135 days after it is approved by the ICANN Board.

The ICANN Board adopted (<https://www.icann.org/resources/board-material/resolutions-2015-09-28-en#1.b>) the recommendations listed here:

Resolved (2015.09.28.02), the Board adopts the GNSO Council Policy Recommendations concerning the translation and transliteration of contact information as presented in the Final Report.

Resolved (2015.09.28.03), the CEO, or his authorized designee(s), is directed to develop and complete an implementation plan for these Recommendations and continue communication and cooperation with the GNSO Implementation Review Team and community on the implementation work.

In its rationale, the ICANN Board noted:

However, the Registration Data Access Protocol (RDAP) is currently being rolled out as the WHOIS replacement and it [the RDAP] is fully compatible with different scripts.

The IETF produced the RDAP protocol matching the requirements enlisted in the Rec #12 findings. The RDAP protocol is described in RFCs 7480-7484 (<http://datatracker.ietf.org/wg/weirds/documents/>). The efforts taken by ICANN related to the RDAP protocol are enlisted on page <https://www.icann.org/rdap/>.

Conclusion: The review team treats recommendation #13 as fulfilled. See also findings related to Recommendation #12. The implementation of the recommendation depends on RDAP progress.

3.9.2.4 Results Related to Recommendation 14:

Regarding the WHOIS1 Review Team's third IRD recommendation that metrics should be developed to maintain and measure the accuracy of the internationalized registration data and corresponding data in ASCII, this is currently being performed as part of the Accuracy Reporting System (ARS) - <https://whois.icann.org/en/whoisars/>.

The ARS project Phases 1 and 2 **do not** have special requirements related to the accuracy of the internationalized registration data as the data is not available according to the ARS study methodology.

The review team finds that the metrics and measures developed by ARS are suitable when the internationalized registration data become available for studying.

Conclusion: The review team treats recommendation #14 as fulfilled.

3.9.3 Problem/Issue

The subgroup further identified the following issue: The commercial feasibility term in current contracts allows registrars and registries to not implement RDAP. However as it is now likely that RDAP will be required for any GDPR implementation, the concern is minimal.

3.9.4 Recommendations

Based on its analysis, the review team agrees that these WHOIS1 recommendations have been fully-implemented. Work was done to the extent it can be done without an RDAP-based RDS (WHOIS) system. However, since the implementation is not complete, a follow-on recommendation is required.

Recommendation R12.1

Reviewing the effectiveness of the implementation of Recs #12-14 should be deferred. The ICANN Board should recommend that review to be carried out by the next RDS Review Team after RDAP is implemented, and the translation and transliteration of the registration data launches.

Findings:

There is no actual internationalized registration data in the current RDS (WHOIS) system, so it is impossible to review the implementation of Recommendations #12-14 in a pragmatic way. Even after RDAP has been implemented, the internationalized registration data could still be waiting for implementation due to lack of a requesting party and financial support.

Rationale:

There is still a need to offer internationalized registration data. When all prerequisites are ready, a follow-up review could complete the implementation review of Recommendations #12-14.

Impact of Recommendation:

The recommendation has no impact until RDAP is in use. When RDAP is in use, registrars and registries will be affected, as they will have to process the internationalized registration data for users, both in internationalized and ASCII format, and partially implement translation/transliteration themselves. Registrants will be affected as they will be able to provide the internationalized data. Though internationalized data is expected to result in fewer mistakes, the accuracy of ASCII data can also be reduced because of automated translation/transliteration. The Accuracy Reporting System (ARS) will be affected, as new possibilities of providing incorrect information will appear (e.g., mismatch between internationalized and ASCII data) and it will become necessary to involve native speakers to validate internationalized data.

Feasibility of Recommendation:

Given that all the necessary work has been finalized, this recommendation should also be feasible when RDAP is implemented and internationalized registration data is available.

Implementation:

To fully implement the recommendation, the efforts of registries and registrars are required to implement the RDAP protocol and start collecting internationalized registration data. The target of successful implementation is all the audiences of RDS (WHOIS) services. Some RDAP implementations are underway already, but they are very limited for now and will not contradict the recommendation. The period necessary for implementation is estimated as more than 12 months.

Priority: Low.

Level of Consensus: Full Consensus

3.9.5 Possible Impact of GDPR and Other Applicable Laws

As internationalized registration data should be processed using the same principles, the possible impact of GDPR is the same as related to currently available (non-internationalized) RDS (WHOIS) data.

3.10 WHOIS1 Recs #15-16: Plan & Annual Reports

3.10.1 Topic

The specific [WHOIS1 Recommendations](#) assessed by the WHOIS1 Recommendations #15-16 subgroup appear below:

WHOIS1 Recommendations #15-16: Plan & Annual Reports

Recommendation 15 – ICANN should provide a detailed and comprehensive plan within 3 months after the submission of the Final WHOIS Review Team report that outlines how ICANN will move forward in implementing these recommendations.

Recommendation 16 – ICANN should provide at least annual written status reports on its progress towards implementing the recommendations of this WHOIS Review Team. The first of these reports should be published one year, at the latest, after ICANN publishes the implementation plan mentioned in recommendation 15, above. Each of these reports should contain all relevant information, including all underlying facts, figures and analyses.

To address this review objective, the subgroup agreed to:

- Cross check with other subgroups about whether the Action Plan properly addressed the WHOIS1 recommendations,
- Assess the effectiveness of the already-published RDS (WHOIS) Annual Reports (e.g., relevance of provided information, quality of the underlying facts).

3.10.2 Analysis & Findings

3.10.2.1 Detailed and Comprehensive Plan

The ICANN Board adopted an [Action Plan](#) on 8 November 2012 to implement the WHOIS1 Review Team recommendations. The Action Plan outlined the ICANN Board's proposed action items to address WHOIS1 recommendations respectively, and the rationale behind those action items. To implement recommendation #15, according to a [written implementation briefing on WHOIS1 recommendations 15-16](#), the Board agreed that gTLD RDS (WHOIS) should be a strategic priority. The Board directed the CEO to incorporate a work plan for the improvement of RDS (WHOIS) into the operating plan. They also directed the CEO to provide resources and a budget to carry-out these activities, and to provide annual public reports on implementation of these activities and related efforts.

RDS (WHOIS) work has been reflected in ICANN's annual operating plan, beginning with the fiscal year 2013 operating plan. In [FY 2013 Operating Plan and Budget](#), the WHOIS Program was the fourth budgeted project (\$969,000) within ICANN, after IDN Variant Management Projects (\$1,250,000), New Compliance System/CRM (\$1,200,000), and Enhance Multilingual strategy (\$980,000). A list of various types of RDS (WHOIS) initiatives were included under the WHOIS Program project, including implementation of WHOIS1 Review Team recommendations regarding measures to increase accuracy, studies to inform the implementation of these recommendations and a roadmap for additional RDS (WHOIS) accuracy initiatives. Technical work on the RDS (WHOIS) protocol, and synthesis with ICANN Contractual Compliance activities and reporting were included as well.

The [FY 2014 Operating Plan and Budget](#) had a totally different reporting format, and there was no indication of the exact budget and resources allocated for the RDS (WHOIS) Program. RDS (WHOIS) work was reflected in 'The WHOIS core function/service & improvements Portfolio' in ICANN's annual operating plan and budget of [2015](#), [2016](#), and [2017](#). It was also included in the 'Registration Data Services (WHOIS) Portfolio' under objective 2.1 'Foster and Coordinate a Healthy, Secure, Stable, and Resilient Identifier Ecosystem' in the [FY 2018 Operating Plan and Budget](#), with only a total budget indication.

The annual operating plan is the business plan for ICANN organization as a whole, and RDS (WHOIS) improvement is only part of that plan. In the annual Operating Plan and Budget, there are no implementation details of the action items outlined in the Action Plan. The work plan, deliverables and reports with regards to WHOIS1 recommendation implementation are scattered among different action items (e.g. RDS (WHOIS) ARS project), and some have been incorporated into other RDS (WHOIS) initiatives and policy developments.

3.10.2.2 Annual Status Reports

Implementation of the Action Plan was summarized as part of RDS (WHOIS) annual reports. ICANN published the first [WHOIS Improvements Annual Report](#) on 4 Nov 2013. The report provides an overview of the WHOIS1 recommendations and implementation activities, as well as links to deliverables for each implementation activity. The Annual Reports on WHOIS Improvements for [2014](#), [2015](#) and [2016](#) were produced separately afterwards, outlining the activities of all RDS (WHOIS) policy-related working streams. In each of the annual WHOIS Improvement reports, all implementation activities regarding the Board-approved action plan are enumerated with links to deliverables.

The WHOIS Improvements Annual Report provides the overview of the RDS (WHOIS) policy development and could serve as a good reference of what has been done to improve RDS (WHOIS). So far, all the published WHOIS Improvements Annual Reports are activity-based rather than outcome-based, and there are no relevant figures and analyses included, as recommended by recommendation #16. In addition, there has been no review of the effectiveness of the implementation of the Action Plan in addressing the WHOIS1 recommendations.

The annual WHOIS Improvements report for 2016 was published on 1 September 2017, and there has been no annual report since. According to [clarifications pertaining to operating plans and annual reports](#) provided by ICANN Org, as the 2016 annual report showed that all WHOIS1 recommendations were completely implemented, there will be no further annual reports tracking progress on WHOIS1 recommendations.

3.10.3 Problem/Issue

Action items outlined in the Action Plan went into different implementation tracks, and the annual WHOIS Improvement reports were the collation of a list of activities from different implementation tracks accordingly. In other words, the annual WHOIS Improvement reports were more activity-based than outcome-based, without sufficient underlying facts, figures and analyses as recommended by Recommendation #16. Additionally, many of the WHOIS1 recommendations were fully-implemented as detailed throughout Section 4. However, some resulted in prolonged ongoing processes (e.g., [Section 3.7, Privacy/Proxy](#)). Others did not achieve the full intent of the WHOIS1 recommendation (e.g., [Section 3.6, Data Accuracy](#)), or meet the objective of the WHOIS1 recommendation (e.g., [Section 3.2, Strategic Priority](#)).

According to ICANN Org, the progress in implementing WHOIS1 recommendations was overseen and tracked by a dedicated ICANN organization staff member, and ICANN organization has been working on improving its implementation tracking tools. Nonetheless, the WHOIS1 recommendation action plan & implementation reports did not follow a well-organized project management approach. For example, it was hard to track the implementation of some specific review recommendations, with a lack of review of whether the implementation reflects the intent of each recommendation, and there has been no review of effectiveness or measurable outcomes.

3.10.4 Recommendations

Based on this analysis, the review team agrees that WHOIS1 Recs 15 and 16 have been partially-implemented. One further recommendation is provided here to address the problems/issues identified above.

Recommendation R15.1

The ICANN Board should ensure that implementation of RDS-WHOIS2 Review Team recommendations is based on best practice project management methodology, ensuring that plans and implementation reports clearly address progress, and applicable metrics and tracking tools are used for effectiveness and impact evaluation.

Findings:

See [Section 3.10.3, Problem/Issue](#).

Rationale:

The intention behind this recommendation is to ensure that the plan and reports regarding implementation of recommendations generated by this review team are pragmatic and efficient.

Impact of Recommendation:

Given that implementation plans and annual reports are regular ICANN activities, this recommendation will not impose extra workload on ICANN. Metrics tracking will impact registrars, registries, ICANN Contractual Compliance, etc., while the whole community will benefit from the implementation of this recommendation.

Under new Bylaws section 4.5, ICANN is in the process of developing an Annual Review Implementation Report, which will discuss the status of the implementation of all review processes required by Section 4.6. This report will track the status of ICANN's implementation of the recommendations set forth in the final reports issued by the review teams to the ICANN Board following the conclusion of such review ("Annual Review Implementation Report").

Feasibility of Recommendation:

The challenging part will be the design of metrics for each recommendation to be tracked.

Implementation:

An overview of the recommendations generated by this review team will be the foundation for the plan and implementation report design. The organization should consider an impact evaluation to measure to what extent implementation is meeting the recommendation's intent and was effective.

Priority: Medium.

Level of Consensus: Full Consensus

3.10.5 Possible Impact of GDPR and Other Applicable Laws

There is no direct impact of GDPR on Recommendation R15.1. The impact of GDPR is reflected in other specific recommendations made by the RDS-WHOIS2 Review Team.

4 Objective 2: Anything New

4.1 Topic

Subgroup 2 - Anything New was tasked with investigating, analyzing, and drafting recommendations (if needed) to address the following review objective:

Consistent with ICANN's mission and Bylaws, Section 4.6(e)(ii), the review team will assess the effectiveness of today's WHOIS (the now current gTLD RDS, including cumulative changes made to the then-current RDS which was assessed by the prior RT) by (a) inventorying changes made to WHOIS policies and procedures since the prior RT completed its work, (b) using that inventory to identify significant new areas of today's WHOIS (if any) which the team believes should be reviewed, and (c) determining if any specific measurable steps should be recommended to enhance effectiveness in those new areas.

To accomplish this objective, the subgroup reviewed the inventoried policies and procedures to identify significant new areas of today's RDS (WHOIS) (if any) requiring review. For those significant new areas only, the subgroup planned to answer these questions:

- a. Have these been implemented properly? What challenges have ICANN organization staff faced in the implementation?
- b. Are registrars/registries implementing these in a timely manner?
- c. Are there any measurable steps that should be taken to make these new policies and procedures more effective?

In addition, the EU GDPR and other data protection laws around the world will impact all RDS (WHOIS) policies, including those inventoried by this subgroup. After ICANN implements an interim model to comply with GDPR, and as results of litigation become known, all RDS (WHOIS) policies will need to be reviewed again to determine what needs to be changed.

4.2 Analysis and Findings

New/Updated Policy or Procedure	Questions considered by this review	Subgroup's Findings and Analysis
New RDS (WHOIS) pages on website (whois.icann.org)	Have these been implemented properly? What challenges have ICANN organization staff faced in the implementation?	<ul style="list-style-type: none">• Recommendations incorporated in the reports on Outreach and the Common Interface.
Inter-Registrar Transfer Policy (IRTP)	Will this work with Privacy/Proxy services? Have these been implemented properly? Are Registrars satisfied? Are results of IRT on PPSAI satisfactory?	<ul style="list-style-type: none">• No issues found.• May need changes due to GDPR.
Additional WHOIS Information Policy (AWIP)	Is this a compliance issue? Are Registrars satisfied?	<ul style="list-style-type: none">• No issues found.

New/Updated Policy or Procedure	Questions considered by this review	Subgroup's Findings and Analysis
New gTLD URS Policy, Procedure and Rules for URS Policy		<ul style="list-style-type: none"> • Being discussed in RPM PDP. • No specific RDS (WHOIS) issues.
Expired Registration Recovery Policy (ERRP)	How fees are being announced when registrar has no website?	<ul style="list-style-type: none"> • Addressed by ERRP Section 4.1
Thick WHOIS PDP and Final Report (see section 7.1) Thick RDDS (WHOIS) Transition Policy for .COM, .NET and .JOBS		<ul style="list-style-type: none"> • Stalled due to GDPR and RDAP implementation.
Registry RDDS Consistent Labeling and Display Policy		<ul style="list-style-type: none"> • We have no metrics on this policy. • Subgroup 1 Rec #4 is covering
Privacy & Proxy Services Accreditation Issues (PPSAI) Final Report		<ul style="list-style-type: none"> • Subgroup 1 Rec #10 is covering this.
Translation/Transliteration of Contact Information PDP and Final Report , and Final Report from the Expert Working Group on Internationalized Registration Data (2015)	Work has completed. What issues have arisen?	<ul style="list-style-type: none"> • Subgroup 1 Recs #12-14 is covering this.
Review of the ICANN Procedure for Handling WHOIS Conflicts with Privacy Law (2014)		<ul style="list-style-type: none"> • New Implementation Advisory Group was created, • New trigger recommended. May need changes due to GDPR . • Multi-party dissatisfaction with results.
Final Report on the Implementation Advisory Group Review of Existing ICANN Procedure for Handling WHOIS Conflicts with Privacy Law (2016)		<ul style="list-style-type: none"> • Final report voted through GNSO but new group being formed because of multi-party dissatisfaction with results. • New trigger not seen as effective. • May need changes due to GDPR.
RDS/WHOIS Data Retention Specification Waiver and Discussion Document	Are Registrars satisfied?	<ul style="list-style-type: none"> • Data retention is an RDS (WHOIS) issue. • Waiver has been slow for uptake, but working. May need changes due to GDPR.

Based on the subgroup's analysis, the main findings of this subgroup are as follows:

- There are a lot of policies and procedures that have been worked on since 2012.
- There are not clear metrics for some of them.
- Several items with compliance implications to be addressed by that subgroup.
- Several items are already covered by WHOIS1 recommendation subgroups.
- Reseller lack of transparency was covered by the Consumer Trust Subgroup.
- Review team to make general comment (under auspices of overall report) re: dissatisfaction with handling of conflicts with privacy law.
- The Executive Summary of this report notes that the ongoing impact of GDPR has not been addressed in this review.

4.3 Problem/Issue

After analysis of facts, the subgroup has identified the following issue:

- Some new policies are not reviewed by the ICANN Contractual Compliance team and metrics are not tracked therefore, there is no knowledge of whether or not registrars or registries are complying with the policies and effectiveness of the policy cannot be evaluated.

4.4 Recommendations

The review team concluded that no recommendations are needed at this time with respect to this objective other than the ones associated with the implementation of WHOIS1 Recommendations on Outreach and the Common Interface

4.5 Possible Impact of GDPR and Other Applicable Laws

There are GDPR implications to most of the policies and procedures described in this section. The vast majority will be dealt with as a result of the EPDP or other groups designated as being responsible for addressing GDPR-related issues as part of their policy review or policy implementations considerations. They were not addressed in any detail in the present WHOIS2-RDS Review.

5 Objective 3: Law Enforcement Needs

5.1 Topic

Subgroup 3 - Law Enforcement Needs was tasked with investigating, analyzing, and drafting recommendations (if needed) to address the following review objective:

Consistent with ICANN's mission and Bylaws, Section 4.6(e)(ii), the review team will assess the extent to which the implementation of today's WHOIS (the current gTLD RDS) meets legitimate needs of law enforcement for swiftly accessible, accurate and complete data by (a) establishing a working definition of "law enforcement" used in this review, (b) identifying an approach used to determine the extent to which these law enforcement needs are met by today's WHOIS policies and procedures, (c) identifying high-priority gaps (if any) in meeting those needs, and (d) recommending specific measurable steps (if any) the team believes are important to fill gaps. Note that determining which law enforcement requests are in fact valid will not be addressed by this review.

To accomplish this objective, the subgroup agreed to take into account current and emerging technology and to include:

1. Cybercrime investigations and enforcement;
2. Data protection laws and enforcement;
3. What's required of the Registrar to retain data under the RAA;
4. A clear direction from Law Enforcement of what is needed; and
5. A better understanding of procedures and requirements by both Law Enforcement and the Registrars.

A survey was the vehicle chosen with which to carry out this investigation.

5.2 Analysis and Findings

5.2.1 Law Enforcement Survey

The survey received 55 responses, many of which were made on behalf of countries. For example, for the European Union Member States, a request was made earlier in the year to nominate one national expert on RDS (WHOIS) for law enforcement who was asked to respond to the survey.

Responses to the survey were received from Australia, Austria, Bahrain, Belgium, Brazil, Chile, China, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hong Kong, India, Iran, Ireland, Italy, Japan, Kenya, Korea (South), Kuwait, Latvia, Mexico, Morocco, Nigeria, Philippines, Singapore, Slovakia, Slovenia, Sweden, Taiwan, Trinidad and Tobago, United Kingdom, United States of America and Zambia.

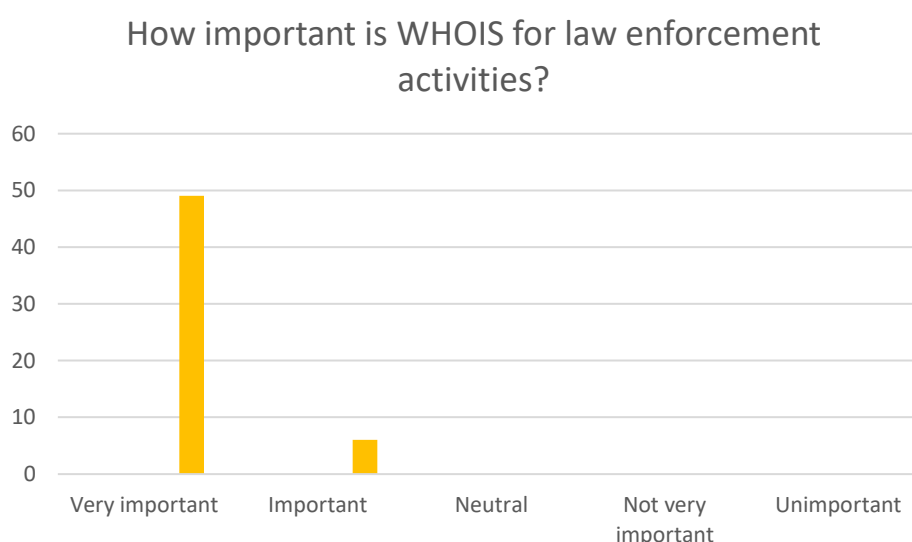
At its face-to-face meeting in Brussels, the review team found that there was a lack of reliable data to support in-depth analysis on a number of issues, particularly the uses of the RDS (WHOIS). The review team therefore discussed whether it would be useful to 1) to conduct surveys such as the law enforcement survey periodically, e.g. every year or every two years, and 2) to extend such surveys to other users such as cybersecurity professionals. The review team also came to the conclusion that there was an underrepresentation of certain geographic

regions in the survey, with a large proportion of responses coming from Western Europe, some parts of East Asia and North America. While specific efforts were made to reach out to underrepresented regions, these are still not fully represented. This matches ICANN's experience in other areas but efforts should nonetheless be made to ensure greater geographic representativeness in further iterations of this survey.

In the following sections, the survey results are outlined, broken down by category.

5.2.1.1 Importance of RDS (WHOIS) Data for Law Enforcement Investigations

The survey requested feedback from law enforcement on the importance of RDS (WHOIS) for law enforcement activities. 89% of respondents deemed RDS (WHOIS) as "very important", while 11% deemed it as "important" for their activities. No respondents chose "neutral", "not very important" or "unimportant":

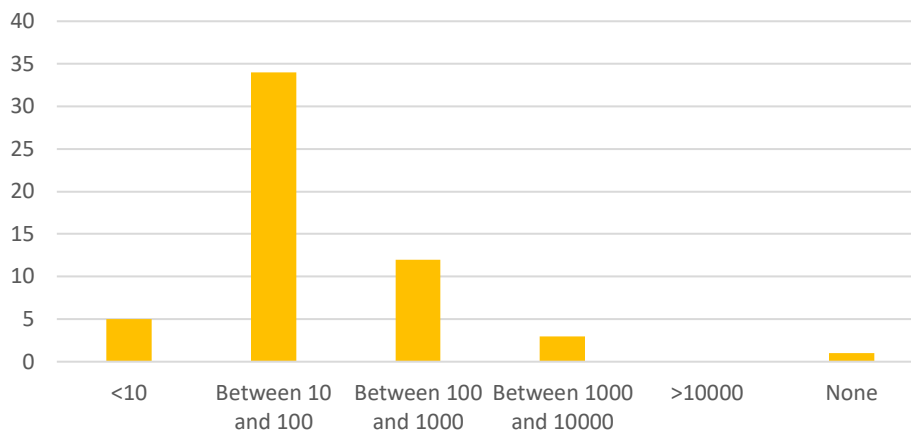


This confirms the results of a 2012 survey, where a number of respondents deemed RDS (WHOIS) data as being of "great importance" or "very important". It is important to note that the survey assumes a certain familiarity with the use of RDS (WHOIS) for investigations and may therefore not be representative of all law enforcement activities but rather only for those activities for which access to the RDS (WHOIS) would be of relevance.

5.2.1.2 Frequency of Use

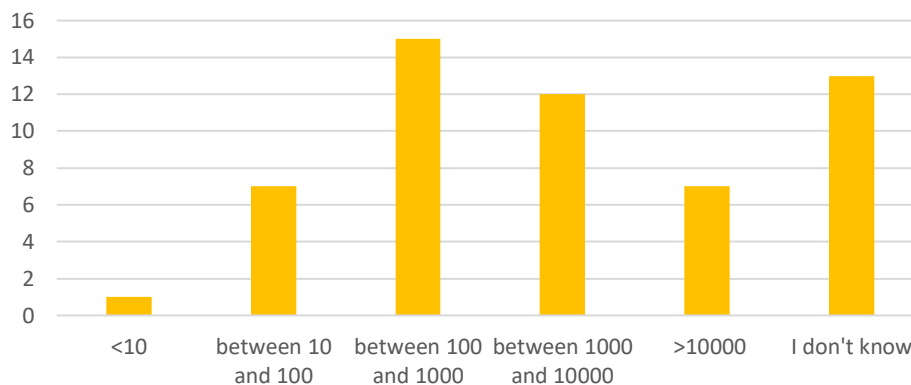
Respondents were also asked how frequently they made use of the RDS (WHOIS). The largest proportion - 62% of respondents - make between 10 and 100 lookups per month whereas 22% make between 100 and 1000 lookups, and 5% make more than 1000 lookups per month. 9% of respondents make less than 10 lookups per month, and 2% make no lookups.

Prior to May 2018, how many WHOIS lookups did you personally make per month?



As a significant number of respondents were responding on behalf of larger entities such as their units or agencies, the survey also asked them to estimate the number of lookups these entities made:

Prior to May 2018, how many lookups did your unit or other units or agencies in your jurisdiction whose use you are aware of make?

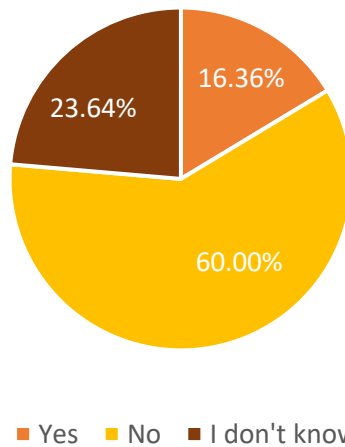


As is to be expected, the number of lookups for entire units or agencies is significantly higher, with the highest percentage (27%) of units making between 100 and 1000 lookups per month, 22% between 1000 and 10000 lookups, and still 13% making more than 10000 lookups per month.

5.2.1.3 Alternative Options to RDS (WHOIS) Lookup

Assuming that an RDS (WHOIS) lookup is not available, the review team asked respondents to identify possible alternatives that they already use or could use. A significant number of respondents - 16% - stated that they had other tools available:

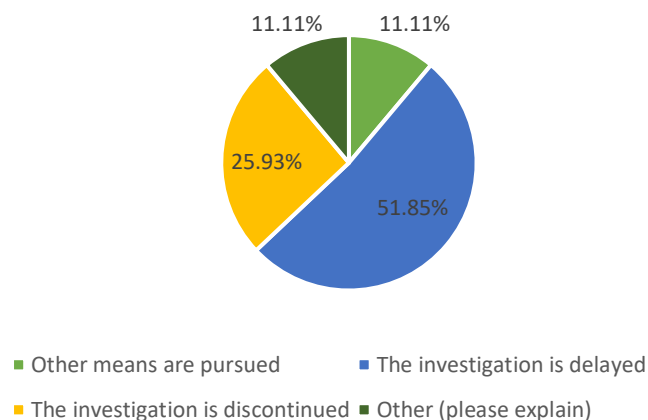
Are there alternative data sources that you could use or already use to fulfill the same investigative needs?



However, when respondents who said that they had alternative options were asked to identify the tools that could be used instead, a majority of them identified tools that also rely on RDS (WHOIS) lookup, both open-source and freely available and those provided by companies.

Respondents were also asked how it usually affects an investigation if RDS (WHOIS) information is not available on a public query basis. According to 79% of respondents, the investigation is delayed or discontinued altogether:

Impact of unavailability of WHOIS information on an investigation

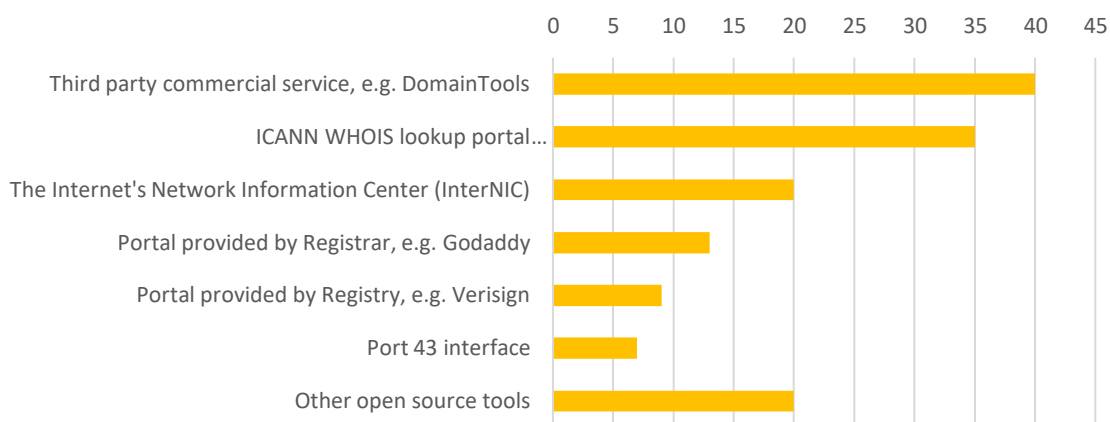


5.2.1.4 Tools Used to Access RDS (WHOIS) Data

The survey also sought information on the tools which law enforcement use to access RDS (WHOIS) data. Respondents could name more than one tool. The responses show that the

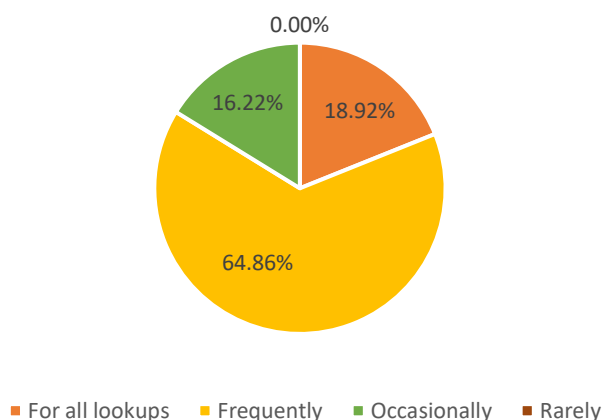
RDS (WHOIS) lookup portal provided by ICANN following a recommendation by the WHOIS1 Review Team has become a popular tool, coming in second only to third party commercial services:

By which means do you or your agency look up WHOIS data?



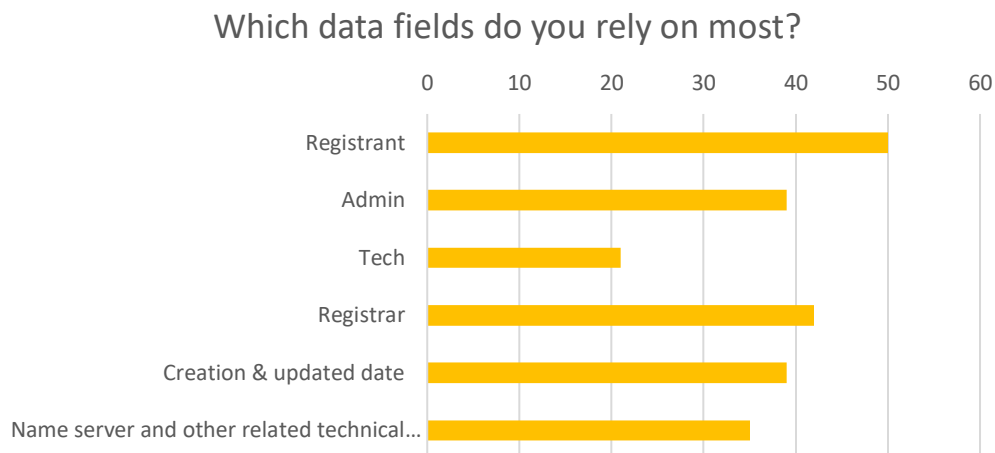
It is important to note that 73% of respondents currently use third-party commercial tools, which may be negatively affected by recent changes to the RDS (WHOIS) protocol. Respondents were also asked specifically whether they rely on third-party services provided by private parties, such as DomainTools or others; 67% stated that they did, 22% did not, and 11% were not sure. Those who responded in the affirmative were then asked how frequently they made use of the tool: here, 65% of respondents stated that they frequently make use of third-party tools, 16% of respondents indicated that they occasionally use these tools, and 19% of respondents rarely use them.

To what extent do you rely on these external services?



5.2.1.5 RDS (WHOIS) Lookup Use

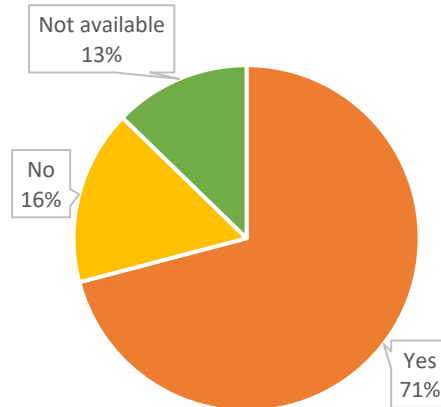
Respondents also answered a series of questions about the way in which they use the RDS (WHOIS) lookup, starting with a question about which data fields they rely on most, or which are most useful to their investigations:



The most important set of fields are those relating to the registrant contact information. However, admin and tech contact information are deemed almost as important. Responses show that the registrar fields are the second most important source of information in an RDS (WHOIS) lookup for law enforcement, as this can provide information both on where to go for further leads. The data also shows that there are no data field groups that are clearly unimportant to law enforcement. It could be useful to dive into more detail during a follow-up survey to determine whether there are individual data fields in these groups that are more or less useful to investigations. These results match the feedback received during ICANN's data mapping exercise in summer 2017, where law enforcement also provided input to show that any field can prove useful for investigations, depending on the leads that it can provide in an individual case.

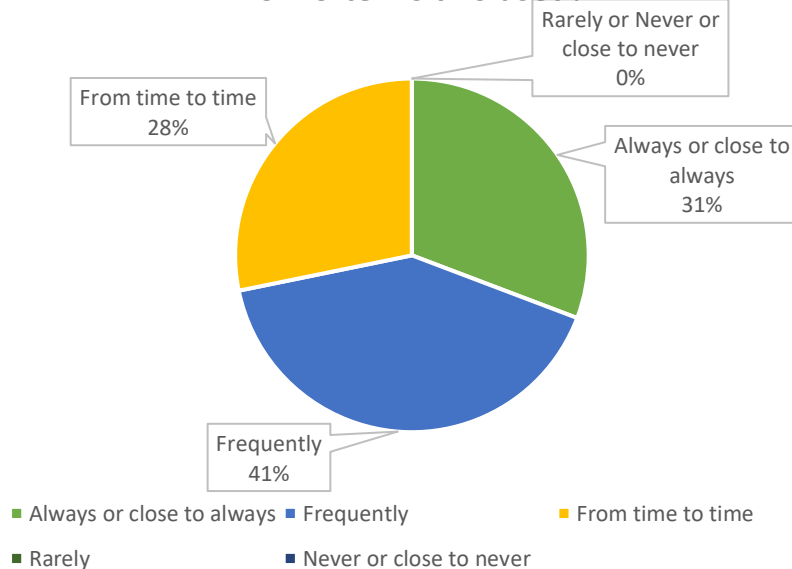
Respondents were also asked whether they use cross-referencing/reverse lookup of RDS (WHOIS) data fields, e.g. to identify other domains that were registered using the same information:

Do you use cross-referencing/reverse lookup?



While the majority of respondents use cross-referencing, more than a quarter of respondents were of the opinion that it was not available to them or they did not use it. Of those who did make use of it, a follow-up question asked them to identify how often they used it:

How often is this used?



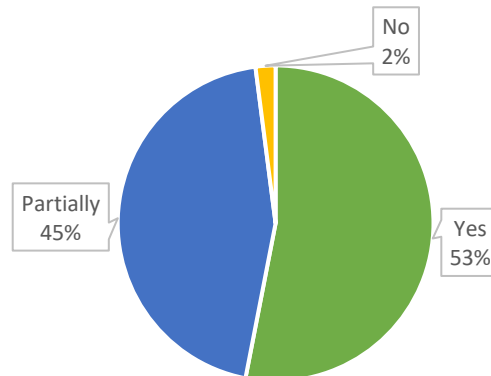
Respondents commented that this allowed them to identify other domains registered by the same registrant and to track abuse across multiple domains.

5.2.1.6 Issues Encountered When Using RDS (WHOIS) Data

Respondents were asked whether the RDS (WHOIS) lookup functionality (anonymous & public access) prior to May 2018 met their needs for the purposes of law enforcement

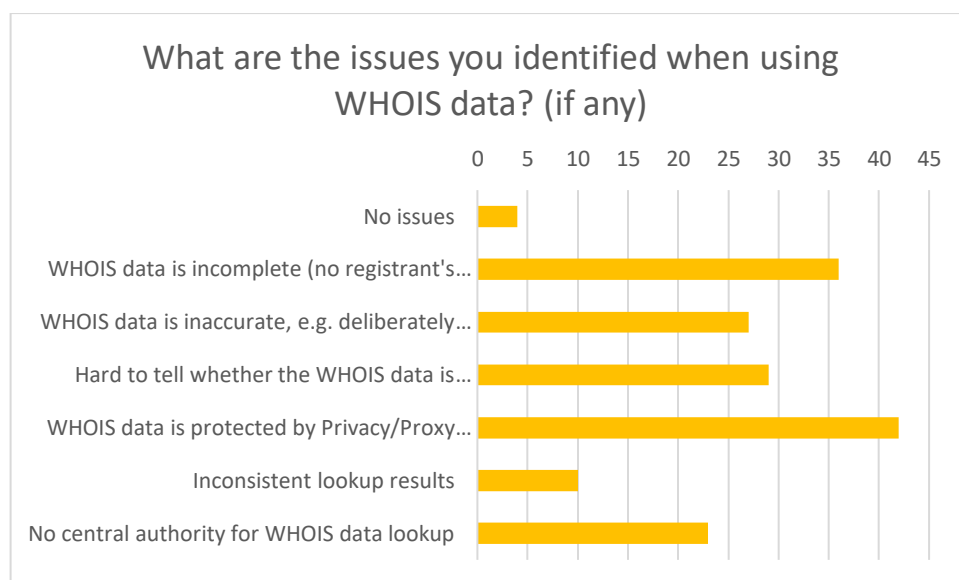
investigations.

Did WHOIS meet investigative needs before May 2018?



Those who responded "Partially" or "No" were asked to specify in which ways RDS (WHOIS) did not meet their investigative needs. A large proportion of respondents (38%) cited inaccurate data, 12% referred to no data being available, and 50% named other issues, such as incomplete information, inaccurate data (despite the separate answer category), falsified information, and the use of privacy and proxy services.

A dedicated series of questions then honed in on specific issues in RDS (WHOIS) use, as far as possible. Survey respondents identified the following issues²³ when using RDS (WHOIS) data:



When put in order of importance, the use of privacy/proxy services scored highest among the issues (listed by 76% of respondents), followed by incomplete available RDS (WHOIS) data (65%), challenges in determining whether the data is accurate (53%) and inaccurate RDS (WHOIS) data (49%). It is to be noted that it is not clear from the responses how law

²³ Respondents were able to select multiple issues.

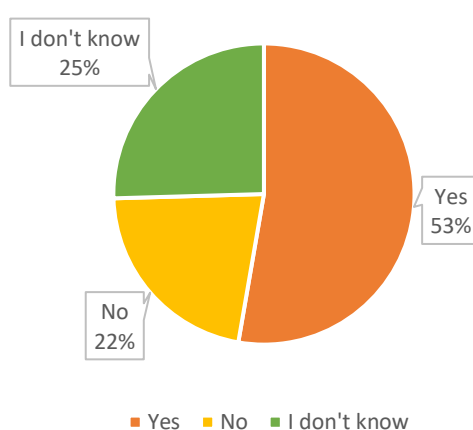
enforcement can ascertain the use of a privacy/proxy service as opposed to fake data being provided.

These results show that, despite the recommendations made by the previous WHOIS1 Review Team and ICANN's efforts to implement them, one major user group still faces largely the same issues as it did in 2012. The use of Privacy/Proxy services, which was not as prevalent in 2012, has risen to become the top challenge.

5.2.1.6.1 Issues Related to Privacy and Proxy Services

A number of questions targeted Privacy/Proxy services specifically, starting with whether respondents had come across any issues when requesting data behind privacy and proxy services:

Have you come across any issues when requesting data behind P/P services?



Those respondents who chose "yes" were then asked to further specify the issues they faced. A number of respondents listed jurisdictional challenges, as the privacy or proxy service provider was outside their jurisdiction and would not respond without a national order. The time it took to obtain data was named as too long by several respondents, and a number of them also stated that they received no reply or the service was uncooperative.

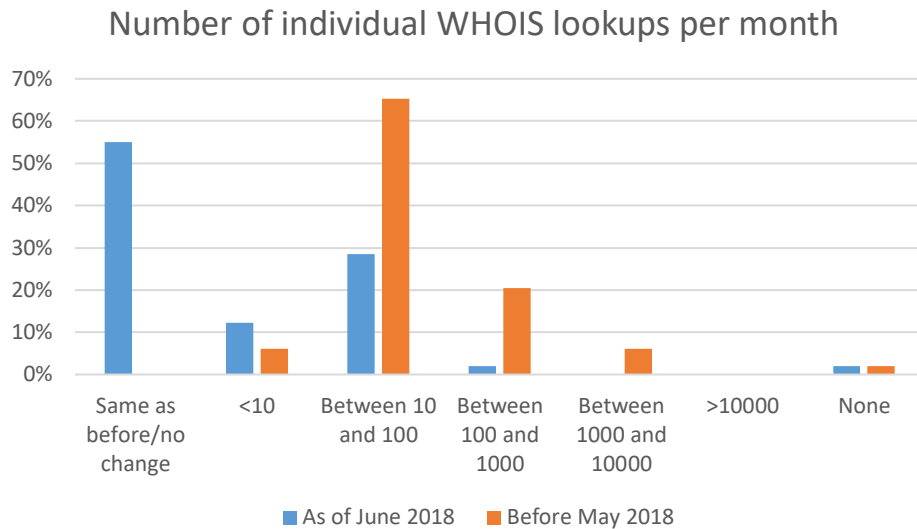
When asked whether they were able to obtain data on the actual registrant, 72% said no. 97% said that cooperation with the P/P service did not function well; only in 21% of cases was the data obtained in time to allow the investigation to proceed. For 79% of investigations, the failed cooperation with the P/P service effectively ended the investigation.

5.2.1.6.2 Impact of Temporary Specification

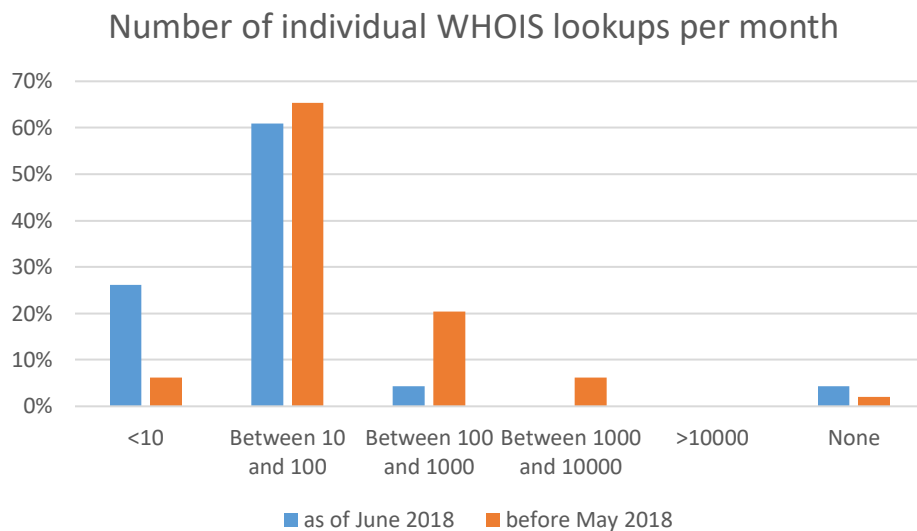
The subgroup also included a number of questions to attempt to assess the initial impact of the Temporary Specification. According to feedback from law enforcement, many units are still busy investigating cases that concern actions taken before May 2018. As a result, the data available in particular in the private tools used for law enforcement RDS (WHOIS) lookups is still pre-May 2018 data and therefore many investigations are not yet affected by the changes brought about by the Temporary Specification. When asked whether their use of the RDS

(WHOIS) lookup had changed since May 2018, 44% consequently responded "no". 47% responded "yes" and 9% were not sure.

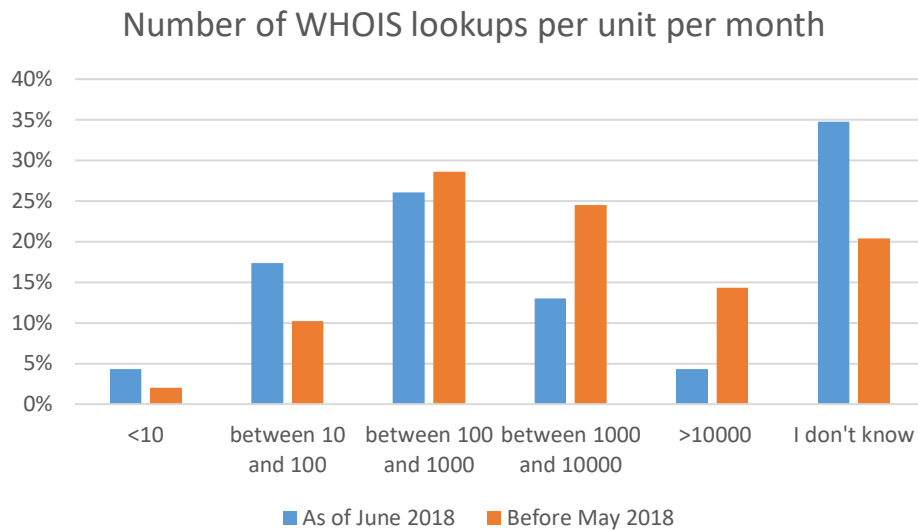
Nonetheless, there is an impact, as evident from the following charts. Those respondents who indicated that use had changed were asked a number of follow-up questions, starting with how many lookups per month they now made:



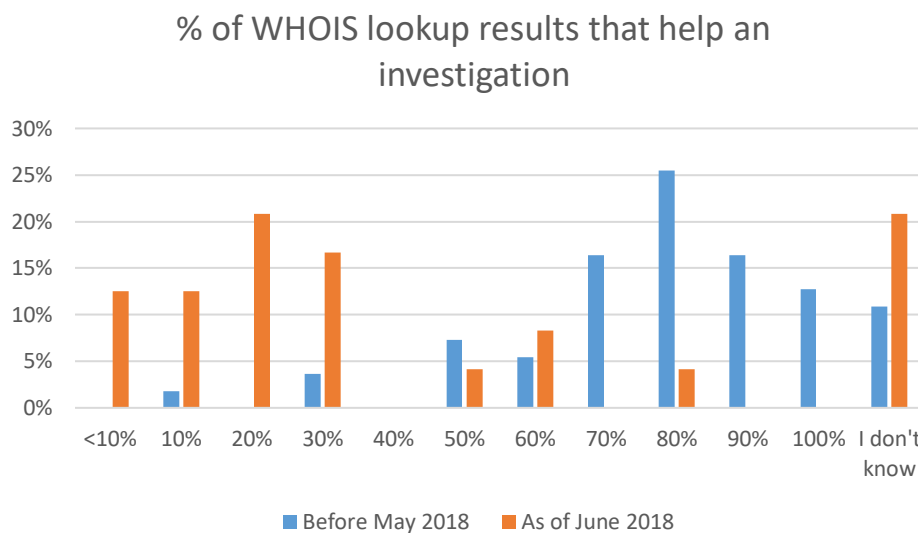
When all respondents are included, the difference is hard to tell, but when the "same as before" category is factored out, it becomes evident that the number of individual lookups has already decreased somewhat on average:



The same trend can be observed when comparing the requests per unit per month:

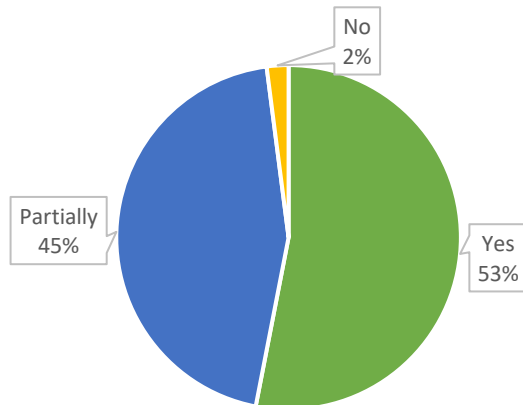


The overall rates of lookup have dropped slightly, even when factoring in the larger percentage of "I don't know" replies. Respondents were also asked about changes in usefulness of RDS (WHOIS) lookups; the survey asked them to estimate the percentage of RDS (WHOIS) lookup results that help their investigation. While the pre-May 2018 usefulness has its peak around 80% of lookups being useful to investigations, the June 2018 estimates show a strong decrease in that peak, which shifts to around 20% of lookups:

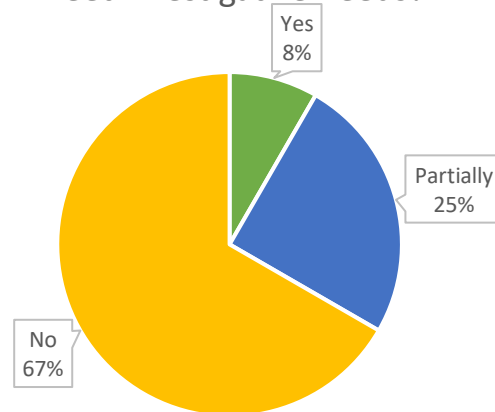


This change is also reflected in the responses to the question of whether RDS (WHOIS) met investigative needs before the Temporary Specification went into effect and now. As shown in the graphs below, the number of respondents who did not find that the RDS (WHOIS) lookup functionality met their needs increased from 2% to 67%.

Did WHOIS meet investigative needs before May 2018?



Does the current WHOIS meet investigative needs?



When asked to further specify the problem compared to before, respondents cited:

- the lack of data availability,
- the impossibility of detecting patterns given the dearth of information,
- the different and time-consuming request processes across registries and registrars,
- the loss of confidentiality of requests, and
- the change from a quick and somewhat helpful system to one that relies on many different forms of requests which may go unanswered.

One respondent referred to a severe disruption of criminal investigations.

Respondents were able to provide final comments before ending the survey. Of those who chose to comment, many comments mainly refer to these recent changes, highlighting the need for law enforcement from across the world to have swift access to data not just from their own jurisdiction.

5.2.2 Other input from law enforcement

Beyond the survey, law enforcement also provided evidence of its uses of the RDS (WHOIS) at various points in time, including:

- during the data mapping exercise conducted by ICANN in summer 2017;²⁴
- at a number of High Interest Topic and Cross-Community sessions at ICANN meetings;²⁵
- and in reports and presentations, notably to the Governmental Advisory Committee and its Public Safety Working Group.

The input and examples provided largely confirm the findings of the survey, highlighting that:

- Access to the RDS (WHOIS) is an important tool for law enforcement,

²⁴ Available on ICANN's [gTLD Registration Dataflow Matrix and Information page](#); see in particular input provided by the Governmental Advisory Committee (GAC) Public Safety Working Group, Europol, the U.S. FBI, Canadian Criminal and Consumer Protection Law Enforcement Agencies and the U.S. IRS.

²⁵ Including the ICANN57 [Update on WHOIS Related Initiatives](#), the ICANN56 [Next-Generation gTLD RDS Cross-Community Session](#),

-
- Law enforcement struggles both with inaccurate data (while highlighting that even inaccurate data may allow the detection of patterns or provide helpful leads) and with the use of Privacy and Proxy Services,
 - Law enforcement is significantly impacted by recent changes to the RDS (WHOIS) system by the Temporary Specification.

5.3 Problem/Issue

The problem identified on the basis of the input summarized above is two-fold:

- First, despite follow-up efforts on the previous WHOIS1 Review Team's recommendation, the survey results make it clear that law enforcement still felt faced with a large number of inaccurate records. In addition to the previous issues, the prevalence of Privacy and Proxy services seems to have become a larger issue.
- Secondly, when considering the changes brought about by the Temporary Specification in an effort to secure compliance with the GDPR, law enforcement seems particularly impacted in their investigations. This is clear from the reported drop in usefulness of RDS (WHOIS) lookups from around 80% to around 20%. Agencies that can already detect an impact, and there is a large increase in respondents who are not satisfied with the RDS (WHOIS) lookup functionality when comparing pre-May 2018 figures with June 2018 figures.

5.4 Recommendations

For the issues concerning data accuracy and the use of privacy and proxy services, reference is made to the relevant sections of the report.

For the issues that have arisen due to the implementation of the Temporary Specification, an expedited policy development process is underway. Therefore, no specific recommendation is deemed necessary at this point in time; the survey results can be taken into due account by the policy development team. Although the EPDP will likely address both European and non-European law enforcement access to data, it is not clear what mechanism will be used to consider the impact on law enforcement prior to the next RDS (WHOIS) review team being convened.

The review team has concluded that insufficient data is available to support in-depth analysis of the RDS (WHOIS) functionality for law enforcement and of whether it meets requirements set out in the Bylaws for review. An ad-hoc study or survey as performed here or commissioned by other review teams can only partially replace a regular data gathering exercise as it does not allow tracking of trends over time. Therefore, the review team recommends the following:

Recommendation LE.1

The ICANN Board should resolve that ICANN organization conduct regular data gathering through surveys and studies to inform a future assessment of the effectiveness of RDS (WHOIS) in meeting the needs of law enforcement. This will also aid future policy development (including the current Temporary Specification for gTLD Registration Data Expedited Policy Development Process and related efforts)²⁶.

²⁶ While surveys as used here refers to questionnaires distributed to a group of respondents to gather their input, studies by contrast, would rely on a detailed analysis and investigation, and not simply be based on user input.

Recommendation LE.2

The ICANN Board should consider conducting comparable surveys and/or studies (as described in LE.1) with other RDS (WHOIS) users working with law enforcement on a regular basis.

Findings:

The review team found that the lack of available data on RDS (WHOIS) uses, advantages and shortcomings had a negative impact on the possibility to assess the functionality of the RDS (WHOIS) and whether it meets requirements set out in the Bylaws.

Rationale:

The intent behind this recommendation is to ensure that future reviews, but also policy development processes, can benefit from a better and more reliable evidence base.

The issues identified could best be addressed by repeated data gathering exercises that include the running of surveys at regular intervals to create comparable data sets.

The potential impact of not addressing the recommendation would be a continued lack of data, which has already shown to add to current problems plaguing both reviews and policy development processes, where disagreement on basic facts has sometimes led to significant and enduring conflict.

In terms of defining what would constitute a “regular” basis, it would be useful **at minimum** to repeat the survey and/or conduct studies (as appropriate) at least ahead of every review team exercise. Consideration should also be given to running such survey and study exercises to a) provide an ex-ante impact assessment if new measures are considered and b) evaluate new policies once they have been in place for a while.

This recommendation is aligned with ICANN’s Strategic Plan and Mission, which already seek to reflect the strategic priority given to RDS (WHOIS) and which could benefit from a better evidence base to assess whether its own projects and processes meet KPIs.

This recommendation is also within the scope of the RDS-WHOIS2 Review Team’s efforts.

Impact of Recommendations:

These Recommendations would impact ICANN as an organization, creating an administrative burden. They would also contribute to the legitimacy, transparency and accountability of the organization and the ICANN community, by ensuring that a better evidence base is made available to assess the uses and other aspects of the RDS (WHOIS) and further develop RDS (WHOIS) policy.

These recommendations create an essential factual basis for further discussion and analysis.

Feasibility of Recommendation:

Given that the main burden of surveys lies on the respondents, the feasibility of the recommendation will depend on their willingness to participate. However, in light of the importance attributed to the RDS (WHOIS) in recent discussions, this risk seems to be manageable. Conducting surveys and possibly studies would create an administrative and potential financial burden for ICANN as an organization. However, this burden seems manageable in light of the benefits that are to be expected.

Implementation:

The implementation has to be provided by the ICANN Board and ICANN Organization. A successful implementation would consist in a Board resolution within the next six months that is then put into practice by the ICANN Organization, e.g. through annual surveys of relevant user groups as defined by policy development processes.

Priority: High

Level of Consensus: Full Consensus

5.5 Possible Impact of GDPR and Other Applicable Laws

Please see [Section 5.2.1.6.2, "Impact of Temporary Specification"](#).

6 Objective 4: Consumer Trust

6.1 Topic

Subgroup 4 - Consumer Trust was tasked with investigating, analyzing, and drafting recommendations (if needed) to address the following Review objective:

Consistent with ICANN's mission and Bylaws, Section 4.6(e)(ii), the review team will assess the extent to which the implementation of today's WHOIS (the current gTLD RDS) promotes consumer trust in gTLD domain names by

(a) agreeing upon a working definition of "consumer" and "consumer trust" used in this review,

(b) identifying the approach used to determine the extent to which consumer trust needs are met,

(c) identifying high-priority gaps (if any) in meeting those needs, and

(d) recommending specific measurable steps (if any) the team believes are important to fill gaps.

Questions the subgroup attempted to answer when assessing this objective include:

1. Is the term 'trustworthiness' used in past documents the best and only option in determining consumer trust in the gTLD environment as mentioned in the relevant RDS (WHOIS) report(s)?
2. A key high priority gap in understanding the consumer trust environment is the lack of sufficient data, as mentioned in the various RDS (WHOIS) report(s). Question: Are there new developments that need to be considered?
3. Security and transparency play a major role in defining a trustful Internet environment. Did the current RDS (WHOIS) system achieve this?
4. Are regulations like the GDPR increasing consumer trust if major information is missing in the publicly available RDS (WHOIS) data?

6.2 Analysis and Findings

After reviewing available documents, the subgroup finds that the only document which specifically explores the relationship between RDS (WHOIS) and "Consumer Trust" is the WHOIS1 Final Report from May 11, 2012. In this document, the topic of Consumer Trust is mentioned in various key context environments. Excerpts are provided below for subgroup analysis. (See [Section 6.2.1](#), below.)

Furthermore, two other documents are referenced in this section because these documents are significant in judging the relevance of consumer trust in the broader context of ICANN's consumer and public interest value system: see Section 6.3.2, Phase 2 Global Consumer Research Survey, and [Section 6.2.3](#), ICANN Bylaws.

6.2.1 WHOIS1 Final Report

The following excerpts from the WHOIS1 Review Final Report are relevant to the relationship between RDS (WHOIS) and “Consumer Trust.”

Consumer Trust - Principles from Affirmation of Commitments - page 21/22

“Additional principles from the Affirmation further guided the review team work. While each review team member hails from a particular community within or outside of ICANN, the Team agreed to conduct its work pursuant to the broad public interest principles set out the Affirmation, including:

“decisions made related to the global technical coordination of the DNS are made in the public interest and are accountable and transparent” Section 3(a);

should “promote competition, consumer trust, and consumer choice in the DNS marketplace” Section 3(c); and

should “reflect the public interest...and not just the interests of a particular set of stakeholders” (paragraph 4).

Consumer Trust - Definition - page 23 -

“The review team found two potential classes of consumers: • All Internet users, including natural persons, commercial and non-commercial entities, governments and academic entities, and registrants, registries and registrars. • The individuals and organizations who purchase the domain name and provide data for inclusion in the WHOIS. The review team found the definition of Consumer Trust, something the ICANN Community is also exploring in the context of its policy-making processes, to be particularly challenging. Consumer Trust can be narrowly construed to mean the level of trust Internet users have in available WHOIS data; or more broadly as the level of trust consumers have in Internet information and transactions in general. The review team focused its “consumer trust” research on the WHOIS issues, and reached outside the ICANN community to engage third party researchers for multi-country research. This research and its results are covered in chapter 6, with full research material in the appendices.”

Promotion of Consumer Trust - page 9/10 -

“Part of the WHOIS Review Team’s scope was to evaluate the extent to which ICANN’s current WHOIS policy and implementation “promotes consumer trust”. Having struggled with what “consumer” means in the context of WHOIS, and aware of the Affirmation of Commitments’ observation that there are key stakeholders who do not engage in the ICANN environment, the WHOIS Review Team commissioned consumer research. This found that drivers of consumer trust include knowing the entity with whom they are 10 dealing, and being able to find reliable contact information. The vast majority of consumers were unaware of the existence of the WHOIS service, and many struggled to understand the format of WHOIS outputs. This led us to conclude that the current implementation of WHOIS services does not help to build consumer trust, and more could be done to raise awareness of the service, and to improve its user-friendliness”

Recommendation 3 - Outreach

“ICANN should ensure that WHOIS policy issues are accompanied by cross-community outreach, including outreach to the communities outside of ICANN with a specific interest in the issues, and an ongoing program for consumer awareness.”

Consumer Trust and use of WHOIS - page 74 -

“E. Consumer Study Introduction The review team decided to undertake an independent research study to gain a better understanding of consumer trust as it relates to the use of WHOIS. The premise for this decision was based on the AOC, Paragraph 4 which states: “A private coordinating process, the outcomes of which reflect the public interest, is best able to flexibly meet the changing needs of the Internet and of Internet users. ICANN and DOC recognize that there is a group of participants that engage in ICANN’s processes to a greater extent than Internet users generally.”

As a summary of their findings, the WHOIS1 Review found that to a large extent, users are not aware of WHOIS, and those that are generally do not find it useful. They often find it overly complex, with data stored variable with registrars and registries (a distinction they often do not understand) and the frequent use of proxy services and the presence of data inaccuracies minimize usefulness. To the extent that these issues can be addressed at all, they are already covered in this report in the sections on Outreach and Data Accuracy.

6.2.2 Third Party Use

Despite users not using or appreciating RDS (WHOIS), the data repository does significantly impact users, although indirectly. Over the years, the data has been used by those involved with cybersecurity who compile SPAM reduction lists and those who use the data as an aid to building “reputation services” which give a measure of how safe a particular website is. The SPAM-related lists are widely used by ISPs and email providers, and virtually all browsers use reputation services to warn users that a web site may not be safe (such as site that is known to support malware distribution or phishing).

As a result, the vast majority of SPAM messages are caught before they are seen by end users, and web surfing is a far safer experience. That directly benefits the 4 billion Internet users despite virtually none of them understanding RDS (WHOIS) or even knowing that it exists.

6.2.3 Registrants as Users

Registrants are a very special class of users and although their numbers are far less than 4 billion, they are a crucial part of the DNS ecosystem. The largest intersections of registrants and WHOIS are related to awareness, already covered in the section on Outreach, and privacy, addressed in the section on Safeguarding data.

6.3 Problem/Issue

As noted in earlier sections, many issues associated with RDS (WHOIS) and Consumer Trust are already covered in other sections of this report.

6.4 Recommendations

The review team does not believe any recommendations are necessary to address the above-noted issues at this time.

6.5 Possible Impact of GDPR and Other Applicable Laws

Key aspects of Consumer Trust identified will be affected in some way by GDPR and other applicable privacy laws. Privacy will clearly be improved, benefitting registrants. The ability of those addressing cybersecurity issues benefitting from the previous public access will clearly be impacted, although we do not yet understand the extent to which that will impact users. GDPR is just one factor in an international legal RDS (WHOIS) environment that is increasingly being determined by a complex web of legal and regulatory factors that - to some degree - are impacted by Consumer issues.

7 Objective 5: Safeguarding Registrant Data

7.1 Topic

Subgroup 5 - Safeguarding Registrant Data was tasked with investigating, analyzing, and drafting recommendations (if needed) to address the following Review objective:

Consistent with ICANN's mission and Bylaws, Section 4.6(e)(ii), the review team will assess the extent to which the implementation of today's WHOIS (the current gTLD RDS) safeguards registrant data by (a) identifying the lifecycle of registrant data, (b) determining if/how data is safeguarded in each phase of that lifecycle, (c) identifying high-priority gaps (if any) in safeguarding registrant data, and (d) recommending specific measurable steps (if any) the team believes are important to fill gaps.

To accomplish this objective, the subgroup considered the above objective and concluded:

- Items a), c) and d) are being covered in both the ongoing Next Generation RDS Policy Development Process (PDP)²⁷ and ICANN organization efforts to comply with data protection laws - specifically, the GDPR.
- For Item b), currently²⁸ all RDS (WHOIS) data is publicly available. Although this will surely change with regard to RDS (WHOIS) data associated with natural persons (and likely other groups) as a result of ongoing GDPR compliance efforts, currently there is no protection for publicly viewing that data.
- However, protection against RDS (WHOIS) (and other) data loss due to Registrar/Registry failure or de-accreditation is required today in the form of Escrow. The subgroup agreed to consider escrow procedures and associated data safeguards used by those who relay and store escrowed data (i.e., Escrow Providers, Registrars and Registries).

7.2 Analysis and Findings

For the purposes of this review, "Registrant Data" is defined as all of the data provided by a registrant to fulfil the ICANN RDS (WHOIS) obligations.

The overall findings were:

a) Currently data is public and therefore there is no effort made to "protect" such registrant data from viewing. That will change as RDS (WHOIS) policies adapt to GDPR and other legislation, but the details are not known now, and presumably once all of that is complete, RDS (WHOIS) policies will be in compliance with appropriate regulations. The end result is that registrant data, at least in some jurisdiction, will be significantly better protected from access than it is today.

²⁷ Cancelled towards the end of the review team's mandate.

²⁸ At the time this analysis was done.

b) Safeguarded not only means to protect from viewing, but to ensure that the data is not lost in the case of a registrar/registry failure, and not unknowingly changed. This includes while the data is held by registrar/registries and by escrow agents.

c) ICANN's agreements with Registrars, Registries and Escrow providers commit them to varying levels of protecting data in their custody and reporting breaches.

The 2013 RAA section 3.7.7.8 requires registrars to take "reasonable precautions" in protecting data and section 3.20 requires them to report data breaches to ICANN.

The standard Registry agreement section 2.18 requires registries to take "reasonable steps" to protect data but does not require that ICANN be notified of data breaches.

The agreement with Escrow providers section 4.1.12 requires that providers use commercially reasonable efforts and industry standard safeguards. It does not require that ICANN be informed of data breaches.

Many local laws and regulations require specific standards in data protection and breach notification, but details may vary, and in the case of a breach, it is not clear whether it is ICANN, a data protection authority or the registrant that may need to be notified.

7.3 Problem/Issue

Safeguarding data includes ensuring that it cannot be accessed or changed except as duly authorized.

Traditionally, all RDS (WHOIS) data is public. Under GDPR and similar legislation, some or all of that data may no longer be collected or publicly available. Exactly what data may be subject to these new rules is under discussion elsewhere and was not therefore addressed by the RDS-WHOIS2 Review Team. Registries and registrars are not explicitly required to use commercially reasonable and industry standard safeguards nor are some parties required to notify ICANN in the event that a breach is discovered.

7.4 Recommendations

Recommendation SG.1

The ICANN Board should require that the ICANN org, in consultation with data security and privacy expert(s), ensure that all contracts with contracted parties (to include Privacy/Proxy services when such contracts exist) include uniform and strong requirements for the protection of registrant data and for ICANN to be notified in the event of any data breach. The data security expert(s) should also consider and advise on what level or magnitude of breach warrants such notification.

In carrying out this review, the data security and privacy expert(s) should consider to what extent GDPR regulations, which many but not all ICANN contracted parties are subject to, could or should be used as a basis for ICANN requirements. The ICANN Board should initiate action intended to effect such changes.

The ICANN Board should consider whether and to what extent notifications of breaches that it receives should be publicly disclosed.

Findings

ICANN's agreements with contracted parties have inconsistent requirements regarding the protection of registrant data, and in several cases, no requirement that it be notified in the case of data breach.

Rationale:

If ICANN has a requirement to safeguard registrant data, as Articles 4.6(e)(ii) and 4.6(e)(iii) imply, then ICANN has an obligation to ensure that all of its contracted parties act accordingly.

Impact of Recommendation:

This recommendation will impact data security and potentially registrants whose data is collected in conjunction with gTLD domain registrations. By helping to ensure that such data is not altered inappropriately, their domain names and associated assets are protected. The recommendation could impose additional contractual requirements on registrars and registries.

If this recommendation is not addressed, ICANN Contractual Compliance has no ability to either audit that reasonable efforts are being used to protect data, nor to be aware of serious problems with how its contracted parties are protecting such data.

Feasibility of Recommendation:

The RDS-WHOIS2 Review Team believes that this recommendation is both feasible and necessary.

Implementation:

Implementation should ensure uniform and appropriate protection of registrant data by all contracted parties along with due notification of ICANN in the event of breaches and the ability of ICANN Contractual Compliance to audit such actions and take action in the case of non-compliance. The review team knows of no current effort to enact such change, but it should be completed within one year of this recommendation being accepted.

Priority: Medium.

Level of Consensus: Full Consensus.

7.5 Possible impact of GDPR and other applicable laws

GDPR requires industry standards to protect data and notification of breach, although it is not clear whether ICANN would be one of the notified parties in all cases. It is unlikely that implementation of this recommendation would cause any non-compliance with GDPR.

8 Objective 6: ICANN Contractual Compliance Actions, Structure and Processes

8.1 Topic

The following review objective was examined by the WHOIS1 recommendation 4 Subgroup:

Consistent with ICANN's mission to ensure the stable and secure operation of the Internet's unique identifier systems by enforcing policies, procedures and principles associated with registry and registrar obligations to maintain and provide access to accurate and up-to-date information about registered names and name servers, the review team will (to the extent that this is not already covered in prior RT recommendations), (a) assess the effectiveness and transparency of ICANN enforcement of existing policy relating to WHOIS (RDS) through Contractual Compliance actions, structure and processes, including consistency of enforcement actions and availability of related data, (b) identifying high-priority procedural or data gaps (if any), and (c) recommending specific measurable steps (if any) the team believes are important to fill gaps.

To assess this objective, this subgroup reviewed ICANN Contractual Compliance reports initiated since 2012 on policies that existed prior to 2012 and after for the following:

- Effectiveness
- Transparency
- Any new compliance issues

8.2 Analysis & Findings

The following subsections present the subgroup's issues assessing ICANN's effectiveness and transparency and their enforcement of existing policy relating to WHOIS (RDS) through ICANN Contractual Compliance. Their findings and analysis for each can be found below.

8.2.1 WHOIS Accuracy Policy Enforcement

The 2013 Registrar Accreditation Agreement (RAA) requires ICANN-accredited registrars to comply with the WHOIS Accuracy Program Specification. There are several avenues in which the ICANN Contractual Compliance team receives reports of inaccurate data in the WHOIS:

1. WHOIS Accuracy Reporting System (ARS)
2. Single WHOIS Inaccuracy report tool
3. Bulk Submission WHOIS Inaccuracy complaint tool
4. Proactive Inaccuracy Trend Analysis

a) WHOIS ARS Background and Goals

The WHOIS ARS project was created both in response to recommendations compiled and delivered by the 2012 WHOIS Review Team, under the Affirmation of Commitments (AoC),

as well as to address GAC concerns on WHOIS accuracy. ICANN committed to proactively identify potentially inaccurate gTLD WHOIS contact data and forward this information to gTLD Registrars for investigation and follow-up.

b) WHOIS ARS Phases

The ARS is divided into three phases based on the types of validation identified in SAC058:

- Phase 1: Syntax Accuracy
- Phase 2: Syntax + Operability Accuracy
- Phase 3: Syntax + Operability + Identity (TBD; requires further consultation with the community as to if and how this phase would be implemented)

c) ARS Accuracy Testing Methods

Syntax and operability accuracy testing were designed to assess the contact information of a WHOIS record by comparing it to the applicable contractual requirements of the RAA.

- Syntax testing assessed the format of a record (e.g., does the email address contain an “@” symbol?)
- Operability testing assessed the functionality of the information in a record (e.g., did the email not get bounced back?).

The resulting data were analyzed, and produced statistics of syntax and operability accuracy for WHOIS contact information across subgroups such as New gTLDs or Prior gTLDs, Region, and RAA type (i.e., 2009 RAA or [2013 RAA](#))

d) ARS Sample Design

A two-stage sampling method was used on the WHOIS ARS project to provide a large enough sample to reliably estimate subgroups of interest, such as ICANN region, New gTLD or Prior gTLD, and RAA type. Two samples are prepared at the beginning of each report cycle:

- An initial sample of 100,000-200,000 WHOIS records
- A sub-sample of the initial sample of 10,000-12,000 WHOIS records, which is used for accuracy testing

ICANN Contractual Compliance’s participation in the WHOIS Accuracy Reporting System (ARS) is limited to providing guidance for RAA obligations regarding syntax and accuracy, and processing complaints generated by the WHOIS ARS. The WHOIS ARS is managed by ICANN’s GDD.

e) ARS report cycle from April 2018

The ARS sample of 12,000 domain names are reviewed for RDS (WHOIS) accuracy and when an inaccuracy is found a ticket is created. The data is sent via a file directly to the compliance ticketing system and uploaded in batches of 200 a day. The RDS (WHOIS) records are tagged with a reporter identifier "WHOIS ARS" for tracking and reporting purposes. Of the sample of the April 2018 ARS report cycle domain names, over one third (4,639) required a ticket to be created. More than one third of those tickets (1,711) were closed before a 1st notice was sent out.

Metrics for April 2018 can be found here: <https://whois.icann.org/en/whoisars-contractual-compliance-metrics>.

Analysis: These metrics show that over 50% of the tickets created in this process are closed prior to any action. According to the chart provided 50.9% of the data in the RDS (WHOIS)

records changed between the time it was reviewed as part of the sample and reviewed a second time when the ticket was processed. It is approximately four-six months between when the ARS sampling begins and inaccurate records are provided to ICANN Contractual Compliance to research and it may take several months for Contractual Compliance to process the tickets. This appears to be a high percentage of change in an RDS (WHOIS) record that historically does not see much change. If you extrapolated this data to all the RDS (WHOIS) records in gTLDs as a whole that could mean that almost 50% of records are modified in a short period of time. Or ARS criteria of possible inaccuracy is not the same as the ICANN Contractual Compliance team's criteria.

It is also interesting that 81.6% of tickets are closed after the 1st notice due to the registration being cancelled or suspended. This seems to indicate that most inaccurate data entered into the RDS (WHOIS) record is done so intentionally, otherwise the registrant would respond and update the information to accurate information to maintain the domain name registration. Only 10.9% of the tickets were closed after the 1st notice due to the registrant updating and correcting their registrant data.

Based on this analysis, the subgroup identified the following Problems/Issues:

- The RDS (WHOIS) record still exists with suspended domain names and the registrar can choose to unsuspend at any moment. The inaccuracy issue remains and should be addressed,
- There are many reasons a domain name could be suspended that does not relate to an Inaccuracy Reports most common for abusive activity. The inaccurate data still is visible in the WHOIS, and this can cause many issues for the individual or entity that have rights to the data. If this data is displayed at a future date with only a suspended designation this does not accurately represent the history of the domain name,
- A suspended domain name should not be un-suspended by registrar without verification of registrant data.

To address these issues, the subgroup proposes the following recommendation (further detailed in Section 8.5, Recommendation CC.1):

The ICANN Board should initiate action intended to ensure that gTLD domain names suspended due to sustained incorrect WHOIS contact data should be treated as follows:

- (1) The WHOIS record should include a notation that the domain name is suspended due to incorrect data,
- (2) Domain names with this notation should not be unsuspended without correcting the data.

f) Grandfathered domain names

In 2013, there were 18 existing legacy TLDs and 146 new gTLDs added for a total of 164 gTLDs. About 30% of the domain names sampled by the 6th cycle WHOIS ARS program were obligated to meet only the WHOIS requirements of the 2009 RAA based on when the domain itself was registered. The report refers to these domain names as "grandfathered domains". Under the 2009 RAA, the collection and display of registrant email address, postal address or phone number and the validation or verification of certain data elements were not required. Grandfathered domain names cease to be considered as such upon transfer to a registrar under the 2013 RAA and/or upon making an update to the registrant name or organization information. As such, the ARS project has recorded a steady decrease of such grandfathered

domain names from cycle to cycle from 63.7% in June 2015 to 30.3% in January 2018. The decrease in percentage is also impacted by the number of new domain name registrations.

Analysis: Assuming domain names in the ARS study fall under the definition of grandfathered domains, we can then extrapolate this to 30% of all domain names registered before 2013 that may not have complete registrant data collected, displayed, verified or validated. According to the GDD this could include up to 180,000,000 domain name registrations.

While the number of grandfathered domains continues to shrink with deletions, transfers and updates, this still constitutes a substantial number of domain name registrations. While registrars are not required to apply the 2013 RAA requirements to grandfathered domain names, they may choose to do so for convenience sake. This may result in domain name registrations that would be considered grandfathered registrations by the ARS and the GDD but are in fact already fully compliant with the 2013 RAA requirements.

GDD has provided additional clarification to our question about how many domain names actually do not include the 2013 RAA required information in the registrant field.

Their response is below:

"It's important to note that if a Grandfathered record provides an email or telephone number, WHOIS ARS will assess those fields for accuracy. While the WHOIS ARS doesn't include % of missing Registrant Email and Telephone numbers for grandfathered registrations vs. non-grandfathered registrations; the overall missing counts of Registrant email and telephone numbers based on our subsample seem fairly low.

In the latest ARS report the number of missing registrant email addresses and phone numbers are very low. This does not completely address the concern of the review team that all domain name registrations must adhere to the same data collection requirements."

Based on this analysis, the subgroup identified the following Problems/Issues:

Current RDS (WHOIS) policies do not apply equally to all gTLD domain name registrations. A transition mechanism has been incorporated into the RAA with the requirements becoming applicable on transfers and updates. However it may be desirable to set an end date for the transition process to ensure equivalent data quality over all registrations. While current trends suggest a steady decrease in the number of grandfathered domain names, it is not possible that they may continue to stay in the 30% range for many years, or at best decrease very slowly unless the 2013 RAA requirements and policies are made binding on all the domain name registrations irrespective of when they were registered.

The review team considered issuing a recommendation that if the number of grandfathered domains does not drop sufficiently fast, that action be taken to ensure that all domain registrations include registrant contact information within 12 months. Ultimately the team decided that since these records did include an Administrative Contact, that this was sufficient. However, since the EPDP is considering eliminating the Administrative Contact fields, we could end up with registrations with no contact information at all. A recommendation (CC.2) is being made to cover that possibility.

g) Regional RDS (WHOIS) Inaccuracy Complaints

Data is provided by region for submitted inaccuracy complaints at the following link: <https://features.icann.org/compliance/prevention-stats>

In reviewing the information less than 1% of the complaints submitted are from the African region and less than 5% of the complaints submitted are from the Latin America/Caribbean region.

Based on this analysis, the subgroup identified the following Problems/Issues:

It appears that there are regions of the world in which few inaccuracy complaints are submitted. In the data provided the underserved regions, Africa and Latin America, are underrepresented in the number of submissions.

This is being addressed through the recommendation on Outreach – R3.2.

8.2.2 Single RDS (WHOIS) Inaccuracy Report Tool

Anyone can report inaccurate RDS (WHOIS) data to the ICANN Contractual Compliance team by using the [reporting tool on the ICANN.org website](#):

When ICANN receives complaints or otherwise has information that suggests these requirements are not being fulfilled by a registrar, ICANN Contractual Compliance will review the registrar's compliance through a WHOIS Inaccuracy complaint. ICANN makes its compliance determination by conducting the following steps during its reviews:

- 1. Review the complaint to determine whether it is in scope of the requirements.*
- 2. Review what RDS (WHOIS) information the reporter claims to be inaccurate.*
 - Follow up with reporter if unclear on the Inaccuracy Reported and request additional information. Such information may include a request for evidence of the alleged inaccuracy (e.g., an email rejection notice or returned postal mail) or further explanation regarding why the data is invalid (e.g., explanation to support an allegation that the contact information does not belong to the listed contact in the RDS (WHOIS)). Reporters are requested to respond within 5 business days. The complaint is closed absent receipt of adequate information for processing.*
- 3. Confirm the RDS (WHOIS) information is available from the registrar by querying the domain name(s).*
- 4. Confirm the RDS (WHOIS) format per Section 1.4.2 of the Registration Data Directory Service (WHOIS) Specification also known as RDDS.*
- 5. Confirm that all required RDS (WHOIS) fields have values present.*
- 6. Confirm that the RDS (WHOIS) information has no glaring inaccuracies on its face.*
- 7. Review the reporter's complaint history in the compliance ticketing system to avoid processing of duplicative complaints and obtain additional information from other complaints, as applicable.*
- 8. Once above checks are complete, ICANN will commence the informal resolution process by sending a 1st notice to the sponsoring registrar. WHOIS Inaccuracy complaints allow the registrar a 15-5-5 business day timeline to respond during the Informal Resolution period for the 1st, 2nd and 3rd notices, respectively.*
- 9. To demonstrate compliance, a 2013 RAA registrar must:*

- *Contact the Registered Name Holder (RNH) 1*
 - *Verify the RNH email address with an affirmative response*
 - *Provide the results of the registrar's investigation*
 - *Validate the format of the RDS (WHOIS) information*
 - *Suspend domain within 15 days if unable to verify*
10. *When the registrar demonstrates compliance:*
- *ICANN assigns a resolution code to the complaint detailing the outcome of the review*
 - *ICANN sends a closure communication to the registrar and the reporter*

ICANN Contractual Compliance recently began reporting on closure reasons by complaint type, including those for WHOIS Inaccuracy complaints. These metrics are reported on a quarterly basis and the first quarter of 2018's report is found at <https://features.icann.org/compliance/dashboard/2018/q1/registrar-resolved-codes>.

These closure codes are very helpful in understanding the data provided.

Based on this analysis, the subgroup identified the following Problems/Issues:

In reviewing the additional information in the dashboard report it appears that many Inaccuracy Reports are not valid reports. The subgroup asked what would be helpful for the ICANN Contractual Compliance team when reports are submitted.

Additional evidence in WHOIS Inaccuracy complaints that compliance might find useful if the reporter provides are listed below:

- Evidence of returned mail sent to the postal address listed in the RDS (WHOIS) information
- Evidence of an undeliverable email notification for email sent to the email address listed in the RDS (WHOIS) information
- Evidence or explanation of why the telephone number listed in the public RDS (WHOIS) is not accurate
- Evidence or explanation of why the person or entity listed in the public RDS (WHOIS) does not exist or is not the registered name holder (RNH)

To address this issue, the subgroup proposes that ICANN conduct additional outreach and provide education on how to file a report and what information is critical. This proposal is incorporated within Recommendation R3.2, further detailed in [Section 3.4.4](#), Outreach Recommendations.

8.2.3 Bulk Submission RDS (WHOIS) Inaccuracy Complaint Tool

ICANN Contractual Compliance provides a mechanism for bulk WHOIS Inaccuracy Reporting, which allows a user to submit multiple complaints through a single file upload. Each user can submit up to 300 total complaints per week. The complaints are processed in the same method and queue for WHOIS inaccuracy complaints. Bulk system users must agree to mandatory terms of use, and their complaint quality is monitored by ICANN to ensure submission of complaints are within scope of the RAA and RDS (WHOIS) requirements. There are currently ~10 approved bulk system users, and within the past six months, three were active users.

Analysis: This tool did not exist until November 2013 and only 10 users are approved to use the tool. Last year only 3 users actually used the tool to report RDS (WHOIS) records in bulk.

Entities or individuals must contact the ICANN Contractual Compliance team to request access to this tool. After a brief review, access is provided.

Based on this analysis, the subgroup identified the following Problems/Issues:

Users who might benefit from the Bulk Submission tool may not be aware of it.

The review team considered making a recommendation that the Bulk Submission Tool be better publicized but ultimately decided that this should be handled less formally.

8.2.4 Across Field Validation of RDS (WHOIS) Information

In February 2018, ICANN completed a Request for Information (RFI) on Across Field Validation, defined as follows:

“The 2013 RAA requires registrars to perform across-field validation of Addresses (e.g., the house number exists on the street, street exists in the city, city exists in the province and the post code is correct); however, this requirement is not currently enforced and will only become effective 6 months after ICANN and a working group of registrar volunteers mutually agree that across-field validation is technically and commercially feasible.”

Nine (9) RFI responses were received. These responses contained updated information regarding current services available to complete across field address validation and verification.

- On 04 May 2018, the Registrar Stakeholder Group requested ICANN organization to pause the IRT’s work, pending the creation of a permanent policy to be created, possibly via an expedited process, following the Board’s adoption of the Temporary Specification to comply with GDPR. The Coalition for Online Accountability opposed this request in an 11 May letter,
- ICANN organization distributed a response on 18 June 2018, noting that there are no plans to pause the Across Field Validation work,
- The Registrar Stakeholder Group is reviewing the criteria from ICANN organization that will be used to determine whether any solution exists in the marketplace that is technically and commercially viable.

Based on this analysis, the subgroup identified the following Problems/Issues: No new issues identified at this time. The community is continuing to work on resolving any outstanding issues.

To address this issue, the subgroup proposes the following:

A recommendation may not be appropriate at this time.

8.2.5 Policy Metrics for Monitoring and Enforcement

The Anything New subgroup reviewed all new policies created since the WHOIS1 Review Team. At least one of these policies, The Registry Registration Data Directory Services Consistent Labeling and Display Policy (CLDP), had no statistics that we could gather from

the ICANN Contractual Compliance team. The subgroup specifically asked the compliance team about CLDP.

The Registry Registration Data Directory Services Consistent Labeling and Display Policy is a policy imposed on registry operators, with the exception of .com, .jobs and .net. The policy requires registry operators to include in the registry RDS (WHOIS) output the Registrar Abuse Contact Email and Registrar Abuse Contact Phone fields, among other things. The registrar compliance rate with this registry operator requirement is not something that ICANN has attempted to measure. Additionally, measuring the cause of a registry operator's noncompliance may be difficult, as it is not obvious from the registry operator's RDS (WHOIS) output. For example, the registry operator's noncompliance may be entirely within its control (e.g., it has obtained the registrar's abuse contact information but is not displaying it) or, in part, due to the registrar's (in)action (e.g., the registrar has not yet provided the registry operator with its abuse contact information".

Based on this analysis, the subgroup identified the following Problems/Issues:

The Consistent Labelling and Display Policy is included in the 2013 RAA which requires compliance. There may be more policies that are implemented but not audited or tracked. If the community recognizes the need for a policy to be created, work on the issue should be done through the Policy Development Process and resource allocation will be needed to implement the policy it is appropriate that some level of compliance should be required. Metrics collected in auditing and tracking will assist in a review of the effectiveness of an implemented policy.

To evaluate effectiveness of a policy the following criteria is essential to review:

1. Identify issue,
2. Frame issue – determine goal of policy, ability to implement the policy and actual results of the policy,
3. Audit outcomes and impacts - Measurable results short term, intermediate and long-term impacts:
 - a. Sampling
 - b. Metrics
 - c. Monitoring
 - d. Trend analysis
 - e. Determine information gaps
4. Determine whether changes in outcomes are a result of the policy,
5. Develop recommendations and good practices

Each policy created and implemented should be evaluated with similar criteria.

To address this issue, the subgroup proposes the following recommendation (further detailed in Section 8.4, Recommendation CC.4):

The ICANN Board should recommend the GNSO adopt a risk-based approach to incorporating requirements for measurement, auditing, tracking, reporting and enforcement in all new RDS policies.

8.2.6 Resource Implications of GDPR

Although not part of the initial project, the review team noted that under the GDPR Temporary Specification, Contractual Compliance no longer has direct access to RDS (WHOIS) data and must make explicit requests for such data from registrars or registries. That adds additional steps and thus workload to many of their tasks. If this continues with the policy ultimately

recommended by the EPDP, it would have serious implications on the long term resourcing of Contractual Compliance.

8.3 Problem/Issue

Issues related to ICANN's effectiveness and transparency regarding enforcement of existing RDS (WHOIS) policy through Contractual Compliance actions, structure and processes are described in [Section 8.2](#).

8.4 Recommendations

Recommendations are provided here to address the problems/issues identified above.

Recommendation CC.1

The ICANN Board should initiate action intended to ensure that gTLD domain names suspended due to RDS (WHOIS) contact data which the registrar knows to be incorrect, and that remains incorrect until the registration is due for deletion, should be treated as follows:

- (1) The RDS (WHOIS) record should include a notation that the domain name is suspended due to incorrect data; and
- (2) Domain names with this notation should not be unsuspended without correcting the data.

Findings:

As detailed in [Section 8.2.1 \(e\)](#), currently, when a domain name is suspended for inaccurate information the false information remains in the record. The information in the record may belong to another person or entity so the inaccurate information remaining in the record continues the act of identity theft. At the very least, this remaining information is misleading.

Rationale:

Ensure that inaccurate information does not remain in the record and if identity theft has occurred the person or entity doesn't continue to be impacted. Currently, a record's inaccurate information can cause confusion and harm, especially if it is an act of identity theft. Inaccurate identity and contact information is often used in the registration data for registrations that are perpetrating DNS abuse. Eliminating the use of inaccurate data in any suspended domain name will add to the security and stability of the DNS. Inaccurate information would no longer be found lingering in the registrant data. This would not be difficult to implement a new policy that registrar's would follow when suspending a domain name.

Impact of Recommendation:

Successful implementation would result in new statuses in the domain name registration record that indicated the domain name was suspended due to inaccurate information. The inaccurate information would be redacted. No related work is currently underway. This recommendation should result in a PDP created immediately upon approval by Board.

If this recommendation is not implemented, inaccurate registrant data will continue to be displayed, authorized for inclusion in registrant data and continue to contribute to identity theft. This recommendation is aligned with ICANN's Strategic Plan and Mission and is within the scope of the review team.

Feasibility of Recommendation:

Agreed upon language could be added into the RDS (WHOIS) record to clearly indicate status of the domain name.

Implementation:

This implementation would involve the community to create the policy, ICANN organization to implement it, and the ICANN Contractual Compliance team to enforce it.

Priority: High.

Level of Consensus: Full Consensus.

Recommendation CC.2

The ICANN Board should initiate action intended to ensure that all gTLD domain name registration directory entries contain at least one full set of either registrant or admin contact details comparable to those required for new registrations under the 2013 RAA (or any subsequent version thereof) or applicable policies.

Findings:

As detailed in [Section 8.2.1 \(f\)](#), in the Accuracy Reporting System (ARS) report categorizes the domain name registrations that are obligated to meet only 2009 RAA RDS (WHOIS) requirements. The report refers to these domain names as grandfathered domains. These are treated separately from those that must adhere to the 2013 RAA.

“The only difference between 2013 and 2009 RAA operability requirements is that the 2009 RAA requirements do not require that information be present in the registrant email or telephone number fields, while 2013 RAA require the presence of information in those fields.”

The report estimates that of the 12,000 domain names reviewed for compliance 30% (extrapolating to the entire gTLD space, over 180,000,000 domain name registrations) were 2009 grandfathered domain names and do not have to meet the same requirements as those registered under the 2013 RAA. Considering that the only way these domain names would have to comply with the 2013 RAA is if they were deleted and registered again or transferred. This does not seem likely since early registrations are often the most valuable. They are often sold but not deleted.

Rationale:

Currently, the subgroup has not found information to determine how many domain name registrations do not contain registrant’s email address or telephone number. It may not be an issue if the registrants have proactively provided or registrars have required the information without the requirement to do so. In the light of the possibility that some contact fields may be eliminated or significantly reduced in scope, a concrete risk exists with regard to domain name registrations that do not meet the requirements of the 2013 RAA (“grandfathered domain names”) no longer having one complete set of contact details associated with the registrant or his representative (registrant or admin). In such cases, action should be undertaken to ensure that the registrant or the registrant’s representative remain contactable. This is aligned with the ICANN’s strategic plan and mission and it will add to the security and stability of the DNS.

Impact of Recommendation:

Registrars, registries and registrants will be impacted by this recommendation. The registrant would have to provide this information upon renewal of the domain name. Registrars will have to collect all the same information for all domain name registrations no matter when it was registered. This may require collecting registrant information from the existing grandfathered registrations that they manage. The registry would be required to collect this information from the registrar. The ICANN Contractual Compliance Team will be required to review and analyze compliance with this new policy. If this recommendation is implemented it will resolve the issue

of two different standards for collection of registrant data depending on when the domain was registered. If it is not implemented two standards for registrant data will continue to exist. This recommendation is aligned with ICANN's Strategic Plan and Mission and is within the scope of the review team.

Feasibility of Recommendation:

This recommendation would require a review of domain names registered before 2013 and most likely a modification of registrar terms of service. It would require the registrar to collect the information from the registrants. This could be done on renewal of the domain name.

Implementation:

This would require the Community to develop a new policy, and ICANN organization to implement, and the ICANN Contractual Compliance team to enforce. Successful implementation would result in 100% of domain name registrations complying with the same policy on registrant data. There is no current work underway on a similar policy. This assessment and possible creation of a new policy should begin immediately upon approval by the ICANN Board. Target date for completion: Four calendar years or next renewal date, whichever is longer.

Priority: Medium.

Level of Consensus: Full Consensus.

Recommendation CC.3

The ICANN Board should take steps to ensure that ICANN Contractual Compliance is adequately resourced factoring in any increase in workload due to additional work required due to compliance with GDPR or other legislation/regulation.

Findings:

The GDPR Temporary Specification no longer allows Contractual Compliance to view the WHOIS (RDS) data and must request such data from contracted parties. This markedly increases the number of steps and ICANN organization staff resources needed to address many compliance issues. It is currently unknown if this will continue once the policy recommended by the EPDP is implemented.

Rationale:

If the final GDPR-driven policy continues to restrict Contractual Compliance access to RDS (WHOIS) data, to maintain their pre-Temporary Specification workload, additional ICANN organization staff resources may be needed.

Impact of Recommendation:

There may be budget implications if additional ICANN organization staff are required to maintain previous workload levels.

Feasibility of Recommendation:

There may be budget implications if additional ICANN organization staff are required to maintain previous workload levels.

Implementation:

If workload increases over pre-Temporary Specification levels and staffing is not addressed, Contractual Compliance may not be able to fulfil their mandate.

Priority: High.

Level of Consensus: Full Consensus.

Recommendation CC.4

The ICANN Board should recommend the GNSO adopt a risk-based approach to incorporating requirements for measurement, auditing, tracking, reporting and enforcement in all new RDS policies.

Findings:

As detailed in [Section 8.2.5](#), in reviewing all new policies created since the WHOIS1 Review Team at least one was identified as not being enforced by the ICANN Contractual Compliance team. The impact of a policy can be measured with good statistics. If policy cannot be measured it is not a good policy.

Rationale:

Risk-based actions means that to the extent possible, risk-assessment is performed before action is taken. This new practice would ensure that all policies are measured, audited, tracked, reported and enforced by the ICANN Contractual Compliance team. The community while in the policy development process should ensure that the policy is developed with compliance in mind. One policy, the Consistent Labelling and Display Policy, was identified as not being monitored or enforced. Without statistics on this policy available it is impossible to understand the level of compliance with this policy. Policies not enforced risk being less effective. A risk-based enforcement strategy is critical when voluntary compliance is not sufficient. A strategy would include a rigorous and systematic approach to identifying and responding to risk. It is necessary to identify and assess the risk associated with non-compliance with policies or contractual obligations, based on this risk assessment.

Impact of Recommendation:

Registrars and registries will be impacted by this recommendation, as they will have to review compliance of this policy and provide information to the ICANN Contractual Compliance team and ensure that they are implementing the recommendation. The Compliance team will have to collect, analyze and enforce each policy as required. This will add to security and transparency. The community should develop policies with enforcement in mind. Successful implementation of this policy would result in knowledge of compliance with all policies. The review team requests this recommendation to be implemented immediately upon approval of Board.

If this recommendation is not implemented, the current state of not knowing if the policies created by the community are implemented will remain, making the impact on the system as expected by the PDP process that created the policy difficult to assess. This recommendation is aligned with ICANN's Strategic Plan and Mission and is within the scope of the review team.

Feasibility of Recommendation:

It is feasible to enforce on all policies, as it could be included in any of the ongoing audits already performed by the ICANN Contractual Compliance team, including (but not limited to) registrar audits, Inaccuracy reports, or ARS results.

Implementation:

If implemented, all policies will be evaluated for impact and effectiveness. If not implemented the community will not know if a policy is effective or has had unexpected consequences.

The Community and ICANN organization would be responsible for this implementation. The review team would expect a PDP to be created immediately upon approval by the ICANN Board.

Priority: Low.

Level of Consensus: Full Consensus.

8.5 Possible impact of GDPR and other applicable laws

See [section 8.2.6 on Resource Implications of GDPR](#).

9 ICANN Bylaws

9.1 Topic

This section addresses the following review objective:

The review team has considered ICANN's Bylaws, Section 4.6(a)(v): "Each review team may recommend that the applicable type of review should no longer be conducted or should be amended." Consistent with this section, the review team will (a) identify any portions of Section 4.6(e), Registration Directory Service Review, which the team believes should be changed, added or removed, and (b) include any recommended amendments to Section 4.6(e), along with rationale for those amendments, in its review report.

9.2 Analysis and Findings

In determining the scope of the present RDS-WHOIS2 Review (see Appendix B, Terms of Reference), Section 4.6(e)(iii) of the ICANN Bylaws was considered:

"The review team for the Directory Service Review ("Directory Service Review Team") will consider the Organisation for Economic Co-operation and Development ("OECD") Guidelines on the Protection of Privacy and Transborder Flows of Personal Data as defined by the OECD in 1980 and amended in 2013 and as may be amended from time to time."

The RDS-WHOIS2 Review Team decided that this section of the Bylaws-mandated scope should be omitted from the topics it planned to review further. This was based on the complete lack of consideration of such guidelines in the then-current RDS (WHOIS) implementation, and that, at the time, an ongoing Policy Development Process was considering whether to incorporate such guidelines on its recommendations.

9.3 Problem/Issue

Since that decision, the discussion of RDS (WHOIS) in ICANN has evolved and focus has turned to GDPR, its impact and influence on the current RDS (WHOIS), and RDS (WHOIS) developments.

Given:

- the focus on GDPR and the ongoing efforts to address this effectively in the short to medium term;
- the fact the OECD Guidelines have been made less relevant by the actual regulations and laws in Europe and other jurisdictions; and
- the more generalized requirement for the RDS (WHOIS) Specific Review to consider safeguards for protecting registration data;

the review team believes that the reference to "safeguarding registrant data" in section 4.6(e)(ii) and entire section 4.6(e)(iii) of the ICANN Bylaws should be replaced with a more

generic requirement to review how the RDS (WHOIS) ensures protection of registrant data satisfying applicable data protection law and following best practice.

9.4 Recommendations

Recommendation BY.1

The ICANN Board should take action to extend the reference to “safeguarding registrant data” in ICANN Bylaws section 4.6(e)(ii) and replace section 4.6(e)(iii) of the ICANN Bylaws (which refers to the OECD Guidelines) with a more generic requirement for RDS (WHOIS) Review Teams to assess how well RDS (WHOIS) policy and practice addresses applicable data protection and cross border data transfer regulations, laws and best practices.

Findings:

Refer to [Analysis and Findings section](#).

Rationale:

Refer to [Problem/Issue section](#).

Impact of Recommendation:

This recommendation is aligned with the ICANN Bylaws and scope of this review. The impact of this recommendation will be to simplify the work of future Directory Service Review Teams. If this recommendation is not addressed, future Directory Service Review Teams will have to repeat the analysis conducted by the RDS-WHOIS2 Review Team.

Feasibility of Recommendation:

The RDS-WHOIS2 Review Team believes that this recommendation is feasible.

Implementation:

The RDS-WHOIS2 Review Team believes that this recommendation can be carried out by the ICANN Community, in accordance with the Bylaws Section 4.6(a)(v) and following the process in Section 25.1.

Priority: Medium.

Level of Consensus: Full Consensus.

Statement of the Non-Commercial Stakeholder Group Member of the RDS Review Team

I appreciate the opportunity to work on this very collegial and cordial review team on behalf of the Non-Commercial Stakeholder Group, and offer this comment to highlight a number of issues which are not prominent in the final report.

The RDS-WHOIS2 Review Team has worked very hard and done considerable research, in order to comment upon the work done by the first WHOIS Review Team, investigating whether their recommendations had indeed been carried out. This activity has been taking place during a period of change in attitude towards data protection law and its impact on ICANN, precipitated by a growing awareness, notably on the part of the contracted parties who are principal custodians of personal data, that the General Data Protection Regulation has much more potential enforcement and monetary damages than previous data protection law to which they had been subject. As a result, many of the basic principles upon which previous work had been built, including those principles found in the Registrars Accreditation Agreement which set out data processing requirements, the Thick Whois policy, the WHOIS Conflicts with law policy, and the entire data accuracy program, required a fundamental reexamination as to whether they continued to be fit for purpose under new data protection regimes. Just as ICANN and the tasks it undertakes have grown more mature and complex with the expansion of the Internet, so has the realization that data protection law is no mere fig leaf, but an essential ingredient of an information society that embraces democratic and human rights values.

So the review team was caught in a difficult situation, forced to add a caveat to every issue discussed, that there could be GDPR impacts. ICANN recommended via a public comment issued in June 2018 curtailing this review team's activities, but since the work had started and significant funds expended already, there was resistance to that idea, and we continued our work, despite the fact that much of it could be irrelevant.

Procedurally, the reviews should in our view be independent, and not subject to cancellation by the organization, however logical it might have been in this case. Nevertheless, the central problem which I wish to point out in this statement, is the difficulty of course correcting at ICANN on all matters WHOIS. Many issues we touched on in this Review, and in every WHOIS related activity in which I have participated since being invited to join the Experts Working Group as a data protection expert in 2013, are long overdue for a conceptual re-think. We do not, as a multistakeholder community, ever look at things de novo. It would appear that ICANN is incapable of doing this, possibly because the strongest members of the multistakeholder community are happy with the data access that they achieved in 1998, for various reasons, and are pushing to improve that basic paradigm and avoid change.

The Non-Commercial Stakeholders Group (NCSG) has worked for decades now to try to get ICANN to appreciate the requirement to comply with data protection law, to listen to data protection commissioners when they ask politely that ICANN respect their advice, and more recently to perform the necessary privacy impact assessments that would illuminate all of our work in this area. So far, by any reasonable metrics, success has been meager. My success in influencing this review team has also been very meager, for which I apologize to my stakeholder group and to those who might have been looking for better results.

I therefore have issues with many of our recommendations in this report, despite the hard work, excellent discussion, and collegiality of this working team. We continue to pave the cow path, when we are long overdue for a de novo review of ICANN's purposes in the collection, use and disclosure of registrant data. We did debate these issues in this review team. Sadly, we just repeated the use case exercise again in the Expedited Policy Development Process to confirm or replace the Temporary Specification, although some progress was definitely achieved in that exercise. Here are a few key issues that I wish to highlight:

1. Accuracy

I have raised several objections to our recommendations on accuracy, but do not wish to disrupt consensus. Clearly, it is not the position of the NCSG to argue for the right to put inaccurate data into the RDS, although for many years it was one of the few ways to avoid wholesale privacy invasion. I would note that some members of the group felt that one rationale for the very extensive section on accuracy in this report could be founded on the principles of data protection law. The accuracy requirements discussed in this report are for the benefit of third-party requestors of data. This is not the purpose of data processing in the view of the NCSG. The purpose of the collection of personal data from registrants is to enable them to obtain access to domain names, in their own right. Any accuracy requirements need to be proportionate and construed with the benefits to the individual as the primary criterion. The registrars must obviously maintain contactability with the data subject, but it does not follow that the accurate address and phone number data needs to be immediately served to data requestors. Reference, therefore, to the GDPR or most other data protection law as a rationale for accuracy monitoring that is not for the benefit of the individual is inappropriate. I raised the issue many times during our discussions, and simply repeat it here for the record.

2. Consumer Protection

It has long been held that the publication of accurate name, address, phone number and email elements permits end users of the Internet or the DNS to contact registered name holders (RNHs) for consumer protection purposes. Those purposes include knowing who they are dealing with, enabling access to their own personal data in the case of a website, and filing complaints for abuse of all kinds. It is the position of the NCSG that such publication of data actually enables spam, identity fraud, and other kinds of data abuse, and does little to achieve the stated goals. Sites engaged in commerce should be required to either list their company details on their websites, under local law, (something which is not within ICANN's remit to dictate), or disclose them to the customer at the moment of the proposed transaction. Using WHOIS is a clumsy way for consumers to get data about those with whom they are having financial transactions.

3. Risk management

I have raised many times that the failure to do appropriate risk management with respect to the WHOIS/RDS is a spectacular failure on the part of ICANN org, that threatens the viability of the multistakeholder model. The NCSG has worked tirelessly to bring the concerns of data protection commissioners to the attention of ICANN since its inception, to no avail. I served as an invited data protection expert on the Expert Working Group before I was affiliated with any stakeholder group at ICANN. While no longer working for the Canadian data protection authority, I had managed the ICANN policy file in 2005-7 and could certainly speak with some authority on how data protection commissioners regarded the matter. This fell on deaf ears, even though the GDPR was in the process of passing the EU legislative process at the time. This refusal to address what was clearly a risk to the financial stability of the DNS market, and the reputation and financial risk of ICANN, in my view is a major strategic failure and should be noted as such.

In addition to missing the key risk of actual data protection law enforcement, many of the policies and procedures we have reinforced through this RDS Review exercise, are not ones that would be prioritized if a risk-based approach to RDS related procedures were to be followed. Instead, prompt attention to registrant rights is long overdue.

4. Registrant Rights under the GDPR

We did not address registrant rights under the GDPR, although there are many observations throughout this report stressing the possible impact of the GDPR. It might be argued that this is out of scope. However, the question of how one actually gets material issues to be considered in scope within the Review regime is in my view a good one. Specifically, I would identify the following activities as ones which are required by ICANN if it is to be compliant with data protection law:

- Full disclosure of registrant rights under data protection law in a central location
- Standard disclosure provisions to be included in contracted party model contracts
- ICANN Compliance branch ought to monitor data protection law compliance
- The breach disclosure discussion in this report refers to the need to disclose a breach to ICANN (or not). In fact, under data protection laws generally, the registrants have rights to be informed of breaches, as do the data protection authorities. This should have been included in our report, it is simple legal compliance.

I appreciated the opportunity to serve on this review on behalf of the NCSG, and hope that this comment will be useful.

Stephanie Perrin

Chair, Non-Commercial Stakeholders Group

Appendix A: Glossary of Terms

An assessment of this type requires a common understanding of the key terms associated with the review. The following terms were identified in this review's terms of reference, with definitions copied verbatim from each hyperlinked source document. A list of acronyms related to RDS (WHOIS) can be found [here](#), and all acronyms [here](#).

Term	Acronym (if applicable)	Definition
Accuracy Reporting System	ARS	The Accuracy Reporting System is a framework for proactively assessing the accuracy of WHOIS contact data, publicly reporting the findings, and engaging registrars for investigation and follow-up.
Domain		A set of host names consisting of a single domain name and all the domain names below it.
Domain Name	DN	As part of the Domain Name System, domain names identify IP resources, such as an Internet website.
Domain Name Registration Data	DNRD	Refers to the information that registrants provide when registering a domain name and that registrars or registries collect. Some of this information is made available to the public. For interactions between ICANN Accredited Generic Top Level Domain (gTLD) registrars and registrants, the data elements are specified in the current Registrar Accreditation Agreement. For country code Top Level Domains (ccTLDs), the operators of these TLDs set their own or follow their government's policy regarding the request and display of registration information.
Domain Name Registration Data Access Protocol	DNRD-AP	Refers to the elements of a (standard) communications exchange—queries and responses—that make access to registration data possible. For example, the WHOIS protocol (RFC 3912) and Hypertext Transfer Protocol (HTTP) (RFC 2616 and its updates) are commonly used to provide public access to DNRD.
Domain Name Registration Data Directory Service	DNRD-DS	Refers to the service(s) offered by registries and registrars to provide access to (potentially a subset of) the DNRD. ICANN Accredited gTLD registries and registrars are required by contracts to provide the DNRD Directory Services via both port 43 and over the web interface. For ccTLDs, the TLD registries determine which service(s) they offer.
Global Domains Division	GDD	An operational division with ICANN responsible for matters related to gTLDs.

Term	Acronym (if applicable)	Definition
General Data Protection Regulation	GDPR	The General Data Protection Regulation was adopted by the European Union (EU) on 14 April 2016 and takes effect on 25 May 2018 uniformly across the EU countries. According to the European Commission, the aim of the GDPR is to protect all EU residents from privacy and data breaches. It applies to all companies processing and holding the personal data of subjects residing in the European Union, regardless of a company's location.
Generic Names Supporting Organization	GNSO	The supporting organization responsible for developing and recommending to the ICANN Board substantive policies relating to generic top-level domains. Its members include representatives from gTLD registries, gTLD registrars, intellectual property interests, Internet service providers, businesses and non-commercial interests.
Generic Top Level Domain	gTLD	Most TLDs with three or more characters are referred to as "generic" TLDs, or "gTLDs", such as .COM, .NET, and .ORG. In addition, many new gTLDs such as .HOTELS and .DOCTOR are now being delegated.
Internationalized Domain Name	IDN	IDNs are domain names that include characters used in the local representation of languages that are not written with the twenty-six letters of the basic Latin alphabet "a-z". An IDN can contain Latin letters with diacritical marks, as required by many European languages, or may consist of characters from non-Latin scripts such as Arabic or Chinese. Many languages also use other types of digits than the European "0-9". The basic Latin alphabet together with the European-Arabic digits are, for the purpose of domain names, termed "ASCII characters" (ASCII = American Standard Code for Information Interchange). These are also included in the broader range of "Unicode characters" that provides the basis for IDNs.
Organisation for Economic Co-operation and Development	OECD	An intergovernmental organization based in Paris that provides a forum where governments can work together to find solutions to common problems. With a shared commitment to market economies backed by democratic institutions, the OECD promotes policies that seek to improve the economic and social well-being of people worldwide.

Term	Acronym (if applicable)	Definition
Policy Development Process	PDP	The process, specified in the ICANN Bylaws , through which ICANN's Supporting Organizations and Advisory Committees develop and refine policies within ICANN's mission and scope. The policy development process includes opportunities for Public Comment to allow interested members of the global Internet community to share their views on policy proposals. When the community achieves consensus, the relevant Supporting Organization submits the policy recommendations to the ICANN Board for approval.
Privacy and Proxy Services Accreditation Issues Working Group	PPSAI WG	The Generic Names Supporting Organization (GNSO) Council convened a working group in October 2013 to make policy recommendations regarding privacy and proxy services accreditation issues that were identified but not resolved during negotiation of the 2013 Registrar Accreditation Agreement (RAA). Privacy and proxy service providers permit customers to register a domain name without publishing the customer's contact information in the Registration Data Directory Service (RDDS), also known as WHOIS. The ICANN Board adopted recommendations made by the PPSAI WG in August 2016, and the project is now in the implementation stage.
Registrar Accreditation Agreement	RAA	The Registrar Accreditation Agreement is the contract that governs the relationship between ICANN and the registrars accredited to manage and sell domain names. Accredited registrars have met standards set by ICANN after extensive consultation with the multistakeholder community. The first Statement of Registrar Accreditation Policy was adopted by the ICANN Board in 1999, and major updates were made in 2001, 2009, and 2013.
Registry-Registrar Agreement	RRA	A contract between a registry operator and an ICANN-accredited registrar . This contract defines the terms under which a registrar agrees to perform domain name registration services for a designated generic top-level domain .

Term	Acronym (if applicable)	Definition
Registrar	RR	Domain names can be registered through many different companies (known as "registrars") that compete with one another. The registrar you choose will ask you to provide various contact and technical information that makes up the registration. The registrar will then keep records of the contact information and submit the technical information to a central directory known as the "registry." This registry provides other computers on the Internet the information necessary to send you email or to find your website. You will also be required to enter a registration contract with the registrar, which sets forth the terms under which your registration is accepted and will be maintained.
Registry Directory Services	RDS	A set of online services that registrars and registry operators of top-level domains provide to enable public access to Domain Name Registration Data . Currently, Registration Directory Services are available for generic top-level domains through the WHOIS protocol and through HTTP-based directory services. Individual Regional Internet Registries (RIRs) also use the Registration Directory Services to maintain a database of the Internet Protocol addresses that have been assigned in their region.
Registry	Ry	The "Registry" is the authoritative, master database of all domain names registered in each Top Level Domain. The registry operator keeps the master database and also generates the "zone file" which allows computers to route Internet traffic to and from top-level domains anywhere in the world. Internet users don't interact directly with the registry operator; users can register names in TLDs including .biz, .com, .info, .net, .name, .org by using an ICANN-Accredited Registrar.
Registration Data Access Protocol	RDAP	Enables users to access current registration data and was created as an eventual replacement for the WHOIS protocol. RDAP was developed by the technical community in the Internet Engineering Task Force (IETF).
Registration Data Directory Service	RDDS	Registration Data Directory Services refers to the collective of WHOIS and Web based WHOIS services. [2013 RAA]
Registration Directory Service	RDS	The terms RDDS (Registration Data Directory Service) and RDS (Registration Directory Service) are often used interchangeably. See definition for RDDS.

Term	Acronym (if applicable)	Definition
WHOIS		<p>WHOIS protocol (pronounced "who is"; not an acronym) An Internet protocol that is used to query databases to obtain information about the registration of a domain name (or IP address). The WHOIS protocol was originally specified in RFC 954, published in 1985. The current specification is documented in RFC 3912. ICANN's gTLD agreements require registries and registrars to offer an interactive webpage and a port 43 WHOIS service providing free public access to data on registered names. Such data is commonly referred to as "WHOIS data," and includes elements such as the domain registration creation and expiration dates, nameservers, and contact information for the registrant and designated administrative and technical contacts. WHOIS services are typically used to identify domain holders for business purposes and to identify parties who are able to correct technical problems associated with the registered domain.</p>

Appendix B: Terms of Reference

Review Name:	Registration Directory Service (RDS) WHOIS2 Review
Section I: Review Identification	
Board Initiation	Resolution 2017.02.03.10
ToR Due Date	Due date for ToR, as per Board Resolution: 15 May, 2017 Revised due date: Late November/Early December 2017 Submission date: February 2018
Announcement of Review Team:	2 June, 2017
Name(s) of RT Leadership:	Alan Greenberg, Chair Cathrin Bauer-Bulst, Vice Chair Susan Kawaguchi, Vice Chair
Name(s) of Board Appointed Member(s):	Chris Disspain
Review Workspace URL:	https://community.icann.org/display/WHO/RDS-WHOIS2+Review
Review Mailing List:	http://mm.icann.org/pipermail/rds-whois2-rt/
Important Background Links:	Bylaws Section: Registration Directory Service Review RT Selection: https://community.icann.org/display/WHO/Selection+Process RT Announcement: https://www.icann.org/news/announcement-2017-06-02-en
Section II: Mission, Purpose, and Deliverables	
Mission & Scope:	
<p>Background</p> <p>At its meeting on 03 February 2017, the ICANN Board initiated the Registration Directory Service (RDS) WHOIS2 Review to “assess the effectiveness of the then current gTLD registry directory service and whether its implementation meets the legitimate needs of law enforcement, promoting consumer trust and safeguarding registrant data.”</p> <p>Mission and Scope</p> <p>This review team is tasked, as per the Bylaws, Section 4.6(e):</p> <p><i>“(i) 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.</i></p> <p><i>“(ii) The Board shall cause a periodic review to assess the effectiveness of the then current gTLD registry directory service and whether its implementation meets the legitimate needs of law enforcement, promoting consumer trust and safeguarding registrant data (“Directory Service Review”).</i></p> <p><i>“(iii) The review team for the Directory Service Review (“Directory Service Review Team”) will consider the Organisation for Economic Co-operation and Development (“OECD”) Guidelines on the Protection of</i></p>	

Privacy and Transborder Flows of Personal Data as defined by the OECD in 1980 and [amended in 2013](#) and as may be amended from time to time.

(iv) The Directory Service Review Team shall assess the extent to which [prior Directory Service Review recommendations](#) have been implemented and the extent to which implementation of such recommendations has resulted in the intended effect.

(v) The Directory Service Review shall be conducted no less frequently than every five years, measured from the date the previous Directory Service Review Team was convened, except that the first Directory Service Review to be conducted after 1 October 2016 shall be deemed to be timely if the applicable Directory Service Review Team is convened on or before 31 October 2016.”

The new ICANN Bylaws required that this review begin as soon as possible after they were enacted on 01 October 2016. In light of the ongoing RDS policy development activities, a reduced scope was proposed limiting Directory Service Review activities to just a review of the first WHOIS-RT Recommendations. Based on ICANN’s Supporting Organization/Advisory Committee (SO/AC) feedback and further discussions within the present review team, it was decided to consider all aspects of the Directory Service Review prescribed in the Bylaws, and to further consider other issues deemed to be of importance to the review team and ICANN organization. See appendix 1 for more information.

Objectives

The review team carefully considered the Bylaws, the limited scope proposal and feedback received. Using a table (see appendix 2), the review team held in-detail discussions and called for consensus on each item. To define the scope of the review, the review team developed detailed objectives for each agreed component. The review team’s agreed specific, prioritized objectives are as follows:

- ⊙ Consistent with ICANN’s mission and [Bylaws](#), Section 4.6(e)(iv), the review team will (a) evaluate the extent to which ICANN organization has implemented each prior Directory Service Review recommendation (noting differences if any between recommended and implemented steps), (b) assess to the degree practical the extent to which implementation of each recommendation was effective in addressing the issue identified by the prior RT or generated additional information useful to management and evolution of WHOIS (RDS), and (c) determine if any specific measurable steps should be recommended to enhance results achieved through the prior RT’s recommendations. This includes developing a framework to measure and assess the effectiveness of recommendations, and applying that approach to all areas of WHOIS originally assessed by the prior RT (as applicable).
- ⊙ Consistent with ICANN’s mission and [Bylaws](#), Section 4.6(e)(ii), the review team will assess the effectiveness of today’s WHOIS (the now current gTLD RDS, including cumulative changes made to the then-current RDS which was assessed by the prior RT) by (a) inventorying changes made to WHOIS policies and procedures since the prior RT completed its work, (b) using that inventory to identify significant new areas of today’s WHOIS (if any) which the team believes should be reviewed, and (c) determining if any specific measurable steps should be recommended to enhance effectiveness in those new areas.
- ⊙ Consistent with ICANN’s mission and [Bylaws](#), Section 4.6(e)(ii), the review team will assess the extent to which the implementation of today’s WHOIS (the current gTLD RDS) meets legitimate needs of law enforcement for swiftly accessible, accurate and complete data by (a) establishing a working definition of “law enforcement” used in this review, (b) identifying an approach used to determine the extent to which these law enforcement needs are met by today’s WHOIS policies and procedures, (c) identifying high-priority gaps (if any) in meeting those needs, and (d) recommending specific measurable steps (if any) the team believes are important to fill gaps.

Note that determining which law enforcement requests are in fact valid will not be addressed by this review.

- ⦿ Consistent with ICANN's mission and [Bylaws](#), Section 4.6(e)(ii), the review team will assess the extent to which the implementation of today's WHOIS (the current gTLD RDS) promotes consumer trust in gTLD domain names by (a) agreeing upon a working definition of "consumer" and "consumer trust" used in this review, (b) identifying the approach used to determine the extent to which consumer trust needs are met, (c) identifying high-priority gaps (if any) in meeting those needs, and (d) recommending specific measurable steps (if any) the team believes are important to fill gaps.
- ⦿ Consistent with ICANN's mission and [Bylaws](#), Section 4.6(e)(ii), the review team will assess the extent to which the implementation of today's WHOIS (the current gTLD RDS) safeguards registrant data by (a) identifying the lifecycle of registrant data, (b) determining if/how data is safeguarded in each phase of that lifecycle, (c) identifying high-priority gaps (if any) in safeguarding registrant data, and (d) recommending specific measurable steps (if any) the team believes are important to fill gaps.
- ⦿ Consistent with ICANN's mission to ensure the stable and secure operation of the Internet's unique identifier systems by enforcing policies, procedures and principles associated with registry and registrar obligations to maintain and provide access to accurate and up-to-date information about registered names and name servers, the review team will (to the extent that this is not already covered in prior RT recommendations), (a) assess the effectiveness and transparency of ICANN enforcement of existing policy relating to WHOIS (RDS) through Contractual Compliance actions, structure and processes, including consistency of enforcement actions and availability of related data, (b) identifying high-priority procedural or data gaps (if any), and (c) recommending specific measurable steps (if any) the team believes are important to fill gaps.
- ⦿ The review team considered the OECD Guidelines on the Protection of Privacy and Transborder Flows of Personal Data in relation to WHOIS Policy as mandated by ICANN's Bylaws, Section 4.6.(e)(iii). The team agreed, by unanimous consensus, that current WHOIS policy does not consider the issues of privacy/data protection or transborder dataflows, and that it is within the domain of the ongoing PDP on Next-Generation gTLD Registration Directory Services to Replace WHOIS to determine to what extent a future RDS should factor in the OECD Guidelines or other privacy/data protection and transborder dataflow requirements set at national or multinational levels. Accordingly, the review team decided that further review of the OECD Guidelines would not be an effective use of the team's time and effort.
- ⦿ The review team has considered ICANN's Bylaws, Section 4.6(a)(v): "Each review team may recommend that the applicable type of review should no longer be conducted or should be amended." Consistent with this section, the review team will (a) identify any portions of Section 4.6(e), Registration Directory Service Review, which the team believes should be changed, added or removed, and (b) include any recommended amendments to Section 4.6(e), along with rationale for those amendments, in its review report.
- ⦿ The review team will not conduct a review of Registration Data Access Protocol (RDAP) at this time because policies have not yet been developed to enable assessment of the value and timing of RDAP as a replacement protocol for WHOIS.
- ⦿ The review team will not conduct a review of the WHOIS protocol at this time because activities are already underway to replace the WHOIS protocol.

In recognition that the WHOIS landscape will be changing, perhaps radically, over the coming months as ICANN addresses how it will respond to the EU General Data Protection Regulation (GDPR), the review team may choose to defer some or all of its work in relation to the scope items on Law Enforcement Needs, Consumer Trust and Safeguarding Registrant Data until it is more clear what path ICANN will be following. Should any work be deferred, individual timelines may slip. However, it is the intent of the review team that the overall schedule calling for the final report to be delivered by the end of December 2018 not change appreciably.

Definitions

An assessment of this type requires a common understanding of the key terms associated with the review. Initially, the RDS-WHOIS2 Review Team is operating under the following definitions:

From [Glossary of WHOIS Terms](#):

- ⦿ **Domain**: A set of host names consisting of a single domain name and all the domain names below it.
- ⦿ **Domain Name**: As part of the Domain Name System, domain names identify IP resources, such as an Internet website.
- ⦿ **GNSO - Generic Names Supporting Organization**: The supporting organization responsible for developing and recommending to the ICANN Board substantive policies relating to generic top-level domains. Its members include representatives from gTLD registries, gTLD registrars, intellectual property interests, Internet service providers, businesses and non-commercial interests.
- ⦿ **gTLD - Generic Top Level Domain**: Most TLDs with three or more characters are referred to as "generic" TLDs, or "gTLDs", such as .COM, .NET, and .ORG. In addition, many new gTLDs such as .HOTELS and .DOCTOR are now being delegated.
- ⦿ **IDNs — Internationalized Domain Names**: IDNs are domain names that include characters used in the local representation of languages that are not written with the twenty-six letters of the basic Latin alphabet "a-z". An IDN can contain Latin letters with diacritical marks, as required by many European languages, or may consist of characters from non-Latin scripts such as Arabic or Chinese. Many languages also use other types of digits than the European "0-9". The basic Latin alphabet together with the European-Arabic digits are, for the purpose of domain names, termed "ASCII characters" (ASCII = American Standard Code for Information Interchange). These are also included in the broader range of "Unicode characters" that provides the basis for IDNs.
- ⦿ **Registrar**: Domain names can be registered through many different companies (known as "registrars") that compete with one another. The registrar you choose will ask you to provide various contact and technical information that makes up the registration. The registrar will then keep records of the contact information and submit the technical information to a central directory known as the "registry." This registry provides other computers on the Internet the information necessary to send you e-mail or to find your website. You will also be required to enter a registration contract with the registrar, which sets forth the terms under which your registration is accepted and will be maintained.
- ⦿ **Registry**: The "Registry" is the authoritative, master database of all domain names registered in each Top Level Domain. The registry operator keeps the master database and also generates the "zone file" which allows computers to route Internet traffic to and from top-level domains anywhere in the world. Internet users don't interact directly with the registry operator; users can

register names in TLDs including .biz, .com, .info, .net, .name, .org by using an ICANN-Accredited Registrar.

- ⦿ **WHOIS:** WHOIS protocol (pronounced "who is"; not an acronym) An Internet protocol that is used to query databases to obtain information about the registration of a domain name (or IP address). The WHOIS protocol was originally specified in RFC 954, published in 1985. The current specification is documented in RFC 3912. ICANN's gTLD agreements require registries and registrars to offer an interactive webpage and a port 43 WHOIS service providing free public access to data on registered names. Such data is commonly referred to as "WHOIS data," and includes elements such as the domain registration creation and expiration dates, nameservers, and contact information for the registrant and designated administrative and technical contacts. WHOIS services are typically used to identify domain holders for business purposes and to identify parties who are able to correct technical problems associated with the registered domain.

From ICANN.org:

[Registration Data Access Protocol \(RDAP\)](#) enables users to access current registration data and was created as an eventual replacement for the WHOIS protocol. RDAP was developed by the technical community in the Internet Engineering Task Force (IETF).

From [SAC051](#), Report on Domain Name WHOIS Terminology and Structure:

- ⦿ **Domain Name Registration Data (DNRD)** – refers to the information that registrants provide when registering a domain name and that registrars or registries collect. Some of this information is made available to the public. For interactions between ICANN Accredited Generic Top Level Domain (gTLD) registrars and registrants, the data elements are specified in the current Registrar Accreditation Agreement. For country code Top Level Domains (ccTLDs), the operators of these TLDs set their own or follow their government's policy regarding the request and display of registration information.
- ⦿ **Domain Name Registration Data Access Protocol (DNRD-AP)** – refers to the elements of a (standard) communications exchange—queries and responses—that make access to registration data possible. For example, the WHOIS protocol (RFC 3912) and Hypertext Transfer Protocol (HTTP) (RFC 2616 and its updates) are commonly used to provide public access to DNRD.
- ⦿ **Domain Name Registration Data Directory Service (DNRD-DS)** – refers to the service(s) offered by registries and registrars to provide access to (potentially a subset of) the DNRD. ICANN Accredited gTLD registries and registrars are required by contracts to provide the DNRD Directory Services via both port 43 and over the web interface. For ccTLDs, the TLD registries determine which service(s) they offer.
- ⦿ **Registration Data Directory Service (RDDS)** – Registration Data Directory Services refers to the collective of WHOIS and Web based WHOIS services. [2013 RAA]

The terms RDDS (Registration Data Directory Service) and RDS (Registration Directory Service) are often used interchangeably.

Deliverables & Timeframes:

The review team shall to the best of its abilities respect the timelines and deliverables as outlined in this document. The review team shall develop a work plan that outlines the necessary steps and expected timing in order to achieve the milestones of this review, as agreed on below. The review team shall follow

its published work plan to address review objectives within the available time and specified resources. The work plan is a roadmap towards reaching milestones and is subject to adjustments as the review team progresses through work.

Progress towards time-bound milestones defined in the work plan shall be tracked and published on a Fact Sheet.

Timeline (subject to change):

- ⦿ July 2017-February 2018: Define and approve terms of reference and work plan
- ⦿ December 2017-March 2018: Data analysis
- ⦿ February-March 2018: Assemble draft findings
- ⦿ April-June 2018: Approve draft findings and engagement at ICANN62
- ⦿ June-August 2018: Produce and approve draft report for public comment
- ⦿ October-November 2018: Assemble final recommendations and update draft report based on public comments received; engagement at ICANN63
- ⦿ December 2018: Adopt final report for ICANN Board consideration

Deliverables:

The review team shall produce at least one draft report and a final report. The draft report should include the following:

- ⦿ Overview of the review team's working methods, tools used and analysis conducted
- ⦿ Facts and findings related to the investigation of the objectives identified in the scope
- ⦿ Resolution to all questions raised in the scope or those that arose subsequently during the course of the review (as appropriate)
- ⦿ Summary of public consultations and engagement conducted
- ⦿ Self-assessment of what processes (pertinent to the scope) work well and where improvements can be made; the self-assessment ought to be based on and refer to facts, findings, and data provision wherever possible.
- ⦿ Preliminary recommendations that address significant and relevant issues detected
- ⦿ Preliminary feasibility assessment
- ⦿ A preliminary impact analysis to measure the effectiveness of the recommendations proposed by the current review team, including source(s) of baseline data for that purpose:
 - Identification of issue
 - Definition of desired outcome, including identification of metrics used to measure whether recommendation goals are achieved, where possible
 - Identification of potential problems in attaining the data or developing the metrics
 - A suggested timeframe in which the measures should be performed
 - Define current baselines of the issue and define initial benchmarks that define success or failure
 - Surveys or studies
- ⦿ All recommendations should indicate a preliminary, non-binding level of consensus they have received, as defined in these ToR. This is to inform the community during the public comment period to indicate the level of review team support for each recommendation, without binding the review team on their support level in the final report.

At least one draft report will be submitted for public comment, following standard ICANN procedures. The review team may update the draft Report based on the comments and/or other relevant information received, and submit its final report to the ICANN Board. The final report shall contain the same sections as the draft Report and, in addition, a section detailing the public comments received on the draft Report and an explanation of why and how they were incorporated into the final report or why and how they were rejected by the review team. Each recommendation shall include the level of consensus received from the review team members, as defined in these ToR. As mandated by ICANN's Bylaws, the final report of the review team shall be published for public comment in advance of the Board's consideration.

Considerations with Regard to Review Team Recommendations:

Review teams are expected to develop, and follow a clear process when documenting constructive recommendations as the result of the review.

This includes fact-based analysis, clear articulation of noted problem areas, supporting documentation, and resulting recommendations that follow the S.M.A.R.T framework: **S**pecific, **M**easurable, **A**chievable, **R**ealistic, and **T**ime-Bound.

Additionally, the review team is asked to share its proposed recommendations with ICANN organization to obtain feedback regarding feasibility (e.g., time required for implementation, cost of implementation, and potential alternatives to achieve the intended outcomes.) As stated in the Bylaws, the review team shall attempt to prioritize each of its recommendations and provide a rationale for such prioritization. To the extent practical, proposed recommendations should be provided in priority order to ensure focus on highest-impact areas and priority should be accompanied by.

To help review teams assess whether proposed recommendations are consistent with this guidance, testing each recommendation against the following questions may be helpful:

- ⦿ What is the intent of the recommendation?
- ⦿ What observed fact-based issue is the recommendation intending to solve? What is the “problem statement”?
- ⦿ What are the findings that support the recommendation?
- ⦿ Is each recommendation accompanied by supporting rationale?
- ⦿ How is the recommendation aligned with ICANN’s strategic plan, the Bylaws and ICANN’s mission?
- ⦿ Does the recommendation require new policies to be adopted? If yes, describe issues to be addressed by new policies.
- ⦿ What outcome is the review team seeking? How will the effectiveness of implemented improvements be measured? What is the target for a successful implementation?
- ⦿ How significant would the impact be if not addressed (i.e., Very significant, moderately significant) and what areas would be impacted (e.g., security, transparency, legitimacy, efficiency, diversity, etc.)
- ⦿ Does the review team envision the implementation to be Short-term (i.e., completed within 6 months of acceptance by the Board), Mid-term (i.e., within 12 months), or Longer-term (i.e., more than 12 months)?
- ⦿ Is related work already underway? If so, what is it and who is carrying it out?
- ⦿ Who are the (responsible) parties that need to be involved in the implementation work for this recommendation (i.e., Community, ICANN organization, Board, or combination thereof)
- ⦿ Are recommendations given in order of priority to ensure focus on highest impact areas?

Finally, review teams are encouraged to engage in dialog with the dedicated ICANN Board Caucus Group; for example, when the review team reaches a milestone and could benefit from feedback on agreed scope or any recommendations under development to address that scope.

Section III: Formation, Leadership, Other Organizations

Membership:

As per the ICANN Bylaws, the review team has been selected by the Chairs of ICANN’s Supporting Organizations and Advisory Committees (SO/ACs). Members and their gender, SO/AC affiliation, and region are:

1	Alan Greenberg	M	ALAC	NA
2	Carlton Samuels	M	ALAC	LAC
3	Dmitry Belyavsky	M	ALAC	EUR
4	Cathrin Bauer-Bulst	F	GAC	EUR
5	Lili Sun	F	GAC	AP
6	Thomas L. Walden, Jr.	M	GAC	NA
7	Erika Mann	F	GNSO	EUR
8	Stephanie Perrin	F	GNSO	NA
9	Susan Kawaguchi	F	GNSO	NA
10	Volker Greimann	M	GNSO	EUR
11	Chris Disspain	M	ICANN Board	AP

Note: The ccNSO has reserved the right to appoint up to three review team members once the scope of the review has been determined.

The ICANN Board has appointed Chris Disspain to serve as a member of the RDS-WHOIS2 Review Team.

By consensus, the review team has selected a leadership team, consisting of Alan Greenberg (Chair), Cathrin Bauer-Bulst (Vice Chair), and Susan Kawaguchi (Vice Chair).

Roles and Responsibilities of Review Team Members:

Responsibilities for all review team members include:

- ⦿ Attend all calls and face-to-face meetings whenever feasible.
- ⦿ Provide apologies for planned absences at least 24 hours in advance for all remote meetings; provide apologies for planned absence for face-to-face meetings as early as possible to minimize unnecessary expenses.
- ⦿ Actively engage on email list(s) and other collaborative tools, including providing feedback when requested to do so through that medium.
- ⦿ Actively engage with relevant stakeholder groups within the ICANN community, and within each team member's respective community.
- ⦿ Provide fact-based inputs and comments based on core expertise and experience.
- ⦿ Undertake desk research as required and in accordance with scope of work, including assessment of implementation of recommendations from prior reviews.
- ⦿ Be prepared to listen to others and make compromises in order to achieve consensus recommendations.
- ⦿ Participate in drafting and subgroups as required.

- ⦿ Comply with ICANN’s expected standards of behavior.
- ⦿ Comply with all review team member requirements, including those described in the “Accountability and Transparency” and “Reporting” sections of this document.

Roles and Responsibilities of Review Team Leadership:

- ⦿ Responsibilities of the review team’s leadership include:
- ⦿ Remain neutral when serving as Chair or Vice Chair.
- ⦿ Identify when speaking in individual capacity.
- ⦿ Maintain standards and focus on the aims of the review team as established in these terms of reference.
- ⦿ Drive toward delivery of key milestones according to the work plan.
- ⦿ Ensure effective communication between members and with broader community, Board and ICANN organization.
- ⦿ Set the agenda and run the meetings.
- ⦿ Ensure that all meeting attendees get accurate, timely and clear information.
- ⦿ Determine and identify the level of consensus within the team.
- ⦿ Provide clarity on team decisions.
- ⦿ Ensure decisions are acted upon.
- ⦿ Build and develop team-work.
- ⦿ Manage the review team’s budget and work with the ICANN organization team supporting work of the review to provide reporting to maintain accountability and transparency.

Changes to Review Team Membership, Dissolution of Review Team:

Dissolution of review team:

This review team shall be disbanded once it has submitted its final report to the ICANN Board.

Implementation Phase:

The review team shall identify one or two review team members to remain available for clarification as may be needed during the planning phase of implementation of review team recommendations.

Replacement and Removal of Members:

If a review team member is no longer able or willing to serve, or if an SO/AC withdraws its endorsement of the member, the SO/AC making the original endorsement will be requested to refill the position with a new member. The SO/AC will make the selection according to their own processes and will not be bound to consider only those candidates who originally applied requesting their endorsement.

Depending on the remaining time of a review, or any other factors, the relevant SO/AC may choose not to nominate a replacement candidate.

If a review team member is sufficiently inactive or disruptive as to cause at least 70% of review team members (excluding the member in question) to request their removal, the member will be asked to resign. If the member refuses to resign, the SO/AC that endorsed the member will be requested to withdraw their endorsement and replace the member. Should the SO/AC not take action, the member can be removed by a 70% majority vote of the remaining review team members. In all cases, the balloting will be carried out in such a way as to not reveal how individual members voted.

Support from ICANN Organization:

Members of ICANN organization assigned to the review team will support its work, including project management, meeting support, document drafting if/when requested, document editing and distribution,

data and information gathering if/when requested, and other substantive contributions when deemed appropriate.

The commitments in this document presume appropriate staff support from ICANN organization. Should that support, in the view of review team leadership, become an issue, this will be communicated first to the ICANN organization member designated as the team leader and then if necessary, to the Board member participating in this review team.

Dependencies on Other Organizations:

The review team will ensure the work it undertakes does not duplicate or conflict with purview and scope of the following efforts. The review team will be briefed/updated on these activities, as appropriate, to avoid unnecessary or unintended overlap.

- ⦿ GNSO PDP on Next-Generation Registration Directory Service (RDS)
- ⦿ Registration Data Access Protocol (RDAP) Implementation
- ⦿ Cross-Field Address Validation
- ⦿ Translation and Transliteration of Contact Information Implementation
- ⦿ Privacy/Proxy Services Accreditation Implementation
- ⦿ ICANN Procedures for Handling WHOIS Conflicts with Privacy Laws
- ⦿ WHOIS Accuracy/GAC Safeguard Advice on WHOIS Verification and Checks
- ⦿ Implementation of THICK WHOIS
- ⦿ ICANN organization's work with the community on GDPR Compliance with existing agreements with registries and registrars

ICANN organization will alert the RDS-WHOIS2 Review Team of any changes to the list and update it.

The review team will engage in dialog with the dedicated ICANN Board Caucus Group; for example, when the review team reaches a milestone and could benefit from feedback on agreed scope or any recommendations under development to address that scope.

Section IV: Decision-Making and Methodologies

Decision-Making Methodologies:

The Bylaws state: “(iii) Review team decision-making practices shall be specified in the Operating Standards, with the expectation that review teams shall try to operate on a consensus basis. In the event a consensus cannot be found among the members of a review team, a majority vote of the members may be taken.”

According to the Bylaws, “Any member of a review team not in favor of a recommendation of its review team (whether as a result of voting against a matter or objecting to the consensus position) may record a minority dissent to such recommendation.”²⁹

All minority dissents must detail the analysis or recommendations in the final report with which its author(s) disagree(s), including a rationale for that disagreement.

The authors of minority dissents are encouraged to provide alternative recommendations that include the same details and context as is required from the recommendations in these ToR.

The review team leadership will be responsible for designating each decision as having one of the following designations:

²⁹ Article IV, Section 4.6(a)(vii)(A).

- ⊙ **Full consensus** - no review team members speak against the recommendation in its last readings.
- ⊙ **Consensus** - a small minority disagrees, but most agree. A rule-of-thumb for judging consensus is that the decision is supported by 80% of the review team.
- ⊙ **Strong support but significant opposition** - most of the group supports a recommendation but a significant number of members do not.
- ⊙ **Divergence** - no strong support for any particular position, rather many different points of view. Sometimes this is due to irreconcilable differences of opinion and sometimes it is due to the fact that no one has a particularly strong or convincing viewpoint, but the members of the group agree that it is worth listing the issue in the report nonetheless.
- ⊙ **Minority view** - a proposal where a small number of people support the recommendation. This can happen in response to **a consensus, strong support but significant opposition, and no consensus**; or, it can happen in cases where there is neither support nor opposition to a suggestion made by a small number of individuals.

In judging the extent to which consensus has been reached, it may be useful for each team member to consider which of the following categories they apply to them.

Disagree: I have a fundamental disagreement with the core of the proposal that has not been resolved. We need to look for a new proposal.

Stand aside: I can't support this proposal because ... But I don't want to stop the group, so I'll let the decision happen without me.

Reservations: I have some reservations but am willing to let the proposal pass.

Agreement: I support the proposal.

In cases of **consensus, strong support but significant opposition, and no consensus**, an effort should be made to document that variance in viewpoint and to present adequately any **minority views** that may have been made. Documentation of **minority view** recommendations normally depends on text offered by the proponent(s). In all cases of **divergence**, the review team leadership should encourage the submission of minority viewpoint(s).

The recommended method for discovering the consensus level designation on recommendations should work as follows:

5. After the review team has discussed an issue long enough for all issues to have been raised, understood and discussed, the review team leadership makes an evaluation of the designation and publish it for the group to review.
6. After the review team has discussed the review team leadership's estimation of designation, the leadership should reevaluate and publish an updated evaluation.
7. Steps (i) and (ii) should continue until the leadership makes an evaluation that is accepted by the review team.
8. In rare cases, leadership may decide that the use of a poll is reasonable. Some of the reasons for this might be:

- A decision needs to be made within a time frame that does not allow for the natural process of iteration and settling on a designation to occur.
- It becomes obvious after several iterations that it is impossible to arrive at a designation. This will happen most often when trying to discriminate between **consensus and strong support but significant opposition** or between **strong support but significant opposition** and **divergence**.

Care should be taken in using polls that opinions cast do not become votes. A liability with the use of polls is that, in situations where there is **divergence** or **strong opposition**, there are often disagreements about the meanings of the poll questions or of the poll results.

Based upon the review team's needs, the leadership may direct that review team participants do not have to have their name explicitly associated with any full consensus or consensus view/position. However, in all other cases and in those cases where a group member represents the minority viewpoint, their name must be explicitly linked, especially in those cases where polls were taken.

Consensus calls should always involve the entire review team and, for this reason, should take place on the designated mailing list to ensure that all review team members have the opportunity to fully participate in the consensus process. It is the role of the leadership to designate which level of consensus is reached and announce this designation to the review team. Member(s) of the review team should be able to challenge the designation of the leadership as part of the review team's discussion. However, if disagreement persists, review team members may use the process set forth below to challenge the designation.

If several participants in a review team disagree with the designation given to a position by the leadership or any other consensus call, they may follow these steps sequentially:

1. Send email to the leadership, copying the review team explaining why the decision is believed to be in error.
2. If the leadership still disagrees with the opposing member, a straw poll shall be conducted to determine the result.

Accountability and Transparency:

Teleconferences and face-to-face meetings will be recorded and streamed, to the extent practicable, and subject to Confidential Framework provisions. However, the record shall reflect this decision, as well as the underlying considerations that motivated such action.

The review team and supporting members of ICANN organization will endeavor to post (a) action items within 24 hours of any telephonic or face-to-face meeting; and (b) streaming video and/or audio recordings as promptly as possible after any such meeting, subject to the limitations and requirements described above.

The review team will maintain a wiki, <https://community.icann.org/display/WHO/RDS-WHOIS2+Review>, on which it will post: (a) action items, decisions reached, correspondence, meeting agendas, background materials provided by ICANN, members of the review team, or any third party; (ii) audio recordings and/or streaming video; (b) the affirmations and/or disclosures of review team members under the review team's conflict of interest policy; (c) input, whether from the general public, from ICANN stakeholders, from ICANN organization, the ICANN Board, Supporting Organizations and Advisory Committees, etc. Absent overriding privacy or confidentiality concerns, all such materials should be made publicly available on the review team website within 48 business hours of receipt.

Email communications among members of the review team shall be [publicly archived](#) automatically via the review email list, rds-whois2-rt@icann.org. Email communication between team members regarding

review team work should be exchanged on this list. In exceptional circumstances, such as when required due to Non-Disclosure Agreement or Confidential Disclosure Agreement provisions, non-public email exchanges may take place between review team members and ICANN organization. When possible, a non-confidential summary of such discussions will be posted to the public review email list.

Reporting:

Review team members are expected to perform their reporting obligations, and provide details in terms of content and timelines. Reporting should start when a review team is launched and should continue until its conclusion. The review team should include in this section (a) the information to be reported, (b) the report format to be used, and (c) report intervals, to assure accountability and transparency of the RT vis-a-vis the community. In addition, reference to the quarterly Fact Sheets, assembled by ICANN organization, should be made.

Review team members are, as a general matter, encouraged to report back to their constituencies and others with respect to the work of the review team, unless the information involves confidential information.

While the review team will strive to conduct its business on the record to the maximum extent possible, members must be able to have frank and honest exchanges among themselves, and the review team must be able to have frank and honest exchanges with stakeholders and stakeholder groups. Moreover, individual members and the review team as a whole must operate in an environment that supports open and candid exchanges, and that welcomes re-evaluation and repositioning in the face of arguments made by others.

Members of the review team are volunteers, and each will assume a fair share of the work of the team.

Members of the review team shall execute the investigation according to the scope and work plan, based on best practices for fact-based research, analysis and drawing conclusions.

The review team will engage in dialog with the dedicated ICANN Board Caucus Group; for example, when the review team reaches a milestone and could benefit from feedback on agreed scope or any recommendations under development to address that scope.

Subgroups:

The review team can create as many subgroups as it deems necessary to complete its tasks through its standard decision process, as follows:

- ⦿ Subgroups will be composed of review team members and will have a clear scope, timeline, deliverables and leadership.
- ⦿ Subgroups when formed will appoint a rapporteur who will report the progress of the subgroup back to the plenary on a defined timeline.
- ⦿ Subgroups will operate per review team rules and all subgroup requests will require review team approval.
- ⦿ Subgroups can arrange face-to-face meetings in conjunction with review team face-to-face meetings.
- ⦿ All documents, reports and recommendations prepared by a subgroup will require review team approval before being considered a product of the review team.
- ⦿ The review team may terminate any subgroup at any time.

Travel Support:

Members of the review team who request funding from ICANN to attend face-to-face meetings will receive it according to ICANN's standard travel policies and subject to the review team's budget. When a review

team face-to-face meeting is held in conjunction with an ICANN meeting, and when outreach sessions have been scheduled, review team members, who are not funded otherwise, may receive funding for the duration of the ICANN meeting.

Outreach:

The review team will conduct outreach to the ICANN community and beyond to support its mandate and in keeping with the global reach of ICANN's mission. As such the review team will ensure the public has access to, and can provide input on, the team's work. Interested community members will have an opportunity to interact with the review team. The review team will present its work and hear input from communities (subject to budget requirements).

Observers:

Observers may stay updated on the review team's work in several ways:

Mailing-Lists

Observers may subscribe to the observers mailing-list rds-whois2-observers@icann.org by sending a request to mssi-secretariat@icann.org. Calendar invites to RDS-WHOIS2 meetings as well as agendas are forwarded to this mailing-list.

In addition, observers can follow RDS-WHOIS2 Review Team exchanges by subscribing to the RDS-WHOIS2 Review Team mailing-list with read-only rights only.

Attend a meeting virtually

All meetings, whether in person or online, will have a dedicated Adobe Connect room for observers to participate: <https://participate.icann.org/rdsreview-observers>.

Attend a meeting in person

When review team members gather for public face-to-face meetings, Observers may attend to share their input and questions with the review team, as appropriate. The calendar of scheduled calls and meetings is published on the wiki: <https://community.icann.org/display/WHO/RDS-WHOIS2+Review>.

Email input to the review team

Observers may send an email to the review team to share input on their work. Remarks and/or questions can be sent to the following address: input-to-rds-whois2-rt@icann.org.

The RDS-WHOIS2-RT observers list is available [here](#).

Independent Experts:

As per the Bylaws (Article 4, Section IV(a)(iv), the review team may engage independent experts "to render advice as requested by the review team. ICANN shall pay the reasonable fees and expenses of such experts for each review contemplated by [Section 4.6 of the Bylaws] to the extent such fees and costs are consistent with the budget assigned for such review."

For the purpose of this review, independent experts are third parties that may be contractually engaged to support the review team's work. Should the need for independent experts arise, the review team will consider the scope of work required, expected deliverables, necessary skills and expertise, and the budget implications associated with the project. To initiate a request for an independent expert, the review team will create and formally approve a statement of work which includes:

- ⦿ A clear, specific project title and concise description of the work to be performed
- ⦿ A description of required skills, skill level, and any particular qualifications
- ⦿ Concrete timelines for deliverables, including milestones and measurable outcomes

- ⦿ Any additional information or reference material as needed to detail requirements

The leadership will communicate the review team’s request to ICANN organization for processing in accordance with ICANN’s standard operating procedures. Selection of experts to support the work of the review team will follow ICANN’s procurement processes. The statement of work will inform the procurement path to be followed (Request For Proposals [RFP] or no RFP). In either case, ICANN organization will search for an expert that meets the specified criteria, evaluate each candidate relative to the criteria, negotiate contract terms, and manage the contracting process. Should the review team wish to appoint designated Team Members to participate in the selection process of the third party, the designated Team Members will be expected to sign the Non-Disclosure Agreement.

Considering advice from independent experts

The review team shall give appropriate consideration to any work submitted by an independent expert. While the review team is at liberty to adopt or reject any input or advice provided by an independent expert, it must include a dedicated section in its draft and final reports that details how the independent examiner’s work was taken into consideration by the review team.

In case the independent examiner provides concrete advice, and the review team rejects that advice, a rationale shall be provided.

Any work that the independent expert submits to the review team shall be included in full as an annex to the review team’s draft and final reports.

Closure & Review Team Self-Assessment:

The review team will be dissolved upon the delivery of its final report to the Board, unless assigned additional tasks or follow-up by the ICANN Board are being requested.

Following its dissolution, review team members shall participate in a self-assessment, facilitated by supporting members of ICANN organization, to provide input, best practices, and suggestions for improvements for future review teams.

TERMS OF REFERENCE APPENDIX 1

[A Limited Scope Proposal](#) was developed in November 2016, at the request of SO/AC leaders, to reflect discussions about how to conduct the RDS-WHOIS2 Review more effectively, while minimizing the impact of the review on the community. The following text from [“RDS Review - Guidance for Determining Scope of Review”](#) summarizes the limited scope proposal and feedback on that proposal received from SO/AC leaders, highlighting key points that the review team should consider when determining the scope of this Review:

The proposed limited scope suggests that:

- *The scope be limited to “post mortem” of implementation results of the previous WHOIS review recommendations*
- *ICANN org report on implementation of WHOIS review recommendations:*
 - *How well were the identified issues addressed?*
 - *How well were the recommendations implemented?*
- *Review scope exclude issues already covered by RDS PDP effort*

The [GNSO feedback](#) indicates their support for excluding issues already covered by the RDS PDP efforts, to avoid duplication of work, and the proposed limited scope. Additionally, GNSO suggests the scope to include and assess:

- *Whether RDS efforts meet the “legitimate needs of law enforcement, promoting consumer trust and safeguarding registrant data.”*
- *How RDS current & future recommendations might be improved and better coordinated*
- *Privacy and Proxy Services Accreditation Issues and Implementation*
- *The progress of WHOIS cross-departmental validation implementation*
- *Compliance enforcement actions, structure, and processes*
- *Availability of transparent enforcement of contractual obligations data*
- *The value and timing of RDAP as a replacement protocol*
- *The effectiveness of any other steps ICANN org has taken to implement WHOIS Recommendations*

The [GAC feedback](#) noted that, while many of its members have no objection to the proposal to limit the scope of the review, a few members expressed concerns that this would not be appropriate given that a) the current WHOIS may still be in use for a while and its improvement should not be neglected; and b) the scope of a review should best be determined by the Review Team itself. At the relevant plenary, GAC members expressed general support for the GNSO feedback, noting that overlap with the RDS PDP might not be entirely avoided.

The ALAC and SSAC have both indicated support of the proposed limited scope, and exclusion of issues covered by RDS PDP.

In summary, the majority of the SOs and ACs agree that the RDS-WHOIS2 Review scope should be determined in very close coordination with other ongoing community efforts to avoid duplication of work. Moreover, given the concerns regarding the community bandwidth, sheer amount of work associated with a full Review scope, and the length of time it takes to conduct a full Review (12-18 months) compared to the proposed limited scope (approximately six (6) months), the proposed limited scope may be the most feasible approach and best use of community resources.

TERMS OF REFERENCE APPENDIX 2 – SCOPE TABLE

The team prioritized this review’s objectives using the table below. The “F2F Results” column indicates the priority assigned to each objective, using a scale of 1 to 5 (highest).

Reference	Original Issue	Objective to be inserted into ToR (draft text for RT consideration)	F2F Results
Bylaws 4.6(e)(iv)	<i>(iv) The Directory Service Review Team shall assess the extent to which prior Directory Service Review recommendations have been implemented and the extent to which implementation of such recommendations has resulted in the intended effect.</i>	Consistent with ICANN’s mission and Bylaws, Section 4.6(e)(iv), the review team will (a) evaluate the extent to which ICANN org has implemented each prior Directory Service Review recommendation (noting differences if any between recommended and implemented steps), (b) assess to the degree practical the extent to which implementation of each recommendation was effective in addressing the issue identified by the prior RT or generated additional information useful to management and evolution of WHOIS (RDS), and (c) determine if any specific measurable steps should be recommended to enhance results achieved through the prior RT’s recommendations. This includes developing a framework to measure and assess the effectiveness of recommendations, and applying that approach to all areas of WHOIS originally assessed by the prior RT (as applicable).	4-5
Bylaws 4.6(e)(ii)	<i>(ii) The Board shall cause a periodic review to assess the effectiveness of the then current gTLD registry directory service...</i>	Consistent with ICANN’s mission and Bylaws, Section 4.6(e)(ii), the review team will assess the effectiveness of today’s WHOIS (the now current gTLD RDS, including cumulative changes made to the then-current RDS which was assessed by the prior RT) by (a) inventorying changes made to WHOIS policies and procedures since the prior RT completed its work, (b) using that inventory to identify significant new areas of today’s WHOIS (if any) which the team believes should be reviewed, and (c) determining if any specific measurable steps should be recommended to enhance effectiveness in those new areas.	3
Bylaws 4.6(e)(ii)	<i>(ii) ...and whether its implementation meets the legitimate needs of law enforcement</i>	Consistent with ICANN’s mission and Bylaws, Section 4.6(e)(ii), the review team will assess the extent to which the implementation of today’s WHOIS (the current gTLD RDS) meets legitimate needs of law enforcement for swiftly accessible, accurate and complete data by (a) establishing a working definition of “law enforcement” used in this review, (b) identifying an approach used to determine the extent to which these law enforcement	4-5

		needs are met by today's WHOIS policies and procedures, (c) identifying high-priority gaps (if any) in meeting those needs, and (d) recommending specific measurable steps (if any) the team believes are important to fill gaps. Note that determining which law enforcement requests are in fact valid will not be addressed by this review.	
Bylaws 4.6(e)(ii)	<i>(ii) ...and whether its implementation promotes consumer trust</i>	Consistent with ICANN's mission and Bylaws, Section 4.6(e)(ii), the review team will assess the extent to which the implementation of today's WHOIS (the current gTLD RDS) promotes consumer trust in gTLD domain names by (a) agreeing upon a working definition of "consumer" and "consumer trust" used in this review, (b) identifying the approach used to determine the extent to which consumer trust needs are met, (c) identifying high-priority gaps (if any) in meeting those needs, and (d) recommending specific measurable steps (if any) the team believes are important to fill gaps.	2
Bylaws 4.6(e)(ii)	<i>(ii) ...and whether its implementation safeguards registrant data</i>	Consistent with ICANN's mission and Bylaws, Section 4.6(e)(ii), the review team will assess the extent to which the implementation of today's WHOIS (the current gTLD RDS) safeguards registrant data by (a) identifying the lifecycle of registrant data, (b) determining if/how data is safeguarded in each phase of that lifecycle, (c) identifying high-priority gaps (if any) in safeguarding registrant data, and (d) recommending specific measurable steps (if any) the team believes are important to fill gaps.	2
Bylaws 4.6(e)(iii)	<i>(iii) The review team for the Directory Service Review will consider the Organisation for Economic Co-operation and Development ("OECD") Guidelines on the Protection of Privacy and Transborder Flows of Personal Data as defined by the OECD in</i>	The review team considered the OECD Guidelines on the Protection of Privacy and Transborder Flows of Personal Data in relation to WHOIS Policy as mandated by ICANN's Bylaws, Section 4.6.(e)(iii). The team agreed, by unanimous consensus, that current WHOIS policy does not consider the issues of privacy/data protection or transborder dataflows, and that it is within the domain of the ongoing PDP on Next-Generation gTLD Registration Directory Services to Replace WHOIS to determine to what extent a future RDS should factor in the OECD Guidelines or other privacy/data protection and transborder dataflow requirements set at national or multinational levels. Accordingly,	Agreed to drop as review objective but provide rationale in ToR

GNSO Scope Msgs Page 3	1980 and amended in 2013 <i>and as may be amended from time to time</i>	the review team decided that further review of the OECD Guidelines would not be an effective use of the team's time and effort.	
	<i>Assess WHOIS Policy Compliance enforcement actions, structure, and processes; Availability of transparent enforcement of contractual obligations data</i>	Consistent with ICANN's mission to ensure the stable and secure operation of the Internet's unique identifier systems by enforcing policies, procedures and principles associated with registry and registrar obligations to maintain and provide access to accurate and up-to-date information about registered names and name servers, the review team will (to the extent that this is not already covered in prior RT recommendations), (a) assess the effectiveness and transparency of ICANN enforcement of existing policy relating to WHOIS (RDS) through Contractual Compliance actions, structure and processes, including consistency of enforcement actions and availability of related data, (b) identifying high-priority procedural or data gaps (if any), and (c) recommending specific measurable steps (if any) the team believes are important to fill gaps.	3
GNSO Scope Msgs Page 3	<i>Assess the value and timing of RDAP as a replacement protocol</i>	The review team will not conduct a review of Registration Data Access Protocol (RDAP) at this time because policies have not yet been developed to enable assessment of the value and timing of RDAP as a replacement protocol for WHOIS.	Agreed to drop as review objective but provide rationale in ToR
GNSO Scope Msgs Page 3	<i>Assess current WHOIS protocol for current purposes</i>	The review team will not conduct a review of the WHOIS protocol at this time because activities are already underway to replace the WHOIS protocol.	Agreed to drop as review objective but provide rationale in ToR
GNSO Scope Msgs Page 1	<i>Assess progress made on supporting Internationalized Domain Names (IDNs)</i>		Merged into WHOIS1 Rec Eval
	<i>Assess sections of ICANN's ByLaws relating to RDS</i>	The review team has considered ICANN's Bylaws, Section 4.6(a)(v): "Each review team may recommend that the applicable type of review should no longer be conducted or should be amended."	Objective added after F2F

Consistent with this section, the review team will (a) identify any portions of Section 4.6(e), Registration Directory Service Review, which the team believes should be changed, added or removed, and (b) include any recommended amendments to Section 4.6(e), along with rationale for those amendments, in its review report.

Appendix C: GNSO and GAC Scope Inputs

From: Olof Nordling <olof.nordling@icann.org>
Date: Thursday, December 15, 2016 at 9:25 AM
Subject: RE: Draft Proposal for a Limited Scope RDS Review

Please note the below message from the GAC Chair.
Best regards
Olof

Subject: Proposal to Limit Scope of RDS Review

Dear Margie and dear SO/AC Colleagues,

The GAC and its Public Safety Working Group has considered the proposal for a limited scope of the upcoming RDS Review, sent for consultation to the respective email lists with the question whether there would be any objections to the proposal. The number of comments received during this consultation was limited but, although many may indeed have no objection to the proposal, there were concerns expressed from some GAC Members.

The concerns brought up were the following, for your information and further consideration. On substance there was a comment that, as a potential RDS Policy Recommendation will take considerable time to develop and implement, the current WHOIS will remain for long and its improvement should not be neglected while awaiting a Next Generation RDS. On procedure, there were comments that the scope of a Review should be left to be determined by the Review Team itself, that assessment by ICANN Staff should not form the basis of the scope of a Review, and that it would not be appropriate to limit participation in a Review Team to specific members of the community (WHOIS Review Team No. 1 in this case).

I should underline that the above are comments from some individual GAC Members, but not in any way a GAC position. I nevertheless trust that this may serve to inform the further work regarding the RDS Review.

Best regards
Thomas Schneider
Chair, Governmental Advisory Committee

Source:
<https://community.icann.org/download/attachments/63145764/GAC%20RDS%20Limited%20Scope%20Response.pdf>

4 January 2017

GNSO Council Feedback on a Proposal to Limit the Scope of the Forthcoming RDS Review

James Bladel, Donna Austin and Heather Forrest
GNSO Council Chairs

Margie Milam
Vice-President, ICANN Multi-Stakeholder Strategic Initiatives Department
Cc: GNSO Council

The GNSO Council has reviewed the Proposal for a Limited Scope of the RDS Review (formerly the 2nd WHOIS Review) that was circulated to the community for comment in November 2016, and wishes to provide the following input for consideration.

The GNSO Council notes that the ICANN Bylaws provide for a periodic Registration Directory Service (RDS) Review in the following terms:

4.6 (e) Registration Directory Service Review

- (i) 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.
- (ii) The Board shall cause a periodic review to assess the effectiveness of the then current gTLD registry directory service and whether its implementation meets the legitimate needs of law enforcement, promoting consumer trust and safeguarding registrant data ("Directory Service Review").
- (iii) The review team for the Directory Service Review ("Directory Service Review Team") will consider the Organisation for Economic Co-operation and Development ("OECD") Guidelines on the Protection of Privacy and Transborder Flows of Personal Data as defined by the OECD in 1980 and amended in 2013 and as may be amended from time to time.
- (iv) The Directory Service Review Team shall assess the extent to which prior Directory Service Review recommendations have been implemented and the extent to which implementation of such recommendations has resulted in the intended effect.
- (v) The Directory Service Review shall be conducted no less frequently than every five years, measured from the date the previous Directory Service Review Team was convened, except that the first Directory Service Review to be conducted after 1 October

2016 shall be deemed to be timely if the applicable Directory Service Review Team is convened on or before 31 October 2016.

Accordingly, the GNSO Council would like to suggest the following nine (9) areas of focus for the RDS Review Team:

1. Assess whether the RDS efforts currently underway in the ICANN community are on target to meet the "legitimate needs of law enforcement, promoting consumer trust and safeguarding registrant data."
2. Assess the RDS efforts currently underway (or planned in the near term), for the purpose of making recommendations regarding how they might be improved and better coordinated.
3. Ongoing work by the Privacy and Proxy Services Accreditation Issues Implementation Review Team (see Recommendation 10 of the 2012 WHOIS Review Team Final Report).
4. Progress of cross validation implementation (see Recommendations 6 and 7, 2012 WHOIS Review Team Final Report).
5. Review compliance enforcement actions, structure and processes (see Recommendation 4, 2012 WHOIS Review Team Final Report).
6. Availability of transparent data concerning enforcement of contractual obligations of WHOIS.
7. Assess the value and timing of RDAP as a replacement protocol.
8. To the extent time and bandwidth permit, evaluate the effectiveness of any other steps ICANN has taken to implement Recommendations 3-11 of the 2012 WHOIS Review Team Final Report.
9. Ensure no duplication of work that is the responsibility of the GNSO's RDS Policy Development Process Working Group.

The GNSO Council appreciates the opportunity to comment on the Proposal, and hopes its suggestions will be helpful in focusing the work of the RDS Review Team while avoiding duplication of work that is already underway in the community.

Best regards,

James Bladel (GNSO Chair)

Donna Austin (GNSO Council Vice-Chair, Contracted Parties House)

Heather Forrest (GNSO Council Vice-Chair, Non-Contracted Parties House)

Source:

<https://gns0.icann.org/sites/default/files/file/field-file-attach/gns0-council-feedback-rds-proposal-04jan17-en.pdf>

Appendix D: Work Plan

The work plan serves as a guide for the review team to plan its work. It outlines the key steps and milestones to be achieved, and maps out the timeline for producing both findings and recommendations.

The work plan was [submitted to the ICANN Board](#), together with the Terms of Reference, on 9 February 2018. Work plan was, since, then updated regularly to reflect review team's progress on identified milestones and deliverables, see dedicated wiki page: <https://community.icann.org/x/dtjRAw>.

Appendix E: Fact Sheets

ICANN organization publishes fact and expense sheets on a quarterly basis, as well as participation and milestones updates on a monthly basis. These documents bring transparency and accountability to the community on how review team resources and time are being used.

The Fact Sheet captures attendance of review team members, costs associated with professional services and travel to attend face-to-face meetings, milestones and participation.

Definitions are as follows:

Professional Services: Approved budget for the review team to use for services of independent experts, as noted in Bylaws Section 4.6(a)(iv): Review teams may also solicit and select independent experts to render advice as requested by the review team. ICANN organization shall pay the reasonable fees and expenses of such experts for each review contemplated by this Section 4.6 to the extent such fees and costs are consistent with the budget assigned for such review. Guidelines on how review teams are to work with and consider independent expert advice are specified in the Operating Standards.

Travel: Amount approved for review team travel for face-to-face meetings. Examples of travel expenditures include, but are not limited to, charges for airfare, hotel, per diem reimbursement, venue meeting costs, audio-visual/tech support, catering. These expenses include RT and ICANN organization support travel.

ICANN Org Support: Amount approved in the budget for ICANN organization to contract outside services to support the work of the review team.

Spent to Date: Amounts include quarterly financials since inception of the work by the review team through the most recent quarter end.

Committed Services:

1. Travel: Estimated expenses for approved face-to-face meetings.
2. Professional Services: Included services from signed contracts to be provided or invoiced. These are typically for non-employee related support services provided by contractors.

Total Spent and Committed to Date: This is the sum of the “Spent to Date” and “Committed Services” amounts through the most recent quarter end. The “Committed Services” amount does not include the “Spent to Date” amounts.

Remaining Budget: This is the difference between the “Approved Budget” and the “Total Spent and Committed to Date” amounts.

Fact sheet archives may be viewed at:

<https://community.icann.org/display/WHO/Fact+Sheet>

Registration Directory Service (RDS-WHOIS2) Review

Fact Sheet as of: 3-Aug-2019

NOTE: Information in this fact sheet was presented in the Final Report and reflects financial data through the end of June 2019. Additional expenses may appear in future financial reports and will be posted on the wiki here: <https://community.icann.org/display/WHOIS2FactSheet>

Overview:
The Board shall cause a periodic review to assess the effectiveness of the then current gTLD registry directory service and whether its implementation meets the legitimate needs of law enforcement, promoting consumer trust and safeguarding registrant data ("Directory Service Review").
The Review Team will consider the Organisation for Economic Co-operation and Development ("OECD") Guidelines on the Protection of Privacy and Transborder Flows of Personal Data as defined by the OECD in 1980 and amended in 2013 and as may be amended from time to time.
The Review Team shall assess the extent to which prior Directory Service Review recommendations have been implemented and the extent to which implementation has resulted in the intended effect.

Wiki Page: [RDS-WHOIS2 Wiki Home Page](https://community.icann.org/display/WHOIS2WikiHomePage)
Contact the RDS-WHOIS2-RT: info@rds-whois2-rt.icann.org
Review Questions: <https://community.icann.org/display/WHOIS2ReviewQuestions>

Interim RDS-WHOIS2 Co-Chairs:
Cathrin Bauer-Balst
Alan Greenberg
Susan Kawaguchi

Review Status (as of 3 August 2019)

Start Date: Jun-17
Review Duration to Date: 26 Month(s)
Expected Completion: Aug-19
Total Expected Duration: 26 Months

100% Complete, Based on Duration

0%

42% Budget Spent/Committed by Review Team

Section I: People (as of 3 August 2019)

Review Team members: 11

Volunteer Participation Rate: 71%

Face-to-face meetings: 10 Days
Calls: plenary, leadership, subteam: 117 Calls
Involved at various times throughout Volunteer meeting & call time: 1,023 Hours
ICANN org (hours and cross-organizational) Review: 21

Section II: Financial Resources (as of 3 August 2019)

Direct Review Costs ⁽¹⁾	Approved Budget	Spent to Date ⁽²⁾	Committed Services ⁽³⁾	Total Spent and Committed to Date	Remaining Budget
Professional Services	\$200,000	\$10,000	\$0	\$10,000	\$190,000
Travel ⁽⁴⁾	\$200,000	\$150,000	\$0	\$150,000	\$50,000
ICANN Org Support	\$150,000	\$70,000	\$0	\$70,000	\$80,000
Total	\$550,000	\$230,000	\$0	\$230,000	\$320,000

(1) Excludes ICANN organization and overhead allocation.
(2) Based on the most recent month and financials (may not include recent expenditures). Represents expense incurred since inception of work.
(3) Professional services includes services from signed contracts to be provided or invoiced. Travel includes non-travel expenses for related meetings.
(4) As noted in FY19 Operating Plan, a new "standard" assumption of 10 supported travelers was implemented for each review. This resulted in a revised baseline travel budget of \$195,000.

Section III: Milestones (as of 3 August 2019)

Review Planning
20% of total effort

0% 100%

- Determine role of observers
- Determine leadership
- Finalize legal docs (Conflict of Interest policy, NDA, Statement of Interest)
- Adopt methodology and framework that identifies prioritized focus of RT work (Scope)
- Adopt and publish Terms of Reference/communication with Board
- Adopt and publish Work Plan
- Define Review Team project management roles and responsibilities, including budget identify need for and deliver proposal on division of work
- Develop and adopt outreach plan
- Send adopted Terms of Reference and Workplan to Board

Research & Studies
20% of total effort (to be reviewed by RT)

0% 100%

- Assemble repository of background materials
- Identify briefings/data sources needed
- Determine need for independent expert(s) and develop Statement of Work

Draft Report
35% of total effort

0% 100%

- Subteams to present initial findings to Review Team
- Develop/adopt template for findings, recommendations and report
- Assemble findings and potential recommendations
- Cross-check interim recommendations with scope/Bylaws, obtain feasibility assessment
- Socialize draft recommendations with community
- Publish Draft Report for Public Comment
- Adopt public comment summary for publication

Final Report
25% of total effort

0% 100%

- Review public comment received and incorporate as appropriate
- Cross-check final draft recommendations with scope/Bylaws and obtain feasibility assessment
- Approve final findings, recommendations and report for Board consideration
- Submit Final Report to ICANN Board
- Identify one or two Review Team Members to remain available for clarification as may be needed during the planning phase of implementation of Review Team Recommendations

TOTAL:
100% Milestones Completed

0% 100%

Appendix F: Participation Summary

Registration Directory Service (RDS-WHOIS2) Review

Fact Sheets as of: 3 August 2019

Participation: Plenary, Subgroup, Leadership (as of 3 August 2019)

Overall Review Team Participation Rate	71%	Number of Calls: 118	Face-to-face meetings: 10 (days)	Total Hours: 1,149.00
Review Team Members: 11		• Plenary 45	• Plenary 10 (days)	• Plenary 1,023.25
		• Subgroups 22	• Subgroups 0	• Subgroups 35.75
		• Leadership 51	• Leadership 0	• Leadership 90.00
ICANN org (individuals involved at various times throughout Review): 21		Project Management Hours*: 6,202	Face-to-face meetings: 10 (days)	Total Hours: 785.50
			• Plenary 10 (days)	• Plenary 598.25
			• Subgroups 0	• Subgroups 69.25
			• Leadership 0	• Leadership 118.00

*Estimated based on personnel allocation submissions in the FY18 and FY19 budgets.

Plenary Calls and Meetings (as of 3 August 2019)

Plenary Participation Rate: **70%**

Face-to-face meetings: **10** Days

Call Opportunities to Date: **45** Calls

Total Hours Attended by Review Team Members: **1,023** Hours

SO/AC	Attended	Apologies	No RSVP	Rate
At-Large	137	15	13	83%
GAC	103	24	38	62%
GNSO	151	34	35	69%

Plenary Calls and Meetings (as of 3 August 2019)

Member	SO/AC	Attended	Apologies	No RSVP	Participation Rate
Alan Greenberg	At-Large	53	2	0	96%
Carlton Samuels	At-Large	41	5	9	75%
Cathrin Bauer-Balst	GAC	38	10	7	69%
Dmitry Belyusky	At-Large	43	8	4	78%
Erika Mann	GNSO	33	9	13	60%
Lili Sun	GAC	50	4	1	91%
Stephanie Perrin	GNSO	38	3	14	69%
Susan Kawaguchi	GNSO	48	5	2	87%
Thomas Walden	GAC	15	10	30	27%
Volker Greimann	GNSO	32	17	6	58%
Chris Dispain, Board Member	ICANN Board	31	8	16	56%

*Opportunities to participate include plenary and face-to-face meetings. Total opportunities to date: 55

Leadership Calls and Meetings (as of 3 August 2019)

Leadership Calls Participation Rate: **83%**

Face-to-face meetings: **0** Meetings

Call Opportunities to Date: **51** Calls

Total Hours Attended by Leadership: **90** Hours

Leadership Calls and Meetings (as of 3 August 2019)

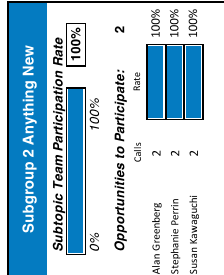
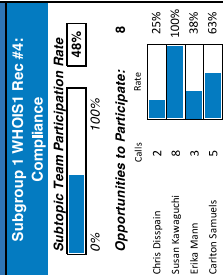
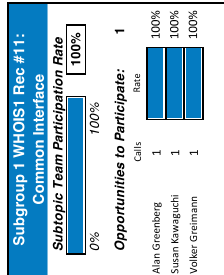
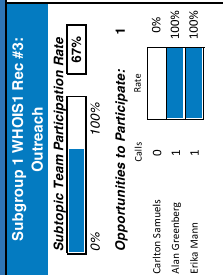
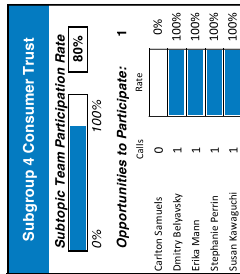
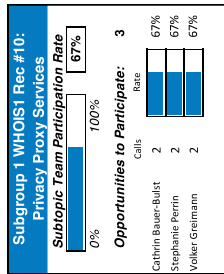
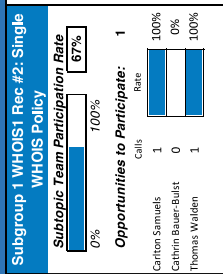
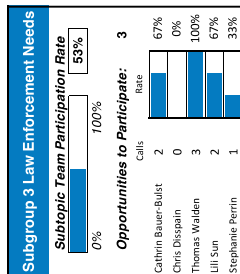
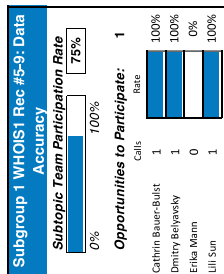
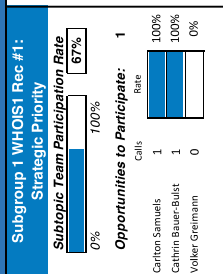
Member	Attended	Apologies	No RSVP	Participation Rate
Cathrin Bauer-Balst	34	15	2	67%
Alan Greenberg	51	0	0	100%
Susan Kawaguchi	42	7	2	82%

*Opportunities to participate include leadership calls. Total opportunities to date: 51

Registration Directory Service (RDS-WHOIS2) Review

Fact Sheet as of: 3 August 2019

Subgroup Calls (* subgroup data does not include non-member participation)



Appendix G: Law Enforcement Survey

This survey aims to identify uses of the WHOIS. It seeks to collect evidence on whether WHOIS meets the legitimate needs of law enforcement agencies and to assess the impact of changes in the context of current adaptations to data protection laws.

Please participate in this survey if you are currently using WHOIS in performance of your duties or have used WHOIS in performance of your duties.

This survey was drafted and sent by the RDS-WHOIS2-RT Law Enforcement Needs Subgroup. More information is available [here](#).

Please complete this survey no later than 23:59 UTC on 25 July 2018 (NOW EXTENDED TO 23:59 UTC ON 6 AUGUST 2018) so data may be processed in time for release of the RDS-WHOIS2 draft report and recommendations (if any). We are aware that exact figures may not be always available; where this is not the case, please use your best estimate.

By clicking on submit, you agree that your personal data will be processed in accordance with the ICANN [Privacy Policy](#), and agree to abide by the website [Terms of Service](#).

1. Please indicate the country of your duty station:
2. Please indicate your Unit/Department/Organization:
3. By which means do you or your agency look up WHOIS data?

Multiple choices possible

- Third party commercial service, e.g. DomainTools
- ICANN WHOIS lookup portal (<https://whois.icann.org/>)
- The Internet's Network Information Center (InterNIC, <https://www.internic.net/whois.html>)
- Portal provided by Registrar, e.g. Godaddy
- Portal provided by Registry, e.g. Verisign
- Port 43 interface
- Other open source tools:.....

4. What are the issues you identified when using WHOIS data? (if any)

Multiple choices possible

- No issues
- WHOIS data is incomplete (no registrant's email address and telephone number)
- WHOIS data is inaccurate, e.g. deliberately falsified
- Hard to tell whether the WHOIS data is accurate or not
- WHOIS data is protected by Privacy/Proxy service
- Inconsistent lookup results
- No central authority for WHOIS data lookup

5. Do you rely on third-party services provided by private companies in relation to WHOIS, e.g. DomainTools or others?
 - Yes

- No
- I don't know

6. To what extent do you rely on these external services?

- For all lookups
- Frequently
- Occasionally
- Rarely

7. Which data fields do you rely on most or are most helpful to your investigation(s)?

Choose category - Multiple choices possible

- Registrant
- Admin
- Tech
- Billing
- Registrar
- Creation & updated date
- Name server and other related technical information (such as domain status)

8. Do you use cross-referencing/reverse lookup of WHOIS data fields, e.g. to identify other domains that were registered using the same information?

- Yes
- No
- Not available

9. How often is this used?

- Always or close to always
- Frequently
- From time to time
- Rarely
- Never or close to never

10. Please provide any comment(s) you may have on cross-referencing/reversed look-up.

.....

11. How important is WHOIS for law enforcement activities?

- Very important
- Important
- Neutral
- Not very important
- Unimportant

12. Are there alternative data sources that you could use or already use to fulfill the same investigative needs?

- Yes

- No
- I don't know

13. Which data source(s) do you or could you use alternatively?

.....

14. Have you come across any issues when requesting data behind privacy and proxy services in your use of the WHOIS?

- Yes
- No
- I don't know

15. If yes, please specify below

.....

16. In what percentage of lookups (approximately) do you encounter privacy/proxy services?

- 0-10%
- 10-20%
- 20-40%
- 40-60%
- 60-80%
- 80-100%

17. Were you able to obtain data on the registrant?

- Yes
- No

18. Did cooperation with the privacy/proxy service function well?

- Yes
- No

19. Was the data obtained in time to allow the investigation to proceed?

- Yes
- No

20. Do you have experience using gated access systems, e.g. on the basis of credentials assigned to you personally or to your organisation? Which requirements exist for your organisation?

.....

21. Where WHOIS access to the name and address of the registrant is discontinued, how would you conduct your investigations?

- By going to the ISPs
- By relying on direct cooperation with registrars and registries on the basis of a request form or other individualized request
- By obtaining a legal instrument and going to the registrars or registries
- Other means (Please explain) :

22. Where WHOIS information is not available on a public query basis, how does this usually affect an investigation?

- Other means are pursued
- The investigation is delayed
- The investigation is discontinued
- Other (please explain):

23. Please specify if possible:

The next set of questions asks about your usage of WHOIS prior to May 2018.

As you may be aware, the WHOIS access policy was changed at the end of May 2018, and a number of data elements that used to be publicly available for lookup are now redacted, in particular information on the registrant and other personal data. For more information on these changes, please see [here](#). The following set of questions seeks your input on your use of the WHOIS prior to these changes.

24. Prior to May 2018, how many WHOIS lookups did you personally make per month?

- <10
- Between 10 and 100
- Between 100 and 1000
- Between 1000 and 10000
- >10000
- None

25. Prior to May 2018, how many lookups did your unit or other units or agencies in your jurisdiction whose use you are aware of make?

- <10
- between 10 and 100
- between 100 and 1000
- between 1000 and 10000
- >10000
- I don't know

26. Prior to May 2018, what was the percentage of WHOIS lookup results, generally speaking, that helped your investigation?

- <10%
- 10%
- 20%
- 30%
- 40%
- 50%
- 60%
- 70%
- 80%
- 90%
- 100%
- I don't know

27. Prior to May 2018, did the WHOIS lookup functionality (anonymous & public access) meet your needs for the purposes of law enforcement investigations?

- Yes
- Partially
- No

28. Prior to May 2018, how did it not meet your needs?

- Inaccurate data
- No data available
- Other:

29. Please specify in what way the WHOIS did not meet your needs.

Please specify whether your answer refers to your unit or also includes other units or agencies.

.....

The next set of questions asks about your usage of WHOIS post May 2018.

30. Has your usage of WHOIS changed since May 2018?

- Yes
- No
- I don't know

31. How many WHOIS lookups do you personally make per month as of June 2018?

- Same as before/no change
- <10
- Between 10 and 100
- Between 100 and 1000
- Between 1000 and 10000
- >10000
- None

32. How many lookups does your unit or other units or agencies in your jurisdiction whose use you are aware of make as of June 2018?

- Same as before/no change
- <10
- between 10 and 100
- between 100 and 1000
- between 1000 and 10000
- >10000
- I don't know

33. Generally speaking, what is the percentage of WHOIS lookup results that help your investigation?

- Same as before/no change
- <10%
- 10%
- 20%
- 30%
- 40%
- 50%
- 60%

-
- 70%
 - 80%
 - 90%
 - 100%
 - I don't know

34. Does the current WHOIS lookup functionality (personal data, e.g. name, email address, phone number, postal address being redacted by some registrars) meet your needs for the purposes of law enforcement investigations?

- Yes
- Partially
- No

35. How does it not meet your needs?

- Lack of personal data hinders the attribution of malicious domains
- Inaccurate data
- Other:

36. Please specify in what way the WHOIS does not meet your needs.

Please specify whether your answer refers to your unit or also includes other units or agencies.

.....

37. Are there any other comments you would like to share with the review team should be aware of?

.....

Thank you for your input!

Appendix H: Public Comments

The RDS-WHOIS2 Review Team published a draft report for public comment³⁰ on 4 September 2018, this public comment proceeding aimed at gathering community input on the review team's proposed draft findings and recommendations. The review team received a total of 7 (seven) comments on its draft report, all comments were submitted by five stakeholder groups and constituencies, and two coalitions. Public comment period, scheduled for closing on 4 November 2018, was extended to 18 November 2018. ICANN organization posted the staff summary on 30 November 2018, including a summary of the public comments in order of submission for each recommendation as applicable, with references to individual recommendation numbers if provided. All comments were made available to the entire review team.

The review team examined this summary during its fourth face-to-face meeting and provided in it an explanation of how each public comment was considered³¹, and what changes will be made in response to public comments, as per ICANN Bylaws, 4.6 (a)(vii)(B). Review team examined the public comments as they related to each proposed recommendation, and explored comments not tied to a specific recommendation but instead to the underlying findings of the report. The review team engaged in a systematic process of reviewing the public comments and assessing what revisions should be made to the proposed recommendations, if any. Any proposed changes were discussed and agreed upon by the review team. The review team updated the ICANN organization staff summary of public comments received spreadsheet to track the review team's consideration of the public comments. The full review team analysis of the comments can be found at <https://tinyurl.com/RDS-WHOIS2-PC-Tool>.

The review team is grateful for the public comments received and the diverse perspectives provided. The review team believes this Final Report contains improved recommendations that reflect the constructive feedback it received as part of the public comment process.

In order to socialize its findings and twenty-three recommendations, the review team hosted two webinars³² on 4 September 2018, and received input from the community on two engagement sessions, one at ICANN62³³ (Panama City) on 28 June 2018, and the second one at ICANN63³⁴ (Barcelona) on 25 October 2018.

³⁰ <https://www.icann.org/public-comments/rds-whois2-review-2018-09-04-en>

³¹ <https://community.icann.org/download/attachments/95093604/summary-comments-rds-whois2-review-30nov18.xlsx?version=1&modificationDate=1550574477000&api=v2>

³² <https://community.icann.org/display/WHO/Webinar%3A+Registration+Directory+Service+%28RDS%29-WHOIS2+Review+Draft+Report+-+17+September+2018>

³³ <https://62.schedule.icann.org/meetings/699467>

³⁴ <https://63.schedule.icann.org/meetings/901639>

Appendix I: Relevant Research Links

3.2 WHOIS1 Rec #1 Strategic Priority

To conduct its research, members of this subgroup reviewed the following background materials, posted on the [subgroup's wiki page](#):

- [WHOIS Review Team \(WHOIS1\) Final Report \(2012\) and Action Plan](#)
- [WHOIS Review Team \(WHOIS1\) Implementation Reports](#), including
 - [Executive Summary of Implementation Report](#)
 - [Detailed implementation Report](#)
- WHOIS1 Implementation Briefings on Recommendations 1, 2, 3, 6, 7, 9, 15, 16: [PPT](#), [PDF](#)
- Answers to RDS-WHOIS2 Questions on Implementation Briefings
- Documents cited in briefing on Recommendation 1 include
 - [ICANN Five Year Strategic Plan](#)
 - [ICANN FY 2017 Operating Plan and Budget](#)
 - [ICANN FY 2018 Operating Plan and Budget](#)
 - [ICANN FY 2019 Operating Plan and Budget](#)
 - [2013 Registrar Accreditation Agreement \(RAA\)](#), including [RAA WHOIS requirements for Registrants](#)
 - [EWG on gTLD Registration Directory Services Final Report \(2014\)](#)
 - [WHOIS Information Portal and Consolidated WHOIS Lookup Tool](#)
 - [Roadmap of WHOIS/RDS Activities](#) (as of June 2017)

In addition, this subgroup requested the following additional materials:

- Information on incentivization measures for ICANN organization staff including CEO ([standard] contract clauses, internal guidance, memos, meeting minutes etc.)
- Records of Board/CEO Committee on RDS (WHOIS) including terms of reference/Charter, minutes of meetings, work plan, objectives and outputs
- Any other written materials that can provide responses to the subgroup's questions (detailed below).

To understand in more detail how the RDS (WHOIS) as a strategic priority has been integrated into the organizational objectives and the impact that this integration has had in practice (as compared to the approach before 2012), the subgroup submitted a series of questions to ICANN, seeking facts to help answer the following:

- Has ICANN organization made RDS (WHOIS) a strategic priority from a formal perspective, by putting into place the appropriate resources and procedures?
- Has ICANN organization made RDS (WHOIS) a strategic priority from a substantive perspective?

ICANN provided [detailed responses](#) to the subgroup's questions, which are referred to in the analysis given in Section 3.2.3 below. The subgroup also agreed to review the output from the other subgroups in assessing the degree to which RDS (WHOIS) has been made a strategic priority within the organization. Finally, the subgroup applied the RDS-WHOIS2 Review Team's [agreed framework](#) to measure and assess the effectiveness of recommendations.

3.3 WHOIS1 Rec #2: Single WHOIS Policy

To conduct its research, members of this subgroup reviewed the following background materials, posted on the [subgroup's wiki page](#):

- [ICANN Board Resolution Accepting WHOIS RT Recommendation 8 Nov 2012](#)
- [Action Plan to Address WHOIS Review Team Report Recommendations](#)
- [Single Source All WHOIS Related Agreements and Provisions](#)
- [Website Containing All Things WHOIS](#)
- [SAC055: SSAC's Response to the RDS-WHOIS1 Final Report](#)
- [Announcement of the Expert Working Group on Next Generation Registration Data Services](#)
- [Expert Working Group, EWG on gTLD Registration Directory Services Final Report](#)
- [Board Resolution on Steps to be taken on acceptance of the EWG Final Report](#)
- [Framework to Address Next Generation gTLD Registration Directory Services to Replace WHOIS PDP](#)
- [Issue Report for Next Generation gTLD Registration Directory Services to Replace WHOIS](#)
- [GNSO Resolution Establishing the RDS-WHOIS-PDP WG](#)
- [Charter for PDP WG Next Generation gTLD Registration Directory Services \(RDS\) to Replace WHOIS](#)
- [The Communique from GNSO Next-Generation gTLD RDS to replace WHOIS PDP WG Leadership Suspending PDP Meetings](#)
- [Some Evidence of the Work of the Next-Generation gTLD RDS to replace WHOIS PDP WG](#)
- [Temporary Specification for gTLD Registration Data](#)
- [Charter for the Temporary Specification for gTLD Registration Data Expedited Policy Development Process \(EPDP\) Team](#)
- WHOIS1 Implementation Briefings on Recommendations 1, 2, 3, 6, 7, 9, 15, 16: [PPT](#), [PDF](#)
- [Answers to RDS-WHOIS2 Questions on Implementation Briefings](#)

3.4 WHOIS1 Rec #3: Outreach

To conduct its research, members of this subgroup reviewed the following background materials, posted on the subgroup's wiki page:

1. [WHOIS Review Team \(WHOIS1\) Final Report \(2012\) and Action Plan](#)
2. [WHOIS Review Team \(WHOIS1\) Implementation Reports](#), including
 1. [Executive Summary of Implementation Report](#)
 2. [Detailed implementation Report](#)
3. WHOIS1 Implementation Briefings on Recommendations 1, 2, 3, 6, 7, 9, 15, 16: [PPT](#), [PDF](#)
4. [Answers to RDS-WHOIS2 Questions on Implementation Briefings](#)
5. Documents cited in briefing on Recommendation 3 include
 1. [WHOIS Information Portal and Consolidated WHOIS Lookup Tool](#)
 2. [Registrant's Benefits and Responsibilities](#)
 3. [2013 RAA - see Section 9](#)
 4. [Information for Registrars and Registrants](#)
 5. [Registrant Educational Series](#)

In addition, the subgroup requested additional materials and briefings from the ICANN Org:

- [Written implementation briefing on WHOIS1 Recommendation #3](#)
- SME answer to the following question:

What has ICANN done, on a one-time basis or ongoing, to address recommendation 3's requirement to reach out to communities outside of ICANN with an interest in RDS (WHOIS) issues?

Finally, the subgroup applied the RDS-WHOIS2 Review Team's agreed framework to measure and assess the effectiveness of recommendations' effectiveness.

3.5 WHOIS1 Rec #4: Compliance

To conduct its research, members of this subgroup reviewed the following background materials, posted on the subgroup's wiki page:

- [WHOIS Review Team \(WHOIS1\) Final Report \(2012\)](#) and [Action Plan](#)
- [WHOIS Review Team \(WHOIS1\) Implementation Reports](#), including
 - [Executive Summary of Implementation Report](#)
 - [Detailed implementation Report](#)
- WHOIS1 Implementation Briefings on Recommendations 4, 12, 13, 14: [PPT](#), [PDF](#)
- [Answers to RDS-WHOIS2 Questions on Implementation Briefings](#)
- [Documents cited in briefing on Recommendation 4 Compliance](#) include
 - [Contractual Compliance Outreach information and Metrics Reporting](#)
 - [Process and approach for enforcing the contract](#)
 - [Contractual Compliance staff information](#)
 - [Contractual Compliance annual reports and financials](#)
 - [Chief Compliance Officer 2017 announcement](#) and [2014 announcement](#)
 - [Consumer Safeguards Director announcement](#)

In addition, the subgroup requested additional materials and briefings from the ICANN Compliance organization:

- [Written Implementation Briefing on WHOIS1 Recommendation #4](#)
- [Meeting #3 - with Compliance Management \(1 February 2018\)](#)
 - [Written answers to 1 February 2018 questions](#)
 - [Written answers to 28 March 2018 meeting questions](#)
- Brussels Meeting follow-up questions
 - [Written answers to compliance questions](#)
 - [Written answers to data accuracy questions](#)
- [Follow-up questions on the WHOIS ARS reports](#) (July 2018)

In addition, the subgroup considered the Accuracy Subgroup's findings with respect to compliance issues raised. Refer to the Accuracy Subgroup's output (Section 3.6) for a list of sources related to the Accuracy Reporting System (ARS).

Finally, the subgroup applied the RDS-WHOIS2 Review Team's [agreed framework](#) to measure and assess the effectiveness of recommendations,

3.6 WHOIS1 Recs #5-9: Data Accuracy

To conduct its research, members of this subgroup reviewed the following background materials, posted on the [subgroup's wiki page](#):

WHOIS1 Implementation Briefings on Recommendations 1, 2, 3, 6, 7, 9, 15, 16: [PPT](#), [PDF](#)
WHOIS1 Implementation Briefings on Recommendations 5, 8, 10, 11: [PPT](#), [PDF](#)
[Answers to RDS-WHOIS2 Questions on Implementation Briefings](#)
[WHOIS Review Team \(WHOIS1\) Final Report](#) (2012) and [Action Plan](#)

[WHOIS Review Team \(WHOIS1\) Implementation Reports](#), including

- [Executive Summary of Implementation Report](#)
- [Detailed implementation Report](#)

Documents cited in briefing on Recommendations 5-9 include:

- [WHOIS Informational Microsite](#)
- [WHOIS ARS December 2015 report, webinar presentation and recording](#)
- WHOIS ARS Phase 2 Cycle 2 [June 2016 report, webinar presentation and recording](#)
- WHOIS ARS Phase 2 Cycle 3 [Dec 2016 report, webinar presentation and recording](#)
- WHOIS ARS Phase 2 Cycle 4 [June 2017 report, webinar presentation and recording](#)
- WHOIS ARS Phase 2 Cycle 5 [Dec 2017 report](#)
- WHOIS ARS Phase 2 Cycle 6 [June 2018 report](#)
- [WHOIS ARS Compliance Metrics](#)
- [WHOIS ARS Validation Criteria](#)
- [Registrant's Benefits and Responsibilities](#)
- [Registrant Educational Series](#)
- [2014 New gTLD Registry Agreement, including Specification 4 Registration Data Publication Services](#)
- [SAC058, Report on Domain Name Registration Data Validation](#)

Additional links specific to Recommendation 7:

- [2013 WHOIS Annual Report](#)
- [2014 WHOIS Annual Report](#)
- [2015 WHOIS Annual Report](#)
- [2016 WHOIS Annual Report](#)
- [Contractual Compliance 2015 Annual Report](#)

Additional links specific to Recommendation 9:

- [Implementation of WHOIS Data Reminder Policy \(WDRP, 2004\)](#)
- [FAQ: Domain Name Registrant Contact Information and ICANN's WHOIS Data Reminder Policy \(WDRP\)](#)

In addition, the subgroup requested additional materials and briefings from ICANN Org:

- [Written implementation briefing on WHOIS1 Recommendations #5-9](#)
- [Responses from Global Domains Division and Contractual Compliance to 10 questions](#)
- Face-to-Face Meeting #2 follow-up questions
- [Written answers to compliance questions](#)
- [Written answers to data accuracy questions](#)
- ICANN compliance input, includes:
 - [Written answers to 19 March questions](#)
 - [Written answers to 20 April questions](#)
- Face-to-Face Meeting #3 follow-up questions
- [Written answers to compliance & data accuracy subgroup questions](#)
- [SME briefings and Q&A response](#) (further responses to be posted on this page)

Further to the comments on the intent of WHOIS1 recommendations on Data Accuracy from the Review Team member and public session during ICANN62, the subgroup also revisited the [NORC study in 2010](#) and the Report on Domain Name Registration Data Validation (SAC058), to which the WHOIS1 Final Report made strong and consistent reference, to conciliate disputes.

Finally, the subgroup applied the RDS-WHOIS2 Review Team's [agreed framework](#) to measure and assess the effectiveness of recommendations.

3.7 WHOIS1 Rec #10: Privacy/Proxy Services

To conduct its research, members of this subgroup reviewed the following background materials, posted on the [subgroup's wiki page](#):

- [WHOIS Review Team \(WHOIS1\) Final Report \(2012\)](#) and [Action Plan](#)
- [WHOIS Review Team \(WHOIS1\) Implementation Reports](#), including
 - [Executive Summary of Implementation Report](#)
 - [Detailed implementation Report](#)
- WHOIS1 Implementation Briefings on Recommendations 5, 8, 10, 11: [PPT](#), [PDF](#)
- [Answers to RDS-WHOIS2 Questions on Implementation Briefings](#)
- Documents cited in briefing on Recommendation 10 include
 - [2013 Registrar Accreditation Agreement \(RAA\)](#), including [RAA WHOIS - requirements for Registrants](#)
 - [Privacy & Proxy Services Accreditation Issues \(PPSAI\) PDP](#)
 - [PDP Final Report](#)
 - [GNSO approval of PDP Final Report](#)
 - [Implementation Plan developed](#)
 - [Board approval of Final Report Recommendations](#)
 - [GAC Advice-Helsinki Communique: Actions and Updates](#)
 - [Current PPAA draft \(20 March\)](#)
- [WHOIS Privacy and Proxy Services Abuse Study Report](#)
- CCT Review Team Study on Privacy/Proxy ([to be posted](#))

In addition, the subgroup requested additional materials and briefings from the ICANN Org

- [Written answers provided by Registrar Services staff leading PP IRT \(20 March\)](#)
- [ICANN Contractual Compliance staff input](#), includes:
 - [20 March written answers to PP IRT related questions](#)
 - [Metrics for P/P Spec in the 2013 RAA](#)
 - [Written implementation briefing on WHOIS1 Recommendation #10 \(27 March\)](#)
 - [Responses from ICANN Contractual Compliance and Global Domains Division to Data Accuracy Subgroup Questions](#)

The subgroup reviewed the available materials, discussed observations and reported back to the full review team for final review and discussion. In its work, the subgroup reviewed the materials listed above, requested further information from ICANN Registrar Services staff to better assess the ongoing implementation work and status and then deliberated the conclusions drawn from their review. The subgroup then deliberated whether there were additional considerations not directly in relation to the original recommendations, the results of which deliberations are included in the “Issues” section below.

Finally, the subgroup applied the RDS-WHOIS2 Review Team's agreed framework to measure and assess the effectiveness of recommendations.

3.8 WHOIS1 Rec #11: Common Interface

To conduct its research, members of this subgroup reviewed the following background materials, posted on the subgroup's wiki page:

- [WHOIS Review Team \(WHOIS1\) Final Report \(2012\)](#) and [Action Plan](#)
- WHOIS Review Team (WHOIS1) Implementation Reports, including
 - [Executive Summary of Implementation Report](#)
 - [Detailed implementation Report](#)
- WHOIS1 Implementation Briefings on Recommendations 5, 8, 10, 11: [PPT](#), [PDF](#)
- [Answers to RDS-WHOIS2 Questions on Implementation Briefings](#)

- Documents cited in briefing on Recommendation 11 include
 - [WHOIS Informational Microsite](#)
 - WHOIS Consolidated WHOIS Lookup Tool
<https://www.internic.net/>

In addition, the subgroup requested additional materials from ICANN Org:

- Available statistics on: use of the common interface, uptime, requests for help using the tool and what usage data is tracked by ICANN;
- The Team/Department that implemented and maintains the common interface; and
- Any challenges with implementation and maintenance of the interface.
- These materials included in written responses provided by ICANN Org:
 - a. [Written briefing on query failures](#), and
 - b. [Written implementation briefing](#) on WHOIS1 Recommendation #11.

Finally, the subgroup applied the RDS-WHOIS2 Review Team's agreed framework to measure and assess the effectiveness of recommendations and conducted individual reviews of the common interface by making and comparing lookup results.

3.9 WHOIS1 Recs #12-14: Internationalized Registration Data

The subgroup studied the provided materials (listed below) and the decisions reached by ICANN after the WHOIS1 Final Report was published. The subgroup checked whether the measures taken by ICANN covers the recommendations made by WHOIS1 Review Team and whether it is necessary to provide any additional measures to fully cover the recommendations.

The materials found relevant are enlisted on the subgroup wiki page:

- [Translation and Transliteration PDP's Final Issue Report, March 2013](#)
- [Translation and Transliteration PDP webpage](#)
- [Translation and Transliteration PDP Working Group Final Report, Jun 2015](#)
- [IRD Expert Working Group Final Report, September 2015](#)
- [Translation and Transliteration IRT wiki](#)
- [Translation and Transliteration Implementation Project Status](#)
- [RDAP webpage](#)
- [WHOIS1 Implementation Briefings on Recommendations 4, 12, 13, 14: PPT, PDF](#)
- [Answers to RDS-WHOIS2 Questions on Implementation Briefings](#)

3.10 WHOIS1 Recs #15-16: Plan & Annual Reports

To conduct its research, members of this subgroup reviewed the following background materials, posted on the [subgroup's wiki page](#):

- [WHOIS Review Team \(WHOIS1\) Final Report \(2012\)](#) and [Action Plan](#)
- [WHOIS Review Team \(WHOIS1\) Implementation Reports](#), including
 - [Executive Summary of Implementation Report](#)
 - [Detailed implementation Report](#)
- WHOIS1 Implementation Briefings on Recommendations 1, 2, 3, 6, 7, 9, 15, 16: [PPT](#), [PDF](#)
- [Answers to RDS-WHOIS2 Questions on Implementation Briefings](#)
- Documents cited in briefing on Recommendations 15-16 include

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- [ICANN Five Year Strategic Plan](#)
 - [ICANN FY 2013 operating Plan and Budget](#)
 - [ICANN FY 2014 Operating Plan and Budget](#)
 - [ICANN FY2015 Operating Plan and Budget](#)
 - [ICANN FY 2016 Operating Plan and Budget](#)
 - [ICANN FY 2017 Operating Plan and Budget](#)
 - [ICANN FY 2018 Operating Plan and Budget](#)
 - [Action Plan adopted by the ICANN Board](#)
 - [2013 WHOIS Annual Report](#)
 - [2014 WHOIS Annual Report](#)
 - [2015 WHOIS Annual Report](#)
 - [2016 WHOIS Annual Report](#)

This subgroup also requested additional materials and briefings from the ICANN Org:

- [Written implementation briefing on WHOIS1 Recommendations #15-16](#)
- [Clarifications pertaining to operating plan and annual report](#)

In addition, this subgroup agreed to base its analysis in part upon Subgroup 1 key findings for all other WHOIS1 Recommendations, provided throughout Section 4 of this document.

Finally, the subgroup applied the RDS-WHOIS2 Review Team's [agreed framework](#) to measure and assess the effectiveness of recommendations.

Objective 2: Anything New

To conduct its research, members of this subgroup reviewed the following inventoried RDS (WHOIS) policy and procedure materials, posted on the [subgroup's wiki page](#):

- [ICANN webpage on WHOIS Policies](#), including the following RDS (WHOIS)-related policies and procedures adopted since 2012
- [Inter-Registrar Transfer Policy](#)
- [Additional WHOIS Information Policy](#) (AWIP)
- [New gTLD URS Policy, Procedure](#) and [Rules for URS Policy](#)
- [Expired Registration Recovery Policy](#) (ERRP)
- [Thick WHOIS PDP](#) and [Final Report](#) – see section 7.1 for Thick WHOIS Policy
- [Thick RDDS \(WHOIS\) Transition Policy for .COM, .NET and .JOBS](#)
- [Registry Registration Data Directory Services Consistent Labeling and Display Policy](#)
- [Privacy & Proxy Services Accreditation Issues \(PPSAI\) PDP](#) and [Final Report](#)
- [Translation/Transliteration of Contact Information PDP](#) and [Final Report](#)
- [Final Report from the Expert Working Group on Internationalized Registration Data](#) (2015)
- [Procedure for Handling RDS/WHOIS Conflicts with Privacy Law](#) (2008)
- [Review of the ICANN Procedure for Handling WHOIS Conflicts with Privacy Law](#) (2014)
- [Final Report on the Implementation Advisory Group Review of Existing ICANN Procedure for Handling WHOIS Conflicts with Privacy Laws](#) (2016)
- [Revised ICANN Procedure For Handling WHOIS Conflicts with Privacy Law](#) (2017)
- [RDS/WHOIS Data Retention Specification Waiver](#) and [Discussion Document](#)

In addition, the subgroup requested from ICANN organization an [Inventory of New and Changes Made to WHOIS Policies and Procedures Since the First WHOIS Review Team Completed Its Work in 2012](#), received on 19 January 2018.

The subgroup recognized that many policies and procedures may change in the light of GDPR, and therefore work at the moment is preliminary in those cases.

Objective 3: Law Enforcement Needs

To conduct its research, members of this subgroup reviewed the following inventoried RDS (WHOIS) policy and procedure materials, posted on the [subgroup's wiki page](#):

- [WHOIS Review Team \(WHOIS1\) Final Report](#) (2012), Chapter 6 and Appendix E: The WHOIS Review team's Law Enforcement Survey
- [WHOIS Misuse Study Final Report](#), especially Section 4. Law Enforcement & Researchers survey
- [ICANN61 GAC PSWG - OCTO Update](#)

To conduct its research, the subgroup agreed to:

- Establish a working definition of "law enforcement" to be used in this review
- Conduct a first informal outreach to law enforcement contacts to solicit input on needs, including for example GAC Public Safety Working Group (PSWG), Anti-Phishing Working Group, and Security and Stability Advisory Committee members
- Review WHOIS1 Review Team's Law Enforcement Survey
- Review the update given by the ICANN Office of CTO to the GAC PSWG

The subgroup reviewed the definition of law enforcement used by the previous WHOIS1 Review Team, which was the following:

Law enforcement is "any entity charged or otherwise mandated by governments with enforcing or ensuring observance of or obedience to the law; an organized body of people officially maintained or employed to keep order, prevent or detect crime and enforce the law."³⁵

The WHOIS1 Review Team added the following considerations:

The adopted definition intentionally does not include private individuals and organizations, such as anti-spam groups or those bringing civil enforcement actions, whose efforts may be viewed as within a larger concept of law enforcement. By adopting the narrower definition, the Team does not intend to discount the value of private sector efforts to curb abusive uses of the DNS.³⁶

The definition was maintained for the purposes of the present review.

The subgroup conducted a survey of law enforcement agencies worldwide, which is also posted on the RDS-WHOIS2 Review Team's Wiki:

- to find out more about their use of the RDS (WHOIS),
- to determine whether RDS (WHOIS) met their investigative needs, and
- to provide a first assessment of the impact of changes made to the RDS (WHOIS) by the Temporary Specification adopted by the ICANN Board on 17 May 2018.

Survey questions can be found in Appendix G. The survey was first run between 16 and 25 July 2018 and extended once, until 6 August 2018, to allow for greater geographical diversity after review of the first round of results.

³⁵ WHOIS Policy Review Team, [Final Report](#), 11 May 2012, p. 23.

³⁶ WHOIS Policy Review Team, [Final Report](#), 11 May 2012, p. 23.

Objective 4: Consumer Trust

To conduct its research, members of this subgroup reviewed the following background materials, posted on the [subgroup's wiki page](#):

- [WHOIS Review Team \(WHOIS1\) Final Report](#) (2012), Appendix F: Consumer Study
- [Competition, Consumer Trust and Consumer Choice Review Team Draft Report](#)
- [Phase Two Global Registrant Survey, and announcement:](#)
- <https://www.icann.org/news/announcement-2-2016-06-23-en>
- To be provided in the final review report: a list of reviewed registrar/registry/reseller webpages that were reviewed to find relevant targeted information for consumers (e.g., information about WHOIS, data privacy/protection, and complaint systems)

To date, the subgroup has requested no additional materials. The subgroup also requested that ICANN's Global Domain Division provide insight into how “consumer trust” is reflected in their approach to RDS (WHOIS) policy implementation and enforcement.

In addition, the subgroup agreed to a working definition of “consumer” to include any Internet user, of which registrants are a small subset. Noting there may be multiple definitions of “trustworthiness” based on subclass of “consumer,” the subgroup agreed to examine “trustworthiness” by determining the extent to which consumer trust needs are met. The subgroup also developed working definitions for the above terms in its findings (see below).

The subgroup further agreed upon the following:

- The definition of consumer to be addressed in this review must be broad and include Internet users. Users are potential domain name owners and insofar, it’s important to approach and address all users, whenever appropriate.
- The basic idea is that RDS (WHOIS) contributes to consumer trust, mostly indirectly. The subgroup notes that there are different opinions about whether the visibility of RDS (WHOIS) data contributes to trust.
- Beyond individual consumer use of RDS (WHOIS), there is a connection between consumer protection and RDS (WHOIS) in the third party use of RDS (WHOIS) data to investigate abuse, deter phishing, etc. Consumers may not be aware that RDS (WHOIS) plays a role in protection.

Objective 5: Safeguarding Registrant Data

To conduct its research, members of this subgroup reviewed the following inventoried RDS (WHOIS) policy and procedure materials, posted on the [subgroup's wiki page](#):

- [SAC051, Report on Domain Name WHOIS Terminology](#) (2011)
- [SAC054, Report on Domain Name Registration Data Model](#) (June 2012)
- [RDS/WHOIS Contractual Requirements](#) - Sections pertaining to Data Safeguards:
- [2013 Registrar Accreditation Agreement \(RAA\), Section 3.6 - Data Retention Specification](#)
- [2014 New gTLD Registry Agreement, Specification 2 - Data Escrow Requirements](#)

In addition, the subgroup requested copies of selected agreements with Escrow providers to better understand what the requirements are on such providers with regard to how data must be protected and how, if applicable, data breaches are reported.

The subgroup also considered reaching out to a sampling of registrars, registries and escrow providers (if any are willing) to learn about how RDS (WHOIS) data is protected from being changed or erased.

Objective 6: ICANN Contractual Compliance Actions, Structure and Processes

To conduct its research, members of this subgroup reviewed the following background materials, posted on the subgroup's wiki page:

- [WHOIS Review Team \(WHOIS1\) Final Report \(2012\)](#), Section 1: The Effectiveness of ICANN's WHOIS Compliance Effort
- Documents relevant to [WHOIS1 Recommendations 5-9 - Accuracy](#)
- [ICANN Contractual Compliance webpages](#)
- [Competition, Consumer Trust and Consumer Choice Review Team Draft Report](#)
- [2 February Meeting with Compliance Management](#) - Q&A, citing additional documents:
 1. [ICANN FY 2018 Operating Plan and Budget](#)
 2. [Contractual Compliance 2017 Annual Report](#)
 3. [Contractual Compliance Audit Program](#)
 4. [Contractual Compliance Monthly Dashboards](#)
 5. [WHOIS ARS Contractual Compliance Metrics](#)
 6. [ICANN's Contractual Compliance Approach and Processes](#)
 7. [Notices of Breach, Suspension, Termination and Non-Renewal](#)
 8. [Registrar Formal Notices \(Enforcement\)](#)

In addition, the subgroup met with the ICANN Contractual Compliance team, Jamie Hedlund, Maguy Serad, Roger Lim and Andrea, twice each time providing a list of questions drafted by the subgroup prior to the meeting. The responses are provided above.

ICANN Bylaws

In determining the scope of the present RDS-WHOIS2 Review (see Appendix B, Terms of Reference), Section 4.6(e)(iii) of the [ICANN Bylaws](#) was considered:

"The review team for the Directory Service Review ("Directory Service Review Team") will consider the Organisation for Economic Co-operation and Development ("OECD") Guidelines on the Protection of Privacy and Transborder Flows of Personal Data as defined by the OECD in 1980 and amended in 2013 and as may be amended from time to time."

To address this, the RDS-WHOIS2 Review Team examined the [OECD Guidelines on the Protection of Privacy and Transborder Flows of Personal Data](#) (2013).

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