

Registration Directory Service (RDS-WHOIS2) Review

Draft Report including F2F#3 agreements and action items

REC5-9 SUBGROUP REPORT - SECTION 3.6 ONLY
FOR LILI TO PROVIDE REDLINED UPDATES

RDS-WHOIS2 Review Team
30 July 2018



3 Objective 1: Assessment of WHOIS1 Recommendations Implementation

3.6 WHOIS1 Rec #5-9: Data Accuracy

[SUBSECTION NUMBERS WILL BE ADJUSTED WHEN ADDED BACK TO MASTER DOC]

1.1.1 Topic

Subgroup 1 - WHOIS1 Rec 5-9 Data Accuracy is 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 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).

The specific [WHOIS1 Recommendation](#) assessed by this subgroup appears below:

WHOIS 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.

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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 find answers to the following questions:

- ⊙ The implementation progress of “WHOIS ACCURACY PROGRAM SPECIFICATION” in 2013 RAA.
- ⊙ The progress of WHOIS Accuracy Reporting System (ARS) project and to what extent the inaccuracy has been reduced.
- ⊙ The accurate rate of WHOIS data which uses Privacy/Proxy service.
- ⊙ Are the measures which have been taken effective in achieving the objectives?
- ⊙ Whether we can measure data accuracy when data becomes mostly hidden?

1.1.2 Summary of Relevant Research

To conduct its research, all 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 June 2016 report, webinar presentation and recording
- ⊙ WHOIS ARS December 2016 report, webinar presentation and recording
- ⊙ WHOIS ARS June 2017 report, webinar presentation and recording
- ⊙ 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 the ICANN Org:

- ⦿ Written implementation briefing - recs 5-9
- ⦿ Responses from Global Domains Division and Contractual Compliance to 10 questions
- ⦿ Brussels mtg follow-up questions
 - a. Written answers to compliance questions
 - b. Written answers to data accuracy questions
- ⦿ ICANN compliance input, includes:
 - a. Written answers to 19 March questions
 - b. Written answers to 20 April questions
- ⦿ Face-to-Face Meeting #3 follow-up questions
 - a. [Written answers to compliance & data accuracy questions](#)
 - b. SME briefings and Q&A response

Further to the comments on the intent of WHOIS1 recommendations on Data Accuracy from 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 WHOIS Review Team (WHOIS1) Final Report (2012) 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.

1.1.3 Analysis & Findings

Rec 5-9 could be grouped into 3 levels:

- ⦿ Registrants public education. Rec 5 clearly requested ICANN to widely and pro-actively communicate with current and prospective Registrants on the requirements for accurate WHOIS data, to pro-actively and prominently circulate the Registrant Rights and Responsibilities document to all new and renewing registrants.
- ⦿ To develop a clear, unambiguous and enforceable chain of contractual agreements with registries, registrars, and registrants to require the provision and maintenance of accurate WHOIS data.
- ⦿ To take appropriate measures to reduce the number of WHOIS data that falls into the accuracy groups of Substantial Failure and Full Failure (as defined by the NORC Data Accuracy Study, 2009/2010), and to report annually on above reduction in a measurable way, and further request the Compliance Team to develop metrics to track the impact of the annual WHOIS Data Reminder Policy (WDRP).

A handful of measures were either in effect or have been taken by ICANN Org to progress WHOIS accuracy since prior WHOIS review.

1. A WHOIS Informational Website has been established as a WHOIS policy documentation, to educate registrants on WHOIS, their rights and responsibilities, and to allow Internet users to submit complaints on WHOIS inaccuracy.
2. The 2013 RAA introduced contractual obligations for registrars to validate and verify WHOIS data upon registration, domain transfer, or information change of registrants within 15 days..
3. ICANN is in the midst of developing a WHOIS Accuracy Reporting System (referred to as the ARS), 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 is in effect till today, requires a registrar to present to the registrant the current WHOIS information at an annual basis, and remind the registrants to review their WHOIS data, and make any corrections.

1.1.3.1 Implementation review of Recommendation 5

A WHOIS Informational Website has been established as a WHOIS policy documentation, to educate registrants on WHOIS, their rights and responsibilities, and to allow Internet users to submit complaints on WHOIS inaccuracy. It is explicitly required by ICANN for the registrants to be solely responsible for the registration and use of the domain name registered, and must provide accurate information for WHOIS data publication, and promptly update this to reflect any changes. These requirements are both elaborated on [WHOIS Informational Website](#) and in 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 indicated that registrant's willful breach of WHOIS accuracy policy above will lead to suspension and/or cancellation of the registered domain name.

The WHOIS accuracy policy was elaborated both in 2009 RAA and 2013 RAA, it is assumed all new and renewing registrants have been exposed to the above responsibilities.

In conclusion, the subgroup has the view that Rec #5 has been fully implemented, while the effectiveness of implementation needs to be further assessed.

1.1.3.2 Implementation review of Recommendation 6

To address Rec #6, ICANN initiated the [ICANN.ORG 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 a WHOIS record (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 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 WHOIS accuracy across regions, Registrar Accreditation Agreement (RAA) versions and gTLD types. The newest Phase 2 Cycle 6 report was published in June 2018.

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 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. Two samples are prepared at the beginning of each report cycle:

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

Since the sub-sample records falls in both 2009 RAA and 2013 RAA, while the Registrant email address and telephone number are not required for 2009 RAA, the 2013 RAA requires the contact data in a WHOIS record to be more syntactically complete and to be formatted per more specific requirements than that of the 2009 RAA, the accuracy tests were designed in such a way that all records in the analyzed subsample were only evaluated against a set of baseline requirements derived from the requirements of the 2009 RAA.

The subgroup mainly focused on the assessment of Phase 2. All WHOIS ARS Phase 2 reporting could be accessed [here](#). The below table shows syntax and operability accuracy from December 2015 through December 2017 by ICANN region.

	December 2017	June 2017	December 2016	June 2016	December 2015
North America					
Syntax	89.4%	88.3%	85.7%	82.8%	83.9%
Operability	84.9%	81.2%	77.0%	80.2%	73.2%
Latin America					
Syntax	80.7%	78.1%	67.0%	64.7%	56.9%
Operability	70.2%	74.2%	68.0%	71.6%	72.7%
Africa					
Syntax	45.2%	46.1%	31.3%	29.3%	29.8%
Operability	35.2%	51.6%	49.5%	64.6%	57.0%
Asia/Australia/Pacific Islands					
Syntax	73.9%	68.8%	37.0%	45.0%	39.5%
Operability	37.5%	42.1%	51.9%	57.6%	49.4%
Europe					
Syntax	73.0%	74.5%	65.4%	60.6%	58.8%
Operability	41.9%	59.3%	55.6%	63.1%	59.8%
Overall					
Syntax	81.5%	79.3%	66.6%	67.2%	67.2%
Operability	63.4%	65.4%	65.1%	70.2%	64.7%

ICANN's Contractual Compliance team supports the WHOIS ARS effort by receiving reports of identified syntax and operational failures and following up with contracted parties to resolve areas of noncompliance. However, one of the challenges with the ARS process is that it takes approximately four to five months between when the sample population is polled to when the potentially inaccurate records are available for Compliance's follow-up. The result is that some records sent to Compliance are outdated. As such, above 50% of the tickets were closed before 1st notice, due to either WHOIS data when ticket processed different from sampled WHOIS data, or domain not registered when ticket processed, or Domain already suspended or canceled, or WHOIS format issue identified for 2013 Grandfathered Domain, or Known Privacy/Proxy service. For the left tickets went to a 1st or further notice, above 60% tickets led to domain 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 went to 1st or further notice, 60.1% of the related domains were suspended or canceled, 28.2% of the tickets led to changing or updating of WHOIS data by registrar. Four registrars received a Notice of Breach for tickets created. Of the four, one registrar was suspended 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 changing or updating of WHOIS data by registrar. There were 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 went to 1st or further notice, 65% of the tickets related domains were suspended or canceled. 21.5% of the tickets led to changing or updating of WHOIS data by registrar. There were no registrars received a Notice of Breach for tickets created

Cycle 4: 12,000 subsample records, 4,681 tickets were created. 2,669 tickets were closed before 1st notice. For the 2,012 tickets went to 1st or further notice, 69.5% of

the tickets related domains were suspended or canceled. 16.3% of the tickets led to changing or updating of WHOIS data by registrar. There were no registrars received a Notice of Breach for tickets created.

Cycle 5: 12,000 subsample records. 4,639 tickets were created. 1,711 tickets were closed before 1st notice. The processing of other tickets are still ongoing..

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

	Cycle 1	Cycle 2	Cycle 3	Cycle 4
Sample records	10,000	12,000	12,000	12,000
Tickets created	2,688	4,001	4,552	4,681
Tickets went to 1st or further notice	1,362	1,524	1,897	2,012
Domains were suspended or canceled after 1st or further notice	60.1%	60.6%	65%	69.5%
WHOIS data changed or updated after 1st or further notice	28.2%	25.4%	21.5%	16.3%
Registrar corrected WHOIS format	1.7%	6.1%	7.2%	6.0%
Registrar verified that sampled WHOIS data is correct	6.6%	4.9%	3.9%	5.9%
Domain not registered when ticket processed	0.7%			
Registrar demonstrated compliance with RAA			0.7%	0.4%
WHOIS data when ticket processed different from sampled WHOIS data	2.1%	1.2%	0.9%	
Registry or Registrar remediated issue			0.5%	
Others	0.6%	1.8%	0.6%	0.4%
Registrars received a Notice of Breach	4	0	0	0
Registrar suspended or terminated	1	0	0	0

Looking at the WHOIS ARS reporting and Contractual Compliance Metrics above, several observations could be concluded:

1. Even without identity accuracy check, WHOIS ARS project is an effective way to push the exposed registrants and registrars to improve WHOIS data. However, only the exposed registrations will be affected.
2. For those tickets went to 1st or further notice during Phase 2, above 60% of the tickets related domains were suspended or canceled subsequently, and around 20% of the tickets led to changing or updating of WHOIS data by registrar. Based on the fact, the confirmed Whois data inaccurate rate across the domain space is still high (30~40%), which is also consistent with the overall operability accuracy. If the identity accuracy check was conducted at the same time, the inaccurate rate will be even higher. Considering the ratio of suspended or canceled domains behind tickets went to 1st or further notice during Phase 2 (above 60%), and those domains had an updated WHOIS data after tickets issued (around 20%), the perception here is that considerable registrars usually don't validate and/or verify Whois data in the first place, which is already a breach of contractual obligations. The WHOIS ARS project has only checked a small fraction of Whois records (less than 60,000), comparing to the [332.4 million registered domain names in Q4 2017](#). The improving of WHOIS data across the whole domain name space is still very limited.
3. For each Cycle during Phase 2, 40-60% of the tickets were closed before 1st notice, due to either WHOIS data when ticket processed different from sampled WHOIS

data, or domain not registered when ticket processed, or Domain already suspended or canceled, or WHOIS format issue identified for 2013 Grandfathered Domain, or Known Privacy/Proxy service

In consideration that WHOIS ARS is still ongoing, the subgroup has the view that Rec#6 is partially implemented.

1.1.3.3 Implementation review of Recommendation 7

Instead of an annual WHOIS accuracy report focused on measured reduction in substantial and full failed WHOIS registrations, ICANN has produced and published Annual Report on WHOIS Improvements for [2013](#), [2014](#), [2015](#) and [2016](#) separately, which outlined the progress of all WHOIS policy related working streams.

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

In 2014 Annual Report on WHOIS Improvements, besides the progress of other parallel action streams, ARS was firstly introduced. The 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 introduction of the new validation and verification requirements from the 2013 RAA. It was indicated in the report that as more registrars and more gTLD registrations transition to the new requirements, accuracy rates should continue to be improved.

In 2015 Annual Report on WHOIS Improvements, a WHOIS quality review process referred to as "WHOIS QR" was introduced. In 2014, ICANN launched the WHOIS QR with the objective is to determine if registrars continue to comply with the WHOIS Accuracy obligations as specified in the 2009 and 2013 Registrar Accreditation Agreements (RAA), with an emphasis on previously closed WHOIS inaccuracy complaints because the domain name was suspended. 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 [Contractual Compliance Reports 2015](#).

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 2016 Annual Report on WHOIS Improvements, the shift from the Affirmation of Commitments (AoC) to new ICANN Bylaws was highlighted. The WHOIS obligations originally established by the AoC were replaced by ICANN Bylaws. Those Bylaws require ICANN to periodically conduct review of the effectiveness of WHOIS (RDS in Bylaws), and use commercially reasonable efforts to enforce relating policies. According to the report, WHOIS complaints on 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 WHOIS policy development, several working streams had a positive impact on WHOIS accuracy. However, the measured reduction in WHOIS registrations that fall into the accuracy groups Substantial Failure and Full Failure were missing from the reports.

According to the [Written answers to compliance questions](#) and [Written answers to data accuracy questions](#), ICANN compliance does have some proactive monitoring actions to improve Whois accuracy, e.g. Audit program, WHOIS Quality Review, etc. To this subgroup, the audit program (see below analysis about the implementation of Rec #9) is only sample-based, the WHOIS Quality Review is only a follow up to WHOIS inaccuracy complaints. As such, the proactive action to oversee Whois accuracy across the domain space is not sufficient.

As such, the subgroup has the view that Rec #7 has been partially implemented,a

1.1.3.4 Implementation review of Recommendation 8

ICANN-accredited registrars have several WHOIS obligations, including:

1. Provision of free public 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 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 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 WHOIS data reminders to registrants.

Similarly, registry operators also have contractual obligations related to WHOIS, including: provision of free public 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 WHOIS, including de-accreditation if a registrar fails to respond to reports of inaccurate WHOIS information. New gTLD Registry agreements include enhanced WHOIS obligations Renewals of existing gTLDs to include enhanced WHOIS obligations. To some extent, ICANN has an enforceable chain of contractual agreements with registries, registrars.

However, regarding the contractual obligations of registrars to validate and verify Whois data as outlined in 2013 RAA, the enforcement only happens when there is a Whois inaccuracy complaint or Whois ARS inaccuracy report. Furthermore, there were seldom Notices of Breach issued by ICANN to registrars within Whois ARS project, while several thousands of tickets relating to inaccurate Whois data had been issued.

Thus, the subgroup has the view that Rec #8 has been partially implemented.

1.1.3.5 Implementation review of Recommendation 9

It was indicated in [2013 WHOIS Improvements Annual Report](#) that the Board's Resolution addressing Rec#9 offered an alternative approach to achieving the intended result of this recommendation, which referred back to the implementation of Rec#5-7. But It is not clear to

this subgroup about the Board's justifications on this. And this subgroup still reviewed what have been done about the implementation of WHOIS Data Reminder Policy (WDRP).

The WHOIS Data Reminder Policy (WDRP), adopted by ICANN as a consensus policy on 27 March 2003, requires a registrar to present to the registrant the current WHOIS information at an annual basis, and remind the registrant that provision of false WHOIS information can be grounds for cancellation of their domain name registration. Thus registrants must review their WHOIS data, and make any corrections.

WDRP is intended to be an additional step towards improving 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 WHOIS information is correct and up-to-date, no further action is needed from registrant side. If the registrant does need to update the WHOIS information, the registrant will be directed by corresponding registrar to options available for updating. 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 did sent WDRP Notices. Reading from the results of the survey, for those registrars who sent out WDRP Notices, most of them covered 50% or less of all registrations under sponsorship, and there were considerable WDRP Notices undeliverable. Even with all the aspects above, there were still at least several thousands of WDRP Notices led to changes in registrant data. Thus, there is good reason for this subgroup to believe that if the WDRP were fully enforced at annual basis, there would be a quite positive impact on WHOIS accuracy.

There have been no further updates from ICANN on the implementation of WDRP for the following years, except a [FAQ webpage](#) was online on Feb. 25 2012. WDRP compliance has been then audited since 2012 as one of the many 2009 & 2013 RAA provisions, more detailed information could be found at [Contractual Compliance Audit Program](#). According to the Contractual Compliance Registrar Audit Report of [2012](#), [2013](#), [2014](#), [2015](#), [2016\[1\]](#) and [2016\[2\]](#), only selected (or sampled) registrars were audited during each audit round, and besides a general percentage (20%-35%) of registrars with a deficiency on WDRP compliance, there was no further detail about what exactly the deficiency was, and what actions had been taken by identified registrars to remediate the deficiency. But the above audit reports did indicate that most of the identified registrars were able to completely remediate deficiencies noted in their respective audit reports.

It is not clear to the subgroup what impact this policy has placed in improving WHOIS accuracy. Given there has been no measurable assessment about WHOIS data quality in the implementation of Rec #5-7, this subgroup has the view that Rec #9 has not been implemented.

1.1.4 Problem/Issue

WHOIS remains as one of the ICANN's toughest issues over the years. In addition to ICANN's initiatives and policy development, WHOIS needs more proactive efforts from both registrant and registrar to fix it. After looking into the all the measures have been taken and WHOIS improvements have been progressed so far, there are still some gaps to be bridged to meet the prior WHOIS review recommendations on Data Accuracy.

1.1.4.1 The identity accuracy check of WHOIS data has not been done yet

WHOIS data, with the purpose to be able to contact registrants, needs to be accurate. How does one determine whether the data displayed in a 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 is not necessarily accurate, i.e. it does not correspond to the person/entity registering, managing or owning the domain name.

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

However, neither the WHOIS ACCURACY PROGRAM SPECIFICATION (WAPS) in 2013 RAA, nor the WHOIS ARS has touched upon the identity accuracy of WHOIS data yet. Complying with WAPS or WHOIS ARS requirements doesn't necessarily mean the WHOIS record is not falling into the accuracy groups Substantial Failure and Full Failure (as defined by the NORC Data Accuracy Study, 2009/10). A pragmatic approach for the validation and verification of WHOIS data is still missing.

Actually, registrars (or resellers) are in the best position to validate and verify WHOIS data. As indicated in the [Implementation of the WHOIS Data Reminder Policy \(WDRP\) – 30 November 2004](#), one registrar noted that its most accurate contact information is contained in its internal accounting system. It 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” to be showed on any given WHOIS record.

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

1.1.4.2 WHOIS inaccuracy is believed to be largely under-reported

WHOIS has been a free public lookup service for years. Although ICANN encourages the ICANN community to submit a complaint to ICANN regarding incomplete or incorrect WHOIS data, however, there are no due resources for general public to judge the accuracy of WHOIS data, let alone whether the WHOIS data corresponding to the owner of the domain name. As outlined in the [WHOIS Inaccuracy Complaint Form](#), the general public is only capable to report on missing information, incorrect address, no such person or entity, etc.

Furthermore, as analyzed in the implementation of Rec #6, the confirmed Whois data inaccurate rate across the domain space is still high (30~40%), which is also consistent with the overall operability accuracy. The WHOIS ARS project has only checked a small fraction of the whole domain space. Thus, there is reasonable ground to believe that the WHOIS inaccuracy is largely under-reported.

1.1.4.3 Contractual obligations for WHOIS accuracy have only been passively enforced

The reports of identified syntax and operational failures in WHOIS ARS project has been fed into Contractual Compliance team to follow up since 2015. Looking at the Contractual Compliance Annual Report of [2016](#), [2017](#), the most common issues with regards to registrar compliance on WHOIS inaccuracy are:

1. Registrars failing to verify or validate 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 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 WHOIS information.
5. Registrars failing to suspend domain names within 15 calendar days of receiving a WHOIS inaccuracy complaint and the Registered Name Holder failing to respond as required by WAPS.

In other words, the identified registrars usually didn't comply with the contractual obligations on WHOIS accuracy. The conclusion here is also in line with the findings of the implementation review of Rec #6.

As indicated in the implementation review of Rec #8, the enforcement of contractual obligations of registrars to validate and verify Whois data only happens when there is a Whois inaccuracy complaint or Whois ARS inaccuracy report. Similarly, as long as the related WHOIS record is not identified by WHOIS ARS, or lodged a complaint by community, there is no risk for a registrant to falsify WHOIS data. This is not enough to improve WHOIS accuracy.

1.1.4.4 The WHOIS accuracy of domain names that utilize Privacy and Proxy Services is unknown

Regarding the WHOIS accuracy of domain names that utilize Privacy and Proxy Service, ICANN's criteria is whether the information listed in public WHOIS is accurate (e.g. Proxy Service Provider's contact information), not whether the underlying registrant data which is possessed by the Privacy/Proxy service provider, is accurate. This is a deviation from the end user perspective.

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

According to the [written briefing of ICANN](#), although ICANN Contractual Compliance receives and processes WHOIS inaccuracy complaints regarding domain names that utilize Privacy/Proxy Services, it does not identify the proportion of complaints this represents. Due

to the absence of an accreditation system for Privacy/Proxy service providers, ICANN Contractual Compliance deems it difficult to automate the accurate identification of domain names subject to Privacy/Proxy services in WHOIS inaccuracy complaints.

As such, the accuracy of the contact information behind a domain name utilizing Privacy/Proxy service is unknown to this subgroup.

1.1.4.5 Considerable ARS-generated tickets closed with no action because the WHOIS record changed

As analyzed in previous subsection, for each Cycle during Phrase 2 of WHOIS ARS project, above 50% of the tickets were closed with no action. While there are various reasons behind the closure of tickets, WHOIS data when ticket processed different from sampled WHOIS data accounts for 40-60%. According to ARS team, it takes approximately four to five months between when the sample population was polled to when the potentially inaccurate records were available for Compliance’s follow-up, therefore the result is that some records sent to Compliance are outdated. It seems that the ratio of WHOIS record changing in such a short period of time is anomalous

1.1.5 Recommendations (if any)

Based on its analysis, members of this subgroup agree that:

WHOIS1	Has Been	Rationale
Rec # 5	Fully-implemented	However, effectiveness still needs to be assessed
Rec # 6	Partially-implemented	Because WHOIS ARS project is still on-going, and the identify accuracy check hasn't been done yet.
Rec # 7	Partially-implemented	Because Substantial Failure and Full Failure rates are missing from reports
Rec # 8	Partially-implemented	For enforcement only passively happens when there is a Whois inaccuracy complaint or Whois ARS inaccuracy report, there is no proactive approach to enforce the contractual obligations on WHOIS accuracy.
Rec # 9	Not implemented	Because there has been no measurable assessment of WHOIS data quality improvement either through WDRP or other alternative policies

Recommendation: ICANN Board should direct WHOIS ARS project team to look into the potentially-anomalous closed tickets because the WHOIS record changed, to analyze who did the updates (registrant or registrar), why the WHOIS data was updated, possible linkage with ARS, etc. Based on the analyzing, WHOIS ARS project team should revise the follow-up.

Findings: Throughout the Phrase 2 of WHOIS ARS project, there has been consistent percentage of ARS-generated tickets closed with no action due to the WHOIS record changed. See 1.1.4.5. for detailed information.

Rationale:

The intent of this recommendation is to improve the effectiveness of ARS. To analyze the underlying causes for high ratio of WHOIS record updating in a relatively short period of time will help to understand the landscape of WHOIS record updating, then to have a more targeted follow-up.

Impact of Recommendation: WHOIS ARS project team, related registrars, and probably the Compliance team will be impacted by this recommendation.

Feasibility of Recommendation: For every ARS-generated ticket, the WHOIS ARS project team has worked closely with the identified registrar. To implement this recommendation, further actions are needed to follow up the registrar for details of WHOIS record updating, rather than simply close the ticket without action. Extra workload will be imposed on project team, but it's feasible and manageable.

Implementation:

ICANN Org will be the implementation body of this recommendation; the related registrars will be involved as well. The target for a successful implementation is to reduce the closed tickets without action. Giving that WHOIS ARS is an on-going project, this recommendation could be injected into the process for improvement. The envisioned implementation timeline could be 12 months.

Priority: High

Currently, WHOIS ARS is the major effort to improve WHOIS accuracy. However, considerable ARS-generated tickets were closed with no action. The revising of ARS methodology will contribute the effectiveness of ARS.

Consensus: TBC

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

Problems/issues	Recommendations
1.1.4.1 The identity accuracy check of WHOIS data has not been done yet	No corresponding recommendation yet.
1.1.4.2 WHOIS inaccuracy is believed to be largely under-reported	Outreach Section R3.1, R3.2 Compliance Section R4.5, R4.6, R4.8
1.1.4.3 Contractual obligations for WHOIS accuracy have only been passively enforced	Compliance Section R4.2, R4.7
1.1.4.4 The WHOIS accuracy of domain names that utilize Privacy and Proxy	TBC

1.1.6 Possible impact of GDPR and other applicable laws

Since GDPR came into effect, some registrars have already chosen to redact the personal contact information in WHOIS record. According to latest briefing from ICANN Org, WHOIS ARS does not have access to non-public data, and this will continue under the Temporary Specification. This will impose challenges for ARS project team to check the WHOIS accuracy, let alone compliance follow-up. The redaction of personal contact information also will hinder the WHOIS inaccuracy report from community.