

2016 Annual Report on WHOIS Improvements

1 September 2017



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1 Background

In 2016, new [ICANN Bylaws](#) replaced the WHOIS obligations originally established by the expired [Affirmation of Commitments](#). These Bylaws require periodic reviews to assess the effectiveness of the current generic top-level domain (gTLD) Registration Directory Service (RDS, formerly known as WHOIS) and whether its implementation meets the legitimate needs of law enforcement, promoting consumer trust and safeguarding registrant data. In addition, those Bylaws require the ICANN organization to use commercially reasonable efforts to enforce its policies relating to RDS, while exploring structural changes to improve accuracy and access to gTLDs registration data, as well as considering safeguards for protecting such data.

2016 marks the fourth year of progress towards fulfilling ICANN's commitment to improve WHOIS. The 2016 Annual Report on WHOIS Improvements provides a status on ICANN's implementation of the 2012 WHOIS review team's recommendations.

2 WHOIS – a Continued Priority for ICANN

WHOIS continues to be a strategic priority for ICANN. It is reflected in [ICANN's Strategic Plan for fiscal years 2016-2020](#) under Objective 2, Goal 1 "Foster and coordinate a healthy, stable, and resilient identifier ecosystem." In addition, ICANN has added an overall coordination, oversight, and management role for the WHOIS portfolio. This role will monitor and review both the RDS Policy Development Process (PDP) with an eye toward implementation; identify synergistic opportunities across initiatives and explore ways to leverage that synergy to achieve cost-saving, maximum benefit, and effective implementations; coordinate activities to ensure alignment with overall direction and strategy; manage interdependencies across activities to ensure streamlined and efficient execution.

By dedicating resources to this important program, ICANN was able to complete implementation of all the recommendations stemming from the 2012 WHOIS Review Team's report. A detailed status of the implementation activities is provided in Annex A of this report.

3 Board Continues Action on Community-Driven WHOIS Improvements

The ICANN Board continues to place significant importance on WHOIS related issues and to act upon community recommendations to improve WHOIS. In 2016 the Board considered and adopted the following WHOIS related recommendations:

- ☉ March 2016, the Board considered the next steps for the [Internationalized Registration Data \(WHOIS\) Final Report](#) and convened an expert working group (known as the IRD Working Group) to determine the requirements for the submission and display of internationalized registration data. The Board requested that the Generic Names Supporting Organization (GNSO) Council review the broader policy implications of the IRD Final Report as they relate to other GNSO Policy Development Processes.
- ☉ August 2016, the Board adopted the [GNSO Policy Recommendations on Privacy & Proxy Services Accreditation](#)
- ☉ November 2016, the Board appointed [the Board Working Group on Registration Directory Services to liaise with the GNSO on the policy development process and oversee the](#)

[implementation of the remaining projects arising from the action plan adopted by the Board in response to the first WHOIS Review Team's recommendations.](#)

- ⦿ December 2016, the Board addressed advice from the [Governmental Advisory Committee \(GAC\)](#) in the [Helsinki GAC Communiqué \(June 2016\) scorecard](#) in which the GAC provided advice on the GNSO policy recommendations on Privacy/Proxy services accreditation.

4 WHOIS – Internationalized Domain Names (IDNs)

[Internationalized Domain Names](#) (IDNs) enable people around the world to use domain names in local languages and scripts. These are encoded by [the Unicode standard](#) and used as allowed by relevant [IDN protocols](#). The initial guidelines for IDN implementation were released in 2003. In 2016 an Expert Group was formed to revise the [IDN Implementation Guidelines](#) to focus on continuing to minimize the risk of cybersquatting and consumer confusion, and further respect the interests of local languages and character sets. It's expected that the revised guidelines will be completed and released in 2017.

IDNs are also closely related to the work on Translation and Transliteration of Contact Information that has been underway in the GNSO. The GNSO [Report Final Report Translation and Transliteration of Contact Information](#) released in June 2015 contained seven recommendations, which the [Board adopted](#) in September 2015. Since that time, the Implementation Recommendation Team (IRT) has been engaged in discussions around language and script tags for data entered into registration directory services.

5 Privacy and Proxy Accreditation Program

Privacy and proxy services are for individuals and entities who wish to keep certain information from being made public via WHOIS. The 2013 Registrar Accreditation Agreement (RAA) contemplates the development and implementation of a privacy and proxy service accreditation by ICANN. In October 2013, the GNSO Council initiated a PDP on issues relating to the accreditation of privacy and proxy services. The PDP Working Group delivered its [Final Report](#) in December 2015. ICANN is working with an Implementation Review Team (IRT), which is made up of community members, to implement the recommendations from this Report.

6 WHOIS Knowledge Center

The [WHOIS Knowledge Center](#) was created as an information website in response to a recommendation from the first WHOIS review. The website contains information, reports and other updates related to current WHOIS activities and ICANN policies that might be of interest to the community. During 2016 there were 11,694,935 page views with 77.1 percent of those views coming from first time visitors. This compares to only 4,213,359 page views in 2015. This is a significant increase in users seeking information on WHOIS and demonstrates the value of the microsite as an informational source of information on WHOIS.

7 WHOIS Data and Privacy

Privacy laws and the transfer of personal data is an important aspect of WHOIS. In December 2003, the [WHOIS Task Force 2](#) of the GNSO recommended the development of a procedure to allow gTLD registries and registrars to demonstrate when they are prevented by local laws from fully complying with the provisions of ICANN contracts regarding personal data in WHOIS. In November 2005, the GNSO concluded a [policy development process](#) on establishing such a procedure. It follows the 'well-developed advice on a procedure' recommended by the WHOIS Task Force and approved by the GNSO Council. In May 2006, the ICANN Board adopted the policy. In December 2006, the ICANN organization published the draft [ICANN's Procedure for Handling WHOIS Conflicts with Privacy Law](#). Per the requirements of the procedures, ICANN conducted a review of the procedures, and in November 2015, the Implementation Advisory Group (IAG) published its [Final Report](#). The final report from the IAG recommended that an additional trigger be added to the procedures. In February 2017, the GNSO Council passed a [resolution](#) adopting IAG's recommendation and confirmed that the modification to the WHOIS procedure does not change the intent of the original GNSO policy recommendations. ICANN subsequently incorporated the additional trigger into the revised procedures, which became effective in April 2017. ICANN continues to work with the community on reviewing the procedures to ensure effectiveness.

8 Focus on WHOIS Accuracy

The WHOIS Accuracy Reporting System (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 the GAC concerns raised in past Communiqués (notably the [GAC Beijing advice](#) regarding WHOIS verification and checks). ARS provides a framework for conducting repeatable assessments of WHOIS accuracy, publicly report the findings, and provide data to the ICANN Contractual Compliance team to follow up on potentially inaccurate records with registrars.

The ARS project was implemented in a phased approach based on three methods to assess accuracy of contact information as recommended by [ICANN's Security and Stability Advisory Committee](#) in [SAC058](#):

- ☉ [Phase 1](#): analyzes the syntax accuracy of WHOIS contact information (report published in 2015)
- [Phase 2](#): cyclical assessment of the operability of WHOIS contact information by combining the syntax tests from Phase 1 with operability tests such as sending emails and placing telephone calls (first report published in December 2015 and subsequent reports have been published each June and December since)

Figure 2 below highlights the data elements examined for the Phase 2 Report.

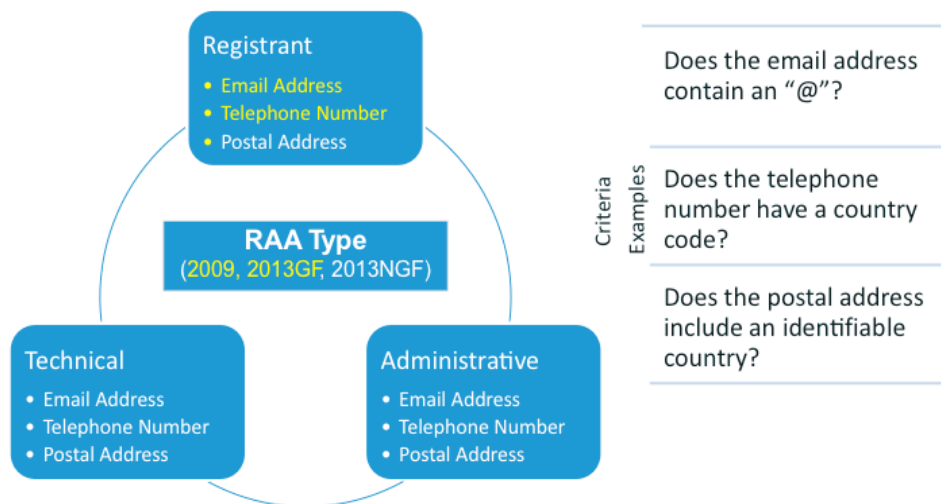


Figure 2: ARS Phase 2 – Contact types, modes, and testing criteria

9 WHOIS and Contractual Compliance

WHOIS has been a priority for ICANN's Contractual Compliance group.

ICANN-accredited registrars have several WHOIS obligations, 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;
- ⦿ Submitting all required data elements to the registries;
- ⦿ Obtaining, retaining and updating data elements in a timely manner;
- ⦿ Escrowing data elements;
- ⦿ Providing for bulk access to WHOIS data in accordance with the required bulk access agreement;
- ⦿ Taking reasonable steps to investigate, and where appropriate, correct inaccuracies upon discovery of information or notification suggesting an inaccuracy exists; and
- ⦿ Providing annual WHOIS data reminders to registrants.

Similarly, registry operators have contractual obligations related to WHOIS, including:

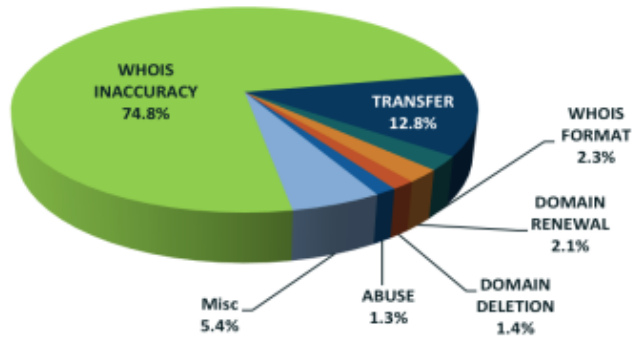
- ⦿ Provision of free public WHOIS service on Port 43 and via web with output appearing in the required format and according to certain service level requirements.

ICANN undertakes various activities to ensure compliance with contractual obligations; some of the activities are a result of publicly generated complaints, some are a result of internal monitoring and others are audit-related.

Highlights of ICANN's Contractual Compliance WHOIS-related activities are located [in the 2016 Annual Compliance Report](#). WHOIS complaints on accuracy and record format were some of the most common registrar compliance issues addressed by ICANN.

Registrar Complaint Type Volume – Year 2016

Complaint Distribution



Average Registrar Turnaround Time	(in days)
1st Notice	12.8
2nd Notice	6.7
3rd Notice	8.7

Formal Notices	#
Volume Breach	22
Volume Non-Renewal	0
Volume Suspension	4
Volume Termination	4

Type	Quantity	Closed before 1 st Inquiry / Notice
ABUSE	548	396
CEO CERTIFICATION	230	0
CUSTOMER SERVICE	243	200
DATA ESCROW	404	57
DNSSEC, IDN, IPV6	23	16
DOMAIN DELETION	615	591
DOMAIN RENEWAL	888	584
FAILURE TO NOTIFY	36	34
FEES	6	0
PRIVACY/PROXY	64	48
REGISTRAR CONTACT	114	86
REGISTRAR INFO SPEC	129	103
REGISTRAR OTHER	49	19
RESELLER AGREEMENT	3	0
TRANSFER	5,525	4,090
UDRP	219	98
WHOIS FORMAT	976	655
WHOIS INACCURACY	32,292	15,186
WHOIS INACCURACY QR	9	1
WHOIS INACCURACY Bulk	3,293	268
WHOIS INACCURACY Individual	20,432	11,231
WHOIS ARS	8,558	3,686
WHOIS SLA	247	206
WHOIS UNAVAILABLE	545	328
Total Complaints Processed		43,156
Total Complaints Closed		40,957
Total Closed before 1st Inquiry / Notice		22,697

Figure 3 WHOIS compliant volume for 2016

An important initiative of the Contractual Compliance Department involves [providing outreach and training](#) to registrars and registry operators across the globe on contract requirements. In 2016, multiple sessions were held at the international ICANN meetings and in regional settings to provide this specialized training.

10 Next-Generation Registration Directory Service (RDS)

Comprehensive WHOIS policy reform remains the source of long-running discussions within ICANN as well as the wider Internet community. Any discussion of WHOIS typically includes topics such as accuracy, anonymity, availability, cost, intellectual property protection, privacy, policing, purpose, security, and malicious use and abuse.

In January 2016, a call for volunteers was held for the Board-initiated PDP to define the purpose of collecting, maintaining, and providing access to gTLD registration data. The PDP working group is holding discussions and conducting its work using a three-phase process to (1) establish gTLD registration data requirements to determine if and why a next-generation RDS is needed, (2) design policies that detail functions that must be provided by a next-generation RDS to support those requirements, and (3) provide guidance for how a next-generation RDS should implement those policies, coexisting with and eventually replacing WHOIS. Information on the GNSO PDP WG can be found at the following link:




<https://community.icann.org/display/NGSPP/New+gTLD+Subsequent+Procedures+PDP+Home>

11 Registration Directory Service (RDS/WHOIS2) Review

The ICANN [Bylaws](#) require the Board to request 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 for the Directory Services Review is to also consider the Organization for Economic Co-operation and Development ("**OECD**") Guidelines on the Protection of Privacy and Transborder Flows of Personal Data. The Directory Services Review will also assess the implementation effectiveness of the prior review's recommendations.


The call for volunteers for the RDS (WHOIS2) Review Team was released on 26 October 2016. Progress on the Review Team formation, confirmed members and upcoming meeting schedules is located on the team's [wiki page](#).

12 Annex A – Detailed Quarterly Implementation Report on WHOIS Improvements

Details on the Implementation Status of the Board Approved ¹ WHOIS Review Team Final Report Recommendations As of September 2017		Key: Complete ✓ or  In Progress ○ or  In Planning ◇ or 	
	Topic	Summary of Implementation Activities	Milestones and Due Dates ¹
	WHOIS - Strategic Priority		
1.a	WHOIS as a strategic priority		<ul style="list-style-type: none"> ✓ Board adopts FY17 update to the Five-Year Operating Plan 27 June 2016 ✓ Registrars signed new 2013 RAA (2013 - 2018); List of Registrars on the 2013 RAA available here. ✓ New gTLD Registries now sign new registry agreements. List of registries available here.
1.b	ICANN staff incentivization	<p>WHOIS projects identified in both WorkFront and the Halogen management system.</p> <p>CEO compensation based on the overall goals and objectives of the entire organization set forth in WorkFront.</p>	
1.c	Board involvement in WHOIS improvements	Board updated, on a trimester basis on the status of WHOIS-related activities and implementation.	<ul style="list-style-type: none"> ✓ 10 March 2016, the Board adopted the final report of the Internationalized Registration Data Working Group. ✓ 27 June 2016, the Board adopted an FY17 update to the Five-Year Operating Plan <ul style="list-style-type: none"> - 9 August 2016 the Board adopted all the final recommendations of the

¹ This Summary highlights ICANN's progress measured against the [Action Plan](#) approved by the ICANN Board in its [8 November 2012 meeting](#).

¹ See Annex A of the 2014, 2015 and 2016 [Annual Reports on WHOIS Improvements](#) for previously completed Milestone and Due Dates

			<p>Privacy & Proxy Services Accreditation Issues PDP Working Group, as passed by a unanimous vote of the GNSO Council on 21 January 2016 ("Privacy/Proxy Policy Recommendations")</p> <ul style="list-style-type: none"> - November 2016, the Board appointed the Board Working Group on Registration Directory Services to liaise with the GNSO on the policy development process and oversee the implementation of the remaining projects arising from the Action Plan adopted by the Board in response to the first WHOIS Review Team's recommendations. - December 2016, the Board adopted advice from the GAC in the Helsinki GAC Communiqué (June 2016) scorecard in which the GAC provided advice on the GNSO policy recommendations on privacy/proxy services accreditation.
<p>1.d</p> 	<p>Public status of implementation</p>	<p>Public closely apprised of the implementation progress through regular updates, announcements on icann.org, blog posts, updates at ICANN meetings, and the new WHOIS website. The implementation status of WHOIS recommendations is updated quarterly and published on the wiki page for the WHOIS Review.</p>	<p>√ ICANN56 Helsinki WHOIS related sessions:</p> <ul style="list-style-type: none"> - GNSO Next-Generation Registration Directory Services to replace WHOIS Policy Development Process Working Group Face to Face Meeting - Cross-Community Session: Next Generation Registration Directory Services - GAC Public Safety Working Group Meeting <p>√ ICANN55 Marrakech WHOIS related sessions:</p> <ul style="list-style-type: none"> - Thick WHOIS Policy Implementation - Meeting with the IRT, 6 March 2016 - Registrars and Law Enforcement, 7 March 2016 - GNSO Next-Generation RDS PDP F2F Meeting, 9 March 2016. For further information about this PDP, please see https://community.icann.org/x/rjJ-Ag.

			<ul style="list-style-type: none"> √ ICANN54 Dublin WHOIS related sessions: <ul style="list-style-type: none"> - WHOIS Review Team International Registration Data Expert WG - GNSO Privacy & Proxy Services Accreditation Issues PDP WGM - Registration Data Access Protocol (RDAP) Implementation - Thick WHOIS Policy Implementation- IRT Meeting √ ICANN Public Comment: <ul style="list-style-type: none"> - Launch of Supplementary Registration Proxy Service for gTLDs Operated by XYZ.COM LLC - Registration Data Access Protocol (RDAP) Operational Profile for gTLD Registries and Registrars - Proposed Implementation of GNSO Thick WHOIS Consensus Policy Requiring Consistent Labeling and Display of RDDS (WHOIS) Output for All gTLDs - GNSO Privacy and Proxy Services Accreditation Issues Policy Development Process Recommendations for ICANN Board Consideration - Revised Proposed Implementation of GNSO Thick WHOIS Consensus Policy Requiring Consistent Labeling and Display of RDDS (WHOIS) Output for All gTLDs - Proposed Implementation of GNSO Thick RDDS (WHOIS) Transition Policy for .COM, .NET, and .JOBS
2	Single WHOIS policy	Updated single webpage containing links to all WHOIS related agreements and consensus policies developed.	√ Webpage will be updated at least quarterly moving forward.
3	Outreach: ICANN should ensure that WHOIS policy issues are accompanied by cross-community outreach	ICANN staff continued to conduct outreach to registrars to educate them on new 2013 RAA requirements.	<ul style="list-style-type: none"> √ ICANN Announcements and Blogs: <ul style="list-style-type: none"> - Evolving Data Privacy and Protection Regulations – UPDATE - Thick WHOIS Transition Update - Dialogues on the Evolving Data Privacy and Protection Regulations

		<p>ICANN Contractual Compliance staff continued to conduct outreach and education.</p> <p>WHOIS microsite updated.</p>	<ul style="list-style-type: none"> - Good Practices for the Registration and Administration of Domain Name Portfolios (Part II) - Informed and Active Domain Name Registrants are Essential for a Secure and Stable DNS - Good Practices for the Registration and Administration of Domain Name Portfolios (Part I) - Personal Data “Use” Matrix Now Available for Public Review
4	<p>Contractual Compliance: to be managed in accordance with best practice principles</p>	<p>New three-year Compliance program on key registrar/registry obligations, including greater visibility on WHOIS-related metrics and improvements to Compliance processes and results</p>	<ul style="list-style-type: none"> √ ICANN Contractual Compliance Performance Monthly Dashboard provides performance metrics information to the community √ Contractual Compliance Update – Quarterly reports √ Contractual Compliance Outreach at 2016 ICANN Meetings <ul style="list-style-type: none"> - ICANN55 Marrakech - ICANN54 Contractual Compliance participated in several sessions - ICANN53 Buenos Aires WHOIS Accuracy Specification Review Discussion - 24 June 2015
Data Accuracy			
5	<p>WHOIS requirements for accurate data widely and pro-actively communicated</p>	<p>WHOIS Data Reminder Policy (WDRP) requires registrars to send annual email reminders to registrants to update their WHOIS information. ICANN’s ‘Do you have a domain name? Here’s what you need to know.’ educational series is part of ICANN’s broader effort to help registrants better understand the ICANN policies that affect them, their role in the Domain Name System, and the role of the ICANN organization and registries and registrars. The first piece of the education series is regarding the WDRP and importance of</p>	<ul style="list-style-type: none"> √ Blog, FAQs, '5 Things to Know,' and website content on the topic of WDRP and importance of keeping WHOIS contact information up to date published August 2017. √ Additional educational materials will be published on an ongoing basis.

		keeping WHOIS contact information up to date.	
6	ICANN should take appropriate measures to reduce the number of WHOIS registrations that fall into the accuracy groups "Substantial Failure and Full Failure"	To address this recommendation, the Board directed the CEO to: Proactively identify potentially inaccurate gTLD data registration information in gTLD registry and registrar services, explore using automated tools, and forward potentially inaccurate records to gTLD registrars for action, and; Publicly report on the resulting actions to encourage improved accuracy.	✓ WHOIS ARS Phase 2 Cycle 2 Report: Syntax and Operability Accuracy published 8 June 2016 WHOIS ARS Phase 2 Cycle 3 Report: Syntax and Operability Accuracy published 12 December 2016 ✓ WHOIS ARS Phase 2 Cycle 4 Report: Syntax and Operability Accuracy published 12 June 2016
7	Annual WHOIS accuracy reports	WHOIS ARS Phase 2 Cycle 2 and 3 ARS reports published in 2016, and Cycle 4 report published in June 2017. Webinars held for each publication of the report.	✓ WHOIS ARS Phase 2 reports published in June and December of each year, followed by webinars.
8	ICANN should ensure that there is a clear, unambiguous and enforceable chain of contractual agreements	Execution of RAAs RAs that contain enhanced WHOIS obligations.	See #1.a above.
9	Compliance Metrics: Impact of the annual WHOIS Data Reminder Policy (WDRP)	The Board's Resolution addressing the WHOIS Review Team Recommendations offers an alternative approach to achieving the intended result of this Recommendation.	See #5 - #7 above. In addition, the following informational resources are available for WDRP compliance: ✓ Blog, FAQs, '5 Things to Know,' and website content on the topic of WDRP and importance of keeping WHOIS contact information up to date published August 2017.

			<ul style="list-style-type: none"> √ WHOIS Data Reminder Policy √ WDRP FAQs For Domain Name Registrants
10	Data access – privacy and proxy services: ICANN should initiate processes to regulate and oversee privacy and proxy service providers	Privacy/Proxy Implementation Review Team (IRT) formed to work with ICANN on the implementation.	<ul style="list-style-type: none"> √ Draft implementation plan distributed to IRT. √ Draft policy and contract language distributed to IRT.
11	Data access – common interface: Overhaul of the InterNIC service	ICANN developed a comprehensive WHOIS portal, the development of which occurred in two phases: Phase 1 - Launch of WHOIS Informational Website (see description above in #5); and Phase 2 - Launch of WHOIS Online Search Portal to offer a place where people could initiate a search of global WHOIS records.	√ Updates to WHOIS Lookup tool made.
Internationalized Domain Names			
12	Determine appropriate Internationalized Domain Name Registration (IRD) data requirements	<p>The IETF WEIRDS Working Group has concluded its evaluation of technical protocols.</p> <p>New Registration Directory Access Protocol (RDAP) developed; once adopted by the IETF, the new gTLD Registry Agreement and the New 2013 RAA will include commitments to adopt the new protocols.</p>	<ul style="list-style-type: none"> √ Board Approval of IRD recommendations Resolution 2016.03.10.05 – 2016.03.10.07 – 10 March 2016 <ul style="list-style-type: none"> - Implementation Plan to be developed – (TBD) 2016 <p>See #13 below.</p>

13	Requirements for translation/transliteration of internationalized registration data	<p>Issue of translation/transliteration was explored as a Policy matter within the GNSO Council.</p> <p>Consensus policy was produced out of the PDP and adopted by the Board and when implemented would become binding upon the contracted parties.</p> <p>ICANN is working with an Implementation Review Team to implement the GNSO Translation/Transliteration of contact information policy recommendations.</p>	<p>√ GNSO PDP Update Translation and Transliteration of Contact Information 24 March 2016</p> <p>√ GDD Memorandum to the GNSO Concerning Merge of Translation and Transliteration of Contact Information Implementation into Work Stream of “Thick WHOIS” Implementation Review Team - 10 May 2016</p> <p>√ Board correspondence regarding GNSO consideration of the policy implications of the Internationalized Registration Data (IRD) Working Group’s Final Report - 11 May 2016</p> <ul style="list-style-type: none"> - Implementation dependent on when RDAP is in place, then estimated three to six months for implementation plan development - Implementation plan distributed to IRT
14	Metrics on accuracy internationalized registration data	IDN TLDs are included in the ARS sample. See #7.	√ See #7.
15	Comprehensive Implementation Plan for implementing the Final WHOIS Review Team report.	ICANN Staff developed and published its proposed Action Plan , which was adopted by the ICANN Board .	
16	Publication of Annual Reports on Implementation of WHOIS RT Recommendations	ICANN published its first Annual Report one year after the Board’s approval of the WHOIS Policy Review Team Final Report Recommendations , with subsequent ones to be published annually thereafter.	√ Publication of third Annual Report – 4 February 2016

