**To:** Internet Corporation for Assigned Names and Numbers (ICANN)

**From:** Messaging Anti-Abuse Working Group (MAAWG)

**Date:** November 16th, 2011

**Subject:** Draft Final Report of the Internationalized Registration Data Working Group

To whom it may concern:

Thank you for the opportunity to comment on the ICANN Draft Final Report of the Internationalized Registration Data Working Group (hereafter "the draft report"), as announced at http://www.icann.org/en/announcements/announcement-3-03oct11-en.htm

**Introduction**

The Messaging Anti-Abuse Working Group (MAAWG) is an international non-profit, industry-led organization founded to fight online abuse such as phishing, botnets, fraud, spam, viruses and denial-of service attacks. MAAWG draws technical experts, researchers and policy specialists from a broad base of Internet service providers and network operators representing over one billion mailboxes, and from key technology providers, academia and volume sender organizations. The multi-disciplinary approach at MAAWG ( http://www.maawg.org/ ) includes education, advice on public policy and legislation, development of industry best practices, guidance in the development of industry standards and the facilitation of global collaboration.

Many MAAWG members routinely work with domain name registration data (DNRD) for a variety of purposes, including, but not limited to:

— Contacting operations and engineer personnel to resolve technical issues that may arise, issues which, if left unresolved, might impact the deliverability of email or the reachability of network destinations for hundreds of thousands or even millions of users.

— Assessing and accumulating reputation data about domains, domains whose registrants may subsequently seek to send mail to our systems and customers, host their domains in our datacenters or on our networks, or request organizationally validated SSL certificates. Without public access to accurate and usable domain registration data, new domains are effectively "men wearing ski masks while running into a bank on a hot day" and will often receive an understandably suspicious (if not outright hostile) reception as a result.

— Both law enforcement officers and private anti-cybercrime investigators may use domain registration data to identify the owners of malicious domains that have been registered for spam-, malware- and other cybercrime-related purposes, or for finding points of contact for innocent third party domains that have been compromised or have otherwise been abused.

— Once one malicious domain has been identified, domain registration data may also help us to find additional related domains that may also be owned by the same party, and which are also being misused or which are at substantial risk of being misused soon.

Our ability to continue using domain registration data for these and other important purposes will be jeopardized if domain registration data is inappropriately internationalized or otherwise allowed to become less usable. If that were to occur, that would be a material concern for MAAWG and its membership, hence our response today.

**Comments on the ICANN Working Group's Findings**

MAAWG normally prefers to offer its comments in the same order as topics are introduced in a report, but in this case, we're making an exception to ensure that the most important operational issue raised by the ICANN working group in their report gets highlighted.

**Finding 4.5:** Specifically, we refer to the working group's finding with respect to question 4.5, *"Is the Current WHOIS System Capable of Handling the Query and Display of Internationalized Registration Data?"*

The working group stated:

*The IRD-WG agreed that the current WHOIS system is not capable of handling the query and display of internationalized registration data, but determined that there are some workarounds and local conventions that can permit exceptions. In particular, operators that currently provide DNRD-DS using the WHOIS protocol do not support character sets other than US-ASCII in a standard manner, which could present problems if registrants wish to query DNRD in character sets other than US-ASCII. According to RFC 3912, the WHOIS protocol “lacks [a] mechanism for indicating the character set in use … This inability to predict or express text encoding has adversely impacted the interoperability and, therefore, usefulness of the WHOIS protocol.”*

*In absence of protocol specification, various registries/registrars have adopted ad hoc solutions to support internationalized DNRD. Continued deployment of ad hoc solutions will inevitably lead to widespread inconsistent user experience and interoperability issues, greatly reducing the utility of DNRD.*

*Thus, these issues need to be addressed urgently. The IRD-WG encourages the ICANN community to identify, evaluate and adopt an alternative DNRD Access Protocol that would meet the needs of internationalization.*

**Response:** MAAWG agrees with the working group that this is an **extremely** urgent issue.

**Discussion:** Given that domain name internationalization work is well underway, we find it mind boggling that ICANN has apparently just now noticed that WHOIS, the community's primary source of domain name registration data, is technically ill-equipped to accommodate the internationalized data that the domain name community is now generating with ICANN's apparent blessing (or at least implicit tolerance)

Alternatively, if ICANN ***has*** been aware of this issue for some time, why has it failed to undertake an appropriate program of work to address this problem sooner?

Proceeding with a program to promote the registration of internationalized domains, knowing that WHOIS won't be ready to support the internationalization of domain name registration data that would likely also occur, is simply unconscionable, and represents a lack of leadership in an important core area of ICANN's remit.

This oversight must be a top priority for immediate attention and expedited remediation.

**Finding 4.1:** We would next like to comment on the draft reports response to another important question, question 4.1, "Is It Suitable To Internationalize Domain Name Registration Data?"

The report appropriately states that:

'[...] it is desirable for registrants to be able to submit DNRD in character sets other than ASCII. However, this desirability should be balanced against other uses of the data. While domain registrants may intend to only use their domain "locally" or interact with people in their native script, the nature of the Internet itself means that any domain provisioned on it is available globally.'

**Response:** MAAWG agrees that these competing requirements described by the Working Group need to be balanced, BUT, from MAAWG's point of view, our primary concern is with maintaining the global usability of domain name registration data Internet-wide, with the convenience of any individual domain name registrant constituting a distinctly lower secondary priority.

**Discussion:** Regardless of how DNRD may be extended to support internationalized data, the existing core operational usability of DNRD data for broad global audiences **must** be retained.

Thus, if ICANN elects to extend DNRD data by allowing data that is not able to be cleanly represented as 7-bit ASCII data, it is critical that they do so using an approach that is consistent with currently deployed infrastructure and tools. Frankly, we view that as quite a challenge, given that the vast majority of that infrastructure and those tools will not even be 8-bit clean, to say nothing of often having no ability to render non-Latin character sets used for Arabic, Chinese, Greek, Japanese, Korean, Russian, Thai, etc.

In thinking about models that may work in this sort of situation, we've been particularly pleased with APNIC region ccTLD-supporting entities (such as JPNIC) that have offered the ability for whois requesters to supply a flag requesting English data as an alternative to data being returned just in a local language/character set (e.g., Japanese in the JPNIC case).

We recognize that when confronting a choice between Japanese and English, native French speakers might prefer to see French as yet another alternative language, rather than English, just as Spanish speakers might prefer to see Spanish as yet another alternative language, and so on, but MAAWG believes it is unrealistic to expect DNRD to be made fully multilingual, even just the six official languages of the United Nations (Arabic, Chinese, English, French, Russian and Spanish), much less for all the languages of the world.

Instead, we believe that ICANN, as the International Civil Aviation Organization has done for civil aviation air traffic control, should standardize on English as a core interoperable and seamlessly available universal language for DNRD, while also allowing other languages where that may be desirable (provided those other languages do not cause operational issues).

We note that this approach is consistent with the Working Group's treatment of data elements such as the Registrar's name, as discussed in section 4.2 of the working group's report:

***Sponsoring Registrar (RAA 3.3.1.3):*** The IRD-WG recommends that this data element should be in ASCII to aid law enforcement and intellectual property investigations, and to the extent possible, make it available in local languages and scripts. It is important to note that ICANN’s application for registrar accreditation requires applicants to submit a transliteration of “any legal name, street, electronic or mailing address which is not in Latin characters.”

We like that approach, and MAAG recommends that that approach be used for all DNRD data.

**Finding 4.2:** "What Data Elements Are Suitable To Be Internationalized?"

The Working Group has offered specific recommendations for a variety of DNRD fields.

**Response:** MAAWG concurs with, and supports, all but one of working group recommendations.

**Discussion:** Specifically we DO endorse the recommendations of the WG for the following data elements:

***Domain names (RAA 3.3.1.1):*** The IRD-WG recommends thatWHOIS services should return both A-label and U-label representation for the given IDN domains queried.

***Sponsoring Registrar (RAA 3.3.1.3):*** The IRD-WG recommends that this data element should be in ASCII to aid law enforcement and intellectual property investigations, and to the extent possible, make it available in local languages and scripts. It is important to note that ICANN’s application for registrar accreditation requires applicants to submit a transliteration of “any legal name, street, electronic or mailing address which is not in Latin characters."

***Nameserver names (RAA 3.3.1.2):*** Currently all nameservers are in US-ASCII. However, with IDNs, it is possible that some registrants will compose nameserver names using IDN labels.

Several alternatives exist:

1. Always display the nameserver name in US-ASCII 7 using the A-label. A supporting argument for this choice is that nameserver name information is generally only of technical interest and should be displayed in same way as it is in the DNS.

2. Display nameserver names in both A-label and U-label (to the extent such information is available). This is consistent with the recommended treatment of the domain name. The IRD-WG recommended that this field should continue to be displayed in A-label and, to the extent possible, be displayed in the corresponding U-label.

***Telephone/Fax (RAA 3.3.1.7,8):*** The IRD-WG recommended that the ITU-T Recommendation E.123 could be used to internationalize telephone and fax, specifically using the international notation (+31 42 123 4567).

***Email address (RAA 3.3.1.7,8):*** With email internationalization efforts ongoing in IETF, IRD-WG members suggested that if the IETF effort results in a new standard the email address field can be displayed according to that standard.

***Dates (RAA 3.3.1.4,5):*** This includes creation date, expiration date, and update date of the domain. The IRD-WG members discussed this issue and proposed ISO 8601-200425 as the standard to be used. (e.g 2011-09-19T13:54Z). The ISO standard is also used by ASN.1 as well as in ICANN draft applicant guidebook WHOIS specifications.

***Registration Status:*** Registrars and registries often provide the status of the domain registration.

The IRD-WG identified several alternatives as follows:

1. Return the status in a US-ASCII representation of the registrar’s choosing;

2. Publish the exact EPP status code and leave it to the clients to decide whether to localize or not;

3. Identify a more easily understood representation;

4. Publish the easily understood representation in mandatory and local character sets; or

5. Any combination of these approaches.

The IRD-WG members discussed different opinions and chose option 2, since it gives client the ability to localize this field. Option 2 is also used in the new gTLD Draft Applicant Guide Book (DAG). The EPP status codes are described in RFCs 5730-5734, RFC 3735, 3915, and 4310.

Finally, the IRD-WG also recommends that ccTLDs that use Extensible Provisioning Protocol (EPP) that they display it in a similar way.

MAAWG objects to, and does **NOT** endorse, the recommendation of the working group when it comes to its recommendation for Entity Names and Addresses, in so far as it appears to potentially allow entity names and addresses to be entered solely in the user's local language and script. The working group states:

***Entity Names and Address (RAA 3.3.1.6,7,8):*** This includes names and addresses of registrants, administrative contacts, and technical contacts. In line with the recommendations in section 5.1, the IRD-WG agreed that registrants should be able submit their data element in the user’s local language and script. Additionally, the IRD-WG discussed whether discussed whether it is desirable to adopt a “must be present” representation of contact data, in conjunction with local script support for the convenience of local users.

When we go on to look at the working group's recommendation for 4.3, we see that this issue was a cause for consternation and a lack of consensus among working group participants as well.

**Finding 4.3:** This section pertains to the question, "Is It Suitable To Support The Translation Or Transliteration of Entity Name and Contact Information Into a Single Script / Language?"

The working group stated in its report:

The IRD-WG examined these models and their impacts on registries, registrars, and end users. In the end, the IRD-WG could not reach a consensus on which model to choose

The IRD-WG would like to recommend an Issue Report on this subject. In the interim, the IRD-WG recommended that the DNRD-DS output should at least include tags to identify languages and scripts (e.g. RFC 5646). Thus, those who need to translate, transliterate or transcribe this information would at least know what language and script the contact information is in.

**Response:** MAAWG urges that entity name and contact information be made available in English using 7-bit ASCII characters, in addition to any other local language or script might be used.

We do not object to registrants also providing entity name and contact information in local languages or local scripts, provided that those alternative renderings can be suppressed from a pure 7-bit ASCII rendering of the DNRD as a requester may prefer ("JPNIC-style").

MAAWG also does not object to proceeding with an issue report on this topic, or to inclusion of RFC5646 tags, provided those steps do not interfere with our overall goal of at least seeing the continued availability of pure 7-bit ASCII DNRD data access.

**Finding 4.4:** This question asks, "Is It Suitable To Introduce Display Specifications To Address

Internationalized Domain Name Registration Data?"

The working group stated in its report:

The IRD-WG agrees that it is suitable to introduce display specifications to address

internationalized DNRD. Specifically, while standard formats are defined for domain labels, no standard format is required for elements of a domain name registration record (Registration Data), such as contact information, host names, sponsoring registrar and domain name status.

The IRD-WG concluded that the community would benefit from a standard registration data schema (for example in Extensible Markup Language (XML)):

- A formal data schema for registration data (for example in XML) would enable end-user clients to better localize the data label.

- A formal data schema for registration data with language tag information would allow better processing of the data.

- In some cases, it is possible that registrars may allow for multiple languages or scripts in the contact data (for example, e.g. Arabic speaking registrants living in the United States to put their names in Arabic language, but their address in English). If this is needed, the language-tag data needs to be at a data-element level.

**Response:** MAAWG favors efforts at WHOIS standardization, and does not object to the working group's recommendations in this section, although we are concerned about the potential for abuse that data-element-level language and script tagging may introduce. Specifically, imagine a registrant who intentionally employs a different language or script for each and every element of their DNRD, not because of some heretofore unheard of level of linguistic heterodoxy, but simply to make it hard for anti-abuse personnel to determine the registrant's contact information. We would like to see provisions ensuring that that sort of abuse isn't permitted.

**Finding 4.6:** This section addresses the question, "Is it Feasible To Introduce Submission and Display Specifications to Address with Internationalized Registration Data?"

The working group states:

The IRD-WG agreed that it is feasible to introduce submission and display specifications to address internationalized registration data. In particular, most elements of the DNRD have existing standards that apply to them, and to the extent possible, the IRD-WG recommend those be considered. In particular, the following schemas/templates have been worked on in the past and should be considered:

- EPP RFC 5730-5734

- DREG RFC 3982

- UPU S.42 (address templates)

**Response:** MAAWG does not object to the further consideration of these IETF and Universal Postal Union standards for address standardization purposes.

The working group also made three recommendations as part of their report:

***Recommendation 1:*** ICANN staff should develop, in consultation with the community, a data model for domain registration data. The data model should specify the elements of the registration data, the data flow, and a formal data schema that incorporates the standards that the working group has agreed on for internationalizing various registration data elements. This data model should also include tagging information for language/scripts.

***Recommendation 2:*** The GNSO council and the SSAC should request a common Issue Report on translation and transliteration of contact information. The Issue Report should consider whether it is desirable to translate contact information to a single common language or transliterate contact information to a single common script. It should also consider who should bear the burden and who is in the best position to address these issues. The Issue Report should consider policy questions raised in this document and should also recommend whether to start a policy development process (PDP).

***Recommendation 3:*** ICANN staff should work with the community to identify a DNRD Access Protocol that meets the needs of internationalization, including but not limited to the work products resulting from recommendations 1 and 2, and the requirements enumerated in this report.

**Response:** Subject to the considerations outlined earlier in these comments, and recognizing that there will be opportunity for community participation in the recommended activities, as well as for community review of the recommendations resulting there from, MAAWG does not object to these working group recommendations.

**Conclusion**

Thank you for this opportunity for MAAWG to comment on ICANN's Draft Final Report of the Internationalized Registration Data Working Group.

If you would like us to discuss any of our remarks in more depth, or if you have any questions, please do not hesitate to contact us.

Sincerely,

/signed/

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