Staff Assessment for DNS Risk Management Framework Working Group (DNRMF WG)

31 May 2012

Executive Summary

This staff assessment is intended to inform the Board level DNS Risk Management Framework Working Group (DNRMF WG) on the timeline and process for retaining a consultant to assist with the development of a DNS Risk Management Framework. The ICANN Security team will support this effort and manage the work of the external consultant in the delivery of an initial report for a DNS Risk Management Framework. The Security team will also oversee implementation aspects of a completed and adopted Framework.

This staff assessment contains the following elements:

- Timeline of proposed activity

- Draft Request for Proposals for DNS Risk Management Framework Consultant

- List of Tasks for an Expert Consultant

- Prior work on DNS security that may be useful for this effort

Proposed Timeline for a DNS Risk Management Framework

Staff anticipates the timeline for this effort to cover the following activities and dates. Staff will also revisit timelines based on observations and at key decision points.

Activity	Date	Closure
DNRMF WG meeting to review staff assessment and RFP	24 June 2012	--
Community Consultation Sessions	28 June 2012	--
Publish RFP for Consultant	5 July 2012	5 August 2012
Consider and respond to questions from candidates	9 July 2012	17 July 2012
Review responses and conduct evaluation	6 August 2012	17 August 2012
Potential candidate interviews	20 August 2012	30 August 2012
Select expert consultant and present selection to DNRMF WG	5 Sept 2012	--
Contracting process	7 Sept 2012	17 Sept 2012
Expert Consultant Commences Work	20 Sept 2012	9 November 2012
Community Consultation	Oct 2012 at ICANN Toronto	
Delivery of Initial Report to Staff	13 November 2012	--
Staff review of initial report with DNRMF WG	20 November 2012	--
Revisions if necessary	26 November 2012	30 November 2012
Publication of Report & DNS Risk Management Framework for community consideration	3 December 2012	3 January 2013 (with reply phase, 25 January 2013 for closure of comments)
Community Consultation Sessions	January 2012	--
Present DNS Risk Management Framework to ICANN Board	February/March 2013	
Publication of DNS Risk Management Framework, movement to regular operations, tracking	April 2013	

Draft Request for Proposals for DNS Risk Management Framework Consultant

The deadline for responses is 5 August 2012, 23:59 UTC.

ICANN is seeking expressions of interest for an expert consultant to assist with the development of a DNS Risk Management Framework. The consultant is expected to work with ICANN staff and existing security related efforts in ICANN while drawing upon relevant community expertise, and to deliver a report providing the Board DNS Risk Management Framework Working Group and ICANN community with informed recommendations for the implementation of a DNS Risk Management Framework.

It is intended that the consultant's report will be used to provide guidance to ICANN staff to enhance its ongoing risk management capability. The report should usefully inform ICANN's future efforts to establish appropriate priorities to focus on risk management issues falling clearly within ICANN's responsibility and span if control, including a general framework for ongoing period review of the risk management framework as risks and relevant players change.

For the purposes of this risk management framework, the expert consultant is expected to work from the following tasks:

List of Tasks for a DNS Risk Management Framework

1. Definition

In layman's terms, the Domain Name System (DNS) helps users to find their way around the Internet. Every computer on the Internet has a unique address - just like a telephone number - which is a rather complicated string of numbers. It is called its "IP address" (IP stands for "Internet Protocol"). IP Addresses are hard to remember. The DNS makes using the Internet easier by allowing a familiar string of letters (the "domain name") to be used instead of the arcane IP address. So instead of typing 207.151.159.3, you can type www.internic.net. It is a "mnemonic" device that makes addresses easier to remember.

For the purposes of the Working Group and this Framework, "the DNS" consists of:

   a. DNS protocol, as specified in RFCs and implemented mainly by software developers: data formats, resolution process, definitions of "DNSSEC validation" and "recursion" and naming hierarchy; "technical," driven within IETF by process and history, indifferent to the semantics/"meaning" of names;

   b. DNS data, as specified in RFCs (base spec, DNSSEC, IDNA) and policy as developed by registries, registrars, governments, IANA, etc.; what's in the global, distributed DNS database that we access via the protocol;

   c. DNS operations, as carried out by server operators: anycast, server location/provisioning best practices, operating system interfaces as provided to application writers.

The main purpose of making this set of distinctions would be in clarifying that different aspects of "the DNS" have different providers, users, and levels of importance and influence for ICANN, which manifests partly in different risk/threat environments.

2. Inventory of risks

Develop an inventory of risks to the DNS, and identify those falling within ICANN's mandate and operational responsibilities.

3. Impact Analysis

Conduct an impact analysis of internal and external factors that would affect performance of ICANN's functions.

4. Severity of Impact

Analyze the severity of impact for each of the identified risk factors & timeliness necessary for response.

5. Mitigation Measures

Identify what measures ICANN already has or needs to put in place to anticipate and potentially mitigate the most probable and impactful risks to the DNS.

Deadline

Responses are requested for this solicitation by email to drmf-rfi@icann.org. Questions on the RFP may be submitted between 9-17 July 2012 23:59 UTC. The final deadline for submissions is 5 August 2012, 23:59 UTC. A confirmation email will be sent for each expression received.

Tender Scope

Taking note of this requirement document, proposals from respondents should address the following:

- Work Approach. The respondent's approach needs to detail the way in which the respondent would approach the tasks for the development of a DNS Risk Management Framework.

- Schedule and Fees. The proposal should include a work schedule, including key milestone dates and a statement of proposed fees. Fees should be inclusive of related project expenses, including (but not limited to) electronic, postal, and telephone communication; computer hardware, software, and services; and test domain registration.

- Respondent should supply relevant CVs and references for ICANN to make a determination on respondent's qualifications to perform the tasks in this solicitation.

RFP Terms and Conditions

General Terms and Conditions

Submission of a proposal shall constitute Respondent's acknowledgment and acceptance of all the specifications, requirements and terms and conditions in this RFP.

All costs of preparing and submitting its proposal, responding to or providing any other assistance to ICANN in connection with this RFP will be borne by the Respondent.

All submitted proposals including any supporting materials or documentation will become the property of ICANN. If Respondent's proposal contains any proprietary information which should not be disclosed or used by ICANN other than for the purposes of evaluating the proposal, that information should be marked with appropriate confidentiality markings.

Discrepancies, Omissions and Additional Information

Respondent is responsible for examining this RFP and all addenda. Failure to do so will be at the sole risk of respondent. Should respondent find discrepancies, omissions, unclear or ambiguous intent or meaning, or should any question arise concerning this RFP, respondent must notify ICANN of such findings immediately in writing via email no later than three (3) days prior to the deadline for bid submissions. Should such matters remain unresolved by ICANN, in writing, prior to respondent's preparation of its proposal, such matters must be addressed in Respondent's proposal.

ICANN is not responsible for oral statements made by its employees, agents, or representatives concerning this RFP. If Respondent requires additional information, respondent must request that the issuer of this RFP furnish such information in writing.

A respondent's proposal is presumed to represent its best efforts to respond to the RFP. Any significant inconsistency, if unexplained, raises a fundamental issue of the respondent's understanding of the nature and scope of the work required and of its ability to perform the contract as proposed and may be cause for rejection of the proposal. The burden of proof as to cost credibility rests with the respondent.

If necessary, supplemental information to this RFP will be provided to all prospective Respondents receiving this RFP. All supplemental information issued by ICANN will form part of this RFP. ICANN is not responsible for any failure by prospective Respondents to receive supplemental information.

Assessment and Award

ICANN reserves the right, without penalty and at its discretion, to accept or reject any proposal, withdraw this RFP, make no award, to waive or permit the correction of any informality or irregularity and to disregard any non-conforming or conditional proposal.

ICANN may request a Respondent to provide further information or documentation to support Respondent's proposal and its ability to provide the products and/or services contemplated by this RFP.

ICANN is not obliged to accept the lowest priced proposal. Price is only one of the determining factors for the successful award.

ICANN will assess proposals based on compliant responses to the requirements set out in this RFP, any further issued clarifications (if any) and consideration of any other issues or evidence relevant to the

Respondent's ability to successfully provide and implement the products and/or services contemplated by this RFP and in the best interests of ICANN.

ICANN reserves the right to enter into contractual negotiations and if necessary, modify any terms and conditions of a final contract with the Respondent whose proposal offers the best value to ICANN.

Disclaimer

This RFP shall not be construed in any manner to create an obligation on the part of ICANN to enter into any contract, or to serve as a basis for any claim whatsoever for reimbursement of costs for efforts expended. The scope of this RFP may be revised at the sole option of ICANN at any time. ICANN shall not be obligated by any proposals or by any statements or representations, whether oral or written, that may be made by ICANN. ICANN shall be held free from any liability resulting from the use or implied use of the information submitted in any proposal.

Next Steps

Following receipt of expressions of interest for an expert consultant, ICANN will review and evaluate the expressions received. Staff will identify an expert consultant from these expressions of interest and execute a consulting agreement within the budget designated.

Background

The Internet Corporation for Assigned Names and Numbers (ICANN) was founded in 1998 to coordinate the Internet's unique identifier systems for worldwide public benefit to enable a single, global interoperable Internet. ICANN operates in an open, accountable and transparent multi-stakeholder model that reflects the diversity of all Internet users as a whole, and is dedicated to preserving the operational stability of the Internet; to promoting competition; to achieving broad representation of global Internet communities; and to developing policy appropriate to its mission through bottom-up, consensus-based processes.

On 18 March 2011, the ICANN Board directed the Board Governance Committee (BGC) to recommend to the Board a working group to oversee the development of a risk management framework and system for the DNS as it pertains to ICANN's role as defined in the ICANN Bylaws.

On 28 October 2011, the Board approved the membership of the working group as recommended by the BGC. The working group membership consists of: Bill Graham (Chair), Patrik Fältström, Roelof Meijer, Ram Mohan, Ray Plzak, Bill Woodcock, and Suzanne Woolf.

At the 43rd ICANN meeting in San Jose, Costa Rica, ICANN's Board of Directors approved a charter for a DNS Risk Management Framework Working Group (see the Board resolution at http://www.icann.org/en/groups/board/documents/prelim-report-16mar12-en.htm#1.6).

From the rationale for Board Resolution 2012.03.16.07:

> The development of a risk management framework is intended to fulfill the Board's expressed desire to develop a security framework for Internet naming and address allocation services that defines the key focus areas, and identifies where the responsibilities for each area lie. The Board has established this working group of individuals with expertise in the relevant topic area to

oversee the development of such a risk management framework and system for the DNS as it pertains to ICANN's role as defined in the ICANN Bylaws. The progress reflected by the establishment of this working group will assist ICANN in continuing to work to maintain security, stability and resiliency of the DNS.

The results of the work overseen by this group should have a positive effect on the community in that it shall help define focus areas and responsibility. The establishment of the working group should not have a fiscal impact on the organization or the community.

A copy of the Charter for the DNS Risk Management Framework Working Group is available on the working group page located at http://www.icann.org/en/groups/other/dns-risk-mgmt.

Prior Work

The following is a non-exhaustive set of references that would be useful for the development of a DNS Risk Management Framework:

- Draft statement on ICANN's role and remit in SSR, http://www.icann.org/en/news/public-comment/draft-ssr-role-remit-17may12-en.htm

- Draft report of the Security, Stability and Resiliency Review Team (15 March 2012), http://www.icann.org/en/news/public-comment/ssrt-draft-report-15mar12-en.htm

- DNS Security & Stability Analysis Working Group draft report, [insert link when available, or link to DSSA wiki]

- ICANN's previous Security, Stability & Resiliency Frameworks

    o FY 13 SSR Framework – Document to be posted 1 June 2012

    o FY 12 SSR Framework

    o FY 11 SSR Plan

    o FY 10 SSR Plan

- ICANN's Security and Stability Advisory Committee, http://www.icann.org/en/groups/ssac

- ICANN's Root Server System Advisory Committee, http://www.icann.org/en/groups/rssac

- IT Sector Risk Management Strategy for the Provide Domain Name Resolution Services Critical Function, June 2011, http://www.dhs.gov/xlibrary/assets/it-sector-risk-management-strategy-domain-name-resolution-services-june2011.pdf

- IT-SCC IT Sector Baseline Risk Assessment, August 2009, http://www.it-scc.org/documents/itscc/IT_Sector_Risk_Assessment_Report_Final.pdf