

Requested Comments on the IANA NoI March 21, 2011

The pending expiration of the IANA (Internet Assigned Numbers Authority) contract, and the related Notice of Inquiry (NoI) from Telecommunications and Information Administration (NTIA) provide an opportunity for the United States “to convince governments to accept the global Internet as it is and specifically the multi-stakeholder organizations such as ICANN that provide governance today.”¹

Useful context for these questions is to recall what the function of IANA is. IANA performs essentially a record-keeping function. Even when what would become today’s Internet was a research project sponsored by US DARPA, “Someone had to keep track of all the protocols, the identifiers, networks and addresses and ultimately the names of all the things in the networked universe.”² With engineers around the world inventing the wide variety of protocols that produced the modern Internet, “To ensure that such fields have consistent values and interpretations in different implementations, their assignment must be administered by a central authority. For IETF protocols, that role is provided by the Internet Assigned Numbers Authority (IANA).”³ This is a highly skilled process that is closely integrated with the standards development process.⁴

Although it made sense for a government contract to provide for this function when the Internet and its predecessors were government-sponsored research, and when the Internet became part of government support for other (e.g. supercomputer access) research, the continuation of this relationship is now mostly because of inertia. The no-cost procurement contract between the Department of Commerce (DoC) and ICANN has outlived any valid purpose.

NoI Questions:

1. The IANA functions have been viewed historically as a set of interdependent technical functions and accordingly performed together by a single entity. In light of technology changes and market developments, should the IANA functions continue to be treated as interdependent? For example, does the coordination of the assignment of technical protocol parameters need to be done by the same entity that administers certain responsibilities associated with root zone management? Please provide specific information to support why or why not, taking into account security and stability issues.

Because the IANA functions require specific expertise, developed over decades of technical interaction with the Internet community, there would be no advantage to splitting up the different functions. The facts that the existing staff and resources devoted to the IANA function were transferred from USC to ICANN in December 1998, and that “ICANN was uniquely positioned to undertake performance of these functions” were explicitly stated in the IANA contract (section C.1.2)⁵ suggest that splitting up the IANA function would entail splitting up the current staff. Over the years, this close working relationship has only increased the unique expertise of IANA staff.

Changing the details of the IANA function without good reason (and none is apparent) at this point would unnecessarily threaten the stability of its operation.

2. The performance of the IANA functions often relies upon the policies and procedures developed by a variety of entities within the Internet technical community such as the IETF, the RIRs and ccTLD operators. Should the IANA functions contract include references to these entities, the policies they develop and instructions that the contractor follow the policies? Please provide specific information as to why or why not. If yes, please provide language you believe accurately captures these relationships.

IANA implements standards developed by the IETF. Part of doing so involves close interaction with the RIRs, ccTLD operators and other TLD operators. These relationships have been stable as long as the relevant organizations have existed, and should continue without respect to any contract between ICANN and the DoC.

3. Cognizant of concerns previously raised by some governments and ccTLD operators and the need to ensure the stability of and security of the DNS, are there changes that could be made to how root zone management requests for ccTLDs are processed? Please provide specific information as to why or why not. If yes, please provide specific suggestions.

The separate DoC contracts with ICANN and Verisign, respectively, for managing the root zone and distributing it to root DNS operators unnecessarily complicates the process and introduces delays. The specific model for introduction of DNSSEC exacerbates the complexity by requiring a feedback loop of keying information from the distributor back to the zone manager. Better stability and security would be accomplished by keeping all of the root-zone signing within the IANA function. The success of signing the root, despite the extra unnecessary degree of difficulty imposed by maintaining previous contractual relationships, shows that IANA is more than capable of doing the complete task.

4. Broad performance metrics and reporting are currently required under the contract. Are the current metrics and reporting requirements sufficient? Please provide specific information as to why or why not. If not, what specific changes should be made?

The performance metrics should be maintained and revised on the basis of community standards, not by a contract with an individual government. It appears that the specific details of metrics and reporting have actually been produced through IETF and Internet community interaction, so the only change is getting an unnecessary bureaucracy out of the way. Since the government has expressed its interest in supporting the multi-stakeholder model under which ICANN operates,¹ it presumably already supports this conclusion.

5. *Can process improvements or performance enhancements be made to the IANA functions contract to better reflect the needs of users of the IANA functions to improve the overall customer experience? Should mechanisms be employed to provide formalized user input and/or feedback, outreach and coordination with the users of the IANA functions? Is additional information related to the performance and administration of the IANA functions needed in the interest of more transparency? Please provide specific information as to why or why not. If yes, please provide specific suggestions.*

The best way to improve the transparency of the performance and administration of the IANA function is to remove the (appearance of a) single-government contractual oversight. Other governments have the same interest in the ongoing success of the Internet.

6. *Should additional security considerations and/or enhancements be factored into requirements for the performance of the IANA functions? Please provide specific information as to why or why not. If additional security considerations should be included, please provide specific suggestions.*

Because the Internet was famously developed within a trusted community, and has been undergoing progressive redesign to improve its security, there is no doubt that new requirements for security within the IANA function will emerge. For example, IANA contributed to improved security through DNSSEC signing the root. Another example is that IANA is already cooperating with the RIRs in deploying a mechanism to validate the authenticity of the origin of IP addresses. The process of transition from experimental deployment to established requirements on operations should rely on the multi-stakeholder approach – not a government contract.

Respectfully submitted,
John Schnizlein

¹ Keynote Remarks by Lawrence E. Strickling, Silicon Flatirons Conference, February 14, 2011,

http://www.ntia.doc.gov/presentations/2011/siliconflatirons_02142011.html.

² RFC 2468, I REMEMBER IANA, V. Cerf, October 1998.

³ RFC 5226, Guidelines for Writing an IANA Considerations Section in RFCs, T. Narten, H. Alvestrand, May 2008

⁴ RFC 2860, Memorandum of Understanding Concerning the Technical Work of the Internet Assigned Numbers Authority, B. Carpenter, F. Baker, M. Roberts, June 2000.

⁵ <http://www.icann.org/en/general/iana-contract-14aug06.pdf>