

October 18, 2012

Mr. Lawrence Rudolph
General Counsel
National Science Foundation
4201 Wilson Blvd., Suite 1265
Arlington, VA 22230

Dear Mr. Rudolph:

ARIN has reviewed a copy of your August 30 letter as to rights of registrants that received Internet Protocol ("IP") number resources prior to ARIN's formation. ARIN believes your letter fails to discuss important contemporaneous documents, which reveal that early ("legacy") IP numbers are actually subject to restrictions and policy changes beyond what your letter suggests.

As you know, your letter is already widely circulating on the web, which is how we became aware of it. The letter has created a significant risk of misinterpretation, and as far as we can determine is not consistent with U.S. Government policy. In that context, I am writing to point out issues which strongly suggest NSF should revoke the letter, or far more fully describe the context in which early IP number assignments were issued to avoid further misinterpretation.

The role of community-based policy in the Internet Registry system

Your letter suggests a particularly narrow role for ARIN, questioning whether ARIN, through its community-based policy development processes, can establish policies that in any way affect early IP number recipients. I believe ARIN's role does, and must, include the ability to affect the rights to all IP address blocks in the registry, including those issued before ARIN, and that community-based policy development for management of IP number resources has been an essential part of the Internet governance system, both before, during, and after the period in which NSF was funding these services via the InterNIC cooperative agreement.

First, early IP number recipients always understood, or should have understood, that their participation in Internet Registry system would necessarily entail compliance with reasonable policies set by the Internet Registry system, including policies developed in the future. Per the Statement of Work (SOW) in NSF's cooperative agreement with NSI for InterNIC services (#NCR-9218742), the "Awardee shall provide registration services in accordance with the provisions of RFC 1174." RFC's are the publication series of the Internet Engineering Task Force (IETF), the leading standards body for Internet standards. RFC 1174 calls for following both existing practices and "documentation to be issued as RFCs" – indicating that new rules and requirements would be published from time to time via the IETF RFC series.

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RFC 1174 further required the IANA and the Internet regional registries to meet and produce this documentation of the operational procedures and requirements to be used in operation of the Internet Registry system. Just as RFC 1174 contemplates, subsequent documents published by the IANA and the Regional registries as RFCs further formalized the obligations of recipients of IP numbers.

For example, RFC 2050, published in November 1996 and authored by the IANA and the staff of the existing regional Internet registries at that time (InterNIC, RIPE NCC, and APNIC) specifies a very clear set of policies for management of IP addresses in the global Internet Registry system. In fact, RFC 2050 states that it is "an accurate representation of the current practice of the IP address registries"; thus these are the practices of the InterNIC registry as operating under the NSF cooperative agreement at the time.

One of the policies in RFC 2050 (in section 3.1) specifically provides for the invalidation and reclamation of addresses if the recipient's need no longer exists. To the extent that registration services were being provided "in accordance with the provisions of RFC 1174" (as required by NSF cooperative agreement statement of work), and RFC 2050 represents rules prepared exactly as anticipated by the use of the future tense in RFC 1174, i.e. "documentation to be issued" (emphasis added) as combined effort of the regional registries and the IANA, address assignments made in 1997 by the InterNIC must have been subject to these policies. It is likely you were not aware that such policies were operational for assignments made under the cooperative agreement during that time, as it refutes your statement in the letter that "*What NSF can unequivocally state, however, is that we know of no provision under the Cooperative Agreement which would have authorized the awardee (NSI) to unilaterally reclaim IPv4 number blocks, once distributed.*" IP address blocks, issued per InterNIC's existing policies in 1997 and prior to ARIN's formation, were indeed subject to be reclaimed after distribution. This is perfectly logical, since the goal of the Internet Registry has to ensure global uniqueness (as described in RFC 1174) and not simply about providing a "transfer of something of value."

Another policy contained in RFC 2050 is in section 4.7, where it states "the transfer of IP addresses from one party to another must be approved by the regional registries." This policy, published by the Internet Registry system (i.e. the IANA and the RIRs collectively) makes apparent that rights of existing address holders may be affected by changes in policy made by the community at a later time. NSF's InterNIC statement of work, by stating performance in accordance with RFC 1174, directly provides for the Internet Registry system to be operated according to revised policies and requirements as they are issued by the Internet Registry system, and the issuance of RFC 2050 and its adherence by the InterNIC makes plain that such policies may affect the rights of existing IP address holders.

In short, recipients of address space under the NSF cooperative agreement were most definitely subject to constraints in their rights based on adopted policy, and such rights were even modified by changes to policy after issuance. As the successor in the Internet Registry system to the InterNIC, ARIN inherited responsibility for the development of such policies in the region. It may have been possible at formation for NSF to restrict ARIN's ability to impact previously issued IP address blocks, but there is no reference to such a limitation, and instead there are statements which directly reinforce the ability of the ARIN community to set policy going forward for the management of all IP address blocks in the region.

ARIN's formation as a continuation of USG Internet policy

Importantly, the creation of ARIN included explicit affirmation of the scope of ARIN's authority with respect to early IP numbers. Specifically, NSF's June 24, 1997 press release celebrates the fact that "creation of ARIN will give the users of IP numbers ... a voice in the policies by which they are managed and allocated within the North American region" (emphasis added). The antecedent for "they" can only be "IP numbers." Notice the lack of restriction or qualifier on that term; the sentence offers no suggestion that only a subset of North American IP numbers are subject to management by IP number users via the ARIN process. Thus, the only reasonable interpretation of this sentence is that ARIN has extant authority to set policy for the preexisting IP numbers in the region as part of the Internet Registry system. Furthermore, the verb tense confirms the scope of ARIN's responsibility: As of the time of the press release, no IP numbers had yet been allocated by ARIN, but the press release nonetheless instructs that the ARIN process sets policies by which IP numbers "are managed" (emphasis added) – meaning the policies necessarily apply to the numbers already allocated by ARIN's predecessors and hence already being managed. In contrast, you suggest that ARIN has no authority over previously allocated IP numbers – a theory that cannot be reconciled with the word "they" (referring to "IP numbers") and the tense "are managed" in NSF's press release language, nor can this theory be reconciled with the overall private-sector coordination approach that permeates the press release.

Since ARIN processes may permissibly alter policy as to IP numbers issued before ARIN's creation, one might reasonably ask what protects the early IP number recipients against arbitrary or otherwise improper action by ARIN. The answers are several. For one, ARIN must operate in accordance with its bylaws which – duly established during ARIN's formation and reviewed by USG at that time – require reasonable, non-discriminatory treatment grounded in proper technical justification. Furthermore, ARIN must act in accordance with its own procedures, including its open, community-based policy development process as grounded in the history and tradition of RFC development. These protections amply protect early IP number recipients. Indeed, ARIN's good faith stewardship of these responsibilities is demonstrated by the past fourteen years of ARIN providing no-charge WHOIS, reverse DNS, and other services to early IP number recipients. ARIN offers early IP number recipients a Legacy Registry Services Agreement that formalizes the parties' rights and responsibilities. Current ARIN policies allow early IP number recipients to transfer their rights to use IP numbers to others, realizing significant revenues with minimal restrictions from ARIN. The U.S. Government could, if it chose, make such transfers and obtain new funds. Early IP number recipients have every reason to be thankful for the services and policies ARIN has put in place.

As you know, the IP number system forms a part of Internet infrastructure that the U.S. Government has long sought to anchor in private-sector consensus-based policy-making. The Green Paper and White Paper, set the groundwork for this effort, and it has continued literally for decades. A fundamental principle of this process is that community consensus sets applicable policy. It would be antithetical to that open, community-based governance model to have a set of participants who greatly benefit from that process yet are in no way bound by the requirements of that process. Indeed, asserting such rights successfully could destabilize the private-sector consensus-based system that has long been the foundation of U.S. Government

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policy in this area. Since early IP number resources are disproportionately held by U.S. entities, any U.S. Government effort to grant additional benefits to early IP number recipients would have significant international implications – and renew longstanding concerns about favored treatment for U.S. interests. NSF has every reason to be cautious in this respect - particularly in light of international aspects of coordination of Internet identifiers. NSF may wish to consult with the U.S. Government agencies that have the primary ongoing responsibility for this area.

The Role Of NSF Does Not Include Advisory Opinions Such As This

Your letter opines on matters that have been outside NSF's purview for fourteen years. The White House Office of Science and Technology Policy ("OSTP"), and the Department of Commerce's National Telecommunications and Information Administration ("DoC/NTIA"), not NSF, currently oversee the U.S. Government's interests in Internet infrastructure and ARIN related issues. The Office of Legal Policy at DOJ can provide advisory opinions and coordinate the Executive Branch for such efforts. At the outset of your letter, you note your difficulty in responding to the questions posed due to the passage of time and the risk of relying on your recollection. Respectfully, the questions you were asked should be left to the agencies that are currently authorized to address them.

Unfortunately, your letter improperly provides private parties with legal advice years after your agency gave up this authority. As you note in the third paragraph of your letter, it would be inappropriate for NSF to provide legal advice to private parties. But your letter nonetheless analyzes multiple statutes, regulatory documents, and legal theories, and your letter attempts to apply these authorities. Your letter even purports to provide far-reaching conclusions to evaluate the rights of private parties ("NSF does not believe that ARIN ... could retroactively affect property and rights distributed to [networks] by ... NSI"). There is a large and increasing risk of private parties placing undue weight on portions of your analysis. For example, one technology policy blog summarized your August 30 letter with the title "It's official: legacy IPv4 address holders own their number blocks" (*emphasis added*) – a conclusion that ARIN believes you would agree reaches far beyond what your letter actually says, yet is a foreseeable, albeit incorrect, interpretation of your letter.

Conclusion

There are aspects of your letter that are unobjectionable. ARIN has always upheld the right of legacy holders to exclusively have the right to utilize the number resources they were provided. However, your further analysis appears quite incomplete and insufficiently coordinated with the present U.S. Government agencies with primary ongoing responsibility in this area. The result is highly subject to misinterpretation, as is already evidenced in the short time that the letter has been made public.

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For these reasons, I urge you to take swift action to revoke your prior letter's incomplete analysis or correct it, at a minimum, by addressing the language in NSF's InterNIC Statement of Work requiring performance in accordance with RFC 1174 and subsequent Internet Registry policy documents including RFC 2050.

Sincerely,

A handwritten signature in black ink, appearing to read "John Curran". The signature is fluid and cursive, written over a light gray horizontal line.

John Curran
President and CEO
ARIN

cc: Dr. Subra Suresh, Director, NSF
Dr. Vint Cerf
Stephen M. Ryan, Esq.