

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Reporting on Border Gateway Protocol Risk Mitigation Progress)	PS Docket No. 24-146
)	
Secure Internet Routing)	PS Docket No. 22-90

**Reply Comments of
The American Registry for Internet Numbers, Ltd.**

August 1, 2024

The American Registry for Internet Numbers, Ltd.¹ (ARIN) respectfully submits reply comments to the Federal Communications Commission (the "Commission") Proposed Rule published in the Federal Register, Vol. 89, No. 117 of 17 June 2024.

Introduction

ARIN thanks the Commission for the opportunity to provide reply comments to filings made by others.

ARIN wishes to comment on some of the other filings relevant to this subject as the proposed rule touches on matters pertinent to ARIN's mission and its role as a provider of tools for secure routing, such as Resource Public Key Infrastructure (RPKI), and services within the secure Internet routing area. These comments are submitted for educational and informational purposes as ARIN does not take a position on the proposed rulemaking as consideration of its merits is primarily a matter to be undertaken by the network operator community.

¹ Established in the United States in 1997, ARIN is a non-profit, member-based organization. As one of the five Regional Internet Registries (RIRs) that cooperate in the provision of a global Internet Number Registry, ARIN is responsible for the management and distribution of Internet number resources, such as IP addresses and ASNs, and provide related services within its service region. ARIN issues Internet number resources and provides the related services to maintain the uniqueness of those resources issued to registrants.

ARIN provides services to over 39,000 customers and has approximately 25,635 members. Customers in ARIN's service region include federal, state, and municipal governments and related agencies, commercial for-profit entities, non-profit organizations, educational and health care institutions, public safety organizations, civil society, and more. ARIN's services include reverse DNS (Domain Name Services), Resource Public Key Infrastructure (RPKI), Whois and WhoWas, an authenticated Internet Routing Registry, and facilitation of an inclusive, bottom-up Policy Development Process. ARIN coordinates the development of fair, impartial, and technically sound policies by the Internet community for the management of Internet number resources. Additional information about ARIN can be found at www.arin.net.

Comments

ARIN agrees with other filings, such as those submitted by the Internet Society (ISOC), the Internet Architecture Board (IAB), the Internet Corporation for Assigned Names and Numbers (ICANN)² and the National Telecommunications and Information Administration (NTIA)³, that highlight the value and success of the multistakeholder (“MS”) model. ARIN believes that a MS model which is open, transparent, and inclusive encourages collective input from governments, industry, civil society, and interested parties and leads to beneficial, comprehensive outcomes. ARIN highlights the ISOC, IAB, and ICANN statement that, “The multistakeholder approach to Internet governance provides an accountable, sustainable, and—above all—effective means of decision-making for many institutions that enable the Internet to succeed and thrive.”⁴ ARIN notes that many governments are active and effective participants in multiple fora which are conducted according to the MS model. Government participation in these fora is key to further the effective development, implementation, and maintenance of the Internet. ARIN further agrees that the MS model has been instrumental in the success of the Internet through the efforts of standards bodies such as the Internet Engineering Task Force (IETF), as highlighted by the USTelecom – The Broadband Association (“USTelecom”) filing⁵. ARIN also agrees with the NTIA that “FCC’s action should be tailored to preserve the highly successful multistakeholder model of Internet governance and should be consistent with the three principles that NTIA laid out in its Open Internet comments.”⁶

ARIN agrees that the MS model is successful and should be preserved. While recognizing that governments participate in the MS model, it is also clear that governments continue to maintain their own unique role and responsibility in matters of public policy, including public safety and security. Participation by governments in the MS model does not preempt their unique responsibility in this regard. However, if a government must act on a matter of public safety when it comes to an area of multistakeholder governance, one way to take action and continue to support the MS model is through judicious use of the recognized best practices that emerge from that MS model. This is a particularly important approach with respect to the Internet, given its international nature and interoperability that is inherently predicated on use of recognized norms and best practices developed by the MS communities. Such light touch regulation – when firmly built upon MS model outputs – is not only compatible with the MS governance model, but furthermore in some situations may actually be necessary for the realization of the outcomes of the MS governance process in a timely and/or comprehensive manner.

² Internet Society, Internet Architecture Board, Internet Corporation for Assigned Names and Numbers filing regarding Federal Communications Commission proposed rule Reporting on Border Gateway Protocol Risk Mitigation Progress PS Docket No. 24-146, posted July 18, 2024, downloaded July 23, 2024, <https://www.fcc.gov/ecfs/search/search-filings/filing/107172838409405>

³ National Telecommunications and Information Administration filing regarding Federal Communications Commission proposed rule Reporting on Border Gateway Protocol Risk Mitigation Progress PS Docket No. 24-146, posted July 18, 2024, downloaded July 23, 2024, <https://www.fcc.gov/ecfs/search/search-filings/filing/1071759764896>

⁴ Internet (n 2), page 3

⁵ USTelecom filing regarding Federal Communications Commission proposed rule Reporting on Border Gateway Protocol Risk Mitigation Progress PS Docket No. 24-146, posted July 18, 2024, downloaded July 23, 2024, <https://www.fcc.gov/ecfs/document/10717296992851/1>, page 9

⁶ National (n 3), pages 1 & 2

If the Commission determines that it is necessary to act with respect to routing security to fulfill its public policy and public safety interests, then ARIN reiterates that use of MS outputs is essential to avoid potential interoperability concerns. ARIN recognizes the NTIA's statement, "As recognized by the Declaration for the Future of the Internet, a high level of security of the technical infrastructure of the Internet is only achieved by working closely with the multistakeholder system of Internet governance."⁷ ARIN also recognizes the Global Cyber Alliance ("GCA") position that reporting requirements should be "Strictly referring to industry-accepted standards and practices (and acknowledging these evolve over time)."⁸ ARIN supports the US Government considering the GCA's suggestion that, "the US Government's effort would best be limited to encouraging best practices in routing security, implementing current best practices in its own networks, and supporting the industries and organizations that keep the Internet safe."⁹

As has been pointed out, one such best practice for network security is the Mutually Agreed Norms for Routing Security (MANRS)¹⁰ initiative. ARIN recognizes the NTIA's statement that, "The MANRS Actions for Network Operators are excellent baseline actions any network can affordably implement."¹¹ ARIN agrees with the NTIA that, "A light touch approach to this problem would align with long-standing U.S. Government policy in support of the multistakeholder approach to Internet governance."¹² Were the Commission to seek reporting requirements about adoption of MANRS, this would demonstrate the Commission's interest in determining to what extent the industry is following its own best practices.

Comments on additional filings:

For clarity, we note that in USTelecom's filing, it refers to a "legitimate owner of the IP addresses"¹³ and the associated difficulty if a service provider must issue ROAs in circumstances where a customer is the one with rights of exclusive association to the IP address block in the ARIN registry. We confirm this position, but for clarity would highlight that there are multiple overlapping rights to a given IP address block in the ARIN registry (e.g., the community's right to see the public portion versus the address block holder's right of exclusive association). As such, we note that a reference to the "legitimate owner of the IP addresses" (and in general references to ownership of IP addresses) are terms of art that reflect the "rights of exclusive association with the IP address block." Therefore, these terms do not reflect a freehold ownership interest.

One filing suggests "ARIN should be encouraged to pass a policy similar to the one passed by APNIC a year ago, known as Prop 147, which required historical IPv4 resources to be justified and claimed, otherwise, they would be made available to other organizations. To further encourage better registration data, ARIN should also be encouraged to allow registration of legacy critical Internet

⁷ National (n 3), page 8

⁸ Global Cyber Alliance filing regarding Federal Communications Commission proposed rule Reporting on Border Gateway Protocol Risk Mitigation Progress PS Docket No. 24-146, posted July 18, 2024, downloaded July 23, 2024, <https://www.fcc.gov/ecfs/document/10717968220696/1>, page 3

⁹ Ibid page 1

¹⁰ Mutually Agreed Norms for Routing Security (MANRS) Implementation Guide, Version 1.1, BCOP series Publication Date: 25 January 2017, <https://github.com/manrs-tools/manrs-docs/blob/main/pdf/MANRS-Network-Implementation-Guide.pdf>

¹¹ National (n 3), page 15

¹² Ibid page 12

¹³ USTelecom (n 5), page 26

resources without the holder having to enter into a formal agreement with ARIN, similar to the RPKI arrangement provided by RIPE.”¹⁴ ARIN relies on community participation and encourages engagement by all interested parties that have recommendations for policies or operational suggestions benefiting the Internet community. To that end, ARIN wishes to highlight two areas of *direct* multi-stakeholder engagement that ARIN provides and are available for providing input to ARIN’s policies and processes:

- 1.) ARIN facilitates a Policy Development Process (PDP), <https://www.arin.net/participate/policy/pdp/>, enabling those interested in Internet number resource (IP addresses and Autonomous System Numbers) management and administration in shaping policies that guide distribution practices; and
- 2.) The ARIN Consultation and Suggestion Process (ACSP) is available for submitting non-policy, operational, and technical considerations to ARIN, <https://www.arin.net/participate/community/acsp/>.

Policy proposals or operational suggestions may, of course, require further community engagement and support for advancement. As a reminder, anyone, including representatives from government, can submit their contributions *directly* to ARIN and advocate for their ideas through the related discussion which takes place on mailing lists. Doing so in this manner helps advance the use of the multistakeholder model in the development of interoperable norms and standards for the Internet numbers registry system.

Another filing indicates “...for BIAS [Broadband Internet Access Service] providers that lease IP addresses that were acquired prior to the ARIN’s establishment, the Associations encourage the Commission to work with ARIN to facilitate a method that would allow reassigned IP address holders to register those addresses with ARIN.”¹⁵ ARIN appreciates the author’s comments on this matter which can be interpreted in terms of either registration rights and/or the ability to implement RPKI. To that end ARIN encourages these organizations to contact ARIN’s Registration Services Department, <https://www.arin.net/contact/>, regarding their specific situation and how to address their concerns and needs.

Later in that same filing, the authors state “...the Associations encourage the Commission to work with ARIN to make changes in the ROA registration process that would immediately identify potential misconfigurations at the time of registration that would avoid internet traffic drops due to misconfigurations during registration. Removing these obstacles to the ROA process would facilitate increased adoption of BGP by BIAS providers in support of the Commission’s BGP routing goals.”¹⁶ ARIN

¹⁴ Internet Governance Project, Georgia Tech, Brenden Kuerbis and Milton Mueller, filing regarding Federal Communications Commission proposed rule Reporting on Border Gateway Protocol Risk Mitigation Progress PS Docket No. 24-146, posted July 18, 2024, downloaded July 23, 2024, <https://www.fcc.gov/ecfs/document/10703855100089/1>, pages 2 & 3

¹⁵ NCTA – The Rural Broadband Association, WISPA – The Association for Broadband Without Boundaries filing regarding Federal Communications Commission proposed rule Reporting on Border Gateway Protocol Risk Mitigation Progress PS Docket No. 24-146, posted July 18, 2024, downloaded July 23, 2024, <https://www.fcc.gov/ecfs/document/10717916213098/1>, pages iii & iv

¹⁶ Ibid page iv

concur and notes that subsequent to the referenced filing, this specific functionality was announced on ARIN's product roadmap for deployment in the near future.¹⁷

Lastly in that filing, the authors state "the Commission should, perhaps in conjunction with ARIN, conduct outreach in a variety of venues, including webinars and industry conferences, to provide BIAS providers with awareness and instruction regarding how ROAs can improve Internet routing security and the method for establishing ROAs for IP addresses registered to the provider in ARIN."¹⁸ Training and education are available through online resources and live webinars at <https://www.arin.net/reference/training/webinars/>. ARIN staff are also available to conduct training either virtually on-demand or through on-site training (for larger audiences). In addition, training is often conducted at the North American Network Operators' Group (NANOG) meetings or other similar industry events.

Conclusion

ARIN is grateful for the opportunity to provide reply comments regarding the Reporting on Border Gateway Protocol Risk Mitigation Progress. The ongoing work in this area is of utmost importance and is essential to maintaining a robust, stable, reliable, and secure Internet for all users of the Internet, both domestically in the United States and worldwide. We appreciate the Commission's efforts in this regard and remain available to respond to any further questions or comments the Commission may have.

If further information is needed, please contact me or in my absence, ARIN's General Counsel, Michael Abejuela at (703) 227-9840 or mabejuela@arin.net.

Respectfully submitted,



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¹⁷ Automatic Creation of Managed IRR Route Objects upon RPKI ROA Generation Coming Soon, ARIN Announcement Date: July 22, 2024, <https://www.arin.net/announcements/20240722/>

¹⁸ NCTA (n 15), page 3