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CONTRIBUTION

Source: American Registry for Internet Numbers, Ltd. (ARIN)

Title: Comments regarding Draft New Recommendation ITU-T Y.2086 (formerly Y.DNI-fr): “Framework and Requirements of Decentralized Trustworthy Network Infrastructure”

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Abstract: ARIN provides background about ARIN and the Regional Internet Registry (RIR) system in the management of Internet number resources including IPv4, IPv6 and Autonomous System Numbers (ASN). ARIN also provides comments and poses questions about ITU-T SG13 Y.2086.

The American Registry for Internet Numbers, Ltd. (ARIN, arin.net) is responsible for the management and distribution of Internet number resources such as Internet Protocol (IP) addresses and Autonomous System Numbers (ASNs) within its service region (Canada, the United States, and many Caribbean and North Atlantic islands). ARIN is one of the five Regional Internet Registries (RIR). The Number Resource Organization (NRO, nro.net) was established in 2003 as a coordinating body for the RIRs to work together in the provision of consistent, effective global Internet Number Registry Services.

ARIN coordinates the development of fair, impartial, and technically sound policies which are created and maintained by the Internet community for the management of number resources. These policies establish the criteria for assignment of number resources. It needs to be understood that networks vary in size, and subsequently the amount of address space a network requires also varies. With IPv6 networks, one-size does not fit all. Organizations must make an address plan and determine what they need, especially with IPv6.

ARIN does not use the term “ownership” with number resources. ARIN’s position is that number resources are not freely held property; number resources constitute a bundle of contractual rights that are created upon issuance of an IP address block from the registry to a registrant.

The proposed framework would have a significant impact on well-known operations and business practices of network operators, including how network operators request and manage number resources. There could be high costs to implement the framework, including costs for training, software, and hardware. Input from the network operator communities should be sought and carefully considered.

The recommendation raises several significant questions upon review. In the diagram depicted at I.1, is it the case that operators will be tasked to be part of the request process for other operators, possibly their competitors? Network operators evaluating the IP address requests of their competitors is significantly different than the present environment. How would differing views among peers be mitigated and how would sensitive and confidential data used during evaluation be protected? In the text there is mention of of annual payments. How would that work?

ARIN and the RIRs are stewards of number resources. Blockchain relies on private keys, and sometimes keys are lost. The recommendation does not address the consequences if this were to happen (It would be poor stewardship for the resources to be permanently and irrevocably lost.)

Though RPKI is now widely deployed and successful, there was mention in the framework of vulnerabilities with a single trust anchor having the ability to revoke certificates. It should be noted that the RPKI trust anchors maintain agreements and terms of service which clearly outline the circumstances of revocation. Parties considering the RPKI service can evaluate, in advance, the conditions governing the RPKI services, including the governance structures of the organizations involved, and come to their own conclusion regarding associated vulnerabilities. Additionally, it should be recognized that RPKI is built upon existing trust relationships among organizations that have worked successfully for decades.

These comments are submitted to demonstrate the need for further study towards a more complete model which comprehends operational and business considerations.

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