



VOTER GUIDE
FINAL SLATE FOR:

ARIN BOARD OF TRUSTEES
ARIN ADVISORY COUNCIL
NRO NUMBER COUNCIL

VOTING OPENS:
3:00PM EDT
THURSDAY 8 OCT

VOTING CLOSES:
3:00PM EDT
FRIDAY 16 OCT

<https://www.arin.net/public/election/>

ARIN

American Registry for Internet Numbers



TABLE OF CONTENTS

Advisory Council

Dan Alexander	5
Joshua David Breeds.....	6
David Huberman	7
Adrian Johnson	8
Amy Beth Potter.....	9
Robert Seastrom	11
John Springer.....	12

Board of Trustees

Paul Andersen	14
Aaron Hughes	15
L. Sean Kennedy.....	16
Sandra Murphy	19

NRO Number Council

Louie Lee.....	21
Timothy McGinnis.....	22



11 September 2015

Dear ARIN Member,

As your organization's Voting Contact, you are responsible for casting the ballot on behalf of your organization in the upcoming ARIN elections. Voting is the most important and influential duty you can perform, and requires little time and effort. Your vote on behalf of your organization doesn't just help select ARIN's leadership; it is a show of support for community-based self-regulation for Internet number resource management.

This year ARIN eligible voters will fill two seats on its seven-member Board of Trustees, five seats on its 15-member Advisory Council, and one seat from the ARIN region on the Number Resource Organization Number Council (NRO NC). Board members oversee ARIN's strategic direction, goals and financial health; while Advisory Council members facilitate ARIN's community-based Policy Development Process on matters of Internet number resource management. The NRO NC advises the NRO Executive Council on global Internet number resource policy proposals.

Each ARIN member organization has one vote, **so every vote matters!**

Prior to voting, please familiarize yourself with the candidates by reading their biographies, answers to candidate questions, and statements of support from community members at:

<https://www.arin.net/public/election/index.xhtml>

ARIN will also stream candidate speeches live during the Public Policy Meeting in Montreal on 8 October, and provide archive video on 9 October.

Polls for the Board and AC elections are open from **3:00 PM ET on 8 October until 3:00 PM ET on 16 October**. Please do not wait until the last hour to vote. Our community is only as strong as the commitment of its members; it is your privilege and responsibility to cast a ballot to elect the individuals who will shape the future of ARIN and its role in the Internet.

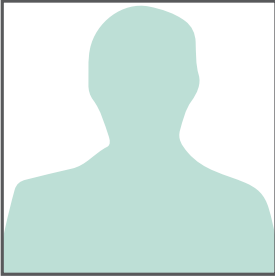
Contact info@arin.net immediately if you have any questions.

Sincerely,

John Curran
President and CEO
American Registry for Internet Number (ARIN)

Dan Alexander

Comcast Cable



Please provide a brief CV highlighting experience relevant to the duties of the ARIN Advisory Council.

- Member of previous committees
- Fee Structure Review Panel
- PDP Review Committee
- Proposal author
- 2003-14 , 2007-22 , 2009-2
- PROP-190 evolved into 2013-7
- Acted as AC Shepherd for a number of other proposals
- Previously elected to the AC in 2005, 2008, 2011, and 2014
- Currently selected as Chair of the Advisory Council

Please disclose any conflicts of interest you may have with doing your duty as a member of ARIN's Advisory Council. How do you propose to resolve such conflicts?

No conflicts of interest

Describe any limitations on your ability to attend [AC and Public Policy Meetings](#) in person or to serve the full three-year term.

No limitations

Have you attended ARIN meetings or otherwise participated in ARIN procedures in the past?

Have been attending ARIN meetings and participating since 2002

How do you foresee ARIN's function, scale, or role changing in the wake of IPv4 exhaustion?

While the organization's scale might be reduced, ARIN's Registration Services will shift resources away from IPv4 address space allocation directing more focus towards the management of the Directories. The Advisory Council will also be needed for this shift because a number of policy changes must occur to provide the clarity of requirements for ARIN staff.

What differentiates you as a candidate or makes you uniquely suited to the post?

The breadth of my experience makes me uniquely qualified to serve on the Advisory Council. I have served on a number of committees, helping to draft the last revision to the Policy Development Process, and the latest review of ARIN's Fee Structure. I have authored a number of proposals, helped the AC implement the paid transfer policies, along with developing this region's IPv4 depletion policies.

In addition to the work done, it is also how the work is done, being able to accept others opinions even when I may disagree, and finding a way to reach a common consensus so the community can move forward.

How do you separate your personal opinions from those of your organization and those of the community? What areas of policy, if any, need more attention and why?

The distinctions are further separated based upon the role that I have served on the AC. As an AC member, my opinions are provided as a point of information, but my main purpose is to help the AC, and the community reach a common consensus on moving forward. As the Chair of the AC, my role is not to drive any opinion, but to ensure that the procedures are followed and a platform exists so each Advisory Council member can fulfill the role that the community elected them to perform.

These distinctions are important now, because one of the most important areas of policy development is simplifying and shrinking the overall policy manual down to something that is more relevant to a post depletion environment.

What are your thoughts on the rights and responsibilities of legacy IP address holders?

This could be a self-correcting topic that does not require special policies to fix. There are no legacy IPv6 resources and the relevance of IPv4 addresses will decline rapidly over the next few years.

Those who are involved in the conversation shape the policies that manage the ARIN directories. To take an extreme stance that legacy holders should be left alone to do as they please is counter productive. Much more benefit could be found in getting more legacy holders involved in the conversation and moving away from an all-or-nothing stance toward one that could provide greater acceptance of policies when IPv6 does become the dominant protocol.

What are your thoughts on needs-based justification for the receipt of IP addresses?

I feel that the issue is not black and white, and we will never move forward debating an all-or-nothing frame-

work. The existing needs based requirements need to change, but they should be based on incremental adjustments after reviewing impacts, rather than a wholesale shift from one extreme to another.

Joshua David Breeds

Founder & Managing Director – ServedBy the Net, LLC.
(2011-present)

<https://www.linkedin.com/in/jetaero>



Please provide a brief CV highlighting experience relevant to the duties of the ARIN Advisory Council.

I want to bring new energy in representing community-driven policy on the Advisory Council. After starting my first web hosting company at the age of 10, I have fostered a wide knowledge and understanding of the internet industry. I have 15+ years of experience working in a variety of positions with involvement both as an executive and tech (as an IT manager & network operator). Beyond technology, I have additional experience from serving on the board of multiple member-driven 501(c)(3) organizations. I currently hold the position of Managing Director at ServedBy the Net, LLC, an Internet & Cloud Service Provider, where I am responsible for creating, managing, and refining policy & architecture both as a business and technical role.

As part of my role in founding ServedBy the Net, I was able to join the ARIN community, acting as a newly created member organization's primacy POC. By forming a new ISP in 2011, I was presented with many new (and rarely experienced) challenges. This experience provided me with an open viewpoint while highlighting that ARIN members' needs are constantly changing & evolving over time. I have a personal passion for networking & technology, developed while growing up in the internet era, that I would like to bring to ARIN's Advisory Council.

Please disclose any conflicts of interest you may have with doing your duty as a member of ARIN's Advisory Council. How do you propose to resolve such conflicts?

I do not have any current or pending conflicts of interest that will affect my duties on the ARIN Advisory

If you could improve any aspect of the ARIN AC, what would it be?

The AC should continue to improve its self-analysis providing transparency and feedback on the performance of the body and the AC members. We should also begin the debate of whether a fifteen-member body is needed in a post depletion environment.

Council. In the unlikely event that a conflict of interest develops in the future, I would be dutiful in separating roles, ensuring that my actions would properly reflect & represent the needs of the ARIN community.

Describe any limitations on your ability to attend [AC and Public Policy Meetings](#) in person or to serve the full three-year term.

For the next 3 years, once elected, I will be able to attend all of the planned ARIN AC & Public Policy Meetings. Additionally, I plan to create a dedicated share of my time specifically assigned to performing the remote requirements & responsibilities involved with a position on the ARIN Advisory Council.

Have you attended ARIN meetings or otherwise participated in ARIN procedures in the past?

In an effort to stay closely apprised of current/upcoming events within ARIN, I have an established routine of reading / interacting with ARIN's Mailing Lists (and the mailing lists of related organizations), specifically: ARIN Discuss, Announce, Public Policy, Suggestions, Technical Discussions, and Consultations.

How do you foresee ARIN's function, scale, or role changing in the wake of IPv4 exhaustion?

Given the inevitable event of IPv4 exhaustion there is a great necessity for the fact that ARIN's functions have and continue to grow. This growth is seen primarily in the evolutionary shift to a primary role as a resource broker / exchange; however, far more importantly, is ARIN's role as an international leader in the promotion & evangelism of IPv6 and related / future internet addressing technologies.

What differentiates you as a candidate or makes you uniquely suited to the post?

As someone who formally joined the ARIN community relatively recently (5 years ago) I would bring new methods to the council and the potential to form new ways of looking into existing & future situations. As well, given a great personal interest in participating on the ARIN AC, I believe that I would bring new energy to the position.

How do you separate your personal opinions from those of your organization and those of the community? What areas of policy, if any, need more attention and why?

An organization or community, like a network, inherits

strength & stability by retrieving the active information & needs of each individual endpoint. In my past experience, I was able to build necessary solutions by gathering the needs and suggestions of users, utilizing my personal knowledge (and opinions) to rank importance and properly discuss topics with other counselors. In a body such as the AC the most important experience I can bring is the ability to form a coordinated opinion with other AC members, by defending and/or negotiating the needs of the community (or others).

What are your thoughts on the rights and responsibilities of legacy IP address holders?

I will aim for brevity here given the complexity of this topic. While understanding the concerns of all sides, there are specific legal precedents which have been established for the rights & responsibilities of legacy IP holders. I believe that the best thoughts on this matter can be obtained by continuously following the latest definitions / interpretations of these resources both in legal terms and in the views of the community as a whole. While there will be a climax – given the impact of this topic as it relates to IPv4 exhaustion – it is my belief that this topic, alongside legacy addressing, will lose importance as adoption for newer addressing technologies continues to increase.

What are your thoughts on needs-based justification for the receipt of IP addresses?

I have experienced the effects of ARIN's justification policies, and how they relate to business needs, from a variety of the positions I have held. In consideration of large pools, irrespective of their (large) size, I think that it is critical to maintain proper stewardship, care, and accountability for any of the resources which fall within ARIN's control. From the perspective of an ARIN member, I believe it is important that the burden(s) of justification fall within reason, so that available resources continue to be accessible. In consideration of the future: I believe in the importance of need-based assignment, especially in that it provides critical accountability & clarity, which would be near-impossible to consider and/or implement retroactively.

If you could improve any aspect of the ARIN AC, what would it be?

It would be very difficult to choose an individual aspect to compare the performance of the current or past ARIN Advisory Council as it is a vital passageway for the creation of new improvements & policies for the entire ARIN organization. However, as a personal suggestion, I believe that it would be improved by electing me as a member of the AC.

David Huberman

Microsoft



Please provide a brief CV highlighting experience relevant to the duties of the ARIN Advisory Council.

1999-2000 - ARIN - Hostmaster
2000-2002 - Global Crossing - Global IP Addressing Manager
2003-2013 - ARIN - Hostmaster
2013-present - Microsoft - Principal, Global IP Addressing
Jan 2015-present - Advisory Council Member

Please disclose any conflicts of interest you may have with doing your duty as a member of ARIN's Advisory Council. How do you propose to resolve such conflicts?

None

Describe any limitations on your ability to attend AC and Public Policy Meetings in person or to serve the full three-year term.

None

Have you attended ARIN meetings or otherwise participated in ARIN procedures in the past?

I have attended almost every ARIN meeting since 1999.

How do you foresee ARIN's function, scale, or role changing in the wake of IPv4 exhaustion?

The ARIN function remains the same: stewardship of all number resources for this region. ARIN primarily records registrations and changes in registration data. That function, ARIN's role in the community, and ARIN's scale should remain generally constant during the post-exhaustion phase of the next few years.

What differentiates you as a candidate or makes you uniquely suited to the post?

Very few people know the system more comprehensively than I do, and very few people have the perspective I do. I have 16 years of experience directly in the ARIN community, 10 of which were spent as a senior member of the ARIN registration staff, and the other 6 of which were spent as the IP address manager for global network operators.

How do you separate your personal opinions from those of your organization and those of the community? What areas of policy, if any, need more attention and why?

Over the past year as an Advisory Council member, I have championed policies which directly benefit “the smaller guys” at the expense of “the larger guys” (which includes my employer) because I believed it was the right thing to do for “the Internet”.

As for areas of policy which need work, I believe we need to continue to discuss the ISP vs. End-user model, and give serious consideration to moving to a single, uniform policy set. I would also like to continue work to greatly simplify the NRPM (cut down the amount of words it contains).

What are your thoughts on the rights and responsibilities of legacy IP address holders?

I do not like the concept of “legacy” registrants vs. “non-legacy” registrants. It’s a construct of ARIN’s lawyers, and not something which is generally relevant to network operations. I respect all IP address registrants

(regardless of whether a service agreement with ARIN is in place or not) and strongly believe in protecting everyone’s rights to registration and reverse DNS delegation.

What are your thoughts on needs-based justification for the receipt of IP addresses?

Time has proven that organizations buy the IP addresses they need (or think they will need), and a statistically insignificant amount of resources are speculated or hoarded. In turn, ARIN policies should be crafted to meet the needs of the 99.9%, and not penalize everyone for the few bad actors out there. I am, therefore, not generally in favor of needs-based justification policies.

If you could improve any aspect of the ARIN AC, what would it be?

The AC is too powerful in the PDP. I would remove the concept of policy shepherds and return full process control of policies to policy authors.

Adrian Johnson

Block Line Systems



Please provide a brief CV highlighting experience relevant to the duties of the ARIN Advisory Council.

Project Management:

Data Center Supervision & Management with 200+ Customers
Organize and supervise site surveys, installs, de-installs, and configurations
Engineering Design and Implementation of new services across multi-vendor carrier platform
Project Management for Large Enterprise Customer Network Deployments; Data Center Installs
Experience in Organizing Hardware/Software, & Resources in ISP customer service Environment
Engineering Proposal Writing for Executive Management for additional Hardware/Software Prospects
Quality Assurance Management for Internal Company Processes and Customer Network Implementation

Technical Support:

Support of 15000+ customer base with Dynamic Services
HP Open View NNM Support, Configuration & Troubleshooting
Juniper M10, & ERX Platforms; Brocade CES/CER, VDX Platforms
Network Analysis and Review for Traffic Engineering of Network Devices
Linux, UNIX & SQL Sybase Scripting, Database Tuning, Network Monitoring
Apache & IIS 6.0 Web Server Maintenance & Support on UNIX & Windows OS
LDP and RSVP MPLS Unicast and Multicast Planning, Design, Configuration, and Support
Tier 3 escalations for customer voice/data networks and secure server multi-OS environment
Support of Frame Relay & Internet Platform on Lucent, Cisco, Brocade, Adtran, and Juniper Platforms
Support Optical Transport on Opti6100; Install and support of CWDM fiber ring on Omnitron Platform
Internet/MPLS/VoIP over Cisco 26xx -29xx 38xx, 39xx, 65xx/75xx series, 72xx series, ASR1000, ASR9000

Innovations & Planning:

Pre Sales Engineering, Network Design & Implementation
Pre & Post-Sale Training of Sales & Technical Support Staff
VoIP WAN Design/Troubleshooting, and Forecast Capacity Planning
Network Packet Analysis, Audits, Proposals, and Website Maintenance
Disaster Recovery Planning, SAS 60/PCI Audit Preparation, Documentation, and Testing
Customer Network Architect & Troubleshooting including Visio Network Design / Administration
Coordinate Layer1 facility builds with Planning Engi-

neering Dept for full and partial meshed environment

Support / Training:

ISP Tier 3 Support for 12+ Years

Internal Employee & Customer Training

Detailed Visio and Network Documentation

Method of Procedure documentation for multiple internal departments

Troubleshooting and Design for Major Telecom Companies in USA and Abroad

80% travel throughout continental USA as requested for emergency network support

Please disclose any conflicts of interest you may have with doing your duty as a member of ARIN's Advisory Council. How do you propose to resolve such conflicts?

None

Describe any limitations on your ability to attend AC and Public Policy Meetings in person or to serve the full three-year term.

None

Have you attended ARIN meetings or otherwise participated in ARIN procedures in the past?

None

How do you foresee ARIN's function, scale, or role changing in the wake of IPv4 exhaustion?

Facilitator in assisting ISPs and Enterprises in adopting IPv6 while managing transition from IPv4

What differentiates you as a candidate or makes you uniquely suited to the post?

Senior Network Engineering Role in Vendor and ISP space both dealing with allocation and management of IPv4 and IPv6 space from a business user's point of view.

How do you separate your personal opinions from those of your organization and those of the community? What areas of policy, if any, need more attention and why?

Objective approach to accommodate the needs of many in future of IP space allocation while learning to understand the position of those in the community.

What are your thoughts on the rights and responsibilities of legacy IP address holders?

Work with Legacy IP address holders to manage a mutually beneficial profit sharing or re-allocation arrangement with newer IP space allocation.

What are your thoughts on needs-based justification for the receipt of IP addresses?

I agree with ARIN policy for needs-based justification.

If you could improve any aspect of the ARIN AC, what would it be?

Communication with organizations in the needs category with organizations in the surplus category.

Amy Beth Potter

Hilco Streambank

<https://www.linkedin.com/pub/amy-potter/13/646/83a>



Please provide a brief CV highlighting experience relevant to the duties of the ARIN Advisory Council.

I am a Vice President at Hilco Streambank. I head up our IPv4 brokerage business. I have been facilitating the transfer of IPv4 addresses since shortly after ARIN adopted policies allowing 8.3 transfers. I regularly facilitate transfers in ARIN, APNIC and RIPE, as well as

between ARIN and APNIC. This has given me a unique perspective into the impact that RIR transfer policies have on a variety of companies ranging from small hosting companies to large ISPs, new start-ups to established Fortune 500 companies.

I led the creation of an online auction platform for IPv4 addresses in order to streamline and standardize the purchasing process in a way that complies with RIR policies, and add transparency to the IPv4 market. The auction platform publishes sale prices (without identifying the parties involved) in order to provide more information to organizations participating in the IPv4 market.

Prior to getting involved in the IPv4 market I earned a law degree.

Please disclose any conflicts of interest you may have with doing your duty as a member of ARIN's Advisory Council. How do you propose to resolve such conflicts?

I am an IPv4 broker. While I do have a financial interest in the existence of the IPv4 market, the continued availability of IPv4 addresses post ARIN exhaustion is necessary for many ARIN organizations. As such I do not view this to be an insurmountable conflict of interest

with the duties of an ARIN AC member, and I believe I can bring valuable insight to the policy development process.

One of the primary virtues of ARIN is that policy is developed by the community. This is an intelligent community. I do not believe they will support policies that are not in their best interest simply because I ask them to. My disclosure of my profession should be sufficient for members of this community to assess any bias I may have, and decide for themselves whether the policies I work on are a good idea.

I am happy to recuse myself from voting on whether clear support exists to advance draft policies regarding IPv4 transfers to last call, as I may be biased in my assessment of the level of support in the community.

Describe any limitations on your ability to attend AC and Public Policy Meetings in person or to serve the full three-year term.

None

Have you attended ARIN meetings or otherwise participated in ARIN procedures in the past?

Yes, I have attended ARIN meetings and ARIN PPCs at NANOGs since 2013, as well as RIPE, APNIC and APRI-COT meetings.

How do you foresee ARIN's function, scale, or role changing in the wake of IPv4 exhaustion?

With the exhaustion of IPv4 I see an opportunity for ARIN to strengthen its role as the authoritative registry for IP addresses in this region by increasing the level of accuracy in the ARIN database. I am already starting to see this on a small scale as organizations are completing 8.2 M&A transfers to update their registration so that they are able to sell and transfer their unused space to other organizations with need. The transfer policies ARIN adopts post exhaustion have the potential to decrease the barriers to completing registration transfers into the names of the organizations that will actually be using the address space.

Because the monetary value now attached to IP addresses also incentivizes bad actors, it is possible that ARIN will also need to focus more on detecting and preventing fraud.

What differentiates you as a candidate or makes you uniquely suited to the post?

The IPv4 market is rapidly becoming the primary source of IPv4 addresses in the ARIN region. This makes ARIN's transfer policies more important than ever before as an increasing number of ARIN organizations will be affected by them. As an IPv4 broker I have unique insight into how transfer policies impact a wide variety of organizations, as well as the impact they have on the availability and cost of IPv4 addresses to organizations that need them.

I have consistently supported and encouraged following RIR transfer policies throughout my time as a broker.

I've facilitated every type of transfer available under ARIN policy many times with many different types and sizes of organizations. I've also facilitated many transfers in other RIRs, and seen the ways that differing transfer policies influence the process and the markets in those regions. I know how policies play into contract negotiation, and the costs they can add to transactions. I see the ways that transfer policies do and do not achieve the goals they were intended to achieve, and the unintended consequences that can result.

My extensive experience with the various ways that transfer policies are actually being used, and the real life consequences they have for organizations attempting to get the IPv4 space they need makes me uniquely suited for this post.

How do you separate your personal opinions from those of your organization and those of the community? What areas of policy, if any, need more attention and why?

My organization holds no official opinions on policy matters. The individuals in my organization have opinions. Sometimes we agree and sometimes we disagree, but I am under no organizational obligation to hold any specific views. My own views are shaped by my conversations with members of the community about how policies are impacting them.

Now that the IPv4 market is the primary source of IPv4 addresses in the ARIN region I think that transfer policies need more attention. I also think the NRPM should be cleaned up to add simplicity and clarity.

What are your thoughts on the rights and responsibilities of legacy IP address holders?

This differs based on whether the holder has signed an LRSA. The exact rights of legacy holders not under LRSA are not clear. There are potentially stronger rights for these organizations; however, to my knowledge a court has yet to decide the matter. I think there are strong arguments on both sides and I could see a court deciding either way, however until this happens legacy holders not under an LRSA basically have the Schrodinger's cat of legal rights. Given the costs, risks and other practical limitations of pursuing a court decision on whether property rights exist I doubt we'll ever know if the cat's alive.

Legacy holders under an LRSA might have fewer rights than legacy holders not under an LRSA, but at least they know what those rights are, and have an agreement signed by ARIN saying that ARIN will respect those rights. They have a contractual obligation not to claim property rights in their legacy IPs, but "property rights" are really just a bundle of other rights (the right to use, the right to exclude others, the right to transfer those rights to others, the right to destroy, etc.). The most important of these rights to IP address holders are preserved in the LRSA (the right to use, the right to exclude, the right to transfer—admittedly transfer must occur under ARIN policy). The LRSA also prevents ARIN from reclaiming the space for lack of use. Personally I prefer the certainty of the LRSA.

What are your thoughts on needs-based justification for the receipt of IP addresses?

I agree with the concept that IP addresses should be in the hands of—and registered to—organizations that need them and that will be using them on the internet. I do not think our current set of policies is the best way to achieve this. Our current set of policies has a number of unintended negative consequences, including sustaining inaccuracy of the database. We are now in a situation where organizations that need IPv4 addresses must turn to the IPv4 market to get them, and there is an extra cost where previously there was none. The stringent needs policy in place now increases the transactional cost as well as the risk of acquiring this space.

I am in favor of greatly relaxing the current needs requirements; however, I do not believe that eliminat-

ing them entirely is the answer. I would support policies aimed at preventing purely financial intermediaries from registering space in their names, with the goal of limiting the level of speculation occurring on the IPv4 market.

If you could improve any aspect of the ARIN AC, what would it be?

I'd like to make an effort to increase the level of quality participation and feedback from members of the community that are impacted by ARIN policies without also imposing extra costs on the organizations that currently participate in the process.

Robert Seastrom

Time Warner Cable (day job), ClueTrust (very small friends and family ISP/colo), ICANN Crypto Officer for signing the DNSSEC root.



Please provide a brief CV highlighting experience relevant to the duties of the ARIN Advisory Council.

Robert Seastrom is a Principal Engineer in the AD&E Technology Development group at Time Warner Cable. His industry experience spans a quarter century of engineering and management positions at small and large ISPs, hosting providers, and maintaining critical Internet infrastructure. Robert has also held positions at Afilias, Neutral Net, Inter.Net Global Ltd., Akamai Technologies, AboveNet Communications, and Digex, and built pioneering ISPs in Japan and the Republic of Georgia. His nonprofit service includes cofounding and serving as first president of the Cambridge Bandwidth Consortium (a cooperative ISP in Massachusetts), the NANOG Board of Directors, and board positions with educational organizations related to amateur radio and firearm safety.

Please disclose any conflicts of interest you may have with doing your duty as a member of ARIN's Advisory Council. How do you propose to resolve such conflicts?

No conflicts of interest. For the sake of full disclosure, I

personally hold number resources (a /23 and an ASN) that predate ARIN.

Describe any limitations on your ability to attend AC and Public Policy Meetings in person or to serve the full three-year term.

No limitations; I have full support of my employer and family.

Have you attended ARIN meetings or otherwise participated in ARIN procedures in the past?

Yes; I have been on the ARIN Advisory Council for 12 years.

How do you foresee ARIN's function, scale, or role changing in the wake of IPv4 exhaustion?

With the exhaustion of the IPv4 free pool, it will become possible to simplify and relax policies, setting aside austerity measures that were intended to delay IPv4 runoff. I predict further loosening of requirements to qualify for IPv4 space (already partially in place since section 8 transfers, the only way to get IPv4 space in quantity today, offer a much longer runway than section 4 allocations/assignments). I believe that the AC and the community should champion policies that streamline the IPv4 transfer process, while continuing to spotlight the importance of supporting and deploying the current version of the Internet protocol, IPv6.

What differentiates you as a candidate or makes you uniquely suited to the post?

Experience on the AC and diversity of experience as a member of the ARIN community - I've worked for very large organizations, very small organizations, a couple in between. Culturally, my roots as a "little guy" ISP show, particularly support for start-ups and small organizations trying to engage ARIN for the first time.

How do you separate your personal opinions from those of your organization and those of the commu-

ity? What areas of policy, if any, need more attention and why?

My responsibility is to the community. My management understands that what is good for the Internet writ large benefits our Company, and I enjoy their unreserved support. My personal views and experiences color my perceptions, as they do for us all, but I have a solid history of listening and being persuaded by well-formed arguments from others. We need to work on adapting policy to today's post-IPv4-runout realities (more on that in other sections) as well as eliminating systemic IPv4-thinking biases in policy (for instance, favoring conservation over simplicity).

What are your thoughts on the rights and responsibilities of legacy IP address holders?

The great Enlightenment philosophers wrote of "social contract" and legitimacy of government and governance structures, particularly those that derive their power from the governed. I don't believe that legacy holders have an absolute right to do whatever they wish with address space that was assigned to them by antecedent registry systems, but likewise have never been an advocate of some sort of "re-qualification" framework or reclamation scheme coming down from on-high. I appreciate order and certainty where none previously existed. I signed an LRSA for the aforementioned pre-ARIN number resources some years ago. The rights and responsibilities of *all* number resource holders are subject to change over time, via the Community's bottom-up policy process and election of AC and Board members whose positions are agreeable to the Community. I believe there is a public interest obligation on the part of all number resource holders, whether under RSA contract or not, to keep contact information in WHOIS current and useful.

What are your thoughts on needs-based justification for the receipt of IP addresses?

Needs-based justification has been with us since the beginning of TCP/IP, but the particulars of what one needs to do in order to show justification have increased substantially over the years. Once upon a time it was possible to simply say that one needed space and no, there weren't plans to connect the network to the ARPAnet and presto - you'd documented need by simple attestation. IPv4 scarcity has caused an increasingly tight interpretation of "needs-based" and I am hopeful that now that there is no specter of precipitous free pool exhaustion, we'll be able to relax the semantics of "needs-based" (via an incremental and iterative process), though I don't see the concept disappearing entirely.

If you could improve any aspect of the ARIN AC, what would it be?

The AC as a body is great, and my colleagues have my full respect individually and collectively. Our diversity of experience and accessibility to the community is our strength. Our weakness is our workflow and latency - in a business that runs on Internet-time, the delay in moving good policy proposals forward can seem interminable. The PDP (as it evolved from the IRPEP) has improved this greatly, yet I believe there is still room for improvement while preserving openness and a full airing of proposed policies before they're implemented.

John Springer

Inland Telephone Company
<http://twitter.com/3john>
https://www.arin.net/about_us/ac.html



Bearing in mind that you run and serve as an individual, rather than as representing an organization, please provide the name of any organizational affiliation you consider relevant.

Inland Telephone Company

Please provide a brief CV highlighting experience relevant to the duties of the ARIN Advisory Council.

I have been working in Internet networking since 1995. I have been participating in Internet number policy discussions by attending ARIN public policy meetings since April 2005. I served on the Metaswitch User Forum Board for four years from 2006, serving as its chair the last year. I have been an ARIN AC member for one term since 2013.

Please disclose any conflicts of interest you may have with doing your duty as a member of ARIN's Advisory Council. How do you propose to resolve such conflicts?

I have no conflicts of interest that I know of. Having reviewed the Conflicts of Interest page, I do not foresee coming into any conflicts with the listed criteria.

Describe any limitations on your ability to attend AC and Public Policy Meetings in person or to serve the full three-year term.

I am not aware of any such limitations currently. I have pretty good attendance so far.

Have you attended ARIN meetings or otherwise participated in ARIN procedures in the past?

I have attended all the ARIN PPM meetings since April 2005 except Montreal in 2006 and San Juan in 2007. I have attended many of the PPCs at NANOG meetings. I read and participate on PPML.

How do you foresee ARIN's function, scale, or role changing in the wake of IPv4 exhaustion?

The main near term job is going to be NRPM clean up. There is going to be a ton of work to edit out the sections that only pertain to IPv4 assignment and allocations. I anticipate increased community interest in policy proposals that concern the transfer market. There are also some difficult issues surrounding out of region use that seem like they might require a global coordinated policy. It will not surprise me if more issues require a global approach.

What differentiates you as a candidate or makes you uniquely suited to the post?

I approach the ARIN AC as a job of work. Before becoming involved on the AC, I had admired the amount of work that I THOUGHT the AC did. After doing the work for a while, I have to admit that there is quite a lot more work involved than I knew. And I like that. As far as my unique perspective is concerned, I have spent the majority of my networking career with one organization, a small family owned Northwest US telephone company and ISP. I would say that this gives me a viewpoint that not all of my colleagues who have spent their careers at larger, often very much larger, organizations naturally share. For what that is worth.

How do you separate your personal opinions from those of your organization and those of the community? What areas of policy, if any, need more attention and why?

Separating my personal opinions from those of my organization is an explicit prerequisite of the position. AC members serve in an individual capacity, not on behalf of our employer. I find it functionally simple to do. I suppose the how of it is to listen to my conscience. As far as separating my opinions from those of the community, if anything, this is easier. The community voices its opinions quite effectively. It is only necessary to listen.

There are two main areas of policy currently that have the community chronically polarized: out of region use and adjustments to needs basis. These need more attention because having permanently aggrieved minorities starts to resemble the tyranny of the majority after a while. My personal opinion is that this is less than optimal.

What are your thoughts on the rights and responsibilities of legacy IP address holders?

The legacy IP address holders are the pioneers that built the internet. So long as they do not need additional resources, they should continue in the right to use those original resources unmolested. Currently, frictions arise when these legacy holders request new resources. ARIN now requests that legacy holders bring legacy resources under LRSA in such circumstances, which some are unwilling to do. My perception of these frictions is a philosophical disagreement over the nature of the resource which might be simplistically summarized as database entries vs property. Discussions over the years have flowed back and forth. At this time, I have no strong opinion as to which philosophical camp has the right of it. The status quo has been undisturbed for quite some time, but new discussions are underway

What are your thoughts on needs-based justification for the receipt of IP addresses?

Start with V4 vs V6.

V6 – a certain amount of needs assessment will always be present.

WRT V4, I don't know if anyone noticed, but I just spent about a year getting scorched from multiple angles over this question. I sought to suppress my opinions on the matter while all that was going on, hopefully successfully. At the end of the process, I came away without any clear idea either way on the larger subject. The question going forward is only going to apply to transfers and any subsequent (small) IANA allocations. There is a substantial minority that continues to make the case that the needs basis may now be adjusted without the harms that earlier held being an issue. There is an adamantly vocal current majority that seems to insist that those harms will never go away. The conversation continues.

If you could improve any aspect of the ARIN AC, what would it be?

The methods that the AC uses to assess community consensus could be enhanced. Particularly, the polling method at the PPMs leads many attendees to self-exclude for one valid reason or another.

2015 BOARD OF TRUSTEES

Paul Andersen

I sit on the Board of the Canadian Network Operators Consortium whom the majority of its members are also ARIN members.

I am President of E-GATE Communications (EGATE). Both EGATE and its affiliated companies hold Internet Number resources obtained from ARIN.

<https://twitter.com/pandersen>

<http://arin.paul.ca/>



Please provide a brief CV highlighting experience relevant to the duties of the Board of Trustees of ARIN.

I am currently a member of the ARIN Board of Trustees and also serve as the organization's Treasurer and Board Vice-Chair.

I am the President of EGATE Networks Inc. which is an Internet hosting and connectivity provider offering a variety of internet and telecommunications services: consulting; MPLS Network connectivity; web application development; shared, dedicated and collocated web hosting; High Speed Internet access, domain name registration services, voice over IP services, and other related services. I have been with the organization since its inception in 1996.

I have worked in the Service Provider industry for over fifteen years and have been very active in Internet industry governance. I was a member of CIRA's Board of Directors from 2001 - 2013 (both elected and appointed) and was actively involved in its various committees. From 2008 - 2013 I served as Chair of the Board. I was previously an elected member of the Board of Directors of the Toronto Internet Exchange, the largest open peering Internet exchange in Canada and served as its President and Chair. From 2004 to 2009, I served as a Member of the ARIN Advisory Council. I currently sit as a Board Member of the Canadian Network Operators Consortium (CNOc).

I have greatly enjoyed the opportunity given to me by the ARIN membership over this term. I ask for your support to continue the excellent work we have started. Thank You.

Please disclose any conflicts of interest you may have with doing your duty as a member of ARIN's Board of Trustees. How do you propose to resolve such conflicts?

Organizations that I am involved with hold Internet Numbering resources. During my tenure I have ensured to disclose such relationships to my colleagues.

Describe any limitations on your ability to attend Board and Public Policy Meetings in person or to serve the full three-year term.

During my tenure I have not had any limitations on my ability to serve and attend meetings, and do not anticipate any changes to that situation.

Have you attended ARIN meetings or otherwise participated in ARIN procedures in the past?

I have been a member of the ARIN Advisory Council through January 2004 through the end of 2009. Since 2010 I have been a member of the ARIN Board of Trustees. Through that time I have been an active participant in a variety of ARIN's meetings and forums.

What do you believe to be ARIN's greatest challenges?

Over the next three years ARIN faces several distinct transitions:

- * continued encouragement of IPv6 deployment
- * transition to a post IPv4 free pool world; and
- * removal of the US IANA function oversight

I would like ARIN and the community to continue to make efforts to ensure the registry data does not become stale in an IPv6 world. Operators rely on this data to be accurate, and resource holders will be obtaining subsequent IPv6 resources infrequently (if at all). Through both operations and policy, we need to encourage resource holders to keep data accurate.

Most importantly we need to continue to be customer driven and focused. During my previous tenure I urged the organization to begin an Engineering surge to ensure customer feature requests were being implemented in a more timely manner. Looking forward, I want to see ARIN be a resource (and not a roadblock) for the community.

How do you foresee ARIN's function, scale, or role changing in the wake of IPv4 exhaustion?

With the depletion of the ARIN IPv4 free pool we will see a subtle but important shift in our registration ser-

vices department as the majority of requests become transfer requests. We will need to continually adapt to ensure requests receive the appropriate amount of scrutiny while ensuring timely responses.

I believe we will not see a major change to our size or scale in the near term as we wait and see how fast the IPv6 transition occurs. Once that transition occurs we are likely to see a smaller ARIN as our role simplifies should our mission remain unchanged.

What are your thoughts on needs-based justification for the receipt of IP addresses?

Whether a needs based policy is appropriate in the ARIN region has been debated continuously for some time. I am supportive that any change to needs based come from the community through our bottom up consensus based policy process.

My personal view is that the community has concluded to have certain needs based elements for receipt of numbering resources.

With that in mind I do not believe needs based to be a third rail of numbering policy, and that a time in the mid to long future could come where the community feels it has served its purpose and replaces it with something different.

What are your thoughts on the rights and responsibilities of legacy IP address holders?

Legacy holders were early adopters of the Internet and the surrounding technology. During my tenure the Board has evolved the relationship between these stakeholders and found what we believe is a good balance. Like anything there is always room for improvement and I would want to see ARIN continue to work with the community to improve that relationship.

What are your views on the NTIA IANA oversight transition, particularly as it may affect the addressing community?

As a Board member I am encouraged by the wider community's progress towards coming to a proposal to allow the NTIA to transfer stewardship of the IANA function.

ARIN (as part of the NRO) was supportive of the CRISP team's work to generate a proposal based on community consensus. As that process is now mostly complete and we await the various committees at ICANN to finish their work, ARIN now needs to look whether there are ways we should be strengthening ARIN's accountability mechanism to its members.

ARIN does a measure of outreach and capacity building. Is this something that should be expanded, contracted, or maintained as is?

During my tenure, the Board was very supportive of outreach programs that staff developed. We had a successful conference roadshow that was well received prior to the IANA v4 pool depletion. That program has evolved into the ARIN on the Road program, which I have been supportive of given how successful and well received it has been by our members.

We will also need to continue to evaluate the amount of outreach related to the promotion of IPv6. Uptake recently has improved; however, if we start to see a stall again, ARIN - with other partners - may need to increase its efforts.

Aaron Hughes

CEO, 6connect, Inc. (Board seat holder)
Trustee, Board of Trustees, ARIN
Architect, UnitedLayer LLC
Advisory Board, AMS-IX
Member & NomCom, OpenIX
Member, NANOG
Board Member & Admin, PeeringDB
<https://www.linkedin.com/in/aaronhaaronh>



Please provide a brief CV highlighting experience relevant to the duties of the Board of Trustees of ARIN.

I currently serve the ARIN community as both an existing Trustee on the Board of Trustees as well as a participating community member. I serve on other boards including 501(c)'s (non-profit organizations) where I perform similar duties. I have been heavily involved in operational and policy organizations, globally, for approximately 20 years including, but not limited to, ARIN, NANOG, APNIC, RIPE, GPF, EPF, BCOP, CANTO, CTU, CaribNOG, Canadian ISP Summit, IPv6 Task Forces and the IGF. In addition, I work with organizations each day on IPv6 business strategy, allocations and assignment policy, fiduciary evaluation and impact of IPv6 implementation and have an exceptionally large array of direct experience with IPv6 strategy and implementation. Full CV available on LinkedIn.

Please disclose any conflicts of interest you may have with doing your duty as a member of ARIN's Board of Trustees. How do you propose to resolve such conflicts?

None

Describe any limitations on your ability to attend Board and Public Policy Meetings in person or to serve the full three-year term.

None

Have you attended ARIN meetings or otherwise participated in ARIN procedures in the past?

I've attended every ARIN Public Policy Meeting, PPC, and the majority of the ARIN On the Road meetings for the past 10+ years.

What do you believe to be ARIN's greatest challenges?

Education and outreach with respect to IPv6 adoption and the impact of IPv4 depletion and extension technologies.

How do you foresee ARIN's function, scale, or role changing in the wake of IPv4 exhaustion?

IPv4 policy changes should end, IPv6 policy changes should become stable, and facilitation of transfers should become a repeatable, known, standard process. There will be higher demand for ARIN Online features as dependent organizations move toward more automation and likely demand for a filtering solution that works as hijacking and transfers increase. I expect a push for a solution to either get RKPI working and deployed properly, major changes to ARINs IRR, or a completely different solution to be worked out in the coming year or two. While ARIN is currently scaling up, over a long enough timeline it will scale down, at least some, without a desire from the community to increase or change ARINs function and/or role. IPv6 deployment and use cases are still in their infancy so it's challenging to know what the future brings, however, this community has always been good at reacting to the fluid, ever changing, Internet.

What are your thoughts on needs-based justification for the receipt of IP addresses?

I have always been pro needs-based justification. Even in the face of a very large pool of resources, I believe it is our responsibility to continue to conserve resources where it makes sense. That being said, if the policy

development process is followed and the community desires to have this changed, my opinion has no impact. As a Trustee, my role in the ratification process is limited to making sure the PDP is followed, not to get in the way of policy changes.

What are your thoughts on the rights and responsibilities of legacy IP address holders?

Since the addition of ARIN NRPm 8.3, for legacy holders to transfer space, they must sign an RSA or an LRSA. I believe that is sufficient to bring them into the fold should they desire to transfer resources, however, I do not feel it is necessary to actively pursue legacy holders at this time.

What are your views on the NTIA IANA oversight transition, particularly as it may affect the addressing community?

I am in support of enhancing the multistakeholder model of Internet policymaking and governance by transitioning the IANA functions oversight away from the NTIA. However, I do not expect this transition to have a significant impact over the addressing community beyond what it already has. The numbers community has delivered it's feedback to the CRISP team and is close to a final proposal (at the time of this writing).

ARIN does a measure of outreach and capacity building. Is this something that should be expanded, contracted, or maintained as is?

ARIN's involvement in outreach and capacity building should grow facing technologies and communities that need assistance with IPv6 education, IPv4 depletion and smaller communities that would not normally attend larger forums. The ARIN community has always been clear about involving as many people as possible to enhance the quality of policy and ensure resources are available to those who need them. It is critical to reach out to those who either do not know about IPv6 or believe that IPv4 will be sufficient indefinitely. ARIN should also reduce it's outreach in areas where we believe 'success' has been achieved and reallocate those funds to new areas which need it most.

L. Sean Kennedy

I am the Director of IP Engineering at XO Communications, ASN 2828 and ARIN Org ID XOXO. Additionally I am the Vice Chair of the NANOG Program Committee.

<https://www.linkedin.com/pub/l-sean-kennedy/7/95/833>



Please provide a brief CV highlighting experience relevant to the duties of the Board of Trustees of ARIN.

2001-Present XO Communications
1999-2001 Nextlink Communications
1997-1999 GTE Internetworking
1994-1997 BBN Planet
1989-1994 BBN Technologies

I have had responsibility for number policy at XO Communications, Nextlink, GTE Internetworking, and BBN Planet. This work has included number resources from Netlink, Concentric, Internex, Allegiance Telecom (Digex), BBN (Arpanet), BARRnet, and SURAnet. I follow PPML and attend ARIN public policy meetings where I have voiced my own opinions and spoken on behalf of the above organizations regarding policies under development as well as on general ARIN matters.

At XO, GTE, and BBN I have held various technical and management positions where it was my responsibility to set strategy, provide direction, or make key decisions on matters relating to interconnection, network design, acquisitions, and network operations. I am experienced in communicating technical matters to C-level executives, setting and managing a budget, and working with legal council on regulation, contracts, and intellectual property issues.

Industry Participation

Current Vice-chair of NANOG Program Committee and committee member since 2013. I moderated 7 of 8 NANOG on the Road events, including 4 joint NANOG and ARIN on the Road meetings. I have participated in NANOG and NSFnet Regional Techs meetings since roughly 1991. I attended IETF regularly from 1995-1999 participating in discussions regarding CIDR and Interdomain Routing, closely followed the development of IPng, and continue to participate in the IETF through mailing lists. I am a member in good standing of OPEN-IX and have participated in a number of network equipment vendor technical advisory forums and focus groups.

Volunteering

I am a volunteer coach of a youth hockey travel team, plan to volunteer again this year as a youth learn-to-skate/play instructor, and have coached baseball and lacrosse in the past. It is a pleasure working with youth and maintaining accord in the multi-stakeholder parent community helps keep you on your toes. I helped the Massachusetts-based Brazilian Women's Group incorporate as a 501(c)(3) organization and served on its Board of Directors as well as a volunteer organizer of its annual cultural festival. I regularly help friends and family with networking and WiFi issues, and spent 2-years in rural Brazil trying to make my home office and wireless Internet connections function despite being behind two-layers of network address translation.

Please disclose any conflicts of interest you may have with doing your duty as a member of ARIN's Board of Trustees. How do you propose to resolve such conflicts?

I know of no conflicts of interest which could arise in

performing my duties were I elected to the ARIN Board of Trustees. If I become aware of a transaction with ARIN where I do have a direct or indirect personal interest, I would notify the Board of Trustees and abstain where appropriate following the guidelines provided by ARIN council.

Describe any limitations on your ability to attend Board and Public Policy Meetings in person or to serve the full three-year term.

None. I will participate in ARIN Board and Public Policy Meetings. I will also commit to participating in ARIN on-the-road meetings and performing outreach in appropriate forums on behalf of the ARIN community. If elected I will serve a full three-year term.

Have you attended ARIN meetings or otherwise participated in ARIN procedures in the past?

I have attended as many ARIN meetings as possible since ARIN opened its doors in 1997. I have participated in public policy meetings, consultations, as well as following arin-ppml, arin-announce, and participating in consultations and elections. I provided input to ARIN-region CRISP team representatives and commented on NRO-IANAXFER in support of the draft proposal to the ICG.

What do you believe to be ARIN's greatest challenges?

ARIN faces significant challenges in providing Internet Governance in a fast-changing Internet industry. The public expects the Internet to be an always available service, but there are lingering issues with security of the routing-system and coordination between service-providers which are functions that ARIN services support. Greater IPv6 adoption will ensure the Internet can grow for years to come. ARIN has a wide service-area and must also support providers and LIRs in less-well connected areas, as well as member multi-national corporations, and Internet providers. There also is significant business risk to ARIN itself if Internet commerce or government function are disrupted by something within ARIN's control. The challenge is to mitigate that risk, while making real progress on technologies which could make the Internet more secure and more solid as a service, and engaging all of ARIN's community to advance the Internet. ARIN must be flexible and dedicated to its mission.

How do you foresee ARIN's function, scale, or role changing in the wake of IPv4 exhaustion?

ARIN's mission is larger than simply stewardship and conservation of IPv4 addresses. IPv4 run-out policies have surely increased staff spending in Registration Services and that role may scale-back over time. Increased use of IPv6 should mean that organizations return less frequently for new allocations. If we can streamline the Number Resources Policy Manual this may lead to less spending in support of the Policy Development Process. However, address transfers require significant research and documentation of the ownership and chain of control of legacy IPv4 resources. The BoT has directed increased spending in Engineering to revamp

the IRR service, services such as RPKI and reverse DNS need to be “always-on,” and Engineering is already the largest department at ARIN. Lastly it is essential for ARIN to be active in Internet governance during the NTIA IANA oversight transition. As such I do not expect IPv4 exhaustion alone to cause ARIN to scale back its overall function in the short-run. However, many organizations including my current employer saw a significant increase in ARIN dues with the 2013 fee-structure and its less clear what increased benefit we have received since that change. The BoT needs to respond to the community consultation on the fee structure and ensure that the ARIN community is getting adequate results for its investment.

What are your thoughts on needs-based justification for the receipt of IP addresses?

The ARIN community has supported the continued application of needs-basis policy including for IPv4 address transfers. Policies adopted via the policy development process have made it easier to get IPv6 addresses, has ensured there are IPv4 addresses available for the purpose of IPv6 transition, and an expanded pool of addresses for critical infrastructure such as DNS root/TLD servers and Internet exchanges all of which are important developments. However, during the IPv4 run-out process when a needs test was in place and with intense scrutiny of applications, a number of large address holders were able to justify additional large allocations because they had technical and business needs for those addresses. I support the community developed policy, but with inter-RIR transfers and no needs-basis test on transfers in other regions as well as incremental transfer of IPv4 addresses to meet the ARIN needs test, there are already loopholes that may allow those acquiring IPs to skirt ARIN policies. ARIN needs to balance its current strategic direction of “stewardship and conservation” with its overall mission that includes supporting operation of the Internet and as a community we should take a lesson from the tax code where policy incents those with the resources to skirt regulation and use tax-havens to do so. I encourage the community to continue to revisit and simplify the overall Number Resources Policy Manual.

What are your thoughts on the rights and responsibilities of legacy IP address holders?

I think it benefits the ARIN community when legacy IP addresses have correct registry entries, when ARIN has proper documentation of the chain of control of IP address holdings, and when the current users of such IP addresses use ARIN services. I have reviewed the red-line version of the RSA which merges the LRSa/RSA and support that effort to bring more legacy IP address holdings in line with ARIN-provided assignments.

What are your views on the NTIA IANA oversight

transition, particularly as it may affect the addressing community?

I support the CRISP response to the IANA Stewardship Transition Coordination Group (ICG) and welcome the idea of RIR oversight of the IANA function. The four principles specified by NTIA as a requirement for a transition are solid and enhanced by the resolution from the US Congress that the NTIA should reject any transition proposal which was a government-led solution. The CRISP team and others in the community have been successful in getting ICANN to provide comments regarding an IANA-operator SLA, as well as an adequate statement regarding the IANA intellectual property. It is strictly correct that the CRISP team lead by RIRs (incumbents) is not a true bottom-up community-driven process as some community members have complained. However, the call for volunteers for the ARIN-region CRISP team was open to the whole ARIN community and all members of the community are able to comment on the NRO-IANAXFER mailing list. The current RIR model is described in RFC 7020 which is an Informational RFC, not an Internet standard, but was reviewed by the IETF community and approved by the IESG. The hybrid development of the CRISP response to the ICG with some top-down input from the RIRs along with the input of individuals in various communities was able to deliver a response quickly that meets the needs of the ARIN community.

ARIN does a measure of outreach and capacity building. Is this something that should be expanded, contracted, or maintained as is?

Outreach and capacity building are essential to ARIN's mission. As a member of the Board of Trustees I would challenge ARIN and the other Board members to improve its performance in these areas. ARIN made significant strategic investments in development of services such as DNSSEC and RPKI, which have had limited community deployment despite significant outreach. There are still significant gaps in the correctness of registry data, IPv4-only holders of ARIN resources still are still greater than those who also hold IPv6 resources, and even WHOIS-RWS adoption was slow to take off. The ARIN Board has strategically directed ARIN staff to update the IRR service. ARIN excels at formal engagement and communications with the ARIN community via its current outreach program, consultations, and updates at ARIN and on-the-road meetings. However, it maybe informal hands-on approaches like an expanded help desk at ARIN and NANOG meetings or perhaps grass-roots events such as ARIN sponsored hackathons or investment in open-source projects which could provide better returns on ARIN's overall investment on services, adoption, and registry correctness. ARIN should focus on improving its outreach, investing as necessary in this area, but the BoT needs to take up the challenge of getting better performance for its investment.

Sandra Murphy

I am currently employed by Parsons, Inc., a global company that provides technical, engineering, construction, and management support worldwide. Parsons is presently assigned several ASs and several IP address blocks (/16 and smaller).



Please provide a brief CV highlighting experience relevant to the duties of the Board of Trustees of ARIN.

I am presently a Principal Computer Scientist at Parsons, Inc. My primary responsibilities over the last two decades have covered research, development and standardization in the design, analysis, and verification of secure computer network protocols. I am and have been the project manager for several government funded research projects addressing security for networking protocols, with multi-year time frames and multi-million dollar budgets. I am active in the IETF standardization process, with a particular focus on BGP security, and in the NANOG and ARIN communities. I am the author of several IETF RFC's and journal and conference papers. Prior to Parsons (and its predecessor, Sparta, Inc.), I worked for Network Associates Laboratories, Trusted Information Systems, and the Defense Communications Agency. I hold a PhD in Computer Science from the University of Maryland.

Please disclose any conflicts of interest you may have with doing your duty as a member of ARIN's Board of Trustees. How do you propose to resolve such conflicts?

My employer, Parsons, Inc., has no particular financial interest in the outcome of ARIN decisions. I have no personal financial interest in the outcome of ARIN decisions. I am an active IETF participant in the IETF and am presently co-chair of the SIDR working group, but hold no IETF office.

Describe any limitations on your ability to attend Board and Public Policy Meetings in person or to serve the full three-year term.

I have no limitations on attending ARIN Board and Public Policy meeting, or in serving the full three-year term.

Have you attended ARIN meetings or otherwise partici-

pated in ARIN procedures in the past?

I have attended more than a dozen ARIN meetings in person and a few remotely. I have proposed and defended an ARIN policy that was subsequently adopted (POLICY 2006-3: CAPTURING ORIGINATIONS IN TEMPLATES).

What do you believe to be ARIN's greatest challenges?

ARIN is facing a time of accelerated change, with IPv4 runout, an emerging transfer market, and the potential for impact from the IANA transition. We can predict that changes can occur, but it is likely that a number of these changes will be unanticipated. The challenge to ARIN will be to react quickly to the changes in ARIN user behaviors and changes in the use of resources under ARIN stewardship.

The second challenge to ARIN is the need to encourage more widespread participation in ARIN processes. Also, proper stewardship of the Internet resources can not ignore the 50% of the ARIN resources that are legacy and not participating. Reports from ARIN of the rate of adoption of the LRSA do not show that the legacy community sees value in ARIN membership. Relying on the monetization of resources to bring people to participation risks an un-managed grey market without proper registration.

How do you foresee ARIN's function, scale, or role changing in the wake of IPv4 exhaustion?

ARIN was established to steward and administer the Internet's resources. As time has passed, with whois, reverse DNS, IRRs and now RPKI being a vital part of Internet operations, that stewardship and administration role has taken on operational importance. ARIN leadership and staff have done an admirable job in improving ARIN performance and stability. However, the accelerated changes the Internet faces means that this operational role will require an accelerating focus from ARIN. The members rely on ARIN service, and ARIN should be willing to provide a Service Level Agreement to its members. An obudsman position, reporting to the Board, may be a outlet that the community would find useful, over and above the dispute resolution spelled out in the RSA(s).

What are your thoughts on needs-based justification for the receipt of IP addresses?

IPv4 runout does not mean that we have no more need for concern for resource stewardship. If the transfer market becomes lucrative, the potential exists for acquisition without real need. A concentration of resource availability outside ARIN and the inability to acquire resources at a reasonable cost will hamper Internet growth and opportunities. It is important that ARIN continue needs based policies during the time that IPv4 addresses remain a necessary part of Internet communication. Furthermore, while current supply of IPv6 address space is sufficient for the foreseeable future,

new uses will spot the opportunities of the new address space, leading to an increase in usage. (Work expands to fill all available resources - a corollary to Parkinson's law.) Stewardship will always be with us.

What are your thoughts on the rights and responsibilities of legacy IP address holders?

Those who hold the right to use legacy resources were assigned that right with no recognized restrictions. When ARIN was established, there were no restrictions retroactively asserted on these resources, certainly no restrictions of being subject to ARIN policy and policy process. It is unlikely that legacy resource holders will find any attraction in yielding their current unrestricted right to use. (The comments in the consultation period on the new draft RSA mention some of the current and the draft agreements' restrictions that would be a barrier to legacy resource adoption.) And yet, the services ARIN provides those parts of the community provide benefit to the membership as a whole, so they can not be ignored. It is important that ARIN encourage legacy holders to participate in the ARIN process, with minimal restrictions on their currently unrestricted rights. Legacy resource holders should pay a fee commensurate with the increase in services that they receive from becoming members.

What are your views on the NTIA IANA oversight transition, particularly as it may affect the addressing community?

I am hopeful that the NTIA IANA oversight transition will result in improvements in clarity in the address

allocation system. I strongly support the current work to establish a service level agreement between the individual RIRs and ICANN. (Given that the numbers community (including us) is requiring this of ICANN, we (the ARIN community) should require the same of our RIR.) I believe that ARIN continued involvement in the NTIA IANA transition process is very important. While the transition process is expending much of its energy on the IANA Name function, the transition of the Numbers function could have considerable impact on the Internet community, and needs the attention of the ARIN community as stakeholders.

ARIN does a measure of outreach and capacity building. Is this something that should be expanded, contracted, or maintained as is?

I enthusiastically support ARIN's current efforts. As I said above, I believe that encouraging widespread participation is a goal for ARIN. First, it is only fair that those affected by a process should have be participants. Secondly, it is only by widespread participation that the community can ensure that changes in resource usage and demands can be considered in establishing policy. ARIN would benefit from establishing a strong tools program to facilitate their members in using the ARIN resources.

Louie Lee

Equinix

<https://www.linkedin.com/in/louienet>



Are you available to serve the entirety of a 3-year term?

Yes

Describe any limitations on your ability to travel to attend ARIN and ICANN meetings in person.

I have no limitations on my ability to travel to attend ARIN and ICANN meetings in person.

Why do you want to serve on the NRO NC, and what goals do you want to accomplish?

While the primary duty of the NRO NC is to fulfill the duties and responsibilities of the ASO Address Council (which are to oversee the development of global numbering policies, appoint 2 members to the ICANN Board, and to advise ICANN of number-related matters), I would continue to be in a unique position to help guide the conversation in the areas of IPv6 adoption, Internet operations, IANA stewardship transition from the US government, and global Internet governance. I would be doing so on the global stage with the interests of the RIR communities and the RIR system as a priority.

What, if any, conflicts of interest might arise for you as an NRO NC member? Specifically, do you serve in what could be perceived as any Internet governance roles, provide any services directly or indirectly to ARIN, or represent any significant interest from the community?

Currently, I am employed at Equinix which provides colocation and connectivity services to ICANN, ARIN, other RIRs, domain registries, domain registrars, and a

number of root servers. I do not participate directly nor indirectly in the procurement of these services nor the negotiations in the contracts for these same services.

What is your record of serving the Internet community in the ARIN region?

I have been serving on the NRO NC / ASO AC since 2004, and for the past 8 years, I have been the Chair of the ASO AC. During this time, I served on the first ICANN Accountability and Transparency Review Team to provide recommendations to the ICANN Board to improve one of the 4 areas mandated for review by the Affirmation of Commitments signed between ICANN and the NTIA agency of the US Department of Commerce.

I have been attending NANOG meetings since 1997, and have been a formal paying member from when it first organized as a membership organization. I am an IEEE member (ID: 80605704) since 2000 with primary focus on the driving the development of 40 GigE and 100GigE (IEEE 802.3ba).

What differentiates you as a candidate, or makes you uniquely suited to serve on the NRO NC?

I have been serving on the NRO NC to the satisfaction of the numbering communities for the past 4 terms. The Council saw fit to appoint me to serve as our Chair for 8 years.

Provide a brief biography of recent experience, associations, and affiliations relevant to serving on the NRO NC, including names of organizations, positions held, specific duties, and dates of service.

2004-present: NRO NC (2007 Co-Chair, 2008-present, Chair)

2010: ICANN Accountability and Transparency Review Team

2000-present: Senior Network Engineer, Senior Network Architect at Equinix

1994-2000: Tech Support, NOC, Network Engineer, Manager at NETCOM Online Communications

In light of the ongoing transition from IPv4 to IPv6, do you have experience do you wish to share with the community that is noteworthy in terms of IPv6 adoption?

While many people may believe that only organizations that are expanding the network or server infrastructure are the only ones who need to adopt IPv6, it is also imperative that other organizations who wish to be able to serve the WHOLE internet adopt IPv6 as well. For

these organizations, it might just be enough initially to adopt IPv6 on only the external facing services such as web and email. The growth of the IPv6-only Internet is primarily in the “eyeball” networks today, so you would want to make yourself accessible to the users on these networks. This is a business continuity issue.

Eventually, your own IPv4 users will need to access IPv6-only content. And unless you at least have a look at what it will take for you to get IPv6 connectivity, you may not have an answer for when your first user asks for it.

What is your view of the existing bottom-up, self-governance model and structure of the Regional Internet Registry (RIR) system? Do you believe there are other models or structures that would work better?

This bottom-up, self-governance model and structure of the RIR system has the best chance of influencing the formation of policies which directly affect the participants.

Timothy McGinnis

I am a member of the DC Chapter of the Internet Society as well as an ISOC Global Member. While I do not purport to represent all end users, that is how I frequently identify myself in Internet Governance fora.

<https://www.linkedin.com/in/mctim>



What, if any, conflicts of interest might arise for you as an NRO NC member? Specifically, do you serve in what could be perceived as any Internet governance roles, provide any services directly or indirectly to ARIN, or represent any significant interest from the community?

Currently I represent no one but myself in Internet Governance activities. In the past I have served as, inter alia, RIR staff, as the Policy Development Working Group Chair of AFRINIC and as an ISOC WSIS Ambassador.

What is your record of serving the Internet community in the ARIN region?

I have recently finished launching a new gTLD (.pharmacy). Prior to that I wrote a paper for a non-profit Internet organization of the effects of DDoS attacks on Civil Society groups. I have also done training courses on IPv6 and DNSSEC for ISC. In addition, I have worked on short term projects for ISOC as a consultant. Most of my service to the Internet Community has been outside of the ARIN region. I have been subscribed to the ARIN PPML for many years and contribute occasionally. I am also subbed to other RIR lists and various IETF/DNS lists.

Are you available to serve the entirety of a 3-year term?

At the moment I know of no impediments to my availability.

Describe any limitations on your ability to travel to attend ARIN and ICANN meetings in person.

At the moment I know of no limitations to my ability to attend ICANN and ARIN meetings.

Why do you want to serve on the NRO NC, and what goals do you want to accomplish?

I have no specific agenda besides serving the ARIN and NRO Communities to the best of my abilities.

What differentiates you as a candidate, or makes you uniquely suited to serve on the NRO NC?

I have extensive experience in the global Internet Numbering system as well as the more governmentally focused “Internet Governance” discussions. I have worked for an ISP in Africa, 2 root-server operators, a new gTLD and have authored several Policy Proposals in the AFRINIC region that eventually became policies. I attended the World Summit on the Information Society and several Internet Governance Forum meetings where I have strongly supported the NRO and what has become known as the Multi-stakeholder Model of Internet decision making.

Provide a brief biography of recent experience, associations, and affiliations relevant to serving on the NRO NC, including names of organizations, positions held, specific duties, and dates of service.

DotPharmacy Registry Administrator
National Association of Boards of Pharmacy February 2104 – February 2015

Responsible for all aspects of new generic Top Level Domain launch including liaison with Registry Service Provider, Registrars, ICANN and members of the .pharmacy community. DotPharmacy is an open, but highly restricted TLD committed to safe online pharmacy with a unique governance structure and policy regime that I helped to develop.

Author- Independent Contractor
"Global Civil Society at Risk Report -- Distributed Denial of Service Attacks"
AccessNow 2013-2014

Lead author of a White Paper focusing on how Denial of Service attacks disproportionately affect Civil Society organizations and strategies to help non-profits overcome these threats.

Education Manager and Lead Trainer
Internet Systems Consortium April 2012 – September 2012

ISC offers intensive training in the technologies surrounding Internet infrastructure. My role was teaching courses using a mix of lecture, discussion, and hands-on laboratory work. Focus was on interactive training to give System Administrators and Network Engineers the knowledge and skills to enable the most effective design and management of DNS & IP services. Course and logistics (design and administration) as well as web content administration were part of this role.

Internet Infrastructure and Internet Governance Consultant

Kampala, Uganda 2005 – 2009, Nairobi, Kenya 2009 - 2011

In 2005 I was an accredited ISOC WSIS Ambassador, Chaired the AfriNIC Election Committee in 2010 and Co-Chaired the AfriNIC Policy Development Working Group in 2011 - 2012. In between these volunteer roles, I did Consulting and Training on Internet resource distribution, DNS, routing and project management for African ISPs, NGOs, the UN, ISOC and SMEs. I was often asked to be a Panelist at various local, regional and global Internet Governance meetings due to my advocacy of FOSS, IXPs and ICT4D. As a Consultant to Bushnet from 2005 to 2008, I produced grant proposals for the design and implementation of networks in remote areas to promote ICT4D, managed accounts for industry customers working in the bush and helped develop "Big Dish" a "social venture" satellite provider for Africa.

Hostmaster/LIR Trainer/IP Resource Analyst, RIPE NCC
Amsterdam, Netherlands 2002 - 2005
My crew was responsible for implementing and

promoting regional and global Internet Protocol addressing policies. Duties included: project management, processing Internet Protocol address space and Autonomous System Number requests, updating and promoting correct use of the RIPE database, offering support and guidance for LIR's (Local Internet Registries), remaining up-to-date with Internet policy developments in the registry system and the Internet in general. I was also responsible for Registration Services web content management issues, including redesign of department's external web pages. Conduct training courses for LIR staff in various European cities on IP space management and DNSSEC (DNS Security).

In light of the ongoing transition from IPv4 to IPv6, do you have experience do you wish to share with the community that is noteworthy in terms of IPv6 adoption?

I began training folks on IPv6 over a decade ago while on staff at the RIPE NCC. I continued to do that while living and working in Africa and here in the USA when I was the Training Manager for the Internet Systems Consortium. I'm not sure these are particularly "noteworthy" efforts, but I am happy to have played a small part in the ongoing transition to IPv6. I also wrote the chapter on IPv6 for a book entitled: "Africa and the WSIS: From Principles to Action. Perspectives from the Civil Society". I also have some co-author credits on a few older IPv6 RIPE documents.

What is your view of the existing bottom-up, self-governance model and structure of the Regional Internet Registry (RIR) system? Do you believe there are other models or structures that would work better?

I have been an evangelist for what I call the BUTOC (Bottom Up, Transparent, Open, Consensus-based) RIR system for over a decade in a variety of international fora and mailing lists devoted to Internet Governance issues. I do not believe there are other systems that would work better. I would be pleased to continue to promote the current system while on the NRO NC. Some of my writings on the subject can be found at <http://www.circleid.com/members/1420>. In the IPv6 chapter mentioned above, I presented the current AfriNIC & RIR Policy Development Process as the ideal model of Civil Society cooperation.



VOTING OPENS:
3:00PM EDT
THURSDAY 8 OCT

VOTING CLOSES:
3:00PM EDT
FRIDAY 16 OCT

WATCH FOR AN EMAIL ON 8 OCTOBER @ 3 PM EDT
WITH INSTRUCTIONS ON HOW TO VOTE