



American Registry for Internet Numbers

# ANNUAL REPORT 2017

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# ABOUT ARIN

ARIN provides services related to the technical coordination and management of Internet number resources in accordance with its mission statement:

**ARIN, a nonprofit member-based organization, supports the operation of the Internet through the management of Internet number resources throughout its service region; coordinates the development of policies by the community for the management of Internet Protocol number resources; and advances the Internet through informational outreach.**

Services are grouped into four areas:

## Registration Services

These include the allocations, assignments, and transfers of all Internet number resources (IPv4 and IPv6 addresses and Autonomous System Numbers), help desk operations, reverse delegation registration, maintenance of ARIN's Whois service, the WhoWas historical registration database, and an Internet Routing Registry service within the ARIN service region.

## Organization Services

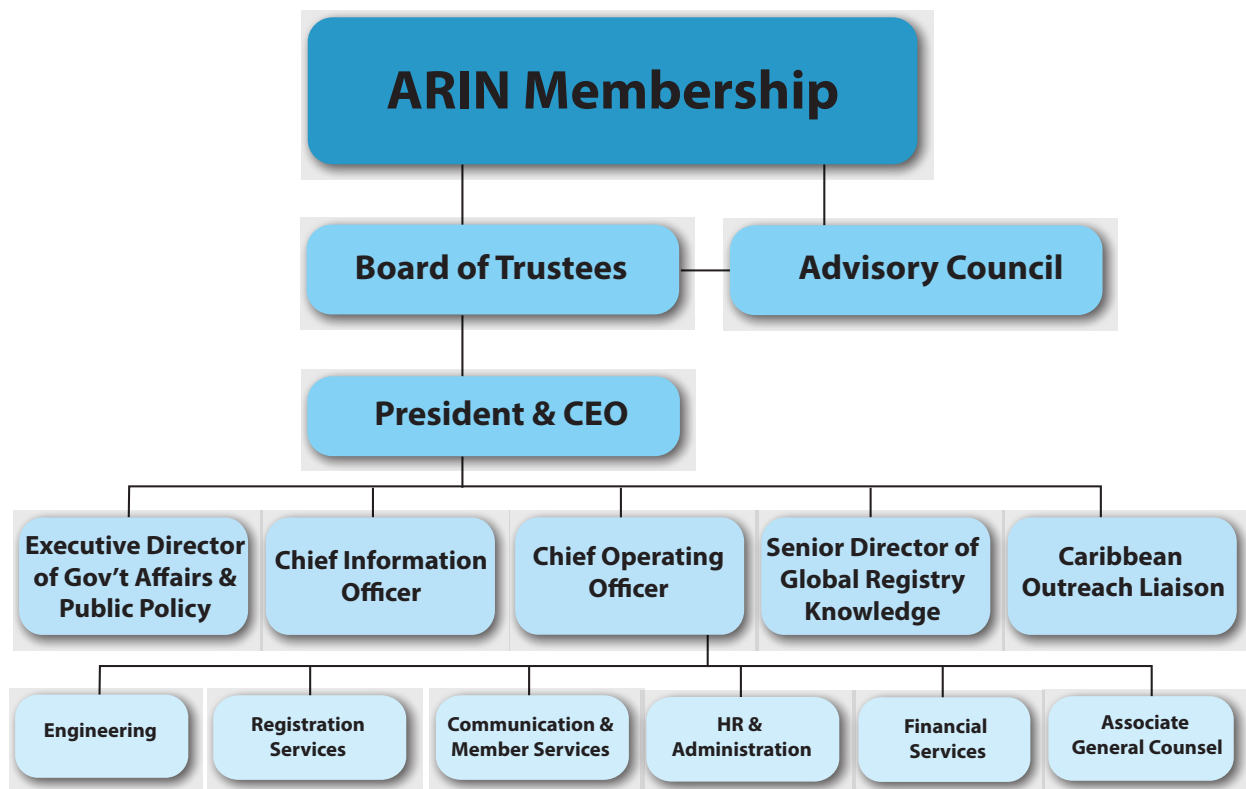
These pertain to interaction between ARIN Members, stakeholders, and ARIN. They include annual Board of Trustees and Advisory Council elections, Public Policy and Members Meetings, public relations, education, outreach, and training services.

## Policy Development Services

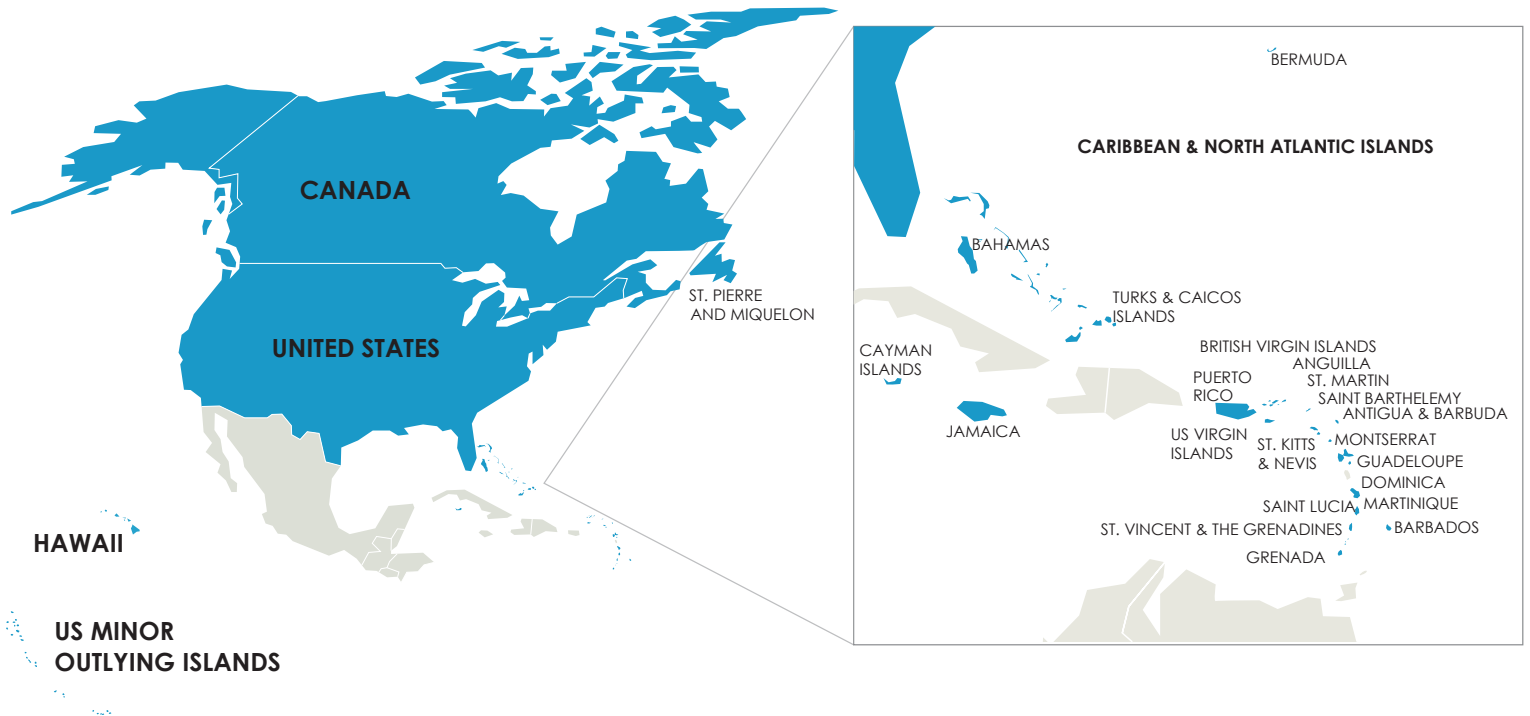
These include the support and administration of ARIN's Policy Development Process (PDP), conducting Public Policy Consultations and Public Policy and Members Meetings, maintaining discussion email lists, and publishing policy documents like the Number Resource Policy Manual (NRPMP).

## Technical Services

These include the development, implementation, and support of ARIN's internal systems, as well as community services like ARIN Online, Cryptographic Authentication, DNS Security (DNSSEC), RESTful Provisioning (Reg-RWS), Resource Public Key Infrastructure (RPKI), Registry Data Access Protocol (RDAP), and a community software repository.



# ARIN REGION



ARIN serves the following economies: Anguilla, Antarctica, Antigua and Barbuda, Bahamas, Barbados, Bermuda, Bouvet Island, Canada, Cayman Islands, Dominica, Grenada, Guadeloupe, Heard and McDonald Islands, Jamaica, Martinique, Montserrat, Saint Barthelemy, Saint Kitts and Nevis, Saint Lucia, St. Pierre and Miquelon, Saint Vincent and the Grenadines, St. Martin, St. Helena, Turks and Caicos Islands, Virgin Islands (British), United States (including Puerto Rico, Virgin Islands (US), and Minor Outlying Islands).

# PRESIDENT'S LETTER

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2017 was a year spent looking forward and planning for the future.

In 2017, the results of two important community consultations went into effect. The first consultation resulted in an update to our resource transfer fee structure in order to encourage organizations to only submit bona fide requests and to reduce transfer processing fees for all legitimate requests. This change went into effect on 1 January 2017. The second consultation aimed to clean up "No Contact Known" database entries that were associated with legacy resource records. The implementation plans for both consultations offer stronger and more future-proof solutions for how ARIN handles these issues in the years to come.

We also welcomed Bevil Wooding and Anne-Rachel Inné to the ARIN leadership team. Bevil assumed the newly-created role of Caribbean Outreach Liaison, and he will be instrumental in helping ARIN strengthen its service in the Caribbean via increased outreach and education. Anne-Rachel is currently working closely alongside Cathy Handley, our Executive Director of Government Affairs and Public Policy, as she will exclusively fill the role after Cathy retires at the end of 2018.

We continued to maintain a steady level of outreach surrounding the importance of IPv6 deployment. Throughout the year, myself and others from ARIN made many stops at events throughout the region, addressing the education, healthcare, and IT sectors to encourage organizations to adopt IPv6. Our focus remains demonstrating how crucial IPv6 is for continued growth the global Internet.

While we spent most of the year looking forward and executing our mission, we took a moment in December to look back.

ARIN celebrated its 20th anniversary on 22 December 2017. Much has changed over the past 20 years, but two things have not – we continue to look for ways to better serve the ARIN region and your interest and engagement with us fuels positive change. We know that we are powered by participation and we wouldn't be where we are today without the Internet community at-large.

On behalf of the entire ARIN staff and myself, I wish to thank you for your continued support heading into 2018. Here's to the next 20 years!

John Curran  
*President & CEO*  
ARIN

# BOARD OF TRUSTEES REPORT

The Board establishes and maintains authority over ARIN's scope, mission, and strategic and fiscal direction. The Board also oversees committee nominations, appointments, elections, and votes on community-developed draft policies in accordance with the Policy Development Process (PDP).

<https://www.arin.net/policy/pdp.html>

The Board of Trustees consists of seven members. Six members are elected by ARIN's membership, and the President and CEO of ARIN serves as the seventh member. An additional voting member (potentially bringing the Board to eight voting seats) may be appointed by the Board at its discretion (for a term not to exceed one year) to provide diversity to the Board's membership.

Each year, the Board holds approximately four in-person meetings and between five and 10 teleconferences. View meeting minutes at [https://www.arin.net/about\\_us/bot/index.html](https://www.arin.net/about_us/bot/index.html)

## 2017 MEMBERS

**Paul Andersen**, *Chair*

**John Curran**, *President and CEO*

**Timothy Denton**, *Secretary, January - August\**

**Patrick Gilmore**, *Secretary, August - December*

**Aaron Hughes**, *Vice Chair, January - May*

**Merike Kaeo**

**Bill Sandiford**, *Treasurer*

**Bill Woodcock**, *Vice Chair, May - December*



*\*Effective 9 August 2017, Timothy Denton resigned from the ARIN Board of Trustees. As a result, the Board nominated Patrick Gilmore to serve as Secretary. The Board chose not to fill the seat vacated by Timothy Denton for the remainder of 2017.*

## 2017 Election Results

In October 2017, Dan Alexander and Nancy Carter were elected to the ARIN Board of Trustees. Each will serve a three-year term beginning on 1 January 2018. Read ARIN's election guidelines at [https://www.arin.net/participate/elections/elec\\_procedures.html](https://www.arin.net/participate/elections/elec_procedures.html)

ARIN would like to recognize outgoing Board member Bill Woodcock. Bill served the ARIN membership and community with passion and energy for 15 years, and ARIN sincerely thanks him for his dedication and service.

Merike Kaeo served as a one-year appointee on the Board of Trustees, and ARIN thanks her for her service.

# CHAIRMAN'S LETTER

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In 2017, we continued to execute on our strategic plan, which in practice meant an increased focus on improved delivery of the services offered by ARIN.

We continue to see a rise in the number of IPv4 transfer requests, just as we did in 2016. We expect this trend to continue into the foreseeable future. We understand the importance of this transfer service to our community, and we will continue to find ways to improve and streamline this process.

We have also put a heavy emphasis on the importance of registry directory services, specifically Whois and Registration Data Access Protocol (RDAP). In the past year, data privacy and data accuracy have been top interests expressed throughout our community, including network operators, service providers, civil

society, and law enforcement that participate in ARIN's open policy development process.

The 2017 fiscal year demonstrated that even though most of the bustle of IPv4 exhaustion is behind us, the ARIN community is still highly active and eager to get involved in policy-making. Seventeen proposals were submitted, which undoubtedly kept our Advisory Council quite busy! We were lucky enough to see some great discussion at ARIN 39 and ARIN 40 on the policies that advanced in the Policy Development Process.

In October, we carried out another successful ARIN Election. Our newest Board members include Nancy Carter, who brings a strong financial and legal background to the Board, along with Dan Alexander, longtime member and former Chair of the Advisory Council.

ARIN has been committed in the past few years to improving the voice of the Caribbean at ARIN. To that extent I am extremely pleased to welcome Alicia Trotman and Kerrie Richards to the Advisory Council. Both were appointed to the Advisory Council to fill recently created vacancies. I am proud and humbled to call everyone on the Advisory Council my colleagues and I know they will serve ARIN well. I am excited to see what we can accomplish together.

I also want to acknowledge departing Board members Timothy Denton, Merike Kaeo, and Bill Woodcock. I express my sincere gratitude to all of them for their dedication and hours spent serving ARIN and its community. I'd like to give a special "thank you" to Bill, who contributed 15 years to the organization. His positive impact on ARIN will be felt for many years to come.

ARIN could not exist without the vast number of volunteers who spend countless hours contributing their time and expertise to the community. I thank you all on behalf of the community for your efforts.

And lastly, I wish to thank the greater community for placing its trust in the ARIN Board and for supporting us in our endeavors to keep ARIN stable and secure in the years ahead.

Thank you for the great honor of serving as your Chairman for another year. I look forward to working with each of you in 2018.

Paul Andersen, P. Eng

*Chairman*

*ARIN Board of Trustees*

# BOARD OF TRUSTEES ACTIONS

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- 10 January 2017 Elected Officers:
  - Paul Andersen, Chairman
  - Aaron Hughes, Vice Chair\*
  - Tim Denton, Secretary\*\*
  - Bill Sandiford, Treasurer
- Adopted ARIN Board Standing Rules
- Authorized the Treasurer to approve Future Commitments
- Established ARIN Compensation Committee and appointed Paul Andersen (Committee Chair), Aaron Hughes, and Bill Sandiford
- Established ARIN Finance Committee and appointed Bill Sandiford (Committee Chair), Aaron Hughes, and Paul Andersen; noted John Curran as ex-officio
- Established ARIN Audit Committee and appointed Patrick Gilmore (Committee Chair), Merike Kaeo, and Tim Denton; noted John Curran as ex-officio
- Established ARIN Board Governance Committee and appointed Bill Woodcock (Committee Chair), Paul Andersen, and Tim Denton
- Established ARIN Mailing List Acceptable Use Policy (AUP) Committee and appointed Patrick Gilmore (Committee Chair), Chris Tacit, and Stephen Middleton
- Appointed Paul Andersen to serve as the ARIN Board Observer to the NRO EC
- Reviewed Directors and Officers Fiduciary Duty, presented by ARIN's General Counsel
- Reviewed the 2016 Election and Fellowship Reports
- Accepted the 2017 Nominating Committee Charter and appointed Bill Sandiford (Committee Chair), Patrick Gilmore, David Huberman, Dmitry Kohmanyuk, Tina Morris, Orin Roberts, and Heather Schiller
- Accepted the 2017 Fellowship Selection Committee Charter and appointed Merike Kaeo (Committee Chair), Chris Woodfield, Tina Morris, and Marla Azinger
- Accepted the ARIN Services Working Group Charter and appointed Aaron Hughes (Chair), Paul Andersen, Martin Hannigan, David Huberman, L. Sean Kennedy, Dmitry Kohmanyuk, and Matt Peterson
- Reviewed and accepted ARIN IRS Form 990 for filing with the Internal Revenue Service
- \*In May, Bill Woodcock was appointed to fill the role of Vice Chair for the remainder of the 2017 term
- Accepted the 2016 Financial Audit Report
- Adopted Recommended Draft Policy ARIN-2016-3: Alternative Simplified Criteria for Justifying Small IPv4 Transfers
- Adopted Recommended Draft Policy ARIN- 2016-9: Streamline Merger & Acquisition Transfers
- Appointed Paul Andersen as Election Vote Counter for the 2017 Elections
- Appointed Paul Andersen to confirm the President's List of Eligible Voters for the 2017 Elections
- Adopted the ARIN Board Code of Conduct
- \*\*In August, Patrick Gilmore was appointed to fill the role of Secretary for the remainder of the 2017 term following Tim Denton's resignation from the Board of Trustees
- Appointed Kevin Blumberg to the serve as the ARIN-region NRO NC/ASO AC representative for a three-year term, beginning 1 January 2018 through 31 December 2021
- Appointed Cathy Aronson as ARIN's IETF Reporter for 2018
- Adopted Recommended Draft Policy 2017-5: Improved IPv6 Registration Requirement
- Confirmed the results of the ARIN 2017 Elections
- Adopted the 2018-2019 ARIN Strategic Plan
- Approved the 2018-2019 ARIN Budget
- Thanked Merike Kaeo for her service as a one-year appointee to the Board
- Recognized and thanked Bill Woodcock for 15 years of dedication and service to the Internet community, serving on the ARIN Board

## FROM THE CHIEF OPERATING OFFICER



**Nate Davis**

In 2017, ARIN continued its focused efforts on serving the community, resulting in a number of organizational accomplishments. While carrying out day-to-day duties, ARIN staff simultaneously homed in on the various activities and deliverables outlined in the Board-approved 2017 ARIN Strategic Plan while keeping in lockstep with ARIN's mission, operating goals, and financial goals. The completed key objectives in support of ARIN's strategic plan were:

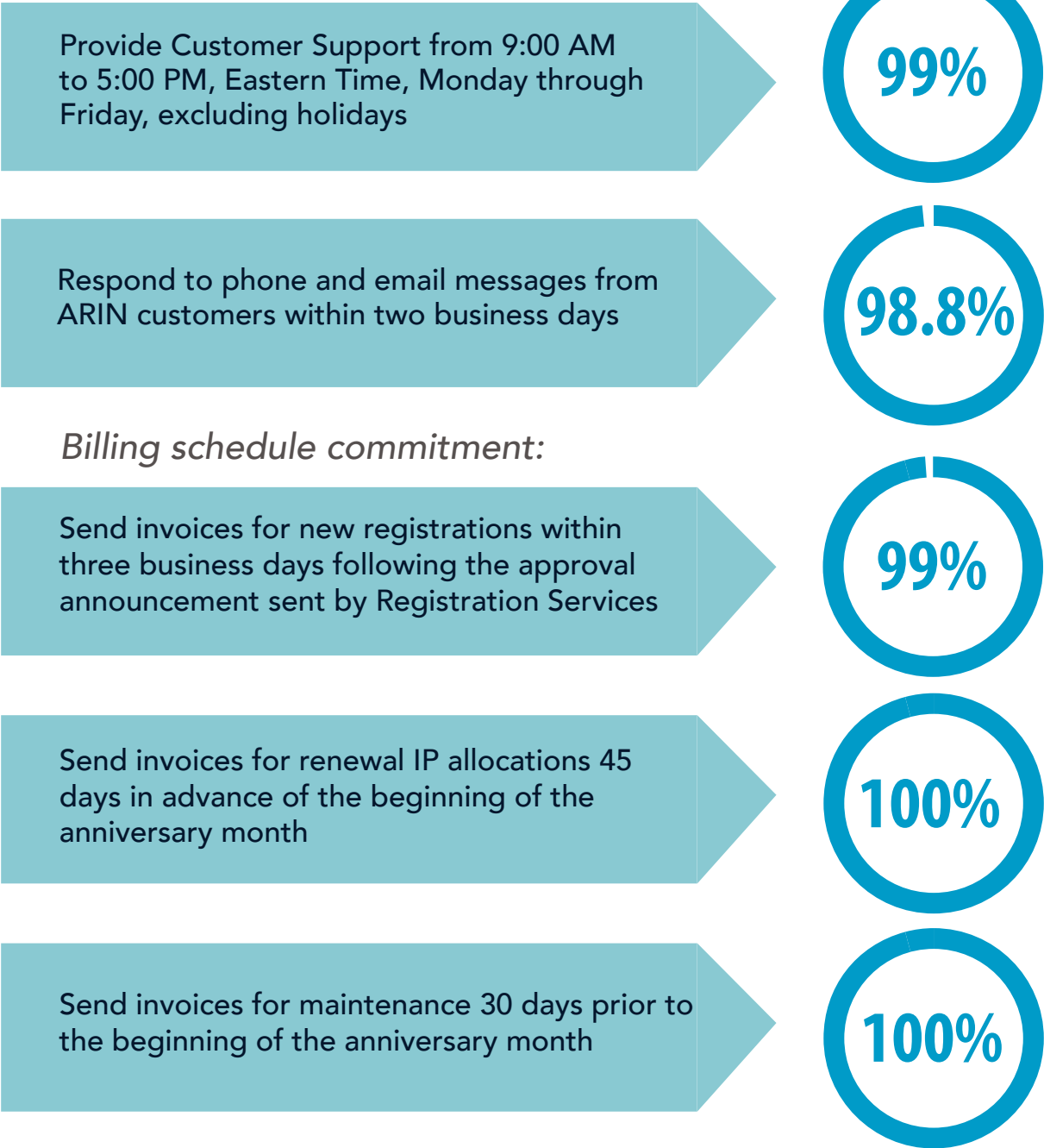
- Conducted seven ARIN on the Road events, one joint ARIN + NANOG on the Road event, and two ARIN Public Policy and Members Meetings
- Closed the following suggestions from the ARIN Consultation and Suggestion Process:
  - 2015.6 - Make Transfer Statistics available on FTP
  - 2016.9 - Include date since last response in POC Report
  - 2016.13 - ARIN Elections - Statements of Support Improvement
  - 2016.14 - Non-Incumbent Board of Trustees Candidate Requirement
  - 2017.2 - Improved Notification Emails
  - 2017.6 - Registrant Validation Remediation Proposal
  - 2017.12 - Remove phone number as a required field in ACSP Submission
  - 2017.14 - Provide Statistics About the Size of Available 2-byte and 4-byte ASNs
  - 2017.15 - Add Hyperlinks Within the NRPM
  - 2017.17 - Add HSTS Support to TeamARIN.net and GetIPv6.info
  - 2017.20 - Quarterly Reporting of Travel Expenses
  - 2017.27 - Allow Directors from Other Organizations to Serve on ARIN Board and In Executive Roles
- Deployed the following enhancements:
  - Modifications to Mergers and Acquisitions Transfers (Number Resource Policy Manual "NRPM" Section 8.2) Page Pursuant to Ratification of Policy ARIN-2016-9 Streamline Merger & Acquisition Transfers
  - Resource Public Key Infrastructure ("RPKI") Trust Anchor has been modified to reflect all holdings (0/0)
  - Redesign of Tickets section in ARIN Online including listing, search, and view pages
  - Improved Delete Network and Delete Reassignments pages
  - New public MD5-PW Passphrase Creator for use in the Internet Routing Registry ("IRR")
  - New page created to show transfer statistics in HTML format
  - Redesign and new menu options for Organization, Network, ASN pages, Points of Contact ("POC") and other pages
  - Origin AS Field in the Network Information page clearly identified as optional per community request
  - Redesign and new menu options for Account Setup/Confirmation, Manage Two-Factor Authentication, Manage API Keys, Manage Voting Contact, Delete Network, and other pages
  - Type 4 (SHA-384) Digest Algorithm now accepted when submitting Delegation Signer (DS) Resource Resource for Review DNS
- Conducted the following community consultations
  - 2017.1 - CKN23-ARIN Proposal
  - 2017.2 - Increasing the Size of the ARIN Board of Trustees
  - 2017.3 - DMARC for ARIN Mailing Lists
  - 2017.4 - Available Methods of Reporting Network Sub-Delegation Information
- Completed the 2017 annual independent financial audit
- Completed the 2017 independent Registration Services Audit
- Completed the customer satisfaction survey, results to be reported in early 2018
- Conducted educational outreach regarding the depletion of the regional IPv4 free pool, IPv6 deployment, and the community-based model of Internet number resource policy development
- Participated in key Internet Governance forum events
- Engaged Bevil Wooding as a Caribbean-based consultant to provide focused and needed engagement and outreach in the region

ARIN will continue its efforts, which began in 2017, throughout 2018 to modernize its website for an improved user experience and better accessibility. These community-requested improvements will become increasingly visible to the community in 2018.

# SERVICE LEVEL REPORT

ARIN periodically reports service level commitments and performance against those commitments for community-provided services. This report contains stated service level commitments and associated performance for community-provided services.

## FINANCIAL SERVICES



## COMMUNICATIONS & MEMBER SERVICES

Provide Customer Support from 9:00 AM to 5:00 PM, Eastern Time, Monday through Friday, excluding holidays

100%

Publish ARIN's Annual Report by the first Public Policy and Members Meeting of the year

100%

Conduct two Public Policy and Members Meetings each year

100%

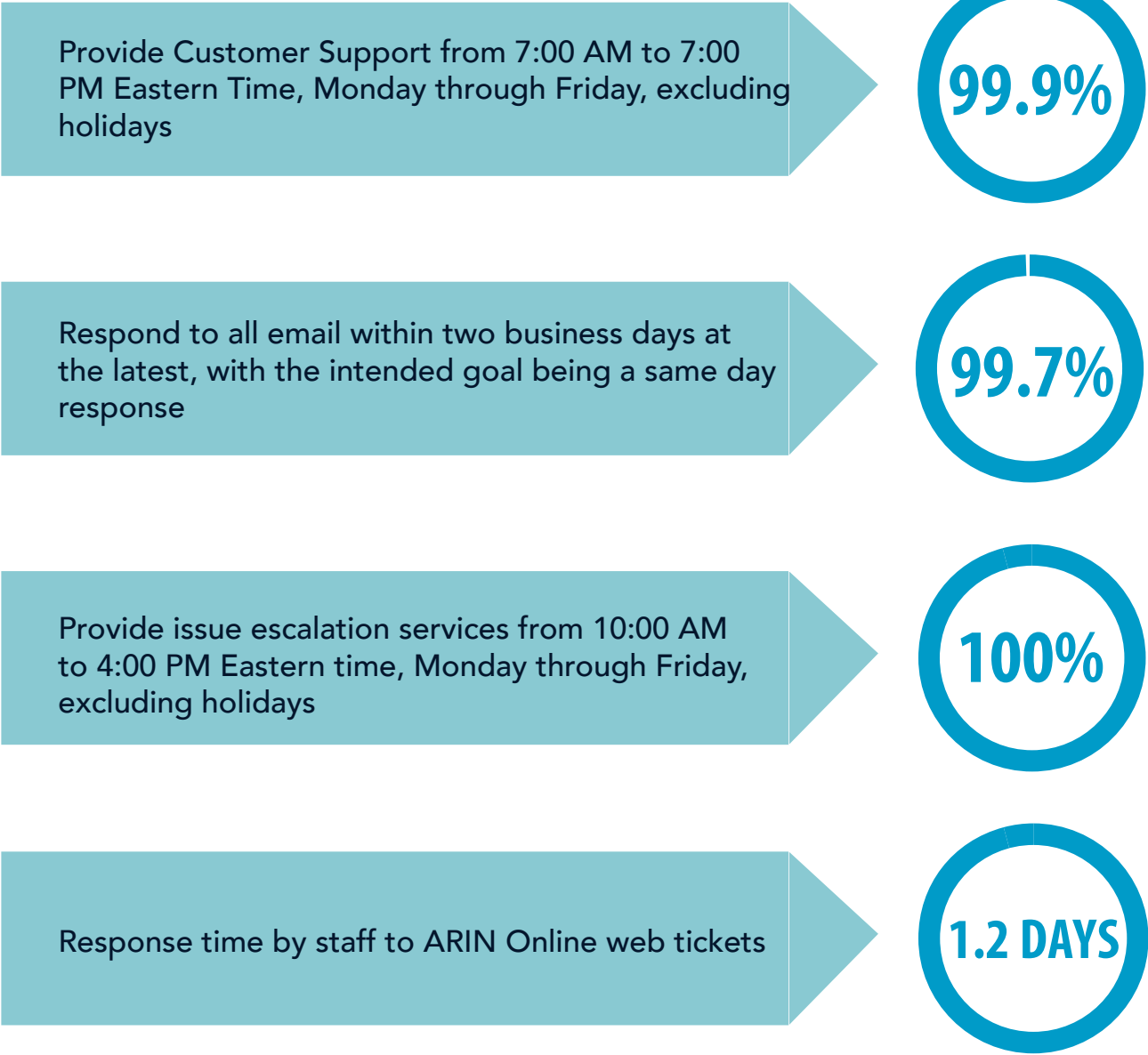
Publish meeting minutes and presentations online within seven business days of meeting conclusion

100%

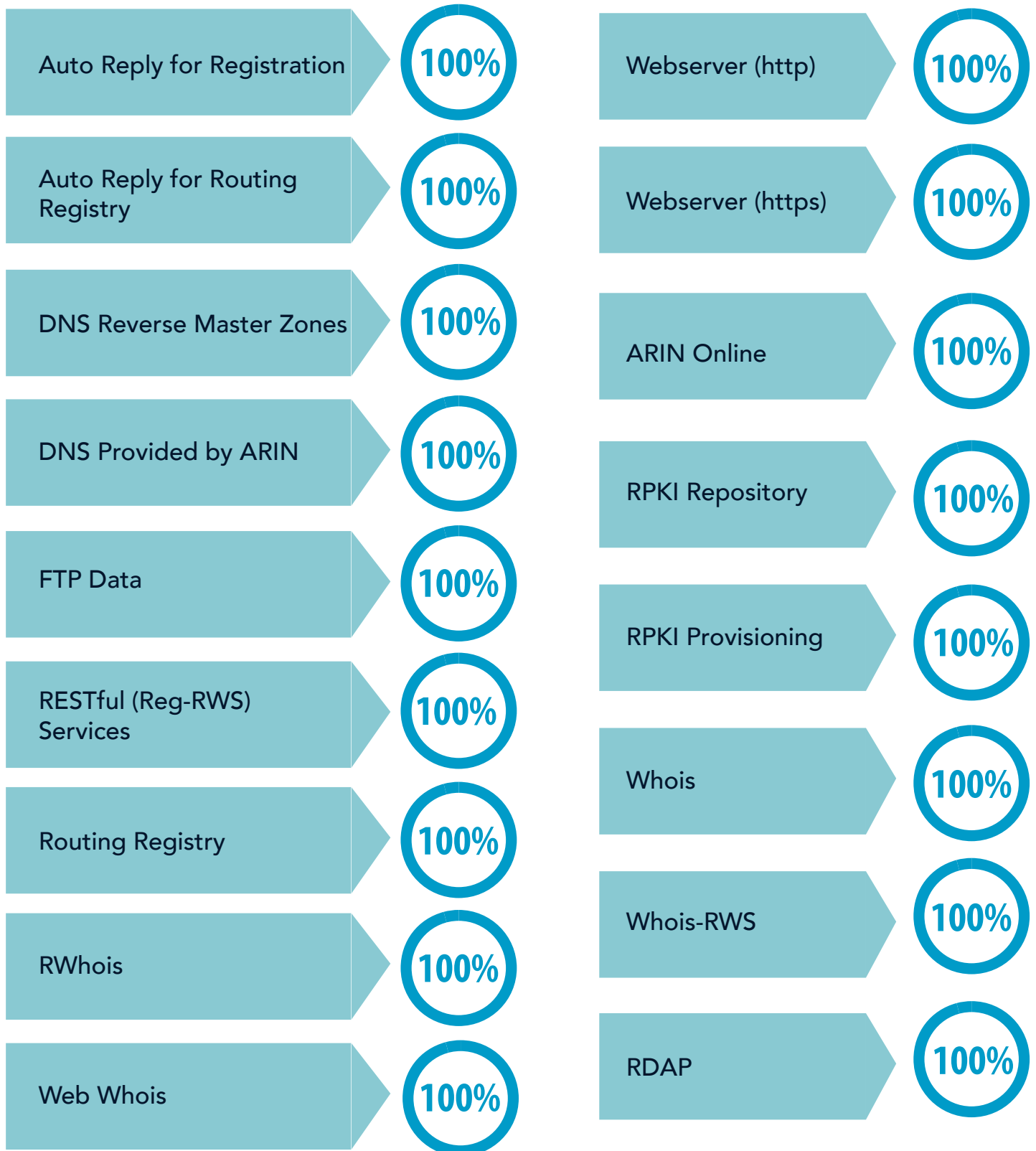
Conduct annual elections for the ARIN Board of Trustees, ARIN Advisory Council, and the Number Resource Organization Number Council (NRO NC)

100%

# REGISTRATION SERVICES



# ENGINEERING



## ENGINEERING



**Mark Kusters**  
*Chief Technology Officer*

In 2017, the ARIN Engineering team focused heavily on ARIN Online improvements, community-suggested improvements fielded through the ARIN Consultation and Suggestion Process (ACSP), and overall service availability via focusing on technical debt.

The main focus within ARIN Online has been improving the website. The Engineering department spent much of 2017 making the dynamic portion of the website more intuitive and mobile-friendly, with an end goal of making the website more accessible to all.

ARIN has also made transfers more transparent to the community. ARIN has worked with the other RIRs to create and deploy a common transfer reporting framework so that the community can more easily monitor transfers. Using a combination of extended statistics reports and the transfer report gives the community an excellent way of seeing what is happening to the Internet number resources that ARIN manages.

In conjunction with the other RIRs, ARIN moved toward using a common format for describing how the RPKI space is managed. This is documented in the IETF draft <https://tools.ietf.org/html/draft-rir-rpki-allres-ta-app-statement>. This was completed in Q3 of 2017.

Finally, ARIN continued to work through high demand for its directory services. In 2017, ARIN reported multiple denial of services attacks. Over time, the problem evolved into ARIN systems being hit by high rates of queries. Some of this utilization turned out to be legitimate, but some of it was not. The Engineering team has requested feedback from the community in dealing with this issue and is eager to find a way to help mitigate the problem with the community's guidance.

The Engineering team looks forward to another busy year spent making improvements to ARIN technology and working closely with the other departments to make ARIN run more efficiently as an organization.

## GOVERNMENT AFFAIRS & PUBLIC POLICY



**Cathy Handley**  
*Executive Director*

2017 was an eventful and successful year for the Government Affairs and Public Policy team.

In April, Einar Bohlin was selected Chair of a working party in ITU-T Study Group 2. This four-year term is in support of the preparations for the 2020 World Telecommunication Standardization Assembly (WTSA) meeting. Their work includes application of numbering, naming, addressing, and identification plans for fixed and mobile telecommunications services. Study Group 2 is also involved with ITU-T Resolution 64 "IP address allocation and facilitating the transition to and deployment of IPv6."

Anne-Rachel Inné joined ARIN as the new Executive Director of Government Affairs and Public Policy effective 28 September. Anne-Rachel has been working closely with Cathy Handley to transfer the critical functions of Cathy's role in preparation for Cathy's retirement in December 2018. Anne-Rachel brings a wealth of experience in the Internet Governance and Policy arena, having served most recently at ICANN as the Vice President of Global Engagement and Manager of Regional Relations.

In October, the team participated in the World Telecommunication Development Conference (WTDC) in Buenos Aires. WTDCs provide future direction and guidance to the

ITU Telecommunication Development Sector. ITU-D Resolution 63 "IP address allocation and facilitating the transition to IPv6 deployment in the developing countries" was revised at this meeting, which added greater recognition of the RIRs as follows: the ITU is "to continue cooperating with relevant international and regional organizations, including the RIRs, on capacity building and the enhancement of technical skills for IPv6 in order to respond to the needs of developing countries;" and nations are invited "to examine RIRs' inventories of IP addresses registered within their respective territories for the purposes of evaluation, development and monitoring to continue to stimulate and encourage the transition to IPv6."

A primary focus for the upcoming year will be preparation for the ITU Plenipotentiary Conference in October 2018. This is the highest policy-making body of the ITU. Held every four years, it is the key event at which ITU Member States decide on the future role of the ITU. It sets the ITU's general policies; adopts four-year strategic and financial plans; and elects the senior management team of the organization. The Government Affairs and Public Policy team will also be working closely with Bevil Wooding, ARIN's Caribbean Outreach Liaison, in the Caribbean in the coming year.

## HUMAN RESOURCES & ADMINISTRATION



**Erin Alligood**  
*Director*

In 2017, the Human Resources and Administration team had a steady flow of work related to their numerous responsibilities at ARIN.

ARIN on-boarded a total of five new hires in 2017 as a result of backfilling vacancies, bringing the total employee count to 86 employees. ARIN continues to enjoy a high employee retention rate of over 95% due to its outstanding benefits and collaborative work environment.

While celebrating its 20th year in operation, ARIN also recognized its longest-standing employee this past December, Cathy Clements, who has been with the organization since its formation in 1997. ARIN strives to recognize each employee's anniversary since it is a testament to not only the employee's hard work and dedication, but the organization as a whole. Furthermore, the average employee tenure is now over six years, an increase from 2016.

Another significant accomplishment in 2017 for ARIN and its employees was being ranked at #14 in the Washington Post Top Workplaces listing in the Small Business category. This ranking was determined based on the favorable results of an employee engagement survey that measured several aspects of ARIN's workplace, including Alignment, Execution, and Connection. ARIN is one of 150 companies that were selected for the 2017 Top Workplaces award in the Washington, DC Metropolitan area.

The Human Resources and Administration team is looking forward to another successful and productive year in 2018.

## COMMUNICATIONS & MEMBER SERVICES



**Susan Hamlin**  
*Director*

In 2017, the Communications and Member Services Department (CMSD) was fully focused on implementing and facilitating numerous endeavors to support ARIN's 2017 Strategic Plan and Organization Objectives.

CMSD planned and produced a total of 10 meetings in 2017 – eight ARIN on the Road events all over the ARIN region and two Public Policy and Members Meetings in New Orleans, Louisiana and San Jose, California. While ARIN on the Road events are a great opportunity for people to learn more about ARIN services and operations directly from staff, the Public Policy and Members Meetings (PPMMs) are where more in-depth policy discussion occurs. These forums are essential to CMSD's successful administration of ARIN's Policy Development Process and help ensure that the process is open, transparent, and moving along smoothly. ARIN's PPMMs also offer fellowship opportunities and CMSD continued to oversee the fellowship program last year. It was great to have 31 fellows attend the two meetings and add their voices to the ARIN community.

Significant communications efforts in 2017 included continuing website work, namely shoring up areas that needed clarification and/or expansion. CMSD also launched a quarterly e-newsletter in the summer

called ARIN Bits. Bits gives readers a quick and easy-to-digest overview of all that the organization has been up to over the past few months and is a great resource for anyone who wants to learn more about high-level issues, fast!

CMSD also managed another successful election in 2017, which is one of the cornerstones of member involvement at ARIN. CMSD is excited to work with those elected to the Advisory Council and Board of Trustees in the coming year.

And finally, throughout the year, CMSD continued to help facilitate the ARIN Consultation and Suggestion Process (ACSP), a key source of community feedback. ARIN is keenly aware of the importance of transparent and timely communication and the ACSP is a great way to let the community lead an honest and open dialog. Your input is always welcome!

As 2018 gets underway, CMSD is looking forward to another year of working closely and collaboratively with both the ARIN community and other internal departments.

## FINANCIAL SERVICES



**Val Winkelman**  
*Director*

This year, the Financial Services Department (FSD) was involved in the implementation of a new transfer fee. Beginning 1 January 2017, ARIN started to collect a \$300 USD, non-refundable processing fee for each transfer request of Internet number resources, including: 8.2 Merger, Acquisition, and Reorganization transfers, 8.3 Transfers to Specified Recipients within the ARIN Region, and 8.4 Inter-RIR Transfers to Specified Recipients. Under the 8.3 and 8.4 transfers, no specific transfer processing fee will be charged to recipient-side organizations. The new fee involved working closely with the software development team to make changes to the organization's accounting software and integration with ARIN Online.

FSD has continued to focus on the accounts receivable collection process, resulting in less than 1% of bad debt accounts as compared to sales. Number of accounts written off to bad debt in 2017 was

reduced by 50% as compared to 2016. As confirmed by the independent financial audit conducted in early 2017, ARIN's accounting practices remain consistent with Generally Acceptable Accounting Principles (GAAP) and ARIN remains financially sound heading into 2018.

The FSD group remains at six employees and the team receives thousands of emails, phone calls, and tickets each year. FSD remains focused on providing the best service possible to ARIN's membership and to the other departments in the organization. As always, FSD welcomes feedback and suggestions for improvements.

## FROM THE SENIOR DIRECTOR OF GLOBAL REGISTRY KNOWLEDGE



**Leslie Nobile**

2017 was a busy year as ARIN made significant headway in improving processes related to registry accuracy and security.

ARIN continued to work very closely with law enforcement agencies (LEAs) on a policy proposal that would improve Whois accuracy. Regardless of whether the information is public or not, having access to updated registration information helps ensure that LEAs can act quickly and confidently when investigating criminal behavior. Along those same lines, ARIN also provided training, outreach, and education to various law enforcement and public safety organizations as part of its ongoing efforts to support these vital communities.

ARIN focused on several projects related to improving the accuracy and integrity of the data in its Whois. Enhancements were added to the Point of Contact (POC) validation process in an attempt to streamline and clarify the process. Some of these enhancements were a direct result of feedback received from the community.

As project manager for the CKN23-ARIN implementation plan, the Senior Director of Global Registry Knowledge worked closely with other ARIN teams to rectify the issues described in the CKN23-ARIN ACSP consultation using feedback received from the community. As a result of this collaboration, ARIN was able to update and correct POC information on over 12,000

affected Org IDs. These corrections serve to strengthen the reliability and sustainability of Whois.

In the communications sphere, efforts were made to improve and/or draft content for the website and TeamARIN outreach site pertaining to Whois, data accuracy, law enforcement needs, and legacy space. The goal of these efforts was to provide our community with accurate information and useful resources that could help answer questions and potentially resolve issues.

In 2018, ARIN looks forward to building on the progress already made, while seeking new opportunities for improvements and advancements. The year ahead will include continuing efforts towards improving the accuracy of the data in ARIN's Whois, continued engagement with RIR colleagues around the subject of data accuracy, and increased engagement with law enforcement and public safety organizations, both regionally and globally.

## REGISTRATION SERVICES



**John Sweeting**  
*Senior Director*

2017 was a productive year in the Registration Services Department (RSD). Change of authority requests (transfers, organization recoveries/ name changes, and Point of Contact recoveries) continued to grow along with a steady volume of requests for Autonomous System Numbers (ASNs), placement on the IPv4 Waiting List, IPv6, and customer assistance.

The year saw a significant increase in transfer volume due to need-based IPv4 transfers. ARIN went from 2,382 transfers requested in 2016 to 2,892 transfers requested in 2017. RSD's primary focus continued to be improving its processes using the practical knowledge obtained from the ever-changing transfer market to make the transfer process as painless as possible while ensuring no fraudulent transfers are completed. This work will continue to increase into the foreseeable future.

RSD processed 1,705 IPv6 requests in 2017, resulting in 56% of members having an IPv6 block by the end of the year. RSD also

continued supporting the IPv4 Waiting List for unmet requests. In 2017, RSD was able to fill 299 requests. In addition, RSD reviewed and processed 1,512 requests for ASNs.

The RSD team continued to provide support to customers on thousands of telephone calls to the ARIN help desk. RSD serviced tens of thousands of request tickets during the year, and provided support for ARIN Public Policy and Members Meetings, ARIN on the Road events, and many other industry meetings and outreach services.

RSD underwent an independent audit in 2017 to ensure all policies, processes, and procedures are being followed. The RSD team recently received the results of that audit and will be sharing a summary of findings with the community in the coming year.

RSD has enjoyed working with ARIN members this year and looks forward to working with you in 2018.

## FROM THE CARIBBEAN OUTREACH LIAISON



**Bevil Wooding**

ARIN has a long history of Caribbean engagement and in 2017, the organization continued building upon that foundation by creating new opportunities to attract even more Caribbean voices, views, and contributions to the ARIN community.

In developing the strategy for engaging its Caribbean stakeholders, ARIN considered the diversity of interests, priorities, and expectations as well as the current development trends that exist in the sub-region. Together, these point to growing requests for Internet number resources, more organizations adopting IPv6, and an increase in the creation of autonomous networks.

To better address the evolving needs of its stakeholders in the Caribbean, ARIN appointed Bevil Wooding as its Caribbean Outreach Liaison in August 2017.

ARIN has identified four areas of strategic priority:

- Increase Stakeholder Awareness
  - Build understanding of ARIN mission and services
  - Increase engagement with regional media
- Strengthen Community Participation
  - Grow Caribbean involvement in ARIN initiatives and policy development
  - Support Caribbean network resilience strengthening initiatives

- Deepen Government Engagement
  - Provide targeted support for public sector network development
  - Strengthen and expand government relations and outreach
- Develop Partnerships
  - Strengthen existing relationships with ARIN strategic partners in the Caribbean
  - Forge new alliances with relevant groups

To realize these objectives, ARIN established a special Caribbean Forum designed to provide a single, coherent point of access to information on ARIN's activities and their relevance to the Caribbean. The Forum will initially be comprised of a Technical Community Forum, a Public Policy Forum, and a Justice Sector Forum. ARIN also designed a series of outreach events targeting the technical community, under the brand ARIN in the Caribbean. These events will kick off in early 2018.

Lastly, ARIN is excited to have Caribbean representation on the Advisory Council in 2018 and looks forward to working with Kerrie-Ann Richards and Alicia Trotman to continue to grow participation across the sub-region.

ARIN expects to enhance its engagement of stakeholders and deepen its collaborative partnerships in the Caribbean in 2018.

# 2017 OUTREACH EVENTS

## Digital Health Summit

6-7 January  
Las Vegas, NV  
Panelist: John Curran  
Session: Clamoring for Connectivity: What Consumers and Physicians Need Right Now

## NANOG on the Road: Honolulu

15 January  
Honolulu, HI  
Speaker: Mark Kusters  
Session: Automating Interactions with ARIN

## PTC '17

15-18 January  
Honolulu, HI  
Moderator: John Curran  
Session: IPv6 is Live! Real World Success Stories

## ARIN on the Road: Houston

19 January  
Houston, TX

## NANOG 69

6-8 February  
Washington, DC  
Speaker: John Curran  
Session: Reflections on the Internet and the US Government

## ARIN on the Road: Antigua and Barbuda

16 February  
Antigua and Barbuda

## APNIC 43

27 February - 2 March  
Ho Chi Minh City, Vietnam

## ARIN on the Road: Little Rock

7 March  
Little Rock, AR

## ICANN 58

11-16 March  
Copenhagen, Denmark

## IETF 98

26-30 March  
Chicago, IL

## ARIN 39

2-5 April  
New Orleans, LA

## IP Vision Conference & Expo

10-12 April  
St. Louis, MO  
Speaker: John Curran  
Session: IPv6 Today and Tomorrow

## CaribNOG 13

18-19 April  
Bridgetown, Barbados  
Speaker: Mark Kusters  
Session: Nuts and Bolts: Cloud Computing and DNSSEC Considerations

## 2017 North American IPv6 Summit

25-26 April  
Sunnyvale, CA  
Speaker: John Curran  
Session: How far are we in IPv6 adoption?

## ARIN + NANOG on the Road: Las Vegas

2 May  
Las Vegas, NV

## RIPE 74

8-12 May  
Budapest, Hungary

## LACNIC 27

22-26 May  
Foz de Iguacu, Brazil

## AFRINIC 26

27 May - 2 June  
Nairobi, Kenya

## NANOG 70

5-7 June  
Bellevue, WA  
Speaker: Leslie Nobile  
Session: Status and Solutions for Whois Data Accuracy

## ARIN on the Road: Denver

13 June  
Denver, CO

## Internet Governance Forum - Barbados

22-23 June  
Bridgetown, Barbados  
Speaker: John Sweeting  
Session: Panel Discussion: Increasing Participation - Fellowships, Ambassadors, and Opportunity

## Clearcable Summit 2017

22 June  
Hamilton, ON  
Speaker: Mark Kusters  
Session: Security Overlays - RPKI

## ICANN 59

26-29 June  
Johannesburg, South Africa

## CANTO

16-19 July  
Punta Cana, Dominican Republic  
Speaker: Susan Hamlin  
Session: Cyber Security Trends in 2017 & Beyond

## IETF 99

16-21 July  
Prague, Czech Republic

## IoT Evolution Conference

17-20 July  
Las Vegas, NV  
Speaker: John Curran  
Session: ROI of IPv6 and Impacts to Enterprise Management

## IGF USA

24 July  
Washington, DC

## 13th Caribbean Internet Governance Forum

21-23 August  
Tortola, British Virgin Islands  
Speaker: Bevil Wooding  
Session: IPv6 Transition Status, Imperatives and Stakeholder Strategies

## ARIN on the Road: San Juan

25 August  
San Juan, Puerto Rico

## APNIC 44

7-14 September  
Taichung, Taiwan

## ARIN on the Road: Saskatoon

14 September  
Saskatoon, Saskatchewan

## LACNIC 28

18-22 September  
Montevideo, Uruguay

## NANOG 71

2-4 October  
San Jose, CA

## ARIN 40

5-6 October  
San Jose, CA

## Internet Week - Guyana

9-13 October  
Georgetown, Guyana  
Speaker: Mark Kusters  
Panel: Securing Corporate Networks

## WISPAPALOOZA

9-13 October  
Las Vegas, NV  
Speaker: Owen DeLong  
Session: Technical IPv6 Roll-Out  
Speaker: John Curran  
Session: Technical: Moving from IPv4 vs IPv6

## Internet2 Technology Exchange

15-18 October  
San Francisco, CA  
Speaker: John Curran  
Session: Risks of Not Updating Your Whois & Path to IPv6 for Legacy Resource Holders  
Speaker: Andrew Gallo  
Session: Hands-On RPKI

## RIPE 75

22-26 October  
Dubai, UAE

## ICANN 60

28 October - 3 November  
Abu Dhabi, UAE

## ARIN on the Road: Columbus

2 November  
Columbus, OH

## 2017 Canadian ISP Summit

6-8 November  
Toronto, Canada  
Speaker: John Curran  
Session: News Flash: ARIN Still Has IPv4 to Help In Your Transition to IPv6

## Indigenous Connectivity Summit

8-9 November  
Santa Fe, NM  
Speaker: Richard Jimmerson  
Session: Flash Presentation: IP Addressing

## IETF 100

12-17 November  
Singapore

## AFRINIC 27

27 November - 1 December  
Lagos, Nigeria

## ICT Week - The Bahamas

27 November - 1 December  
Atlantis, Paradise Island  
Speaker: John Curran  
Session: Keynote Address: Caribbean Imperatives for Exploiting the 21st Century  
Speaker: Bevil Wooding  
Session: The Internet--A Platform for Good Governance

## Internet Governance Forum

18-21 December  
Geneva, Switzerland

# POLICY DEVELOPMENT

## ARIN PUBLIC POLICY DISCUSSIONS IN 2017

One of the features of the Policy Development Process (PDP) is the opportunity to discuss policy proposals and changes at not only ARIN's biannual Public Policy and Members Meetings (PPMMs), but also Public Policy Consultations (PPCs), which are held at other forums approved by the Board of Trustees.

In 2017, two PPMMs were held. View the reports for each meeting:



<https://www.arin.net/ARIN39>



<https://www.arin.net/ARIN40>

The ARIN community engages in a Policy Development Process (PDP) to define how ARIN will manage and administer Internet number resources (IP addresses and Autonomous System Numbers). Community decisions are recorded as policies and published in the Number Resource Policy Manual (NRPM).

The NRPM is available at: <https://www.arin.net/policy/nrpm.html>

In 2017, 17 proposals were submitted to [policy@arin.net](mailto:policy@arin.net), 13 of which were promoted to Draft Policies and discussed by the community on the Public Policy Mailing List. Four of these Draft Policies were abandoned by the Advisory Council, while the remaining nine were discussed at Public Policy and Members Meetings. One of these Draft Policies was promoted to a Recommended Draft Policy as a result of those discussions, and was ratified by the Board of Trustees during their December 2017 meeting. This new policy will be implemented in early 2018, and the remaining Draft Policies remain under discussion heading into 2018.

### VIEW POLICY PROPOSALS

Information about current draft policies and past policy proposals is available at:

<https://www.arin.net/policy/proposals/>

### HOW TO PARTICIPATE

Subscribe to the Public Policy Mailing List (PPML) and discuss ideas for new policies, pending proposals, and draft policies.

[https://www.arin.net/participate/mailing\\_lists/index.html](https://www.arin.net/participate/mailing_lists/index.html)

Participate in biannual Public Policy and Members Meetings or other Public Policy Consultations in person or remotely.

<https://www.arin.net/participate/meetings/index.html>

Submit a proposal to create a new policy or to revise current policy. Read and follow the instructions in the PDP and submit your proposal.

<https://www.arin.net/policy/pdp.html>

# ADVISORY COUNCIL REPORT

The Advisory Council (AC) advises the Board of Trustees on Internet number resource policy and related matters and forwards Recommended Draft Policies to the Board for ratification, in adherence with the Policy Development Process (PDP).

The AC consists of 15 elected members and ARIN's President and CEO, who serves as an ex-officio member and AC-Board liaison.

Each year, the AC holds three in-person meetings and approximately nine teleconferences. View meeting minutes at [https://www.arin.net/about\\_us/ac/index.html](https://www.arin.net/about_us/ac/index.html)

## 2017 MEMBERS

Dan Alexander, <i>Chair</i>	David Huberman*	Joe Provo	Chris Tacit
Owen DeLong	Alyssa Moore	Leif Sawyer	Alison Wood
Andrew Dul	Tina Morris, <i>Vice Chair</i>	Rob Seastrom	Chris Woodfield
David Farmer	Amy Potter	John Springer	

*\*On 17 November 2017, David Huberman resigned from the AC and as a result, on 21 November 2017, the AC appointed Kerrie-Ann Richards to fill his seat. Kerrie's term will expire on 31 December 2018.*



## 2017 Election Results

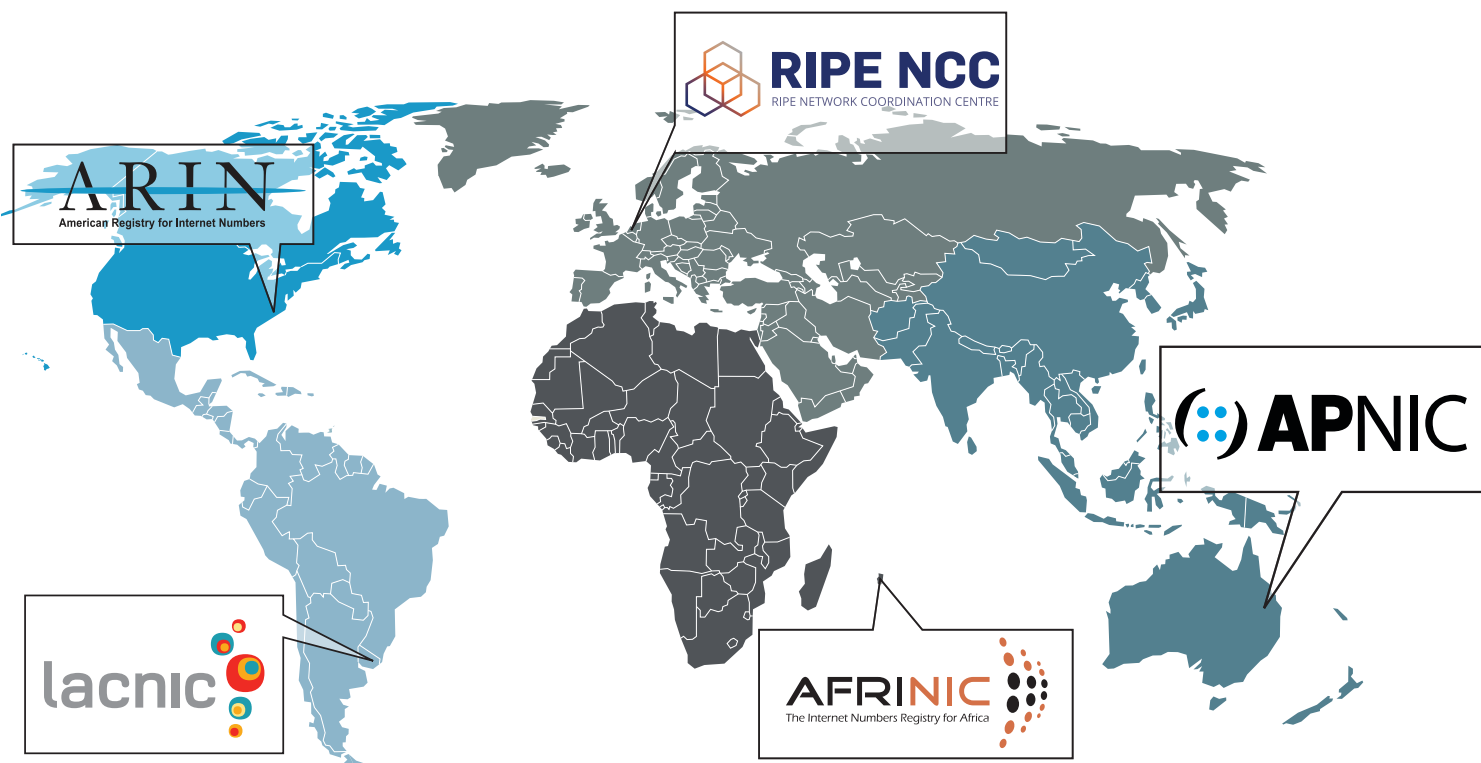
In October 2017, Andrew Dul, David Farmer, Leif Sawyer, Chris Tacit, and Chris Woodfield were all re-elected to serve three-year terms on the AC beginning 1 January 2018. Dan Alexander was elected to the Board of Trustees effective 1 January 2018, therefore on 16 November 2017, the AC voted to appoint Alicia Trotman for a one-year term beginning 1 January 2018. Read ARIN's election guidelines at [https://www.arin.net/participate/elections/elec\\_procedures.html](https://www.arin.net/participate/elections/elec_procedures.html)

# GLOBAL POLICY AND THE NRO NUMBER COUNCIL

The Number Resource Organization (NRO), <http://www.nro.net>, is a coordinating body for the five Regional Internet Registries (RIRs) – AFRINIC, APNIC, ARIN, LACNIC, and RIPE NCC.

The NRO Number Council (NRO NC) fulfills the role of the Internet Corporation of Assigned Names and Numbers (ICANN) Address Supporting Organization Address Council (ASO AC) (<http://aso.icann.org/>), providing advice to the Board of ICANN on Internet number resource policy, in conjunction with the RIRs.

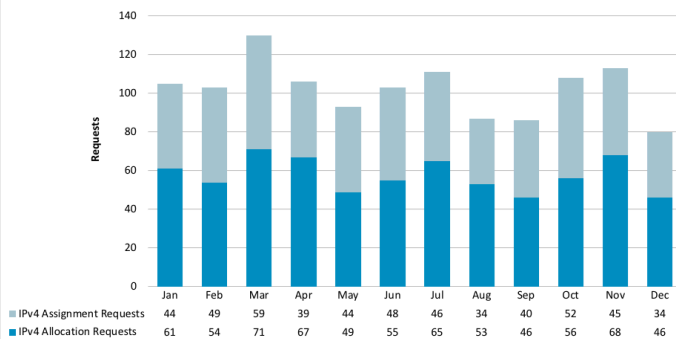
There are three NRO NC representatives from each RIR region. The members from the ARIN region for 2017 were Kevin Blumberg, Louie Lee, and Jason Schiller. We thank all of them for their service and commitment to the global Internet community.



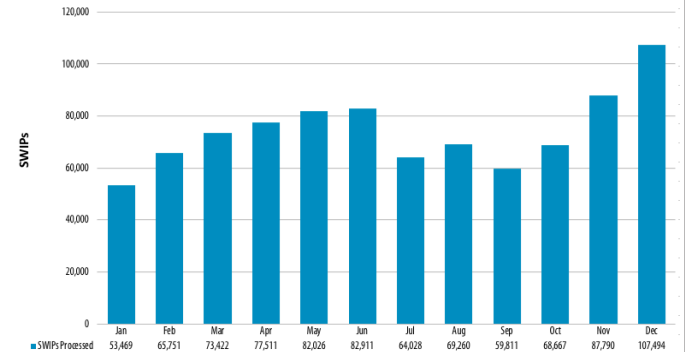
# STATISTICS AND REPORTS

FOR MORE STATISTICAL REPORTS, VISIT: <https://www.arin.net/knowledge/statistics/>

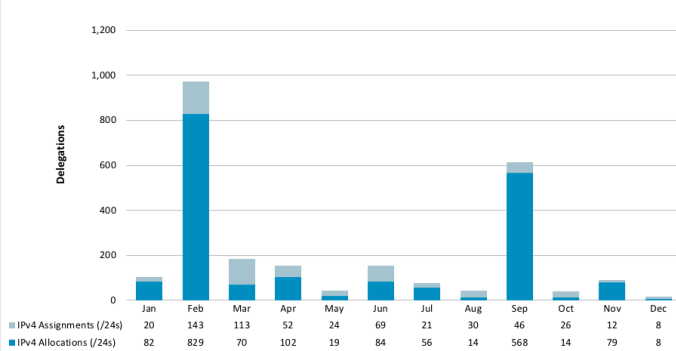
## 2017 IPv4 Address Requests



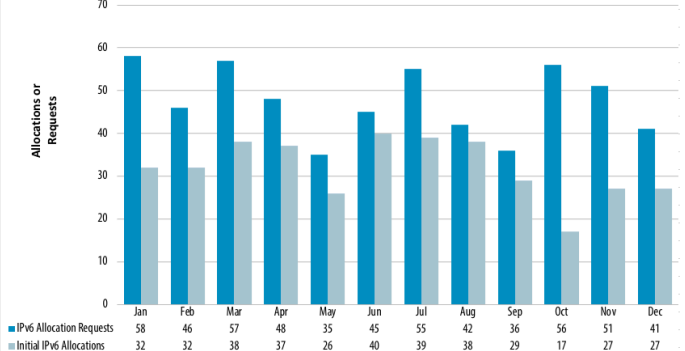
## 2017 SWIP Templates Processed by ARIN



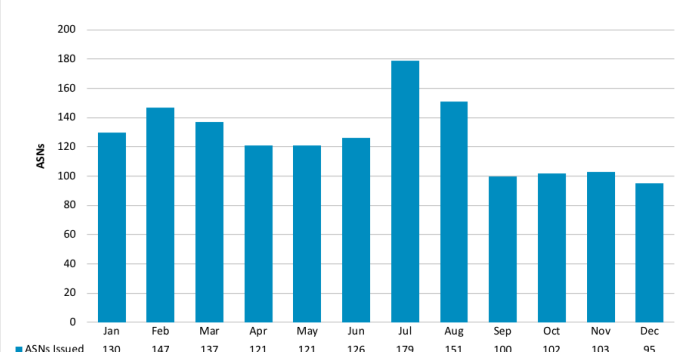
## 2017 IPv4 Address Delegations Issued by ARIN



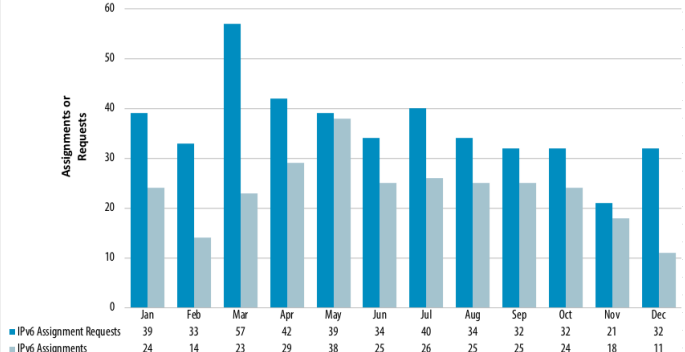
## 2017 IPv6 Address Allocations and Requests



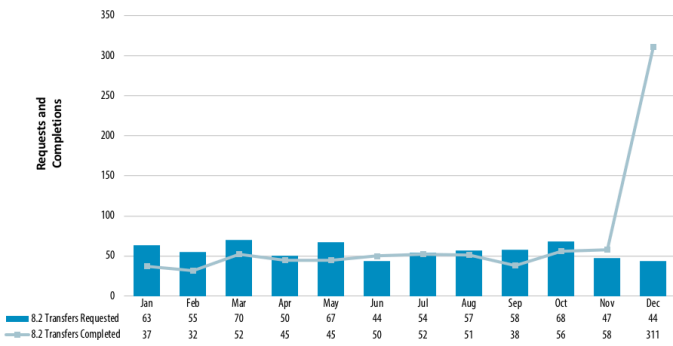
## 2017 Autonomous System Numbers Issued by ARIN



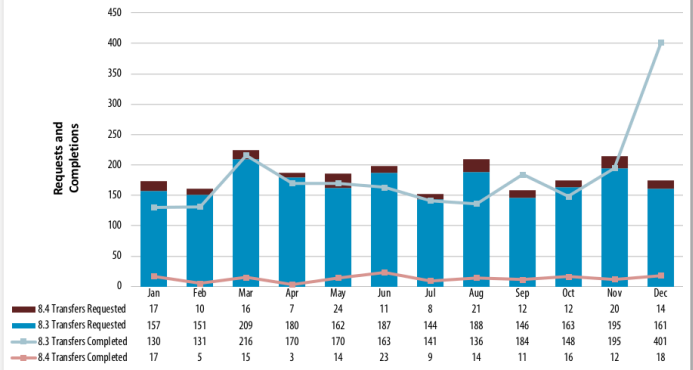
## 2017 IPv6 Address Assignments and Requests



## 2017 8.2 Transfers Requested and Completed



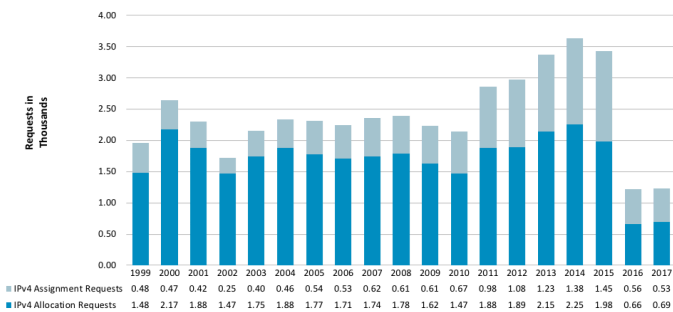
## 2017 8.3 & 8.4 Transfers Requested and Completed



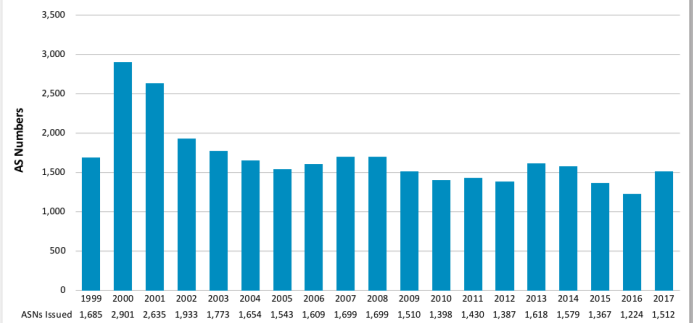
# HISTORICAL REPORTS

FOR MORE STATISTICAL REPORTS, VISIT: <https://www.arin.net/knowledge/statistics/>

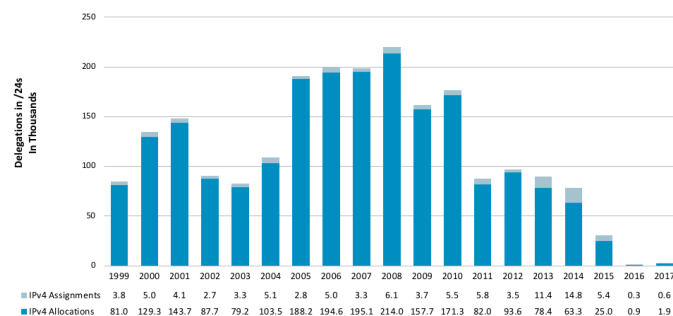
## IPv4 Address Requests by Category 1999-2017



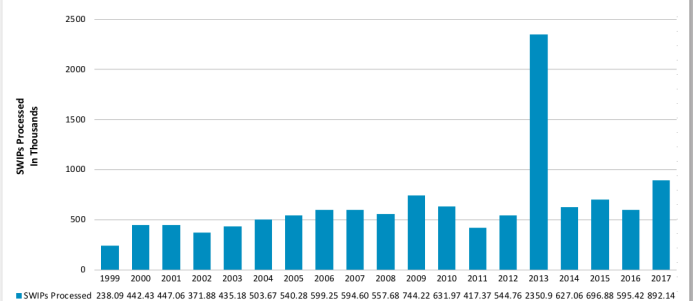
## Autonomous System Numbers Issued by ARIN 1999-2017



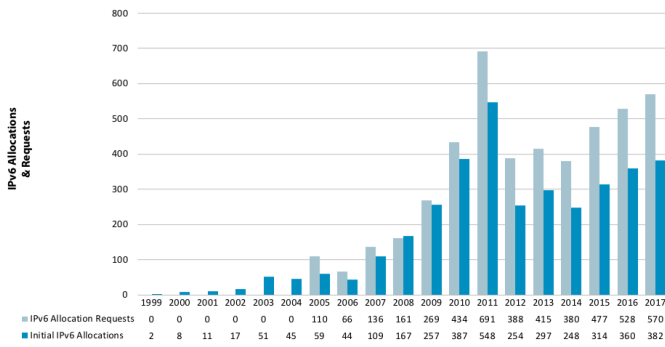
## ARIN IPv4 Address Delegations by Category 1999-2017



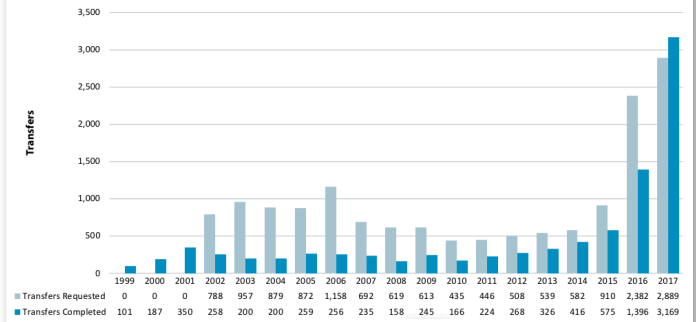
## SWIP Templates Processed by ARIN 1999-2017



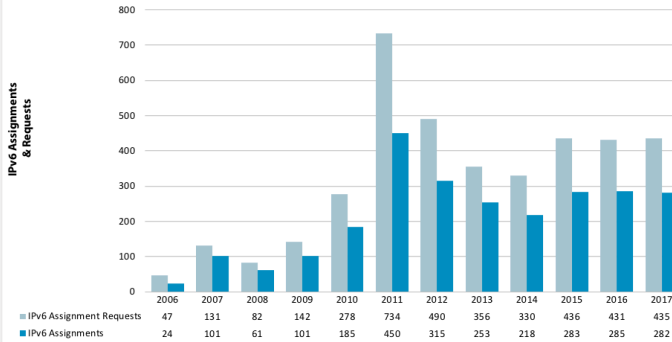
### IPv6 Address Allocations and Requests 1999-2017



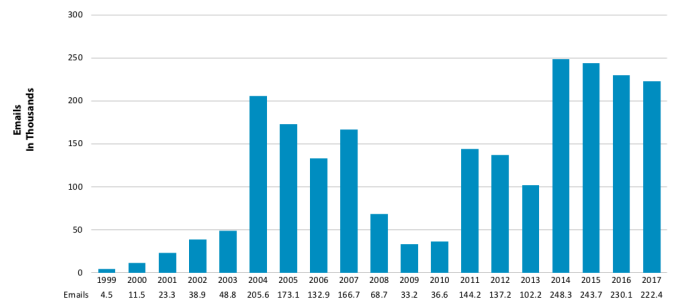
### New Transfer Requests and Completed Transfers 1999-2017



### ARIN IPv6 Address Assignments and Requests 2006-2017



### Email Received at hostmaster@arin.net 1999-2017



## **AUDITOR'S REPORT**

ARIN operates as a nonprofit 501(c)(6). Federal guidelines do not require nonprofit organizations to undergo an annual financial audit. However, the ARIN Board of Trustees believes a financial audit is the best tool for oversight of financial management.

ARIN has an annual financial audit performed by an independent outside firm to fulfill the Board's fiduciary responsibility to the community, and the audited financial statements are included in the Annual Report.

The financial statements for the year ending 31 December 2017 will be made available for community review upon completion.