ARIN

American Registry for Internet Numbers

History and Services

www.arin.net

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Part I: History

How did ARIN get started?

1960s to 1980s: Internet Foundation

The formation of the Internet began in the 1960s with the creation of the U. S. Department of Defense's Advanced Research Project Agency Network (ARPANET). The Defense Advanced Research Projects Agency (DARPA), the research branch of the U.S. Department of Defense, created the TCP/IP model in the 1970s for use in ARPANET, a wide area network that preceded the internet. TCP/IP was originally designed for the Unix operating system, and it has been built into all of the operating systems that came after it.

In the 1980s, the National Science Foundation's (NSF's) high-speed network, the NSFNET, was created to connect university super computer centers across the U. S. These two network infrastructures formed the backbone of the Internet of today.

The 1980s also introduced the domain name system (DNS) into the Internet. In 1984, this new scheme for referring to Internet sites was deployed. Even though the fundamental addressing scheme of the Internet is in terms of IP addresses, these sets of numbers can be difficult to remember! It was for this reason that DNS was developed. Thus, the DNS system is much like an Internet "phonebook" that allows you to look up numbers in reference to a name, so all you have to do is remember "www.arin.net."

1980s to 1990s: Internet Administration

During these early days, the administrative task of assigning addresses was handled by one individual, Jon Postel, on a volunteer basis, first at UCLA and later at USC's Information Sciences Institute (ISI). When the task became administratively prohibitive, the Internet Assigned Numbers Authority (IANA) was established under U.S. Government contract as the "custodian" of Internet addresses, along with the Internet Registry (IR) function to handle these registration tasks as well as other functions.

This IR function was contracted first to USC/ISI and then to SRI International before it was awarded in 1991 to Network Solutions, Inc. (NSI) in Herndon, Virginia. This contract included the services of IP address and domain name registration and support, Autonomous System Number (ASN) registration, user registration, online information services, help desk operations, RFC and Internet-Draft archives, and distribution services.

In 1992, following several years of explosive Internet growth, the U. S. government and the NSF decided that network support for the commercial Internet should be separated from the U. S. Department of Defense. The NSF originated a project named InterNIC in 1993 under a cooperative agreement with NSI to provide registration and allocation of domain names and IP address numbers.

Also in 1992, the Internet technical community, in consultation with various U. S. government entities, recommended that Internet number resources be managed at a regional level due to the growth and globalization of the Internet. The administrative mechanisms of Internet number resource distribution could no longer be managed efficiently by a single individual or organization. This led to distribution of the registration and management responsibilities and ultimately to the formation of the Regional Internet Registry (RIR) system (RFC 1366). RIPE NCC was founded first in 1992, followed shortly thereafter by APNIC in 1993.

1997: ARIN Established

Established in December 1997 as a Regional Internet Registry, the American Registry for Internet Numbers (ARIN) is responsible for the management and distribution of Internet number resources such as Internet Protocol (IP) addresses and Autonomous System Numbers (ASNs). When ARIN was formed, it inherited the InterNIC database of existing IP addresses and ASNs as well as the responsibility to maintain the records in it. These records became known as "early registrations" or "legacy registrations."

Beginning in 2003, ARIN, in coordination with the other RIRs, began the Early Registration Transfer (ERX) project to transition early registrations to the RIR operating in the region where the Internet number resources were being used. Even though some of these registrations were transferred, ARIN still maintains a large portion of that data to this day.

ARIN currently manages resources within its service region, which is comprised of Canada, the United States, and many Caribbean and North Atlantic islands. ARIN formerly covered South America and Central America until the formation of LACNIC in 1999. ARIN also covered Sub–Saharan Africa (while RIPE NCC covered Northern Africa) until the formation of AFRINIC in 2004.

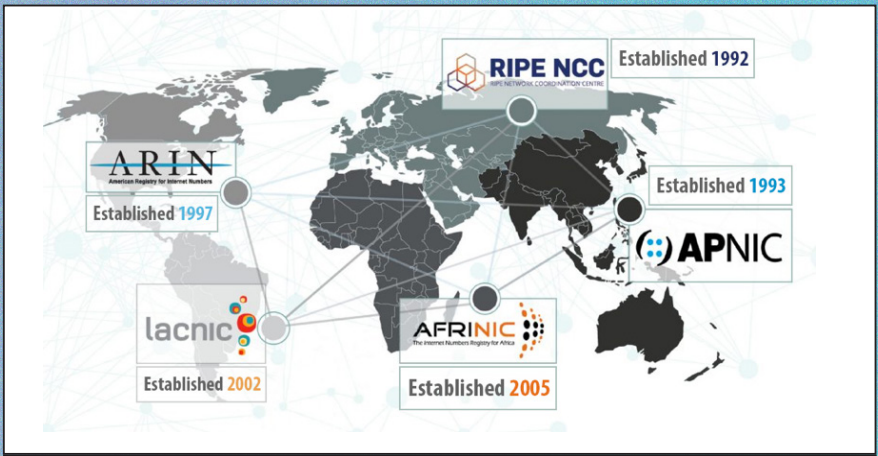
ARIN was established as an independent, nonprofit corporation. Per its Articles of Incorporation & Bylaws, ARIN is operated "exclusively for nonprofit educational, charitable, and scientific purposes."

ARIN Mission Statement

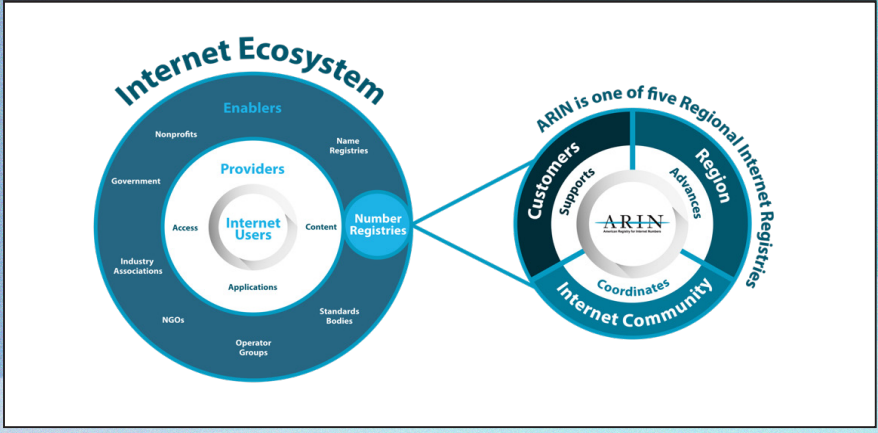
ARIN, a nonprofit, member-based organization, **supports the operation of the Internet** through the management of Internet number resources throughout its service region; **coordinates the development of policies** by the community for the management of Internet Protocol number resources; and **advances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

Where does ARIN fit in the "Big Picture"?

ARIN was the third of five Regional Internet Registries (RIRs)



ARIN in the Internet Ecosystem



Key Organizations - ICANN, the NRO, and PTI/IANA

Internet Corporation for Assigned Names and Numbers (ICANN)

The Internet Corporation for Assigned Names and Numbers (ICANN) was established in 1998 under an agreement with the U.S. government. ICANN is a not–for–profit public–benefit corporation with participants from all over the world dedicated to keeping the Internet secure, stable, and interoperable.

ICANN coordinates the Internet DNS, IP addresses, and Autonomous System Numbers, which involves a continued management of these evolving systems and the protocols that underlie them. While ICANN was originally under contract with the U.S. government, it is now, and continues to be, an international, community–driven organization independent of any one government.

Supporting Organizations

- GNSO - The Generic Names Supporting Organization (GNSO) brings together smaller stakeholder groups, which in turn bring together constituencies and other groups, together into one Supporting Organization to develop policies, form consensus, and make recommendations related to generic top-level domain names to the ICANN Board.
- ccNSO - The Country Code Names Supporting Organization (ccNSO) is an advisory body within ICANN created by and for country code top-level domain managers, which are the entities that oversee a given nation's own Country Code Top Level Domain.
- ASO - The Address Supporting Organization (ASO) reviews and develops Internet Protocol recommendations, address policy, and advises the ICANN Board.
- GAC - The Governmental Advisory Committee (GAC) provides advice to ICANN on public policy aspects of ICANN's responsibilities with regard to the Internet Domain Name System (DNS). The GAC is not a decision-making body. It advises ICANN on issues that are within ICANN's scope.
- ALAC - The At-Large Advisory Committee (ALAC) is one of ICANN's Advisory Committees. The mission of ALAC is to function as an advocate for the interests of individual Internet users.

Number Resource Organization (NRO)

The NRO Number Council (NRO NC) is an elected body of 15 volunteers, made up of three representatives from each of the five RIRs. As stated in the ICANN ASO MoU, the NRO NC serves as the ASO Address Council (ASO AC). The ASO AC / NRO NC's responsibilities include:

- Undertaking a role in the Global Policy Development Process (GPDP) and ensuring that policy has been followed.
- Defining procedures for the selection of individuals to serve on other ICANN bodies, in particular on the ICANN Board.
- Selecting individuals to serve on ICANN's Board in Seats 9 and 10.
- Providing advice to the ICANN Board on Internet number resource allocation policy in conjunction with the ASO/NRO.

The NRO NC acts as a focal point for global Internet community input into the RIR system.

Public Technical Identifiers (PTI)/Internet Assigned Numbers Authority (IANA)

The Internet Assigned Numbers Authority (IANA) is responsible for coordinating on a global level some of the key elements that keep the Internet running smoothly. These services are provided by Public Technical Identifiers, a purpose-built organization for providing the IANA functions to the community. PTI is an affiliate of ICANN.

The IANA functions include:

- coordination of the assignment of technical Internet protocol parameters through the Internet Engineering Task Force (IETF)
- administration of and coordination of Internet domain name system (DNS) root zone management
- allocation of Internet number resources to the Regional Internet Registries (RIRs)
- management of the .ARPA and .INT top-level domains (TLDs)

ARIN's Role in Internet Governance

For years, ARIN has played an important role within various Internet governance organizations and forums. Looking toward the future of the Internet, ARIN continues to be a valuable resource for the Internet community by participating in Internet governance to:

- Make sure the interests of the Internet community are represented in key forums
- Educate governments and international organizations on the Regional Internet Registry (RIR) structure and bottom-up community driven number resource management model
- Work within various organizations to remove barriers that result in misunderstanding
- Facilitate opportunities to exchange meaningful insight that will impact Internet number resource distribution and management not only today but in the future as well.

ARIN's goal throughout the ever-evolving global Internet governance policy debate is to ensure that:

- The technical implications of proposed policy are clearly understood
- Dialogue from multi-stakeholder collaborations are heard
- Decisions are made with a clear understanding of the community's interests

ARIN and Law Enforcement Agencies

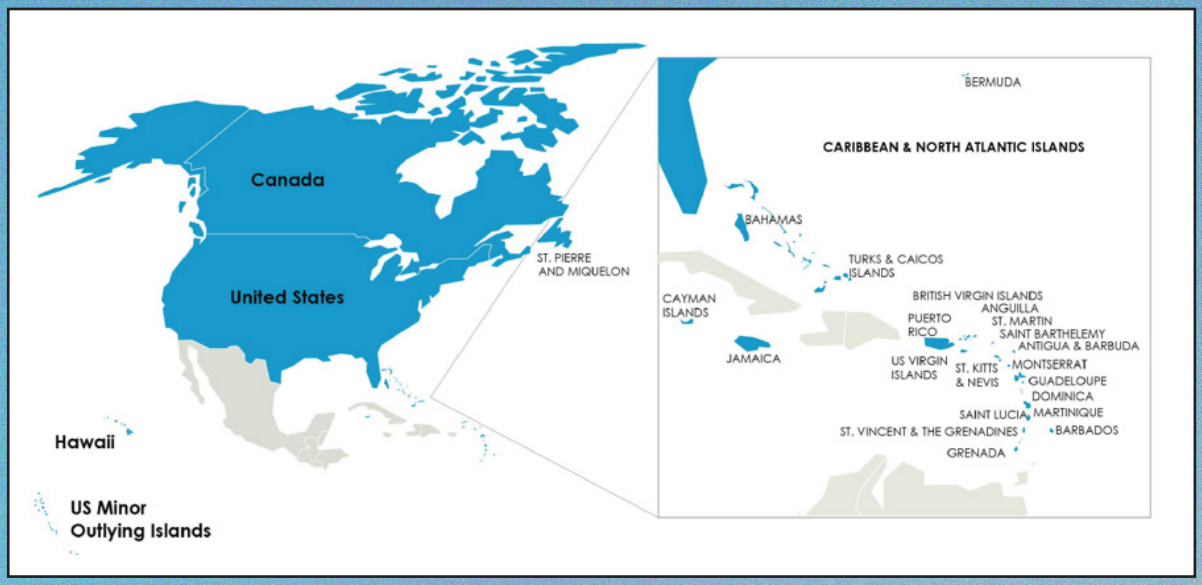
ARIN frequently assists Law Enforcement Agencies (LEAs) in obtaining information from the registry needed to accomplish their mission. Typically, the information they need is publicly available in Whois, and ARIN staff will assist in locating and interpreting this data. However, there are occasions when LEAs need additional information that ARIN may have that is not publicly available.

Due to ARIN's business practice of maintaining confidentiality, we cannot provide any non-publicly available information without a subpoena or court order.

ARIN Community & Membership

ARIN Service Area

The ARIN region includes Canada, 25+ Caribbean and North Atlantic economies, and the United States and minor outlying areas.



Stakeholders

ARIN Community

ARIN serves over 38,000 organizations, over 22,000 of which are under contract (i.e. have a Registration Services Agreement). Of these, over 6,000 are member organizations.

ARIN has 17,000 holders which have legacy resources, defined as resources issued prior to ARIN's inception. These registration records are maintained by ARIN, and they have no fees or contracts with ARIN.

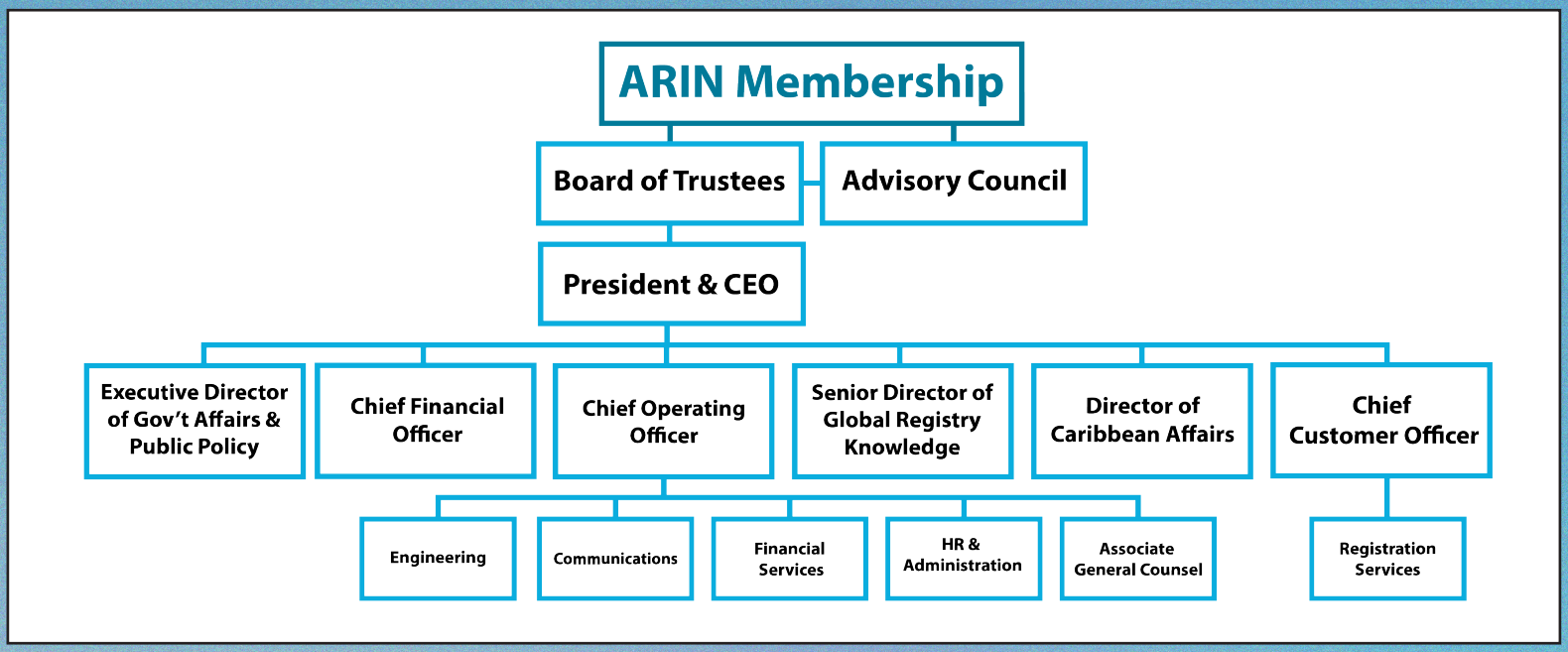
ARIN Membership

The requirements for ARIN Membership are:

- Must be an organization and not an individual
- Must hold Internet number resources from ARIN and have signed Registration Services Agreement (RSA/LRSA)
- Must pay annual subscription fee (automatic membership with IPv4/IPv6 direct allocation) OR can opt to become member if above conditions are met and $500 membership fee is paid

ARIN the Organization

ARIN has a professional staff of 75+. Our organizational structure is illustrated below.



ARIN Staff

President & CEO

ARIN's President and CEO appoints and supervises all ARIN operational staff in addition to executing all contracts and agreements of ARIN. Moreover, the President and CEO serves as a voting member of the Board of Trustees and an ex-officio member of the Advisory Council, acting as a liaison between the two bodies when necessary. Lastly, the President and CEO acts in an advisory capacity to all other officers and Trustees.

Government Affairs and Public Policy
Senior Management

The Government Affairs and Public Policy team oversees and maintains relationships with governments and key intergovernmental organizations for ARIN, working closely with the President of ARIN to accomplish the external mission, goals, and strategic plan of the company. The Government Affairs and Public Policy team participates in global Internet governance discussions by informing others about the RIR system, representing the interests of the Internet community, and supporting the multi-stakeholder model.

Chief Operating Officer
Senior Management

ARIN's Chief Operating Officer oversees and maintains the day-to-day internal operations of ARIN and facilitates coordination between all departments, working closely with each department director. Additionally, the COO coordinates and oversees interdepartmental projects, is responsible for execution of ARIN's internal program management, is primary liaison to ARIN legal counsel, and serves as chief of staff. Lastly, the COO oversees development of implementation strategies for new policies ratified by the ARIN and global communities.

Global Registry Knowledge
Senior Management

The Senior Director of Global Registry Knowledge develops and oversees an ongoing program of assessment of Internet registry data quality and integrity. The Senior Director also collects and reviews processes used to support registry integrity globally and develops recommendations for relevant process improvement within ARIN.

The Senior Director is also ARIN's global law enforcement agency liaison through collaboration and training, providing support, assistance, outreach and training to national, regional, and international law enforcement agencies and public safety organizations.

Caribbean Outreach
Senior Management

The Director of Caribbean Affairs cultivates and maintains relationships with governments and Internet industry groups in the Caribbean portion of the ARIN region; and promotes participation in the policy development process by the various governments and Internet industry groups in the Caribbean portion of the ARIN region.

The Caribbean Outreach Liaison also coordinates the ARIN Caribbean Forum, including:

- Public Policy Group - for public sector ministers and technocrats
- Justice Sector Group - for law enforcement, judicial and legal officials
- Network Operators Group - for network administrators, IT managers, computer engineers and security professionals

Chief Customer Officer
Senior Management

ARIN's Chief Customer Officer oversees ARIN elections, the Policy Development Process, and all aspects of customer excellence across ARIN's service departments. The Chief Customer Officer also develops and maintains key client relationships with appropriate senior-level points of contact with ARIN customers and key Internet number resource stakeholders. The Registration Services Department reports to the Chief Customer Officer.

Engineering
Department

Engineering designs, develops, and maintains custom software, hardware/operating systems, Internet security, and networking. The department supports all other functional departments of the organization. Engineering is also responsible for working with the other Regional Internet Registries (RIRs) on various projects, as well as providing systems-related support for community-based policy implementations.

Engineering develops, implements, and supports both internal systems and community services such as:

- Customer web portal (ARIN Online)
- Security services such as Cryptographic Authentication, DNS Security (DNSSEC), and Resource Public Key Infrastructure (RPKI)
- RESTful Provisioning (Reg-RWS)

- Whois and Registration Data Access Protocol (RDAP) directory services
- Operational Test & Evaluation (OT&E) Environment

Communications
Department

The Communications Department is responsible for communications and outreach to ARIN's membership and community, including public relations, general education, www.arin.net and TeamARIN content maintenance, and training. It is the focal point for all ARIN communications and provides support to all senior management and departments.

The department conducts various outreach events in addition to the Public Policy and Member Meetings. Moreover, the Communications Department administers ARIN's Fellowship Program and Community Grant Program.

Financial Services
Department

The Financial Services Department is responsible for accounting, billing, budget management, contract administration, and the legal affairs of ARIN.

An independent financial audit determined ARIN's accounting practices remain consistent with Generally Acceptable Accounting Principles (GAAP), and ARIN remains financially sound.

Human Resources and Administration
Department

The Human Resources and Administration Department is responsible for providing overall strategic direction for all activities related to acquiring personnel, managing employee compensation, internal company policies, administering payroll and staff benefits, employee training, office management and security, and travel administration.

Registration Services
Department

The Registration Services Department is responsible for the allocation and assignment of all Internet number resources within the ARIN region. The Registration Services Department reports to the Chief Customer Officer. Responsibilities include:

- IPv4, IPv6, and Autonomous System Number (ASN) registration and transfers
- Help Desk operation
- Reverse delegation registration
- Whois Directory Service
- Routing Registry Maintenance

The Registration Services Department also provides customer support and ongoing maintenance for ARIN's technical services, such as DNSSEC, RPKI, IRR, and Two-Factor Authentication (2FA).

The Registration Services Department is always ready to assist you with your questions. You can submit

questions through Ask ARIN (part of ARIN Online), call our help desk, and talk to us at industry events where we may have a help desk.

Legal Services
Department

ARIN's Legal Services team oversees and monitors legal issues that may arise and works with the ARIN executive team and outside General Counsel on such issues. Additionally, the team interacts with community members and coordinates with various departments on responses to requests from members of the ARIN community that may require review from legal counsel.
Legal Services also keeps ARIN informed on the current legal, regulatory, risk, and compliance issues that may affect it, and supports RSD in investigations and escalated change of control/transfer matters. Additionally, the team reviews cases that deal with suspected Internet number resource fraud/hijacking.

Office of the Chief Customer Officer

The Office of the Chief Customer Officer maintains and oversees all aspects of customer relations. By analyzing user patterns and identifying areas for improvement, the Office of the Chief Customer Officer ensures that ARIN delivers on its promise of providing the best possible customer service across its service departments. The Office of the Chief Customer Officer also oversees ARIN's elections and Policy Development Process.

ARIN Elections

Elected Leadership

Board of Trustees (BoT) and Advisory Council (AC) Selection Process

Each October, representatives from ARIN's General Members in Good Standing elect candidates to the ARIN Board of Trustees and Advisory Council to serve staggered three-year terms. Each year, a Nomination Committee (NomCom) is established to identify, recruit, and assess the slate of BoT and AC candidates running for election.

Number Resource Organization Number Council (NRO NC) Selection Process

Two out of three years, eligible ARIN Member organizations' Voting Contacts and October NANOG/ARIN Meeting attendees elect one ARIN representative to the Number Resource Organization Number Council (NRO NC) to serve a staggered three-year term. Every third year, ARIN's Board of Trustees appoints an ARIN representative from a community-developed pool of nominees.

Who can vote in ARIN Elections?

To be eligible to vote, each ARIN Member organization must be in good standing (current on all payments) and have a designated Voting Contact on the organization record within ARIN Online.

Voting Contacts:

- Must have a valid ARIN Online account
- Must be on record by the voter eligibility deadline
- Can be designated/modified by either Admin or Tech POC
- Are not publicly identified in Whois

Who can run?

Board of Trustees and Advisory Council candidates must be nominated by an ARIN Board of Trustee member or any representative from an ARIN General Member in Good Standing. It is important to remember that anyone may be nominated and self-nominations are permitted. Incumbents may be re-elected for consecutive terms.

For the NRO NC, any individual, regardless of ARIN Membership status, may self-nominate or nominate one or more candidates for any open NRO NC position. Anyone who resides in the ARIN region may be nominated and incumbents may be re-elected for consecutive terms.

Part II: Services

The Internet Numbering Landscape

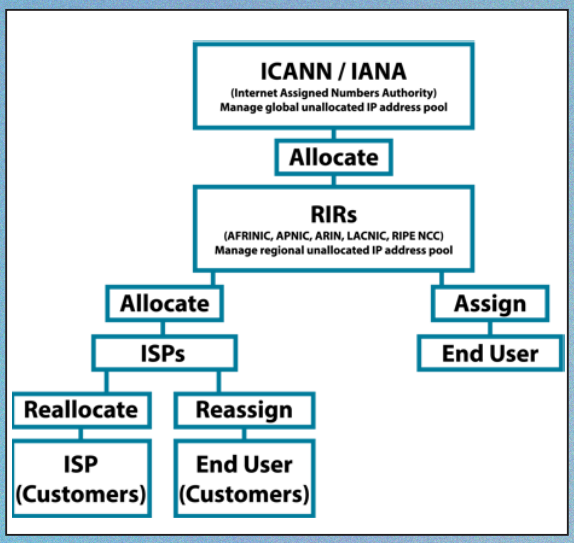
ARIN manages approximately 8 million records, including both public Whois and internal database records. These records include direct and indirect networks, Autonomous System numbers, Organization records, Points of Contact, and reverse DNS delegations.

What is an IP address?

An IP address is a number that identi¬fies each computer or device connected to a TCP/IP network. Much like mailing a letter requires an address for the postal service, or a phone call requires a unique number, IP addresses uniquely identify each device so that information can be sent directly to and from it.

ARIN issues IPv4 and IPv6 addresses according to policy that is determined by the community. These include ISP allocations, which are issued to Internet Service Providers (ISPs) for reassignment to their downstream customers (either end users or other ISPs), and end user assignments, which are issued to end users for use within their own internal network infrastructure (not for reassigning to other organizations).

How IP Addresses Are Issued



What is an Autonomous System Number?

An Autonomous System Number (ASN) is a globally unique number used to exchange routing information between neighboring Autonomous Systems (AS) and to identify the AS itself. An AS is a group of IP networks administered under the umbrella of a single entity.

ARIN issues ASNs in accordance with policy, typically to organizations that are multi-homed.

IPv4 Depletion

ARIN's free pool of IPv4 address space was depleted on 24 September 2015. However, IPv4 demand remains strong among the community.

Even though IPv4 has been depleted, there are still ways to grow your network, such as IPv4 market transfers.

With ARIN, you can utilize our Specified Transfer Listing Service (STLS), an optional service offered to facilitate market-based transfers.

A second option is ARIN's IPv4 Waiting List. If an IPv4 Waiting List request meets current policy requirements, the organization will be placed on the IPv4 Waiting List for their approved block size. The qualifying organization must specify the smallest block size they would be willing to accept to fulfill their request. Receipt of IPv4 space in any amount via IPv4 Waiting List, 8.3 Specified Recipient Transfer, or 8.4 Inter-RIR Transfer removes the organization from the IPv4 Waiting List.

Lastly, you may request IPv4 addresses from pools reserved specifically for micro-allocations, as outlined in NRPM 4.4 (Micro-allocation). ARIN makes IPv4 micro-allocations to critical infrastructure providers of the Internet, including public exchange points, core DNS service providers (e.g. ICANN-sanctioned root and ccTLD operators) as well as the RIRs and IANA.

If you're ready to move on from IPv4, NRPM 4.10 (Dedicated IPv4 Block to Facilitate IPv6 Deployment) allows you to request a small block of IPv4 to facilitate your IPv6 deployment. Allocations and assignments from this block must be justified by immediate IPv6 deployment requirements. Examples of such needs include IPv4 addresses for key dual stack DNS servers, and NAT-PT or NAT464 translators.

Transfers

ARIN has several transfer policies, including:

- **Mergers and Acquisitions (NRPM 8.2)** – a traditional transfer based on a change in business structure (including reorganizations and name changes). This is often needed in advance of NRPM 8.3 and 8.4 transfers to ensure that all registration information is current.
- **Transfers to Specified Recipients (NRPM 8.3)** – an IPv4 market-based transfer of unused IPv4 addresses to an organization with demonstrated need within region.
- **Inter-RIR transfers to Specified Recipients (NRPM 8.4)** – an IPv4 market-based transfer of IPv4 addresses to an organization with demonstrated need outside of the ARIN region.

ARIN's Specified Transfer Listing Service (STLS) is an optional service that helps connect organizations seeking to acquire IPv4 address space (recipient), organizations looking to transfer unused IPv4 address space (source), and parties interested in facilitating the transfer process (facilitator). The STLS is specifically for transfers between Specified Recipients within the ARIN Region (Number Resource Policy Manual (NRPM) 8.3) and Inter-RIR Transfers (NRPM 8.4).

IPv6

Internet Protocol version 6 (IPv6) is the latest IP revision, developed as a successor to IPv4. IPv6 provides a much larger address pool so that many more devices can be connected to the Internet – 340 undecillion to be exact. It also improves addressing and routing of network traffic.

Because the free pool of IPv4 addresses has been depleted, customers will want to request IPv6 address space for new networks, and eventually transition their networks from IPv4 to IPv6. Generally, there are no additional costs for ISPs, and fees were recently reduced for end users. There's no excuse not to get IPv6 – it's the future!

Importance of Whois Data Accuracy

One of ARIN's core responsibilities is to maintain a registry of unique Internet number resources (IP addresses and Autonomous System Numbers) and provide accurate registration information about these resources, including their associated organization and Point of Contact (POC) information.

An accurate registry contributes to the overall operability and stability of the Internet by:

- Helping network operators identify other network operators to resolve technical and/or abuse issues
- Aiding law enforcement in investigations and identifying the responsible party for service of process
- Protecting number resources from hijacking (hijackers often target stale or inaccurate data)

It's also important to remember that keeping your Whois data up-to-date is a contractual and policy requirement under ARIN's Registration Service Agreements (RSA/LRSA) and certain policies.

ARIN's Strategic Plan

Based on direction provided by the Board of Trustees, ARIN performs its mission according to a Strategic Plan. This Strategic Plan is an ongoing process, updated annually, that in conjunction with a Board-approved annual budget, drives the creation of an internal work plan.

The Strategic Plan and internal work plan also include input from:

- Legal and regulatory requirements
- Ratified policies
- Community input - ARIN Consultation and Suggestion Process (ACSP)
- Board of Trustee initiatives
- Operating Plan objectives
- Hardware/software requirements (defects, maintenance, and upgrades)
- Mailing list adhoc requests
- Environment changes
- Customer feedback (via feedback button) and customer surveys
- Staff recommendations

Scope of ARIN Services – the things we do for you!

Registration and Directory Services

ARIN's primary function is the management and distribution of IP addresses and ASNs, collectively referred to as Internet number resources. These resources are delegated in a way to ensure global uniqueness. ARIN also operates directory services which allow the public to determine to whom those number resources are registered. This work includes:

- The allocation, assignment, and transfer of all Internet number resources
- Reverse delegation registration, maintenance of ARIN's Whois service, the WhoWas historical registration database, and an Internet Routing Registry (IRR) service within the ARIN service region
- Help desk operations over phone and via ARIN Online

ARIN Online is a secure portal for managing your ARIN registration records, resource requests, and online correspondence. Through ARIN Online, you can request, manage, and transfer Internet number resources, and you can also take advantage of our "Ask ARIN" feature, where you can ask questions and received information directly from ARIN.

In addition to registration services, ARIN provides a number of directory services. These include:

- **Whois** – used for accessing registration data about IP addresses, ASNs, Organizations, Points of Contact, and customer reassignments.
- **WhoWas** – provides historical registration information for a given IP address or ASN
- **Registration Data Access Protocol (RDAP)** – a new protocol for accessing registration data in a machine-readable way
- **Whois RESTful Web Service (Whois-RWS)** – allows developers to create their own applications or scripts to retrieve Whois information and automate interactions with ARIN
- **Internet Routing Registry** – a database of Internet route objects, operated by individual organizations and used for determining and sharing route information

Technical Services

ARIN develops, implements, and supports both internal systems and community services. These systems can be broken down into three categories:

Services for Securing Your Interactions with ARIN

Two-Factor Authentication (2FA) is a means of identifying a user through two separate pieces of information or identification. For ARIN Online, these two pieces are your account password and a one-time password generated using a third-party mobile authenticator. By combining proofs of identity that an unauthorized user is unlikely to possess, two-factor authentication provides an increased level of security for ARIN Online users.

An Application Programming Interface (API) Key is a secret code that you can use to identify yourself to ARIN when you interact with us. You create an API key in ARIN Online, and then use the key in interactions with ARIN outside of ARIN Online. Multiple interactions may be performed with the same API key, or you can create multiple API keys to locally track specific requests or to access reports. The API key does not expire, but can be deactivated at any time.

Services for Securing Your Networks

Resource Public Key Infrastructure (RPKI) is an opt-in service that allows users to certify their ARIN Internet number resources (that are covered by a RSA/LRSA) to help secure Internet routing, specifically BGP. Using cryptographically-verifiable certificates, RPKI allows IP address holders to specify which Autonomous Systems (ASes) are authorized to originate their IP address prefixes.

Domain Name System Security (DNSSEC) creates a secure domain name system by adding cryptographic signatures to existing DNS records. This allows users to validate that the DNS records they receive came from the correct source. Once zones are DNSSEC-enabled, ARIN provides delegation management tools to help manage reverse DNS.

Community Tools

Operational Test and Evaluation Environment (OT&E) is an environment with production-like data where developers can experiment with ARIN interactions without affecting production data. This is particularly helpful for customers who are setting up automated interactions or enhanced security features with ARIN.

ARIN's **CIDR Calculator** converts an IP address range to CIDR notation or vice versa.

ARIN furnishes a **Community Software Repository** as a service to the community, to promote tools that are related to ARIN's mission. These tools include command-line clients, Java applications, Ruby scripts, and other clients that interface with ARIN's Application Programming Interfaces (APIs), including our Whois RESTful Web Service (Whois-RWS), the Registration RESTful Web Service (Reg-RWS), and Resource Certification, also known as Resource Public Key Infrastructure (RPKI). These tools are furnished "as is" and maintained by members in the community.

Internet Number Resource Fraud Reporting is used to notify ARIN of suspected Internet number resource fraud. If you suspect fraud, you can fill out our online form to alert us so we can investigate accordingly.

Policy Development

The community in the ARIN region decides how ARIN will manage and administer Internet number resources, while ARIN facilitates and implements the policies.

The **ARIN Policy Development Process (PDP)** is the process by which all policies governing the management of Internet number resources in the ARIN region are developed by and for the ARIN community. Policy development is an open and transparent process and anyone may participate in the process. A prior relationship as an ARIN member or customer is not a requirement, nor is it a requirement for a person to become a member.

The ARIN Board of Trustees and Advisory Council oversee this process.

The **Number Resource Policy Manual (NRPM)** is the repository for all policies. It is updated when new policies are implemented.

Communications and Outreach

ARIN interacts and communicates with the community in a number of ways, both virtually and in-person.

ARIN's web presence includes www.arin.net, TeamARIN.net (our blogging and educational microsite), ARIN mailing lists, ARIN Bits (our quarterly e-newsletter), and our social media channels.

In person, ARIN hosts the semi-annual Public Policy and Members Meetings, training and educational events, community events, and outreach events like ARIN on the Road, ARIN in the Caribbean, and ARIN Lunch by the Numbers. Each of these events is designed to get you face-time with ARIN and get your questions answered!

Events

Public Policy and Members Meetings
ARIN holds biannual Public Policy and Members Meetings in the second and fourth quarters in various locations throughout the ARIN region. ARIN meetings provide an opportunity for the entire Internet community to engage in policy discussions, network with colleagues, and attend workshops and tutorials. All interested individuals are welcome to attend the Public Policy & Members Meetings. Registration is free for all attendees who preregister, though a nominal fee is charged for on-site registrations. In order to maintain the transparency of the ARIN Policy Development Process, we publish a full listing of all registrants, attendees, and remote participants, with the exception of staff of associated support vendors.

ARIN on the Road
ARIN on the Road events provide the latest information on ARIN's technical services, the status of IPv6 adoption, current ARIN policy developments and updates about ARIN and the RIR system. We answer questions about how to interact with ARIN's online services and solicit discussion topics from you to make sure we cover what you want to know. The page linked to above has details on future events and archives of previous presentations.

ARIN in the Caribbean
ARIN in the Caribbean events are free to attend and offer a great environment to learn and share. The program includes presentations on timely topics such as obtaining IPv6 addresses from ARIN and transfers of number resources. In addition, there will be presentations on current policy discussions, ARIN technical services, and best practices for building resilient Caribbean networks.

ARIN Lunch by the Numbers
These lunches are tailored to ARIN customer organizations that may not have much visibility into the inner workings of ARIN. During lunch, ARIN staff will present an overview of current ARIN activities and services. Afterward, there is plenty of time for questions and for you to provide us with feedback. Our Registration Services Help Desk is also available at each event.

Mailing Lists

Mailing lists are one of the most important methods of communication between ARIN and the community. Subscribing to mailing lists is an important way to stay informed and active!

There are seven active mailing lists, and all but one are open to the public:

ARIN Announce Mailing List (arin-announce@arin.net)
Read-only list that provides information on issues affecting the community, including elections, meetings, policy updates, training opportunities, and other ARIN events.

Public Policy Mailing List (arin-ppml@arin.net)
Public forum to raise and discuss issues surrounding existing and proposed policies. The PPML is an integral part of ARIN's Policy Development Process. Opinions expressed here are reviewed to determine consensus for a policy proposal.

ARIN Discussion Mailing List (arin-discuss@arin.net)
Member-only list used to discuss ARIN-specific

issues such as fee structures and internal policies.

ARIN Consultation Mailing List (arin-consult@arin.net)
Open list used in conjunction with the ARIN Consultation and Suggestion Process to gather comments. This list is only open when there is a call for comments.

ARIN Suggestions Mailing List (arin-suggestions@arin.net)
Read-only list open to the general public. Used by ARIN staff to provide notification to community of new ACSP suggestions and ARIN responses.

ARIN Issued Mailing List (arin-issued@arin.net)
Read-only list open to the general public. Used by ARIN staff to provide a daily report of addresses returned and addresses issued directly by ARIN or address blocks returned to ARIN's free pool as requested in ACSP Suggestion 2008.2.

ARIN Technical Discussions Mailing List (arin-tech-discuss@arin.net)
Open to the general public. Provided for those interested in providing technical feedback to ARIN on experiences in the use or evaluation of current ARIN services and features in development.

ARIN Community Grant Program

The ARIN Community Grant Program provides financial grants in support of initiatives that improve the overall Internet industry and Internet user environment. ARIN will award grants to support qualified projects that advance ARIN's mission and benefit the Internet community within the ARIN region.

To be eligible for funding, projects must fit into one or more of the following broad categories:

- Internet technical improvements
- Registry processes and technology improvements
- Informational outreach

Fellowship Program

In 2009, under the oversight of the Board of Trustees, ARIN introduced a Fellowship Program to bring selected individuals from throughout the ARIN service region to our Public Policy and Members Meetings. By offering financial support to Fellows who otherwise would be unable to attend, ARIN welcomes new and diverse voices into discussions and the policy development process. Some Fellows have gone on to become ARIN ambassadors in their own communities, while others have been elected to ARIN governing bodies.

Up to 10 Fellows who reside in the ARIN region are welcomed twice a year to an ARIN Public Policy and Members Meeting. Selected Fellows must be from ARIN customer organizations or have a direct and visible engagement in the ARIN community. All Fellows are paired with a seasoned ARIN Mentor who can provide guidance as they participate in the meeting. They will also have opportunities to network with ARIN's Board of Trustees, Advisory Council, and staff, including community members throughout the region while gaining an in-depth exposure to ARIN's operations and services.

Training and Education

Make the most of all ARIN has to offer by participating in our training and education opportunities. We offer a free library of resources for the ARIN community that will allow you to:

- Access on–demand resources and watch instructional videos to help you utilize our tools and services
- Participate in webinars (or view archival footage) on a wide range of topics, including IPv6, RPKI, ARIN's Leadership Development Program, and ARIN's Policy Development Process
- Download handouts and other materials for your use or to conduct your own educational outreach within your organization

ARIN also offers direct, face–to–face training on a variety of topics, if requested.

Want to help steer the future of ARIN? Get involved and volunteer!

Have an idea for a way we could improve our services? Think there's a new training opportunity or event type we should explore? Or maybe you just want to reach out and give us a pat on the back! No matter what, we want your feedback – it's how we continue to improve and provide you with the most valuable services that we can.

We collect feedback from you in a variety of ways, including:

- The ARIN Consultation and Suggestion Process (ACSP) – this process enables communications in an organized, deliberate, and transparent manner, while providing a feedback mechanism to allow ARIN to gauge community and member opinion on specific issues. Mailing lists and archives relating to the ACSP can also be accessed.
- Feedback button – this button is available from every page on our website – just look near the main menu. Send us a quick note and let us know how we're doing!
- Ask ARIN – from within ARIN Online, you can send us your questions and comments, and we'll get back to you as soon as possible.
- Surveys – ARIN's goal is to provide the best Internet number registry experience possible. To help better understand the needs of our customers, we periodically conduct community-wide customer satisfaction surveys.

Ready to get involved? Try subscribing to our Public Policy and Mailing List or attend a Public Policy and Members Meeting (maybe even as an ARIN Fellow or mentor!) to dip your toes into policy creation and discussion. If you're looking to get some personal attention from us, you'll want to stop by an ARIN on the Road or ARIN Lunch by the Numbers.

If you're interested in participating in a more formal capacity, you may want to consider running for an elected position or volunteering on one of our committees, like our Nomination Committee, Grant Selection Committee, or Mailing List Acceptable Use Policy Committee.

Additional ARIN Resources

Request Internet number resources at www.arin.net/request_resources

ARIN is consistently supporting the deployment of IPv6 through education and outreach. Learn about IPv6 at www.arin.net/ipv6

Learn how you can get involved in ARIN's community-driven Policy Development Process (PDP) at www.arin.net/pdp

Keep in touch with ARIN and see what we're up to!

www.TeamARIN.net

www.twitter.com/TeamARIN

www.facebook.com/TeamARIN

www.linkedin.com/company/arin

www.youtube.com/TeamARIN

Acronym Quick Guide

AC – Advisory Council
AFRINIC – African Network Information Centre
APNIC – Asia-Pacific Network Information Centre
ARPANET – Advanced Research Project Agency Network
ASO AC – Address Supporting Organization Address Council
AUP – Acceptable Use Policy
BoT – Board of Trustees
CD – Communications Department
DARPA – Defense Advanced Research Project Agency
ENG – Engineering Department
ERX – Early Registration Transfer Project
FSD – Financial Services Department
IRR – Internet Routing Registry
ISP – Internet Service Provider
LACNIC – Internet Addresses Registry for Latin America and Caribbean (Registro de Direcciones de Internet para América Latina y Caribe)
LIR – Local Internet Registry
LRSA – Legacy Registration Services Agreement
MoU – Memorandum of Understanding
NDA – Nondisclosure Agreement
NIR – National Internet Registry
NRO NC – Number Resource Organization Number Council
NRPM – Number Resource Policy Manual
Org ID – Organization Identifier
OT&E – Operational Test and Evaluation Environment
PDP – Policy Development Process
POC – Point of Contact
PPML – Public Policy Mailing List
PPMM – Public Policy and Members Meeting
RDAP – Registry Data Access Protocol
Reg–RWS – Registration RESTful Web Service
RFC – Request for Comment
RIPE NCC – European IP Networks and Network Coordination Centre (Réseaux IP Européens Network Coordi -nation Centre)
RIR – Regional Internet Registry
RPKI – Resource Public Key Infrastructure
RSA – Registration Services Agreement
RSD – Registration Services Department
SWIP – Shared Whois Project
TCP/IP – Transmission Control Protocol/Internet Protocol
VC – Voting Contact
WG – Working Group