How do I get IPv6 Address Space?

Step 1: Create an ARIN Online account by visiting www.arin.net and selecting “new user” above the login box on the left.

Step 2: Create a Point of Contact record (POC) by signing in to your account and selecting POC RECORDS on the left. If you already have a POC, you will have the option of linking it to your account. If you don’t have a POC, select “Create a POC record” and follow the instructions.

Step 3: Link your POC handle to your ARIN Online account by selecting “link to it” on the POC RECORDS page within ARIN Online. ARIN will send a confirmation email to all email addresses listed on the handle. You will need to click on a URL in one of these emails while logged in to your account to confirm the link.

Step 4: Create an Organization Identifier (Org ID) by selecting ORGANIZATION DATA on the left within ARIN Online.

Step 5: Submit your request by selecting REQUEST RESOURCES on the left within ARIN Online. Select the Org ID that you need to request resources for and then select “request resources” on the right. Select the appropriate request type and follow the instructions on the form. Once you submit your request, ARIN will issue a ticket number. Use TRACK TICKETS to check the status of your request, and keep an eye on your message center for your request approval or requests for more information.

Step 6: Submit a Registration Services Agreement (RSA) that has been signed by an authorized officer of your organization. ARIN will counter-sign and return a copy for your records after you fill out the appropriate billing form and pay any applicable fees. Once complete, ARIN will issue resources to your organization within two business days.

Additional ARIN Resources

ARIN is consistently supporting the deployment of IPv6 through education and outreach. ARIN attends trade shows and conferences around the region to spread the word about IPv4 depletion, IPv6 adoption, and other issues facing the ARIN community. Additionally, ARIN hosts an IPv4 Depletion and IPv6 Adoption Community Use Slide Deck on the web at: https://www.arin.net/knowledge/general.html.

To keep up with all of ARIN’s outreach activities, you can:

- Contact ARIN’s Registration Services at 703.227.0660 (between 7AM and 7PM ET) or at hostmaster@ARIN.net
- Follow Team ARIN on the road at www.TeamARIN.net
- Follow ARIN on Twitter at www.twitter.com/TeamARIN
- Become a fan of ARIN on Facebook at http://www.facebook.com/TeamARIN
- Watch ARIN videos on YouTube at www.youtube.com/TeamARIN
- Learn about IPv6 implementation on the IPv6 Wiki at http://www.getipv6.info/
- Get involved in ARIN’s community-driven Policy Development Process at http://www.arin.net/participate/meetings/

The American Registry for Internet Numbers (ARIN)

The American Registry for Internet Numbers (ARIN) manages the distribution of Internet number resources (IPv4 and IPv6 addresses and Autonomous System Numbers) in The United States, Canada, and many Caribbean and North Atlantic Islands.

IP Addresses

An Internet Protocol address (IP address) is a number that uniquely identifies a device on a computer network and uses transport protocols, to move information on the Internet.

IP addresses are managed and distributed globally by the Internet Assigned Numbers Authority (IANA), which allocates address blocks to the five Regional Internet Registries (RIRs). The RIRs allocate addresses to local registries such as Internet Services Providers (ISPs) for assignment to their customers, or directly assigns them to end-user organizations.

IPv4 Depletion

The global free pool managed by IANA fully depleted in February 2011. The RIRs are all managing their remaining IPv4 address pools. Four of the RIRs have fewer than a single /8 (16,777,216 addresses) remaining.

In order to keep the Internet growing, organizations must adopt Internet Protocol version 6 (IPv6). This protocol has been actively distributed in the ARIN region since 1999, and will coexist alongside IPv4 during the global transition currently underway; however, additional steps will be required in order to fully implement it.
IPv6 Preparedness

There are many ways to make your organization's services available using IPv6, depending on your network setup and the services you have deployed. Here are a few basics:

- Audit your equipment and software to ensure that they are IPv6 enabled.
- Consider the training needs for your staff. There are many free resources available that can help educate staff members. Training seminars and on-site consultations are also available to get you IPv6-ready. ARIN’s IPv6 Wiki, as well as organizations like the Internet Engineering Task Force (IETF) or the North American Network Operators Group (NANOG) can help as well.
- Talk to your ISP about getting IPv6 service or about tunneling IPv6 over IPv4 and be sure to design your network so that it allows for easy renumbering.
- Encourage your hardware and application vendors to support IPv6.
- Get involved in ARIN’s policy and membership activities.

If You are a(n):

Internet Service Provider

Internet measures to help conserve your IPv4 operations such as Network Address Translation (NAT) have been implemented but require additional investment of human and technical resources. ISPs should weigh this against the opportunity for easier and more efficient network management that comes with the adoption of IPv6.

Content provider

Make sure your content will be available via IPv6 by implementing dual-stacked networks. Dual-stacking your network requires both an IPv4 and IPv6 address, and allows simultaneous communication with IPv4 and IPv6 devices.

Application developer

Develop your applications so they are IPv6-enabled. Ensure that with servers and clients running both IPv4 and IPv6 addresses, software can function with either protocol. Do you have the knowledge you need to code dual-stack programs?

Equipment vendor

Enable your IPv6 networks by ensuring your routers, switches, home gateways, servers, firewalls, and network monitoring tools are IPv6 ready. There are significant technical differences between the two protocols that you need to know of; therefore, you must introduce IPv6 support into your product cycles as soon as possible.

Government organization

Be proactive and learn about IPv6 adoption issues to successfully deploy IPv6 in your economy. The Internet is an important piece of social and economic infrastructure, and government organizations need to prepare for IPv6. Governments can lead by example in implementing IPv6 into their procurement policies and their network infrastructure.

Other Business

Ensure your business can maintain scalability and growth by enabling your networks with IPv6. If your business relies on hosting or data-center services, you must plan to deploy IPv6. An IPv6-based Internet offers organizations a more efficient, secure, manageable, and cost-effective network architecture.

Qualifying for IPv6

Direct Allocations to Internet Service Providers

An organization qualifies for an allocation under this policy if they meet any of the following criteria:

- Have a previously justified IPv4 ISP allocation from ARIN or one of its predecessor registries or can qualify for an IPv4 ISP allocation under current criteria.
- Are currently multi-homed for IPv4 or will immediately become multi-homed for IPv6 using a valid assigned global Autonomous System Number (ASN). Note: In either case, they will be making reassignments from allocation(s) under this policy to other organizations.
- Provide ARIN a reasonable technical justification indicating why an allocation is necessary, including a plan showing projected assignments for one, two, and five-year periods, with a minimum of 50 assignments within five years.

In no case shall an ISP receive smaller than a /32 unless they specifically request a /36. In no case shall an ISP receive more than a /16 initial allocation.

See ARIN’s Number Resource Policy Manual (NRPM) 6.11 for requirements for IPv6 Multiple Discrete Networks

Direct Assignments to End-user organizations

Organizations may justify an initial assignment for addressing devices directly attached to their own network infrastructure, with the intent to begin using the addresses within 12 months, by meeting one of the following criteria:

- Having a previously justified IPv4 end-user assignment from ARIN or one of its predecessor registries, or;
- Currently being IPv6 multi-homed or immediately becoming IPv6 multi-homed and using an assigned valid global Autonomous System Number (ASN), or;
- By having a network that makes active use of a minimum of 2000 IPv6 addresses within 12 months, or;
- By having a network that makes active use of a minimum of 200 /64 subnets within 12 months, or;
- By providing a reasonable technical justification indicating why IPv6 addresses from an ISP or other LIR are unsuitable.

Organizations that meet at least one of the initial assignment criteria above are eligible to receive an initial assignment of /48. Requests for larger initial assignments, reasonably justified with supporting documentation, will be evaluated based on the number of sites in an organization’s network and the number of subnets needed to support any extra-large sites defined below. An organization qualifies for an assignment on the next larger nibble boundary when their sites exceed 75% of the /48s available in a prefix. For example:

- More than one but less than or equal to 12 sites justified, receives a /44 assignment;
- More than 12 but less than or equal to 192 sites justified, receives a /40 assignment;
- More than 192 but less than or equal to 3,072 sites justified, receives a /36 assignment;
- More than 3,072 but less than or equal to 49,152 sites justified, receives a /32 assignment, etc...

Micro-allocations

ARIN will make micro-allocations of both IPv4 and IPv6 addresses to critical infrastructure providers of the Internet, including public exchange points, core DNS service providers (e.g. ICANN-sanctioned root, gTLD, and ccTLD operators) as well as the RIRs and IANA. These allocations will be no smaller than a /24 using IPv4 or a /48 using IPv6.

Additionally, organizations that currently hold IPv6 allocations may apply for a micro-allocation for internal infrastructure as long as they can provide the required justification.

Resource Qualifications in accordance with NRPM Version 2014.4

Visit our v6 Wiki!
http://www.getipv6.info