Static IP Address Assignment Policy

Because of the incredible expansion of the Internet over the last few years, the Internet community has found it necessary to modify standard practices and policies regarding the assignment of globally unique Internet Protocol (IP) addresses. At NuVox Communications we think it is important for our customers to be aware of some facts about today’s Internet that may directly affect them.

The Association of Registered Internet Names (ARIN) is the organization that monitors and controls issuance of IP addresses to communications companies, Internet service providers, and other organizations that issue these addresses to end customers. ARIN issues addresses based on justification of need. While this policy limits the number of addresses NuVox Communications and other companies are able to use, it is necessary to preserve the finite number of IP addresses available. The IP address space currently available is rapidly being depleted, which will make it more difficult to obtain additional addresses in the future.

NuVox Communications assigns addresses to its customers from a larger block of address space provided by ARIN. When NuVox requests additional IP addresses from ARIN, we must be able to justify how and why we issued all the addresses in the previous block. It is important to remember that these addresses are not "owned" by anyone. ARIN allocates blocks of addresses with the goal of maximizing the ease with which data can be routed on the Internet.

An understanding of the IP allocation system is important for two reasons. First, if a customer decides to change his or her Internet service provider, the addresses NuVox has assigned must be returned. The customer then needs to renumber his or her network with addresses from the new provider. Second, it could potentially be necessary for ISPs and communications companies to renumber their customers into a different (usually larger and more efficiently routable) allocation form the numbering authority. Customers should definitely consider this issue when planning how to number their networks. A common saying among network engineers is “A good numbering plan is also a good renumbering plan”.

New customers are issued one static IP address from a /30 block, which gives them 2 usable static IP addresses. If a customer requires additional IP addresses for any reason, they may request these addresses from Internet Technical Support. The customer must justify the reasons these addresses are needed. The justification will be documented and may have to be provided to ARIN when NuVox requests additional blocks of IP addresses.

As long as a customer can justify his or her need for additional IP addresses, NuVox will approve up to 64 addresses per customer. Requests for more than 64 static IP addresses will be handled on an individual case basis. There is currently no charge associated with IP addresses.

Additional IP addresses are often requested to support servers, remote access to company systems, VPN connections, and Web hosting. There are often alternative methods customers may use to support these systems in lieu of using additional static IP addresses. In the interest of preserving IP addresses, NuVox encourages alternate configurations that limit the use of IP addresses. These alternate methods include Network Address Translation (NAT), Port Address Translation (PAT), and name-based Web hosting.

NAT allows users to mask machines behind a single public IP address. This masking can be accomplished using private addresses on the company’s internal machines. These machines communicate through the customer’s router, and the router manages traffic back to those machines.

PAT is similar to NAT, but provides the ability to route traffic to a specific machine. Vina does not support PAT, which precludes many of our customers from using this system. However, for customers not using in routers, PAT is generally a viable solution.

Web hosting customers often request as many as 128 additional IP addresses to host domains on their servers. In the past, many Web hosting companies configured each domain they hosted with its own IP address. While IP-based hosting has been a standard for many years, a more efficient means of Web hosting is now available. Name-based hosting allows Web hosting companies to place multiple sites on a single server with one IP address. Rather than pointing multiple IP addresses at this machine, the server’s configuration can be set at a lower level to determine the destination of the request and reference an individual on that server, where the site is located. This type of hosting is not well known yet – though implementation is fairly easy.

NuVox encourages use of these alternate solutions and aims to educate customers of these options to conserve scarce public IP addresses, ease renumbering, and benefit from potential network security enhancements.
NuVox Communications, Inc.
Request for IP Addresses

<table>
<thead>
<tr>
<th>Organization Name:</th>
<th>Contact/Title:</th>
<th>Contact Email:</th>
<th>Physical Address</th>
<th>City/State/Zip</th>
<th>Voice #:</th>
<th>Fax #:</th>
</tr>
</thead>
</table>

Block Size | CIDR | Network Mask | Useable Addresses With NAT | Useable Addresses Without NAT |
---|---|---|---|---|
Select Number of IP's Requested | #N/A | #N/A | #N/A | #N/A |
#N/A | #N/A | #N/A | #N/A |

Please specify use of requested IP addresses

<table>
<thead>
<tr>
<th>Use</th>
<th># Addresses</th>
<th>Instructions</th>
<th>Explanation</th>
</tr>
</thead>
</table>
#N/A | #N/A | #N/A | #N/A |
#N/A | #N/A | #N/A | #N/A |
#N/A | #N/A | #N/A | #N/A |
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#N/A | #N/A | #N/A | #N/A |

For Further Explanation, Use Space Provided