



Policy Experience Report

Leslie Nobile

Purpose

- Review existing policies
 - Ambiguous text/Inconsistencies/Gaps/Effectiveness
- Identify areas where new or modified policy may be needed
 - Operational experience
 - Customer feedback
- Provide feedback to community and make recommendations when appropriate



Policies Reviewed

- Definition of End-user and ISP(LIR) (**NRPM 2.6 and 2.4**)
- Can an RIR issue space to an organization outside its region? (**NRPM 2.2**)
- Transfers to Specified Recipients (**NRPM 8.3**)
- 4-byte ASNs (**NRPM 10.3**)



- **NRPM 2.4 Local Internet Registry**

- *“An IR that primarily assigns address space to the users of the network services that it provides. LIRs are generally Internet Service Providers (ISPs)”*

- **NRPM 2.4 “End-User”**

- *“An end-user is an organization receiving assignments of IP addresses exclusively for use in its operational networks”*



Issues

- No current definition of ISP
- Definitions of LIR and End-user are somewhat nebulous
- Some newer technologies do not clearly fit the categories (e.g. cloud computing services, content delivery networks, “software as a service” providers, etc.)
 - This makes it challenging for ARIN staff to apply policy
- With recent policy change to 3 month supply of IPv4 for ISPs, may be advantageous to be in the End-user category



Questions for the Community

- What is an End-user and what is an ISP?
- Should staff determine whether an org is an ISP or an End-user or should the org decide?
- Should an ISP be able to switch to become an End-user and vice versa thus allowing a different set of policy criteria?



- **NRPM 2.2 – “Regional Internet Registry”**
 - *“The primary role of RIRs is to manage and distribute public Internet address space within their respective regions.”*



Issue

- There is nothing specific in any policy that says you must be located in the ARIN region or plan to use the resources in the ARIN region to request resources here



Questions for the Community

- With v4 depletion imminent in some regions, what will prevent RIR shopping?
- Should there be criteria that states who is eligible to request resources from ARIN?
 - (e.g. *Must have legal presence in the region?)
- Should there be clearly defined criteria requiring the resources to be used within the ARIN region?
 - (e.g. *Route origination in the region?)

*Current Practice



- **NRPM 8.3 “Transfers to Specified Recipients”**

- *“IPv4 number resources within the ARIN region may be released to ARIN by the authorized resource holder, in whole or in part, for transfer to another specified organizational recipient. Such transferred number resources may only be received under RSA by organizations that are within the ARIN region and **can demonstrate the need for such resources**, as a single aggregate, in the exact amount which they **can justify under current ARIN policies.**”*



Issues

- Current policy based on justified need, however, no stipulation in 8.3 that would disallow an organization from immediately “flipping” any IP addresses they were recently issued by ARIN for profit by using NRPM 8.3
- Is it fair to allow someone to obtain a limited resource based on justified need, and then never actually use it?
- This behavior would seem to be a direct violation of the RSA



Suggestion

- Make policy consistent with the RSA's requirement that resources be used in the manner for which they were approved
- Various options:
 - A. Update 8.3 to add a requirement that resources must be registered for a minimum of one year to be eligible
 - B. Update 8.3 to state that resources are not eligible for subsequent transfer
 - C. Apply "A" or "B" to some percentage of received resources
 - D. Other?



- **NRPM 10.3 “IANA Policy for Allocation of ASN Blocks to RIRs”**

- *After Dec 31, 2010, IANA and the RIRs make no distinction between 2-byte and 4-byte ASNs and will operate from an undifferentiated 32-bit pool*



Issue

- Most customers are specifically asking for 2-byte ASNs, or exchanging their 4-byte ASNs once issued
- To date, there are only 38 4-byte ASNs actively registered
- 53 4-byte ASNs have been exchanged for 2-byte
 - Typical reason for exchange: “Upstream said their router wouldn’t support 4-byte ASN”



Current Practice

- **ARIN assigns from one pool starting with the lowest numbers first (2-byte)**
 - Customer still has option to choose 2-byte or 4-byte
 - Staff ensures customer really wants 4-byte ASN before issuing
 - Will exchange 4-byte ASN when asked



Question for the Community

- Network managers and router vendors must ensure that their networks and products are compatible with 4-byte ASNs
- Is there something ARIN can do to help with the transition to 4-byte ASNs?



