Policy Experience Report

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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

- Additional Assignments for Small Multihomers **(NRPM 4.3.6.2)**

- Multiple Discrete Networks **(NRPM 4.5)**

NRPM 4.3.6.2 Additional Assignments for Small Multihomers

*"Any end-user that possesses an assignment smaller than /22 under any part of section 4.3 shall not be able to get an additional assignment **unless they agree to return all existing 4.3 assignments which are /23 or smaller within 12 months of receiving a new assignment.** The new assignment shall be sized to accommodate their existing utilization in addition to their justified additional growth space under section 4.3.6.1. **The common cases for this are expected to be a /24 returned after receipt of a /23, or a /23 returned after receipt of a /22."***

Background

- Total Org IDs with at least one IPv4 end-user assignment: **2,525**
  - **2,242 (89%) have never come back for an additional assignment**
  - **282 (11%) have come back for an additional assignment**

- Total end-user assignments since policy implementation (9/9/2010) = **570***
  - **/24 =**   **197***
  - **/23 =**   **100***
  - **/22 =**   **141**
  - **/21=**   **56**
  - **/20 and larger =**   **76**
- **Out of the 297 /23s and /24s, only 1 has come back for an additional assignment**

*excludes micro-allocations

Issues

- Only a small number of end users actually come back for more space
- Renumbering is difficult and expensive
- If aggregation is the goal, and this policy doesn't contribute anything significant towards this goal, is renumbering really necessary?
  - **It forces a small number of companies to suffer the pain and expense of renumbering with no obvious benefit to routing table conservation**

Suggestions

- Remove the renumbering requirement as it does not appear to meet the goals of this policy

NRPM 4.5 Multiple Discrete Networks

*"The organization must have **compelling criteria** for creating discrete networks. Examples of a **discrete network** might include:*

- *Regulatory restrictions for data transmission,*
- *Geographic distance and diversity between networks,*
- *Autonomous multihomed discrete networks."*

Issues

- **Compelling criteria** is vague and open to interpretation
- **Discrete network** is not defined anywhere within the policy
  - **There are examples, but they are also open to interpretation**
- Recent argument made that route aggregation was the basis of the MDN policy

Original Goal of the Policy

- To prevent networks that could not readily reallocate space from being forced into opening up multiple ARIN accounts in order to obtain additional IP addresses
  - **Could never reach 80% utilization due to topological discreteness**

Current Practice

- Discrete networks:
  - **Sites that are not connected OR**
  - **Sites that are connected but customer traffic cannot pass from one site to another over an ISP's internal network (e.g. customer packets are not allowed to transit their IGP)**
- Examples:
  - Lack a backbone;
  - Have component networks operated autonomously;
  - Have contractual or system limitations;
  - Operate under regulatory constraints that prohibit inter-regional transit

Approval Stats (past 12 months)

- Total number of IPv4 and IPv6 approvals:
  - **872 IPv4**
  - **1,134 IPv6**
- Total number of approvals under MDN:
  - **44 IPv4 (5%)**
  - **19 IPv6 (2%)**

Questions for the Community

- Should the MDN policy apply to a network that can aggregate, but chooses to originate more specific routes for operational reasons?

  - **If yes, then wouldn't everything qualify as a discrete network?**

Suggestions

- Modify the policy to add a clear definition of what a discrete network is

- Remove the phrase "must have compelling criteria"

  – **Shouldn't be be needed if there is a concrete definition of discrete network**