APNIC
Unassigned Space Report

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The Problem

• How can you tell if a route advertisement is incorrect?
  – By “incorrect” it is meant that the route advertisement is referring to address space that has not been allocated by any RIR to any end party
  – i.e. advertising an address block taken from the unallocated address pool
The “normal” ISP solution

- Use an administrative process to check the RIR whois database to see if the address block has been allocated
  - No single whois database that is authoritative for the entire IPv4 address space
  - Each RIR has a different response syntax to whois queries
The Idea

- The RIRs to coordinate the operation of a set of “lists” (registries)
- These registries contain the inverse of the allocated address space
- These registries can be used in a variety of ways to determine the validity of a routing request
The Application

• Existing ISP administrative processes can use a deterministic process to check if a proposed route advertisement is valid
APNIC Space Registry

• The registry contains the maximally aggregated description of the inactive address blocks for IPv4 and IPv6
• The registry also contains the active (assigned) address blocks for IPv4 and IPv6
The Free Space Registry


#******************************************************************
#IMPORTANT: For an explanation of this report and the terms and conditions of
#its use, please refer to the following following:
# #ftp://ftp.apnic.net/pub/apnic/stats/apnic/_README-apnic-stats.txt
#******************************************************************

1| apnic | 20030226| 1419| 20030226| 19700101| 28338
apnic | i pv4| 169. 208. 0. 0| 15|
apnic | i pv4| 169. 210. 0. 0| 15|
apnic | i pv4| 169. 212. 0. 0| 14|
apnic | i pv4| 169. 216. 0. 0| 14|
apnic | i pv4| 169. 220. 0. 0| 15|
apnic | i pv4| 169. 222. 0. 0| 16|
apnic | i pv4| 169. 223. 0. 0| 16|
apnic | i pv4| 202. 0. 8. 0| 23|
apnic | i pv4| 202. 0. 52. 0| 22|
apnic | i pv4| 202. 0. 56. 0| 21|
For example

- 169.208.0.0/15 is not an assigned prefix
The Active Space Registry


#**************************************************
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#its use, please refer to the following following:
#
#ftp://ftp.apnic.net/pub/apnic/stats/apnic/_README-apnic-stats.txt
#**************************************************

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</table>
For example

• 202.0.0.0/21 is an assigned prefix
APNIC Registry Contents

apnic-ipv4-latest.inactive
apnic-ipv4-latest.active
apnic-ipv6-latest.inactive
apnic-ipv6-latest.active

History files:
apnic-<proto>-<yyymmddd>.[in]active
Questions?