BGP Unallocated Address
Route Server

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This is just an idea...

- The problem it is attempting to address is real.
- The way this particular approach deals with the problem is probably not the best way.
- But if you have some ideas as well then let's discuss them.
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 BGP route servers.
- The route server would advertise using BGP a minimal spanning set of advertisement to cover the unallocated address space.
- Updated in real time as address space is allocated and reclaimed.
  - Invalid next hop, private AS, NOEXPORT, etc.
The Application

- Existing ISP administrative processes can use a local route server to check if a proposed route advertisement is valid.
  - Using edge route peering with the unallocated route server has the problem of being unable to mask out any more specific advertisements of unallocated address space received from other sources.
Comments

- There are probably a large set of better ways to do this…