



draft-jasinska-ix-bgp-route-server-01

elisa@llnw.com

Background

- Many IXPs deploy route servers
- Several implementations exist
 - RSD, Quagga, OpenBGPD, BIRD
- More implementations to come
 - Cisco IOS, JunOS
- But no document to describe what a route server is

Implementation Differences

- Provide possibility to define routing policy, or not
- Per-client RIBs, or global RIB
- RIBs for each client, or selective
- Insert ASN into AS_PATH, or not
- Pass on MED, or not
- Change other BGP attributes, or not

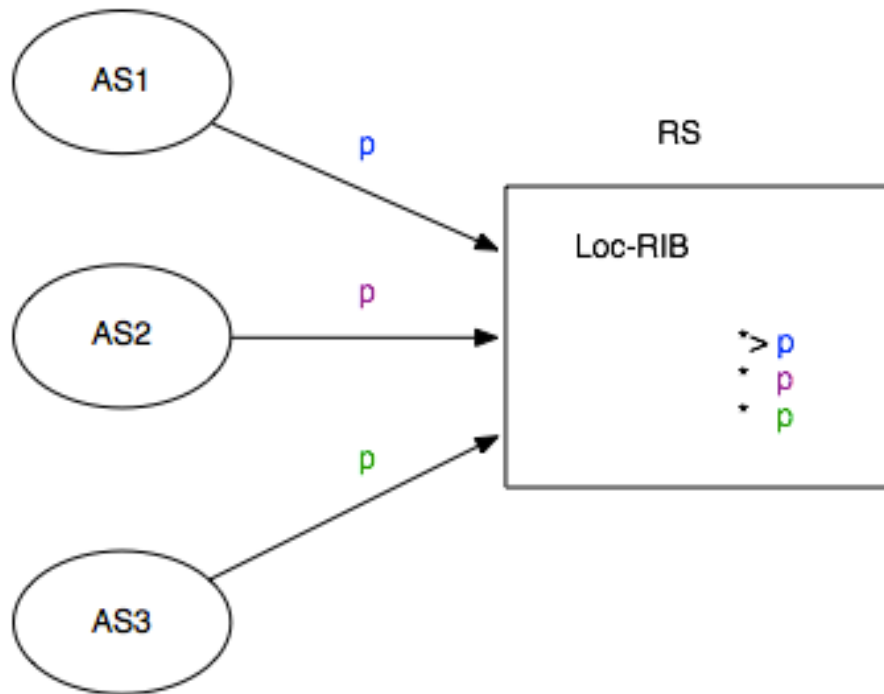
The Draft (1)

- Implementation
 - MUST accept BGP UPDATE messages
 - MUST NOT change NEXT_HOP
 - SHOULD NOT insert ASN into AS_PATH
 - SHOULD NOT modify, process or remove MULTI_EXIT_DISC
 - SHOULD NOT modify, process or remove Communities

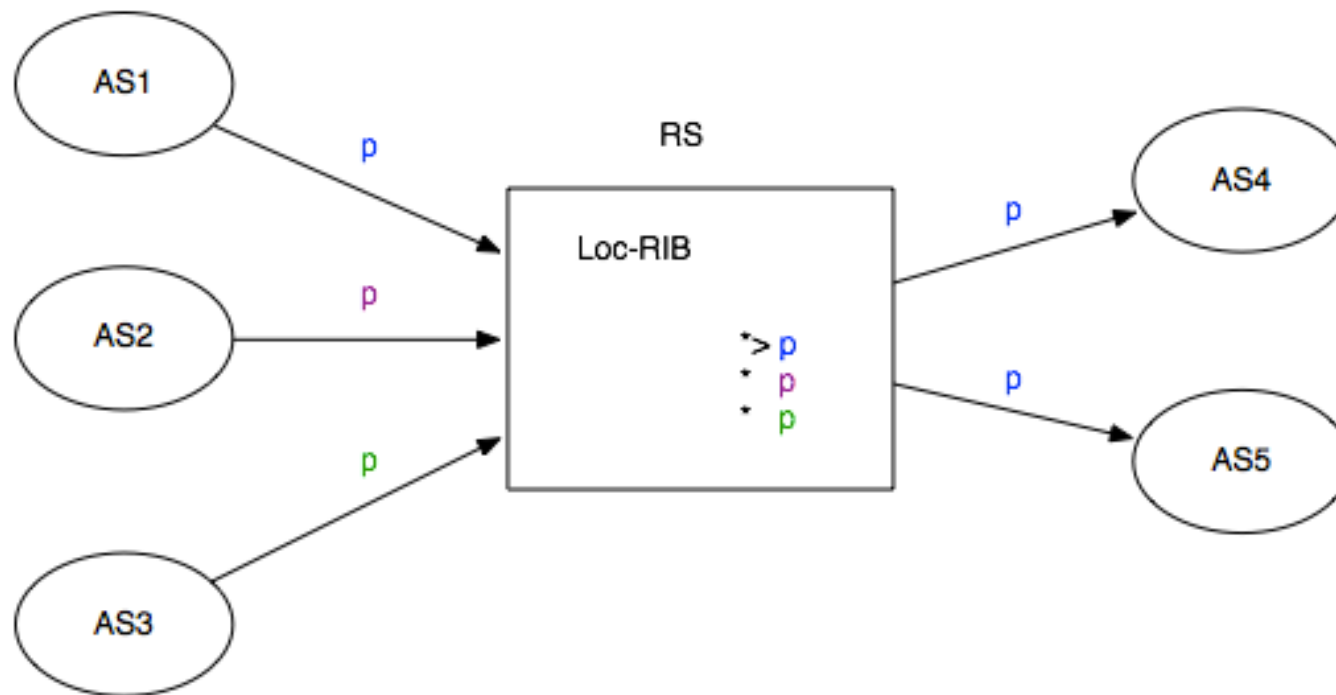
The Draft (2)

- Discussion
 - Explanation of “Prefix Hiding”
 - Mitigation techniques
 - Per-client RIBs
 - BGP ADD-PATH
 - BGP diverse paths

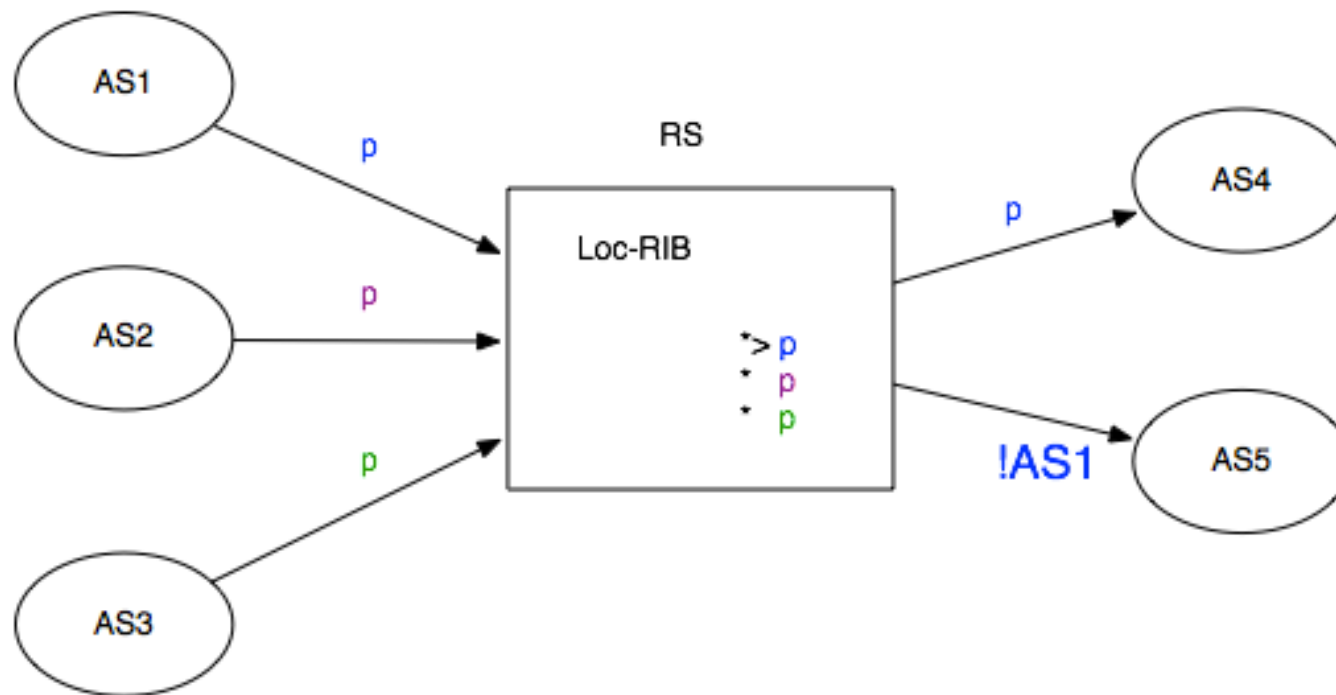
Prefix Hiding



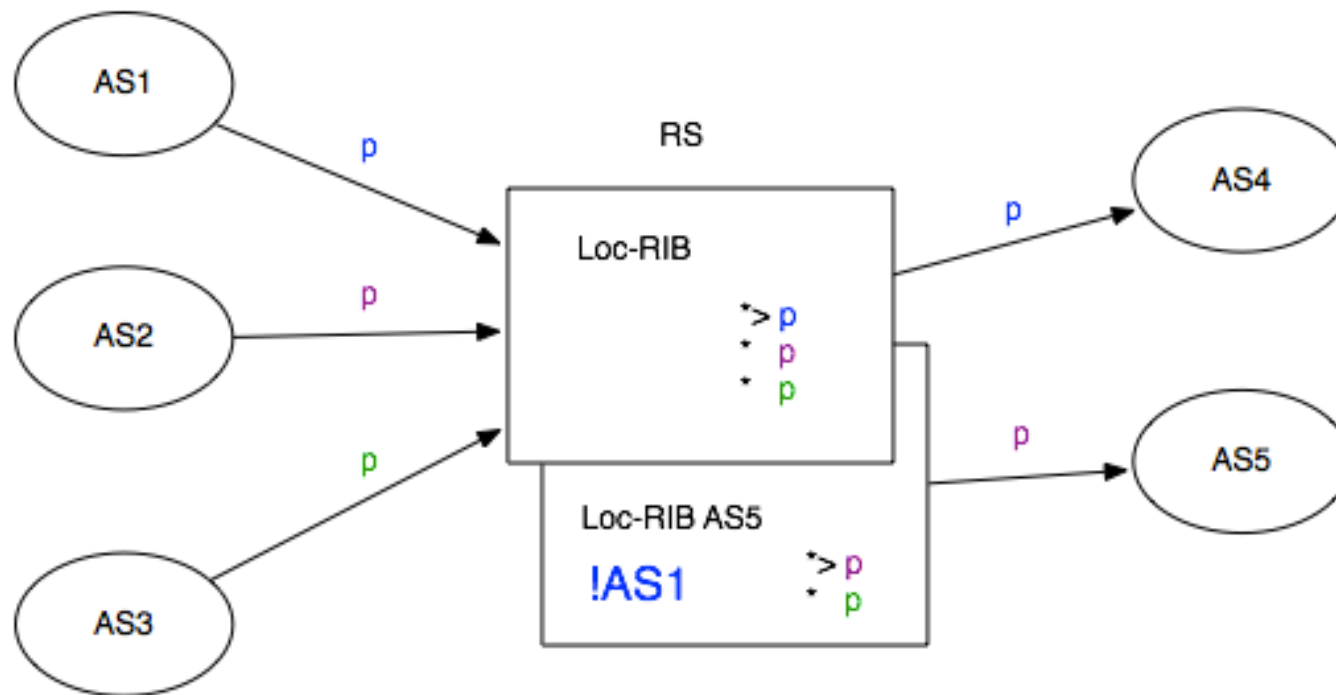
Prefix Hiding



Prefix Hiding



Prefix Hiding



The Draft (3)

- Operational issues
 - Scaling problems
 - Dealing with prefix leaks
 - Redundancy
 - AS_PATH consistency check
 - Routing policies

The Process

- Initial document (-00) proposed in Global Routing Operations Working Group
 - Informational draft
 - Presented at IETF 78 in Maastricht
 - Lots of positive feedback
- Until someone noticed... we are changing BGP (RFC4271)

The Process

- RFC4271 is a Standards Track document
- Cannot be changed by an Informational RFC
- New version (-01)
 - Standards Track document
 - Presented at IETF 79 in Beijing
 - In Inter-Domain Routing Working Group as well as Global Routing Operations Working Group
 - Many fixes as well as content additions

Thanks! Questions?

elisa@llnw.com