The RPLS 'via' attributes

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Who am I?

Job Snijders

Network Architect @
    AS 5580 - Hibernia Networks

Founder of NLNOG RING
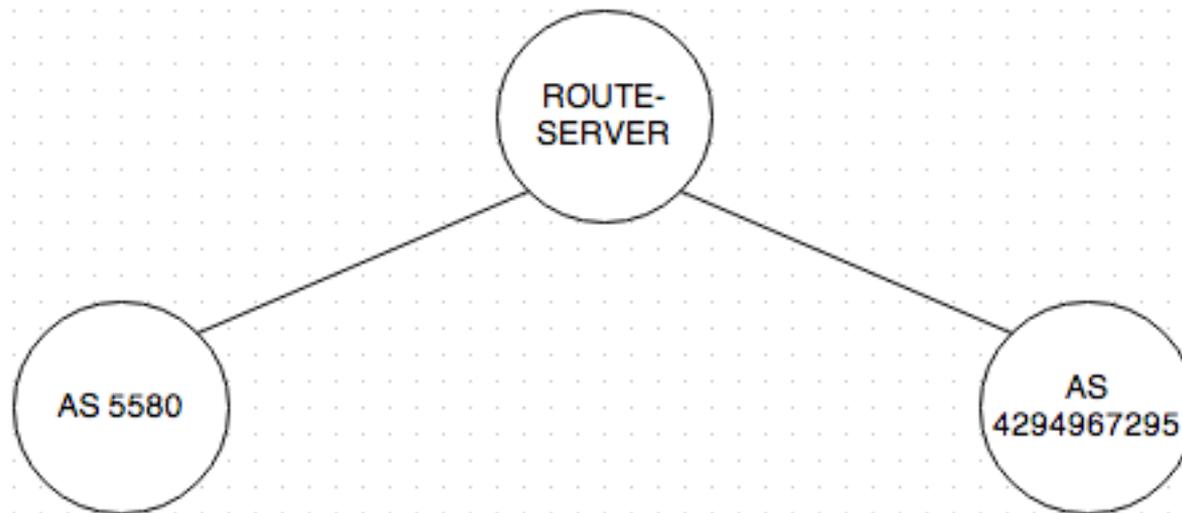
Twitter: @JobSnijders

Hobbies: IP Routing, LISP, MPLS, IPv6, RPSL
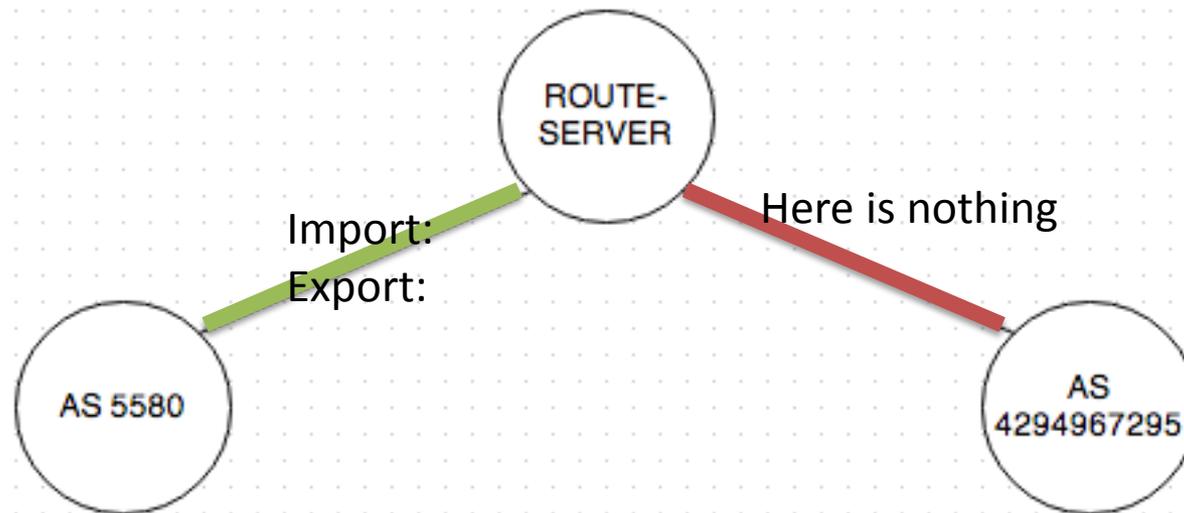
Shoe size: 45/EU

Problem statement

- Today there is not really a good way to instruct a Route Server to whom they should announce your prefixes.

Problem statement refined

- You can ONLY describe routing policy related to directly adjacent networks.

ROUTE-SERVER

Import:
Export:

Here is nothing

AS 5580

AS 4294967295

Current methods

- BGP Communities (issue: too small)
- RPSL (but no way to describe indirect)
- BGP Communities in RPSL
- Web interface (out of band, not universal)
- Mapping systems (map 32bit AS to 16bit value)

ROUTE-SERVER

AS 5580
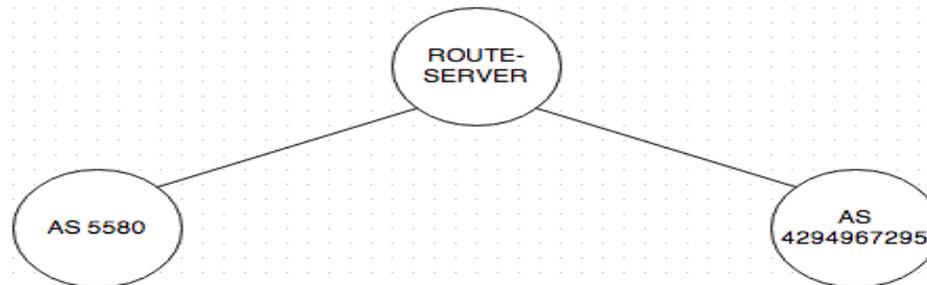
AS 4294967295

Proposal: draft-snijders-rpsl-via

```
 aut-num: AS5580
import-via: AS6777
      from AS4294967295
      action pref = 2;
      accept AS-SNIJDERS
import-via: AS6777
      from AS5580:AS-CUSTOMERS
       accept NOT ANY
export-via: AS6777
      to AS4294967295 action community.={5580:40};
      announce AS-ATRATO
export-via: AS5580:AS-ROUTESERVERS
      to AS5580:AS-CUSTOMERS announce NOT ANY
```

Advantages

- Only IRRs and IXP operators need to upgrade
  - Some IXP operators have already pledged!
- **No BGP / router upgrades needed**
- Immediate support for 32 bit ASNs
- 95% of people just want any to any (don't need to update their autnum for that)
- Helps with Route Server Path Hiding

Current implementation status

- OK: RADB / IRRd (since 3.0.7)

- OK: RIPE Whois Server (since 1.71)

- NOT YET OK: APNIC (runs 1.69.1-APNICv1r0)
  - (but they sort of committed to merge my code)

- Unknown: ARIN, ALTDB (IRRdb fork), JPNIC (IRRd fork), LACNIC, AfriNIC

Questions?

- Should this be WG document or Individual submission?
- Standards track or something else?
- There is running code, but is there consensus?