Virtual Aggregation (VA)

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Summary

- No new technical material
- Consolidation and simplification of drafts
- We consider drafts now to be “stable”
- Future:
  - Expect only minor changes based on lessons learned from implementation and deployment

Current drafts

- Current drafts:
  - draft-ietf-grow-va-02
  - draft-ietf-grow-simple-va-00
  - draft-ietf-grow-va-auto-01
- Deprecated drafts:
  - draft-ietf-grow-va-mpls-innerlabel-00
  - draft-ietf-grow-va-gre-00
  - draft-ietf-grow-va-mpls-00
  - **All simplified and folded into draft-ietf-grow-va-02**

draft-ietf-grow-va-02

- Removed some tunnel types
  - GRE, use of per-external peer IP tunnels
- Remaining tunnel types:
  - IP or MPLS
  - Both with or without inner label
  - Note:
    - with inner label, BGP next hop is local ASBR,
    - without inner label, BGP next hop is remote ASBR

draft-ietf-grow-va-02

- Regarding uRPF (Jarad raised in Hiroshima)
  - For strict uRPF, local ASBR can do it, but must FIB-install routes where peer remote ASBR is next hop
    - Good idea to do this anyway, for efficient paths
  - Loose uRPF can only be done at Aggregation Point Router (APR)
    - Same for martian filters, etc.
- Silver lining: VA allows lower-tier ISPs that today default route *everything* to providers, to now do RPF, martian filtering, etc.

draft-ietf-grow-simple-va-00

- Simple VA = “Raszuk mode” VA
  - Core routers keep full FIB, edge routers do FIB suppression, otherwise default 0/0 to core
  - Virtually no configuration
- Simply moved text for this from main draft to separate draft
  - 11 pages total (5 substantive pages)
  - Very easy to understand and digest for vendors and customers only interested in this mode

draft-ietf-grow-va-auto-01

- 00 version discussed several variants of auto-configuration
- 01 version has only one:
  - “Can suppress” tag
  - In a nutshell, effectively limits configuration to local ASBRs that peer with provider ISPs
- Why this version? Because Huawei is implementing it
  - Can revisit other variants if the market suggests a need

draft-ietf-grow-va-auto-01

- Requires a new extended communities attribute
  - Does this suggest that it should be standard rather than informational?

Next steps?

- Continue work on interoperable implementations
  - Use experience to tweak drafts

- Otherwise, anything else needed to move to RFC?