Application of
draft-varlashkin-nh-cost
to
draft-ietf-idr-best-path-selection

Ilya Varlashkin ilya@easynet.com
Robert Raszuk robert@raszuk.net
Rajiv Asati rajiva@cisco.com
Overview

• Next-hop reachability is not transitive
  - e.g. sender can reach NH, receiver cannot
• Receiver should not install routes with unreachable NH
  - but receiver may have no other routes
  - sender has no way of knowing
• Next-Hop SAFI provides possible solution
  - Receiver can inform sender that NH is unreachable
  - Sender does best path selection from receiver’s PoV
  - Receiver gets only feasible routes
The Issue Illustrated

Sample network: IGP, LDP, BGP

ER1: C=2, L=10001
ER2: C=3, L=10002
NetA: NH=ER1

ER1: C=2, L=None
ER2: C=3, L=10002
NetA: NH=ER1
BGP Exchange Example

Without NH SAFI

RR --- IPv4 Unicast only --- PE

.NetA: Next-Hop ER1

With NH SAFI

RR --- IPv4 Unicast IPv4 NH SAFI --- PE

What’s your cost to ER1, ER2?

ER1=Unreachable, ER2=3

.NetA: Next-Hop ER2
Solution Illustrated

Sample network: IGP, LDP, BGP

ER1: C=2, L=10001
ER2: C=3, L=10002
NetA: NH=ER1

ER1: C=2, L=None
ER2: C=3, L=10002
NetA: NH=ER2
Last Slide

- No changes required in either draft
  - solution is intrinsic property of NH SAFI
- WG interest?
- Adopt draft-varlashkin-nh-cost as WG item?