Updated processing of control flags for BGP VPLS

Ravi Singh (ravis@juniper.net)
Kireeti Kompella (kireeti@juniper.net)

IETF-88 (Vancouver)
speaker: Ravi Singh
BGP VPLS: Summary and an issue

- **Summary of BGP VPLS: efficiency of control messaging**
  - A PE’s NLRI specifies behavior expected from all other PEs in that block (per VPLS):
    - VPLS label to use
    - Behavior regarding acting on control flags, etc

- **Issue**: PE behavior when mismatching settings of control flags:
  - Expectation of NLRI-originating PE cannot be met by every remote PE (w.r.t. acting on received control flags)
  - No support for selectively asking only some PEs to act on control flags
  - What do the other PEs do? What does NLRI-originating-PE do?
    - Ignore the mismatch?
    - Not bring up the PW?
What is this draft about?

- Supporting mixed-settings of control flags in a given VPLS:
  - Making BGP VPLS work when PEs differ in their settings of the control flags
  - For every (per-VPLS) PE-pair, if one PE does not have the same value for C-bit, the PW between the pair still comes up. However, does not use CW.
  - Similarly for other bits in the control-flags
  - Works in a backward compatible fashion

- Enabling use of p2mp LSPs as transport when PEs in per-VPLS PE-set have mismatching control flags
Illustrative BGP VPLS:

Using C-bit to illustrate the issue

Assume:
- CW-capable PEs: PE1, PE2
- CW-non-capable PE: PE3

Can each PE forward customer traffic to sites behind every other PE?
Illustrative BGP VPLS:

Using C-bit to illustrate the issue

Assume:
- CW-capable PEs: PE1, PE2
- CW-non-capable PE: PE3

Can each PE forward customer traffic to sites behind every other PE?

Before this draft:
- UP PW (uses CW): PE1-PE2
- Down PWs: PE1-PE3, PE2-PE3

With this draft: all PWs come up.
- UP PW (uses CW): PE1-PE2
- UP PWs (not using CW): PE1-PE3, PE2-PE3
Next steps

- Soliciting feedback
- Progressing in the WG