OSPF Hybrid Broadcast and P2MP Interface Type

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History

- Initially presented in Beijing
- Two polls on mailing list for WG adoption
  - Have explicit support on the applicability and solution
  - One objection in the first poll, citing MANET
    - Resolved offline at 80th Prague meeting
      - Problem and solution are independent of MANET
  - No objection in the second poll

Problem Context

- **True Broadcast Network**
  - Different metric for different neighbors
    - But not MANET
- **Advertising per-nbr metrics**
  - But using broadcast network procedures for
    - Neighbor maintenance
    - DR/BDR based adjacency & flooding

Plan

- Waiting for WG blessing
- Will plug one hole pointed out by Richard in the next revision
  - Simple fix
- MAY enhance on three aspects (which were already pointed out in 79th IETF)
  - As part of WG effort

Enhancements 1/3

- Use Link Local Signaling to signal support
  - this prevents adjacency with a non-supporting neighbor
    - Otherwise traffic may not traverse certain pairs of routers
  - Not a real/big problem if not done
    - No persistent loop/blackhole

Enhancements 2/3

- Use LLS to signal information for neighbors to derive metric
  - As another way to get per-nbr metric other than via:
    - Static configuration
    - Lower layer protocol, e.g. RFC 5578
  - Example: routers connecting to a switch at 100M, 1G, 10G speeds
    - All advertising their speed via LLS
    - Router A (100M) derives metric 100 for all routers.
    - All routers derive metric 100 for router A
    - Router B (1G) derive 10 for router C/D (10G).
    - Router C/D (10G) derives 10 for router B.
    - Router C/D (10G) derives metric 1 for each other

Enhancements 3/3

- Advertising default metric, and additionally "odd" metrics that are different
  - Vs. per-neighbor (reduce from O(N^2))
  - Requires all routers to change SPF