Advertising Per-node Admin Tags in IS-IS

draft-psarkar-isis-node-admin-tag-00

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Rationale

- **Node color** is used for describing path constraints
  - IP paths
  - MPLS paths
- there is a category of path constraints which requires that a certain path **should** or **should not** be routed over a **node with specific properties**.
  - go over the packet-optical super-core
  - don't go over any other PE router
  - don't go over any other ASBR (hot potato)
  - don't go over equipment from vendor X
  - don't go over nodes with limited hardware capabilities (e.g. LB)
  - don't go over equipment which is running software version x.y.z
  - de-prefer nodes which have not good hardware based latency measurements
Per-Node Admin Tag TLV

- **Dedicated TLV**
  - Unbound List of 32-Bit node colors
  - Received community feedback that for *conserving* TLV # space, this should go under Router-Cap TLV #242.
What about re-using existing protocols?

- Prefix tags as per RFC5130?
  - *No bijection* between a *node* (router-ID) and some *prefix* (which carries the tags)
    - In fact those are different name-spaces
  - What about L1L2 case for Prefix leaking?
    - How to differentiate *leaked prefixes* vs. *self-originated prefixes*?
  - No prefix tagging mechanism for OSPF yet
    - Looking for *consistency across protocols*
  - For MPLS paths most implementations of Traffic Engineering Database (TED) schema support
    - *Nodes*
    - *Links*
    - But *not Prefixes*