ISIS Extensions in Support of Inter-Autonomous System (AS) MPLS and GMPLS Traffic Engineering

draft-chen-isis-rfc5316bis-01.txt

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Problem Statement

- Inter-AS reachability TLV (141)

  4 octets of Router ID
  3 octets of default metric
  1 octet of control information, consisting of:
    1 bit of flooding-scope information (S bit)
    1 bit of up/down information (D bit)
  6 bits reserved
  1 octet of length of sub-TLVs
  0-246 octets of sub-TLVs, where each sub-TLV consists of a sequence of:
    1 octet of sub-type
    1 octet of length of the value field of the sub-TLV
    0-244 octets of value

- The 4-octets Router ID is designed to indicate the source of the TLV
- RFC5316 does not specify how to fill this field when:
  - No 4-octets Router ID is assigned, or
  - The node who generates the TLV does not support IPv4
- RFC5316 is not clear on the relationship between this Router ID and the TE Router ID [RFC5305]
IPv6 Router ID sub-TLV

- Add a new IPv6 Router ID sub-TLV to Inter-AS reachability TLV
  - Similar mechanism to TLV242
New Text for Router ID of TLV141

“The Router ID field of the inter-AS reachability TLV is 4 octets in length, which contains the IPv4 Router ID of the router who generates the inter-AS reachability TLV. The Router ID SHOULD be identical to the value advertised in the Traffic Engineering Router ID TLV [RFC5305]. If no Traffic Engineering Router ID is assigned, the Router ID SHOULD be identical to an IP Interface Address [RFC1195] advertised by the originating IS. If the originating node does not support IPv4, then the reserved value 0.0.0.0 MUST be used in the Router ID field and the IPv6 Router ID sub-TLV MUST be present in the inter-AS reachability TLV.”
Next step

- WG adoption?