

OSPF Prefix/Link Tags

Acee Lindem, Cisco
Peter Psenak, Cisco



Overview



- Allows one or more administrative tags to be associated with an OSPF link or prefix.
- Avails Recent OSPF/OSPFv3 Encoding Drafts
 - OSPFv2 Prefix/Link Attributes
 - OSPFv3 Extended Attributes
- For prefixes, similar to IS-IS RFC 5150
 - 64 bit tags moved to appendix given no IS-IS implementations.or requirement



Use Cases

- Controlling Prefix Redistribution to/from other protocols (requires tags kept in RIB)
- Selecting Prefixes for IPFRR protection
- Selection Prefixes for prioritization
- Selection Links for IPFRR protection
- Other administrative tasks – always a fine line on whether to use tag or to go ahead and standardize the usage (e.g., Shared Link Risk Group – SLRG)



OSPFv2 Encoding

- Extended Prefix TLV advertised in the OSPFv2 Extended Prefix LSA 2.
- Extended Link TLV advertised in the OSPFv2 Extended Prefix LSA
- Simply a list of one more 32-bit admin tags



OSPFv3 Encoding

- Router-Link TLV advertised in the E-Router-LSA 2.
- Inter-Area-Prefix TLV advertised in the E-Inter-Area-Prefix-LSA
- Intra-Area-Prefix TLV advertised in the E-Link-LSA and the E- Intra-Area-LSA
- External-Prefix TLV advertised in the E-AS-External-LSA and the E-NSSA-LSA
- Same list of one or more 32-bit admin tags



Protocol Operation

- ABRs and NSSA Translators **MUST** propagate tags across area boundaries.
- Tags **SHOULD** be configurable on area ranges.
- OSPF(v3) **MUST** support one prefix or link tag and **MAY** support more than one.
- For ECMP prefixes, tags from one of the paths **MUST** be propagated and multiple tags from multiple paths may be propagated.



Protocol Operation (Cont)

- First External or NSSA LSA tag **MUST** always be advertised using the existing OSPFv2/OSPFv3 LSA.



Next Steps

- Solicit review and discuss on OSPF WG list.
- Request WG adoption