OSPFv3 LSA Extendability
IETF 88, Vancouver

Acee Lindem, Ericsson
Sina Mirtorabi, Cisco
Abhay Roy, Cisco
Fred Baker, Cisco
OSPFv3 LSA Extension

- LSA Extension proposed in “Multi-topology Routing for OSPFv3” years ago.
- Base RFC 5340 LSAs are fixed format. This poses the following problems:
  - Information associated with the OSPFv3 topology and prefixes must be advertised in a separate LSAs.
  - Introduces complications in terms of advertisement and additional lookups.
  - ISIS LSPs are extendable.
OSPFv3 LSA Requirements

- Source address based routing – Fred Baker Draft
- Flow label based routing – Fred Baker Draft
- Tags on Intra/Inter prefixes
- Segment Routing (SR)
- Multi-Address Family in single instance
- Multi-Topology in single instance
- Useful for any information to be advertised that MUST be correlated with base topology or prefixes
OSPFv3 LSA Extension – Changes Since Berlin

- OSPF WG Document
- Segment Routing and Source Routing drafts have a prerequisite
- Specification of U-Bit set in LSA ID. LSA will be flooded even if not understood.
- Addition of MixedModeDegraded backward compatibility mode where non-extended LSAs are used for SPF computation.
OSPFv3 LSA Extension – Changes Since Berlin

- Separation of Tag and Forwarding Address into sub-TLVs for E-AS-External-LSA and E-NSSA-LSA.
- Editorial Comments
- Update of Security Considerations to include potential for LSA signing.
Next Steps for Draft

- Review and discussion
- Consensus on backward compatibility
- Implementation(s)?