OSPFv3 Extended LSA YANG Model
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OSPFv3 Extended LSA YANG Requirement

- OSPFv3 Link State Advertisement (LSA) Extensibility published in RFC 8362
- Several implementations but not universal
- Not included in base ietf-ospf.yang model
- Many OSPFv3 features require OSPFv3 Extended LSAs
  - OSPFv3 Segment Routing
  - OSPFv3 Admin Tags
  - OSPFv3 SRv6
  - BIER Extensions for OSPFv3

- Requirements
  - OSPFv3 Extended LSA Origination
  - State Data for OSPFv3 Extended LSA encodings
Augment both Instance and Area configuration with OSPFv3 Extended LSA Support:

module: ietf-ospfv3-extended-lsa
augment /rt:routing/rt:control-plane-protocols/rt:control-plane-protocol/ospf:ospf:
    +--rw extended-lsa-support?  boolean {extended-lsa-support}? 
augment /rt:routing/rt:control-plane-protocols/rt:control-plane-protocol/ospf:ospf/ospf:areas/ospf:area:
    +--rw extended-lsa-support?  boolean {extended-lsa-support}?
Augment both Instance, Area, and Link LSA Databases with the Extended LSA Encodings:

```

  +--ro e-router
    |   +--ro flags?   bits
    |   +--ro options   bits
    |   +--ro e-router-tlvs* []
    |       +--ro unknown-tlv
    |           |   +--ro type?   uint16
    |           |   +--ro length?  uint16
    |           |   +--ro value?   yang:hex-string
```
OSPFv3 Extended LSA
YANG Operational State

+--ro link-tlv
    +--ro link-tlv-type?    identityref
    +--ro link-tlv-length?  uint16
    +--ro interface-id?     uint32
    +--ro neighbor-interface-id?  uint32
    +--ro neighbor-router-id?  rt-types:router-id
    +--ro type?             uint8
    +--ro metric?           uint16
    +--ro sub-tlvs* []
        +--ro unknown-sub-tlv
            +--ro type?    uint16
            +--ro length?  uint16
            +--ro value?   yang:hex-string
OSPFv3 Extended LSA YANG Operational State

++--ro e-network
  |   ++--ro options   bits
  |   ++--ro e-network-tlvs* []
  |     ++--ro unknown--tlv
  |     |   ++--ro type? uint16
  |     |   ++--ro length? uint16
  |     |   ++--ro value? yang:hex-string
  |   ++--ro attached-router-tlv
  |     ++--ro attached-router-tlv-type? identityref
  |     ++--ro attached-router-tlv-length? uint16
  |     ++--ro Adjacent-neighbor-router-id? rt-types:router-id
  |     ++--ro sub-tlvs* []
  |     |   ++--ro unknown-sub-tlv
  |     |     ++--ro type? uint16
  |     |     ++--ro length? uint16
  |     |     ++--ro value? yang:hex-string
OSPFv3 Extended LSA YANG Next Steps

- Request review and comment
- We will socialize on LSR list and initiate discussion
- LSR WG Adoption
- Investigate YANG when constraint to avoid OSPFv3 Extended LSA inclusion in wrong scope LS Database for type?
  - Not done for base LSAs in ietf-ospf
  - Probably not required for operational state