OSPF Transport Instance Extensions

IETF 110, Virtual

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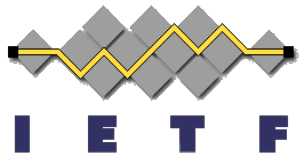
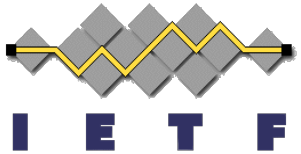


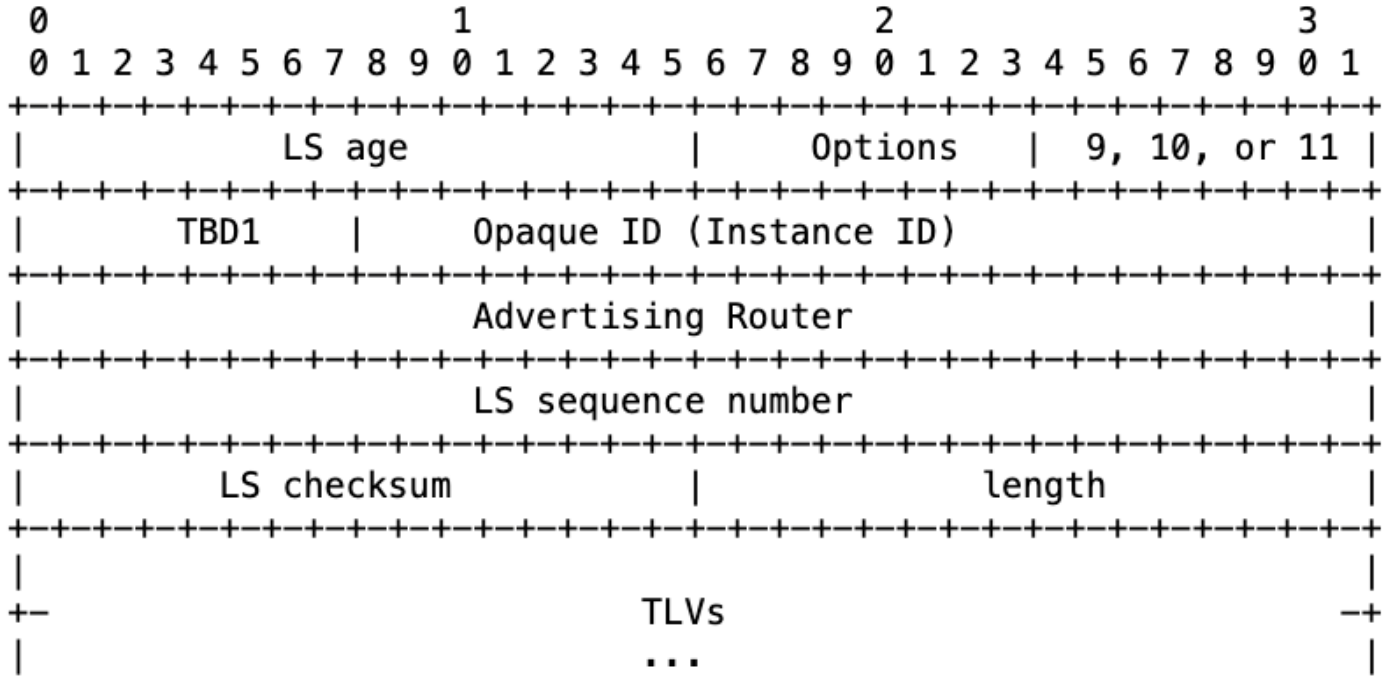
OSPF Transport Instance Refresher



- Separate OSPF instance for non-routing information dissemination.
- Packet differentiation
  - RFC 6549, OSPFv2 Multi-Instance Extensions provides the necessary packet encoding for multiple OSPF instances.
  - OSPFv3 supports separate instances within the packet encodings.
- Network prioritization
  - By setting the IP/IPv6 precedence differently for OSPF transport instance packets, normal OSPF routing instances can be given priority during both packet transmission and reception. Up to implementation to support prioritization.
- Non-Routing Sparse Topologies
  - **Remote OSPF neighbor**

OSPFv2 Transport Instance Information Encoding

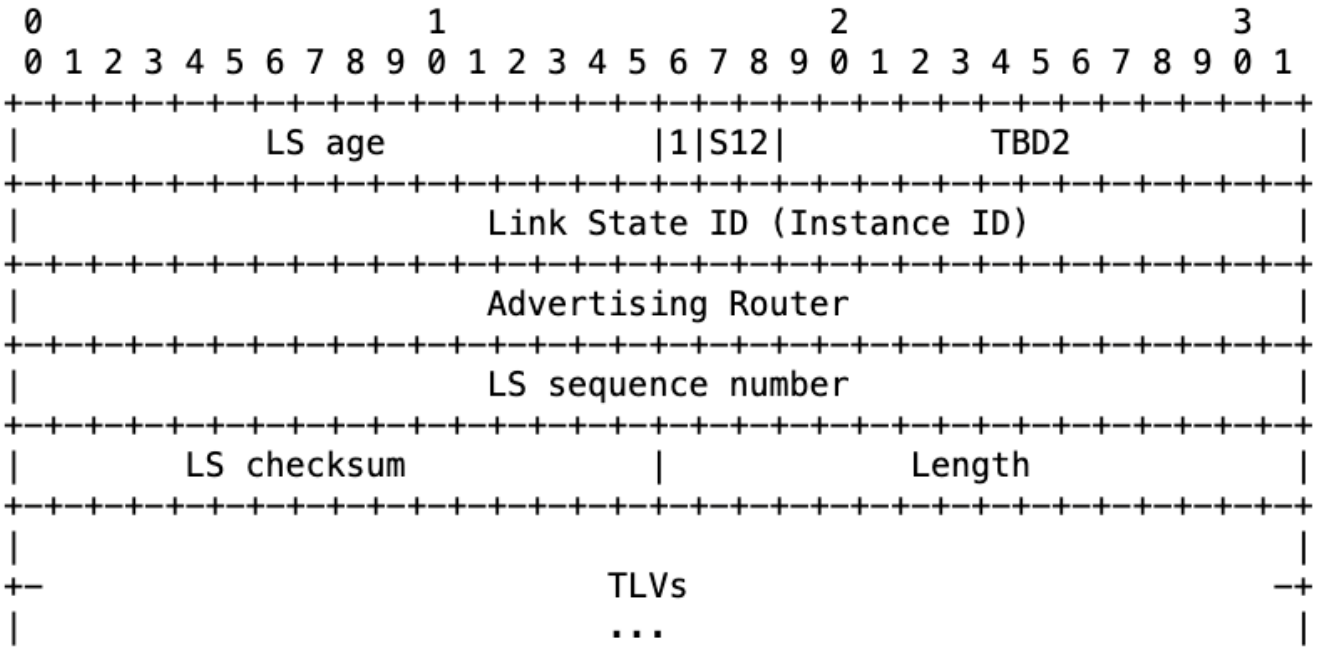
OSPFv2 Transport Instance Information (TII) opaque LSA is shown as following:



TII LSA can be advertised at any of the defined flooding scopes (link, area or AS).

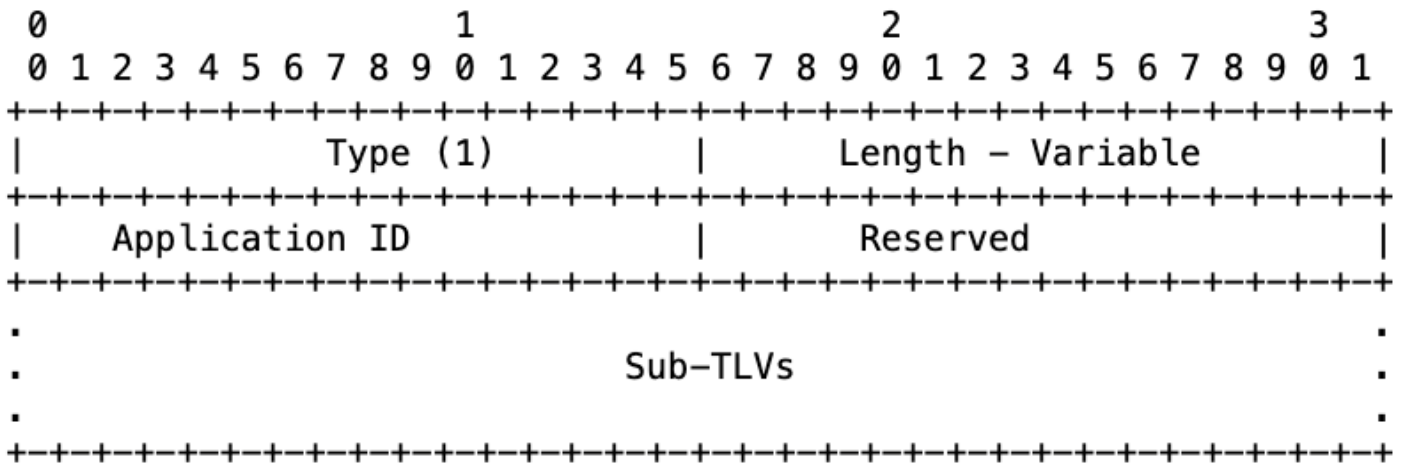
OSPFv3 Transport Instance Information Encoding

OSPFv3 Transport Instance Information (TII) LSA is shown as following:



Same as OSPFv2, TII LSA can be advertised at any of the defined flooding scopes (link, area or AS).

Top-Level TII Application TLV



Application ID: An identifier assigned to this application via the IANA registry, as defined in RFC6823. Each unique application will have a unique ID.

Additional Application-Specific Sub-TLVs: Additional information defined by applications can be encoded as Sub-TLVs. Definition of such information is beyond the scope of this document.

IANA Registry Summary

- OSPFv2 Opaque LSA type: Transport Instance Information (TII) LSA
- OSPFv3 LSA Function Code: Transport Instance Information (TII) LSA
- Create a registry for OSPF TII top-level TLVs:

Range	Assignment Policy
0	Reserved (Not to be assigned)
1	Application TLV
2-16383	Unassigned (IETF Review)
16383-32767	Unassigned (FCFS)
32768-32777	Experimentation (No assignements)
32778-65535	Reserved (Not to be assigned)

Next Steps

- Collect and address comments
- Request WG adoption