

OSPF Operator Defined TLVs for Agile Service Deployment

draft-chunduri-ospf-operator-defined-tlvs-01

(previously: draft-chunduri-ospf-self-defined-sub-tlvs-03)

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OSPF Operator Defined (OD) TLVs in RI LSA

Presented @

-IETF91

-IETF92

Changes in 01 version:

-Updated sample use cases in Section 2

- Taken care suggestions from Chairs

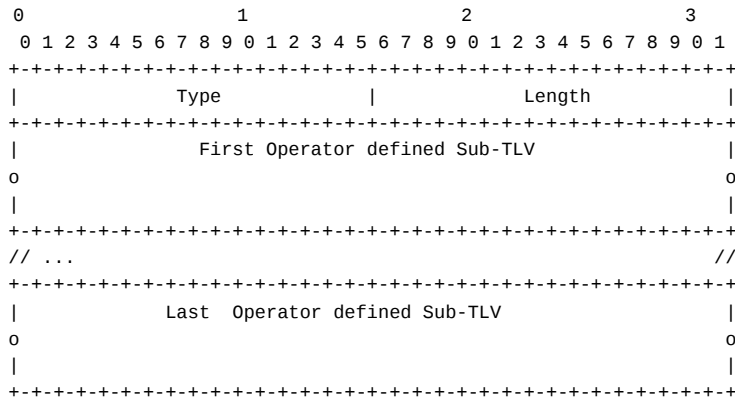
-Added Luay J. as co-author

-Some other minor updates

Recap:

Through new TLV in OSPF (OSPFv2, OSPFv3) RI Opaque LSA [RFC 4970]

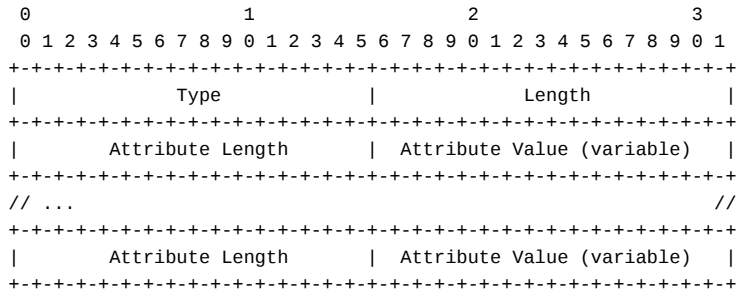
Operator Defined (OD) TLV



Operator defined TLV

- Type: request to IANA to allocate a TLV type code from OSPF Router Information (RI) TLVs Registry defined by [RFC4970]
- Flooding Scope: Depends on application

OD Sub-TLV



- TYPE (Per Local Policy), Length (Variable, Total length of value portion of the sub-TLV)
- The Value field contains one or more **{Attribute-Len, Attribute-value}** tuple
 - Attribute Len (2 bytes)– For fixed formatting
 - Attribute Value – Multi byte value MUST be encoded in NBO.
 - If multiple fixed length values have to be represented it SHOULD be represented with multiple 2-tuples {Attribute-Len, Attribute-value}.

Can be Used:

- Advertising Service Functions and their associated attributes
 - For service auto-discovery without the need of any standardization process while meeting the requirement of advertising service functions and their associated attributes
 - Each service can be identified by a dedicated sub-TLV type while the associated attributes/identifiers of the service are indicated by the value part of the corresponding sub-TLV
 - This also allows the controller to adjust its policies and react accordingly in a dynamical fashion
 - E.g., this attribute is consistent with <http://tools.ietf.org/html/draft-ietf-sfc-architecture-02> that says: *“No IANA registry is required to store the identity of SFs.”*
- To disseminate the node local information for e.g.,
 - To leak the location information of a mobile OSPF node (can be used by a controller to change TE)
 - To indicate a planned maintenance operation date to a service node (Media Gateway, CE etc.)
 - To put links in sleep mode for power consumption optimizations.

Properties of this TLV: Policy-driven and Deployment-specific

- The meaning of the Operator Defined sub-TLV is totally opaque to OSPF, but advertising is controlled through local policy engine.
- Routers advertising the OD sub-TLV are configured to do so without knowing (or even explicitly supporting) functionality implied by the sub-TLV.
- The interpretation of the OD sub-TLVs is deployment-specific.
- The meaning of a OD sub-TLV is defined by the network local policy and is controlled via configuration.
- How a receiving node communicates the OD sub-TLVs with the policy manager is outside the scope of this memo.



I E T F

Next Steps:

- Authors feel draft is ready
- Request for WG adoption

Thank you!