

# OSPF Self-defined Sub-TLVs for Agile Service Deployment

**draft-chunduri-ospf-self-defined-sub-tlvs-02**

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# OSPF Self-defined Sub-TLVs in RI LSA

## Why ?

Operators can deploy services rapidly by advertising associated attributes without any need for standardization actions of those TLVs or sub-TLVs nor maintaining a global registry; hence meeting TTM objectives.

- 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
  - Critical information like energy efficiency, etc.

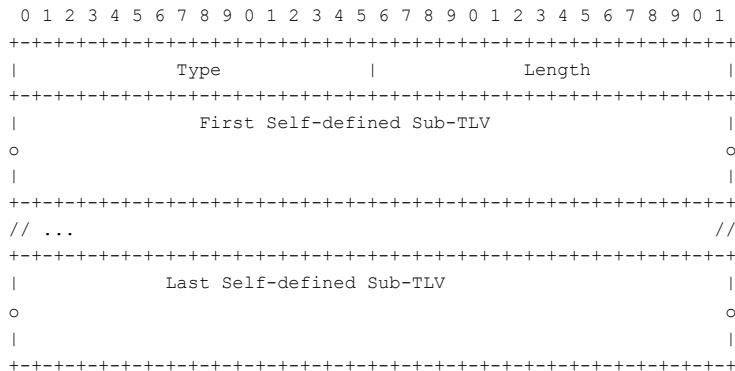
# Acknowledgements..

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# How?

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

## ▪ Self Defined Sub-TLV Container TLV



Self-defined Sub-TLV Container TLV

- Flooding Scope: Depends on application

## ▪ Self Defined 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

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

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

# Considerations On the Use of Separate Instance

- It's reasonable that non-routing information should be advertise in a non-routing instance of OSPF as defined in <https://tools.ietf.org/html/draft-ietf-ospf-transport-instance-11> so as to minimize the impact on the operation of routing.
- However, since the information contained in the self-defined sub-TLV may be related to the routing, whether or not using a non-routing instance to flood the self-defined sub-TLVs should be determined by operators according to the information to be conveyed by the self-defined sub-TLV.



I E T F

## Next Steps:

Solicit more comments..

Thank You!