

Advertisements of Stub Link Attributes

[draft-wang-lsr-stub-link-attributes-04](#)

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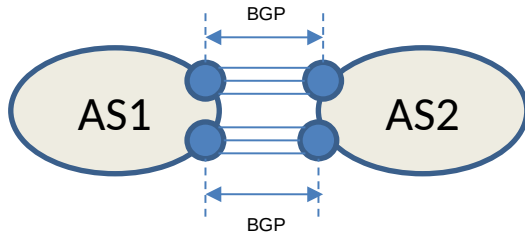
Acee Lindem(Cisco)

Gyan Mishra(Verizon)

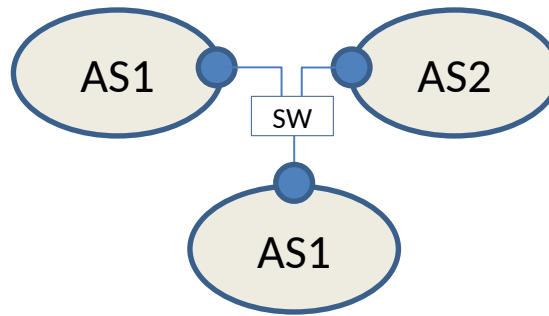
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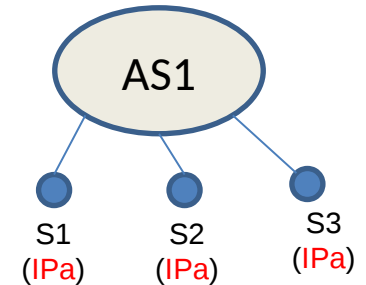
What The Proposal Want To Solve?



Scenario 1: P2P Stub Link Between ASes
□ One BGP session, multiple stub links between each ASBR pair □



Scenario 2: LAN Stub Link Among ASes (IX)
(One BGP session/pair, multiple stub links shared among ASBRs on the LAN)



Scenario 3: Stub Link to **Anycast** Servers

To define one container to transfer the characteristics of Stub Links in above scenarios:

- ✓ **Non-TE** Inter-AS topology recovery [[draft-ietf-idr-bgppls-inter-as-topology-ext](#)]
 - Between Ases
 - Among ASes
- ✓ Traffic Engineering to different servers based on the stub link characteristics[EPE effect]
- ✓

OSPFv2/3 & IS-IS Extension Proposal

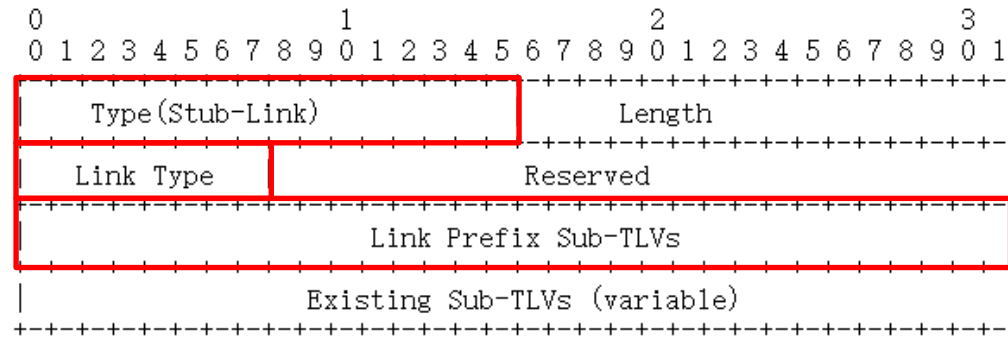


Figure 1: OSPF Stub-Link TLV

Type: The TLV type. The value is 7(TBD) for OSPF Stub-Link

Length: Variable, dependent on sub-TLVs

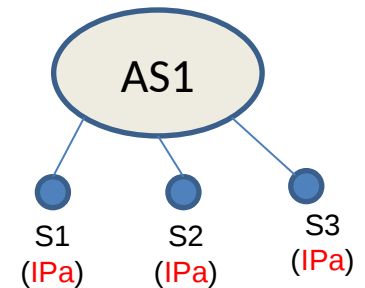
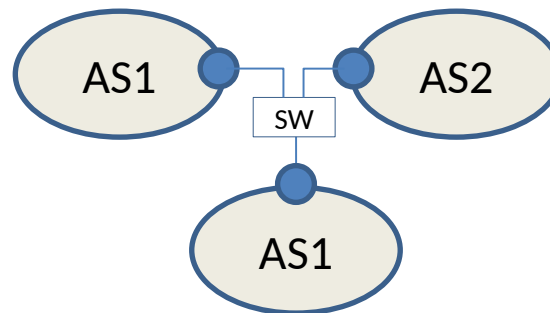
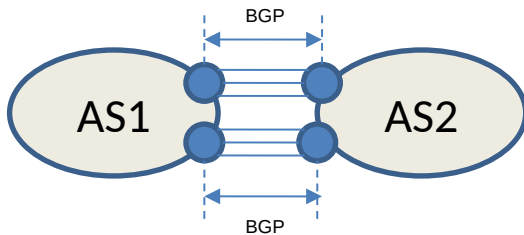
Link Type: Define the type of the stub-link:

- o 0: Reserved
- o 1: Numbered Stub Link
- o 2: Unnumbered Stub Link
- o 3-255: For future extension

- ✓ OSPFv2/3 & IS-IS take the similar format.
- ✓ Newly defined “Link Prefix” sub-TLVs to contain the prefix of the stub link.
- ✓ Included in the corresponding LSA/PDU
- ✓ Prefix Sub-TLV is not the identifier of the stub link, it is one kind of stub-link attributes

Reasons that does not use existing container

- OSPF[RFC5392] defines **Link TLV** within Inter-AS-TE-v2/v3 LSA to carry TE information about inter-AS links.
- RFC[5316] defines **Inter-AS Reachability TLV** to achieve the same purpose.
- **The following sub-TLVs must be present for every inter-AS link:**
 - Remote AS Number, IPv4/IPv6 Remote ASBR ID sub-TLV
- RFC5392 and RFC5316 based solution for the **Non-TE scenarios** has the following cons:
 - Not efficient for every inter-as stub link to include the redundant information
 - Not possible to describe the LAN stub link among ASes.
 - Need Rogue information to describe the stub-link between AS and edge servers.
 - Populated unnecessary the TE database



Further Plan

- Comments?
- To forward it as WG Document if the updates address the previous concerns.

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