

# BGP Request for Candidate Paths of SR TE Policies

draft-li-ldr-bgp-request-cp-sr-te-policy-01

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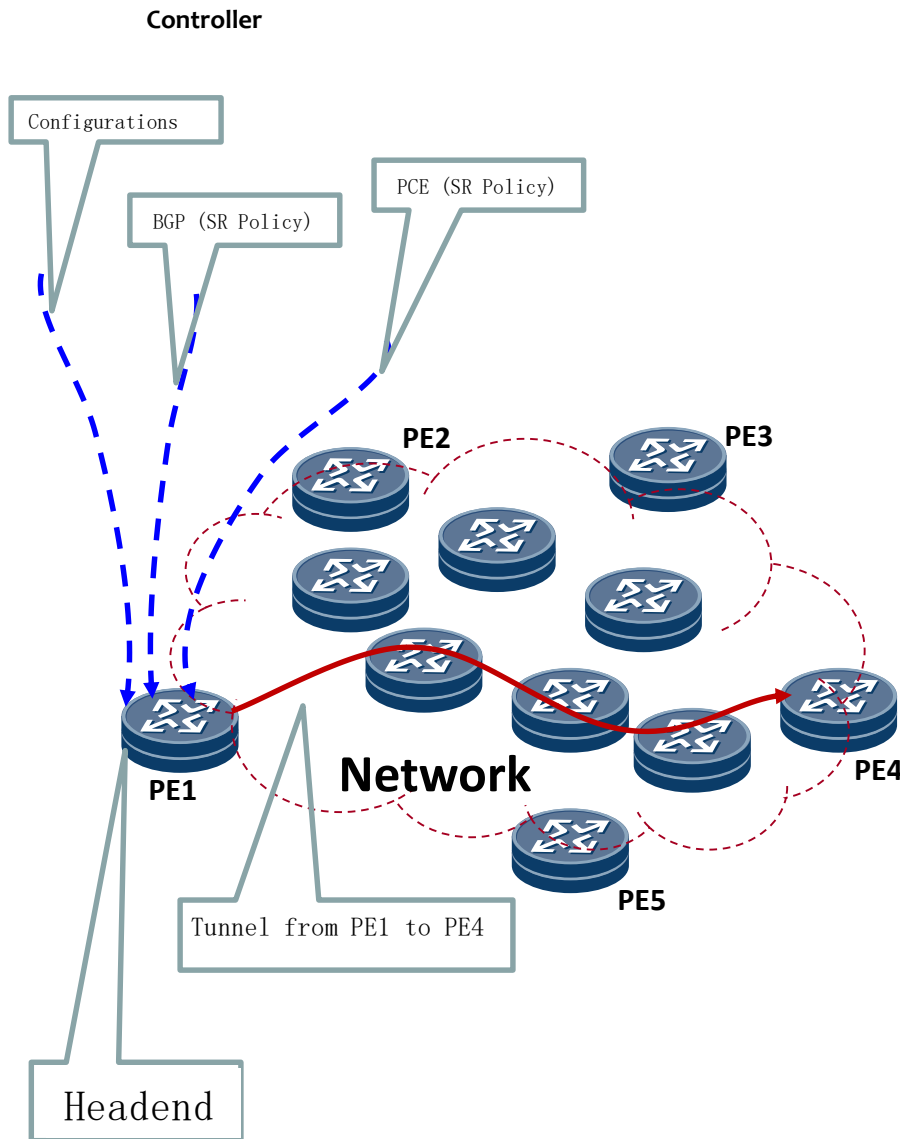
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# Introduction



- Headend receives SR candidate paths by different means passively
- Controller initiated
- In some cases, headend demands controller for expected SR paths
- Similar mechanism exists in PCE
- Extend BGP to request controller for SR paths ( UPDATE as request)

# Updates to Previous version (Extensions to SR Policy Encoding)

Tunnel Encaps Attribute contains a Tunnel Encapsulation Attribute TLV of type 15 (i.e., SR Policy TLV), which comprises a number of sub-TLVs such as Binding SID sub-TLV, preference sub-TLV, Segment List sub-TLV.

Tunnel Encaps Attribute (23)

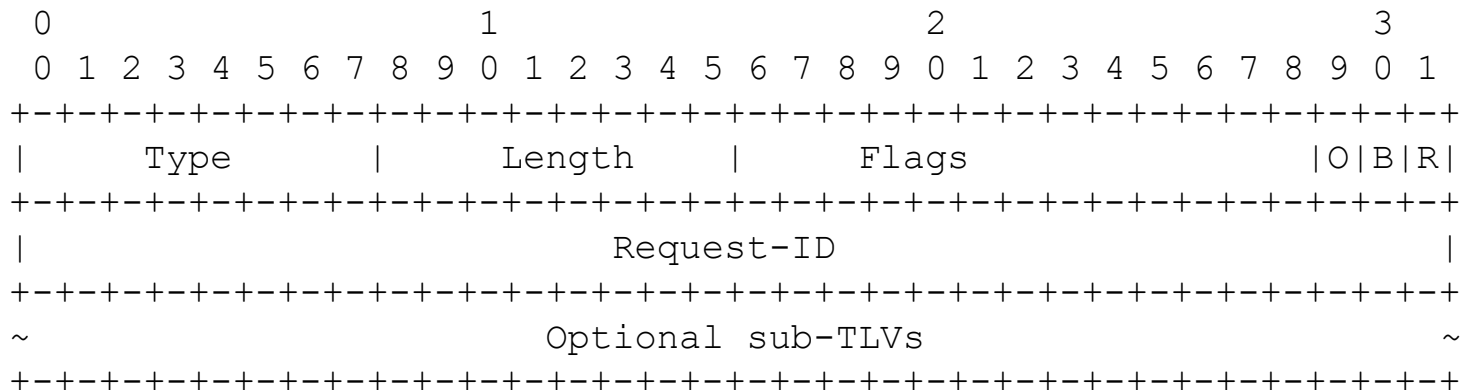
SR Policy { Tunnel Type (15): **SR Policy**  
Preference sub-TLV  
Binding SID sub-TLV  
Explicit NULL Label Policy (ENLP) sub-TLV  
Priority sub-TLV  
Policy Name sub-TLV  
...

Extensions { (New) Request Parameter sub-TLV  
SR Path Attributes sub-TLV } Updates  
Synchronization sub-TLV  
Metric sub-TLV  
Include Route sub-TLV  
Load Balance sub-TLV

Information about request for SR paths

## Updates: A new Request Parameter Sub-TLV

It specifies the request identifier (Request-ID) and other parameters for a path request.

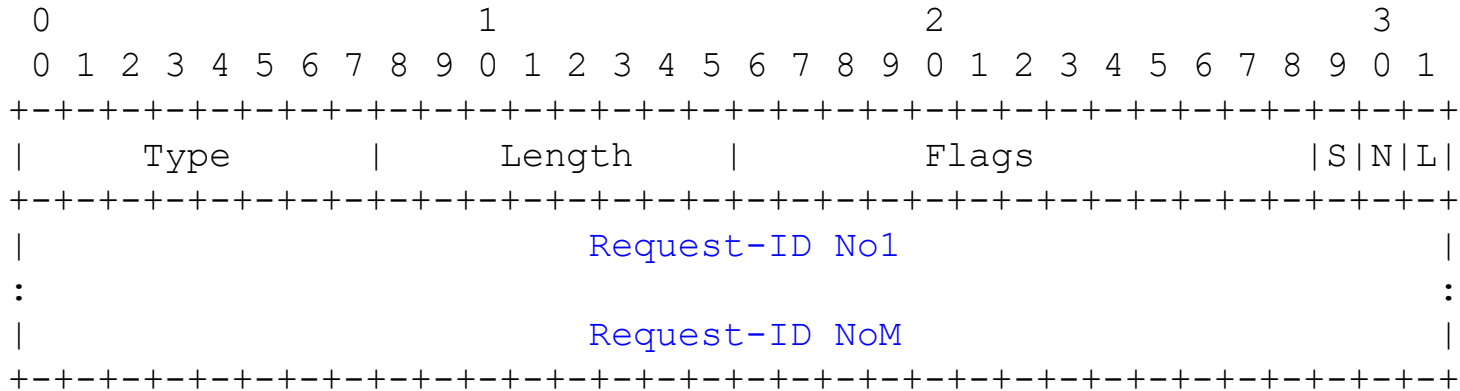


Flags (16 bits): Three flag bits are currently defined as follows:

- \* R (Reoptimization - 1 bit): when set, it indicates that the SR path request message is for the reoptimization of an existing SR path, which is represented by a segment list Sub-TLV in the message.
- \* B (Bi-directional - 1 bit): when set, it indicates that the SR path request relates to bi-directional paths that has the same traffic engineering requirements including fate sharing, TE links, and other requirements (such as latency and jitter) in each direction.
- \* O (strict/loose - 1 bit): when set, it indicates that a loose path is acceptable. Otherwise (i.e., when cleared), it indicates that a path exclusively made of strict hops is required.

## Updates: Details in Synchronization Sub-TLV

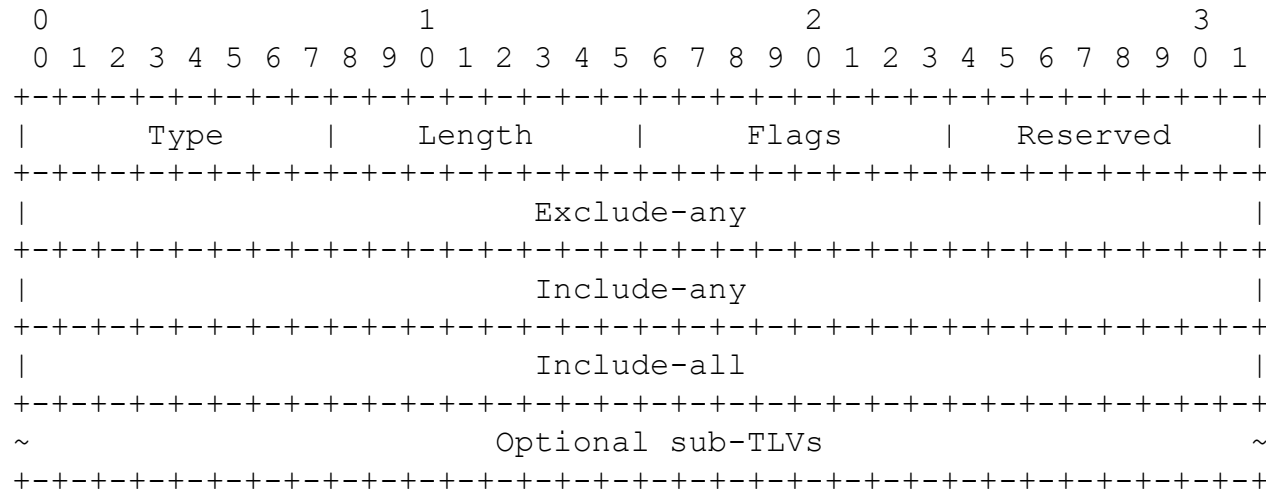
- Name change (SVEC → **Synchronization**)
- Request-IDs for a set of M dependent or independent SR path requests are added.



- Request-ID No1, ..., NoM: each of which uniquely identifies one of M SR path requests to be synchronized.

## Updates: SR Path Attributes Sub-TLV

- Name change (LSPA → SR Path Attributes)
- Format Changes.



- Exclude-any: A 32-bit vector representing a set of attribute filters associated with a path any of which renders a link unacceptable.
- Include-any: A 32-bit vector representing a set of attribute filters associated with a path any of which renders a link acceptable (with respect to this test). A null set (all bits set to zero) automatically passes.
- Include-all: A 32-bit vector representing a set of attribute filters associated with a path all of which must be present for a link to be acceptable (with respect to this test). A null set (all bits set to zero) automatically passes.

# Next Step

Comments