

Support for Path MTU (PMTU) in the Path Computation Element (PCE) communication Protocol (PCEP)

draft-li-pce-pcep-pmtu-03

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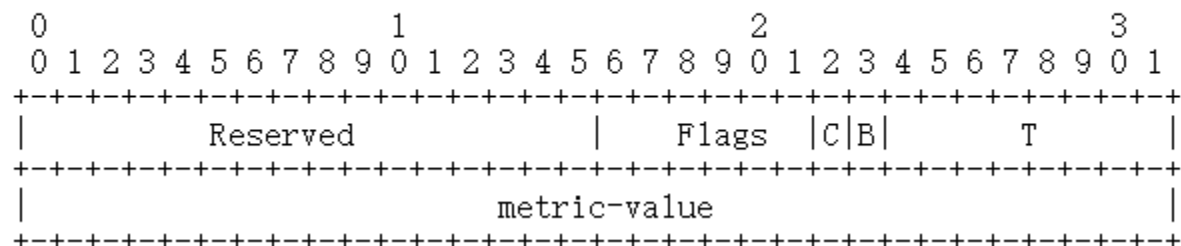
Motivation

- In traditional MPLS, the Path MTU can be signaled via signaling protocols like RSVP-TE[3209] and LDP[RFC3988].
- However, there is no additional signaling to establish Segment Routing (SR) paths, so the SR tunnel cannot currently support the negotiation mechanism of the Path MTU.
 - SR information is reported by BGP-LS, and the PCE can calculate the SR Paths based on this info.
- When SIDs (Label or IPv6 address) are pushed in a packet, the packet will be dropped (in IPv6) or fragmented in forwarding since the packet size may exceed the Path MTU.
- From Operator:
 - When using leased line over multi-domains, MTU should be learned to avoid dropping packets.
- This draft is to specify the **extensions to PCEP** to carry **Path MTU** in PCEP messages.

METRIC Object for Path MTU

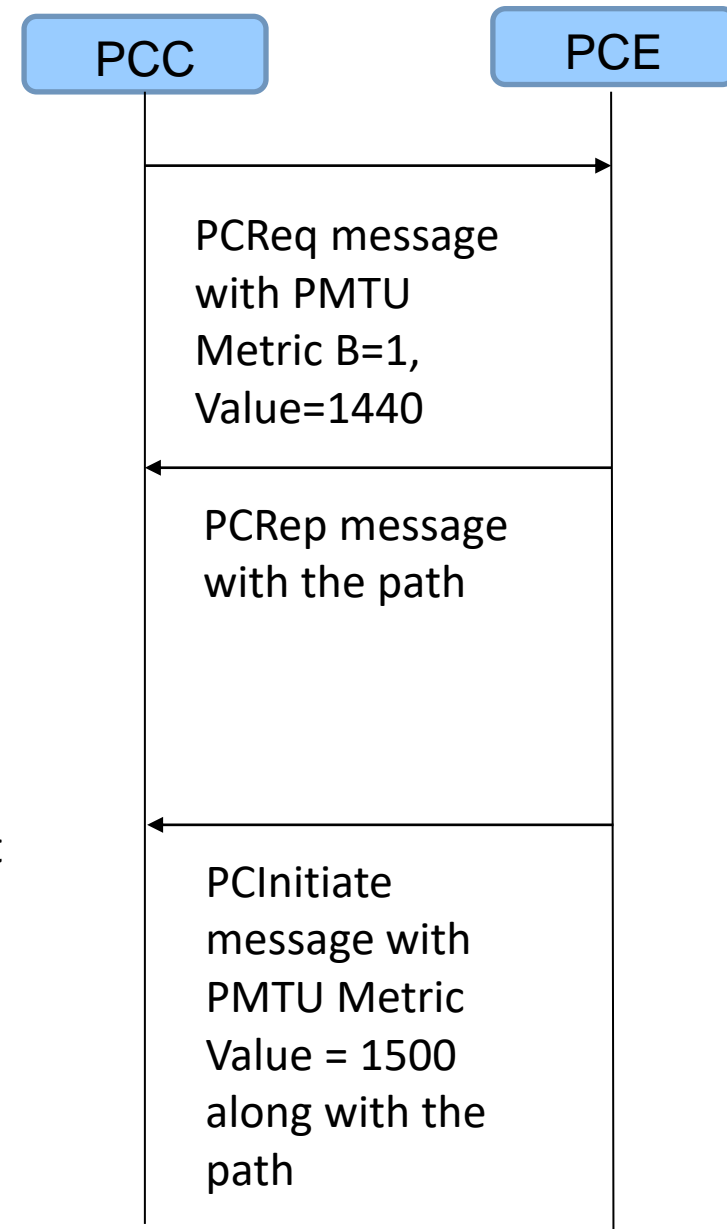
- This document defines a new type for the existing METRIC object for Path MTU.
 - T = TBD by IANA
 - B (Bound - 1 bit): Bound
 - metric-value = PMTU
- The Path MTU metric type of the METRIC object in PCEP represents the minimum of the Link MTU of all the links along the path.

The format of the METRIC object body is as follows:



PMTU for Segment Routing

- PCE can be used for computing one or more SR-TE paths taking into account various constraints and objective functions.
 - Path MTU could be another metric for PCE to consider
- Once a path is chosen, the PCE can inform an SR-TE path on a PCC using PCEP extensions specified in [RFC8664].
 - PCE could also inform the Path MTU to the PCC
- [I-D.ietf-pce-segment-routing-ipv6] adds the support for IPv6 data plane in SR.
- **The new metric type for path MTU is applicable for the SR-TE path and does not require any additional extensions.**



What we have updated?

- Thank you for the comments we have received during the presentation @IETF108
- We have updated the draft and addressed all the comments
 - A Terminology session has been added to clarify the often confusing terms including MTU, Link MTU, Path MTU
 - A Path MTU Adjustment session has been added to include the case of protection such as TI-LFA.
 - Some editorial changes.

Next Step

- We would like to ask for WG adoption of this draft since PMTU is a very important feature to have for Network Operators.

Thank you for your attention!