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P2MP PW Accounting Extensions
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Abstract

This specification defines a method for P2MP PW accounting data. Simple extensions to the P2MP PW related protocol to allow.

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1. Introduction

Draft [draft-martini-pwe3-p2mp-pw-00](#) [Root-Initiated P2MP PW] and Draft-jounay-niger-pwe3-source-initiated-p2mp-pw-01 [Source-Initiated P2MP PW] both propose to extend LDP protocol to support source initiated P2MP signaling. The difference between these two drafts is the latter one needs root PE to get all leaf TAIIs, than send LDP FEC map message to build a P2MP tree, And the former one does not need TAIi.

Draft-jounay-niger-pwe3-source-initiated-p2mp-pw-01 is useful for accounting all egress PE attached CE information, but this makes the protocol more complex. Draft [draft-martini-pwe3-p2mp-pw-00](#) is efficient in P2MP PW signaling, but using this mechanism requires NMS data to be correlated from multiple leaf PEs.

This draft proposes a mechanism to convey P2MP PW accounting information. This proposal allows a single router to be queried to obtain accounting information for a P2MP tree as a whole.

This draft adds a new LDP Status TLV type to the LDP Notification message.

2. Conventions used in this document

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC2119](#).

2.1. Terminology

FEC: Forwarding Equivalence Class

LDP: Label Distribution Protocol

PE: Provider Edge

PW: Pseudowire

P2MP: Point to multi-point

SAC: Source Attachment Individual Identifier

TAC: Target Attachment Individual Identifier

AC: Attached Circuit

3. P2MP PW accounting operation

3.1. P2MP PW statistic TLV

This draft specifies no new LDP message.

This draft proposes a new statistic TLV to be used with LDP notification.

An leaf PE Puts the statistic information in LDP notification message to allow the root PE maintain a particular P2MP PW accounting information, indicated by containing a statistic TLV. The new statistic TLV format is as follows:

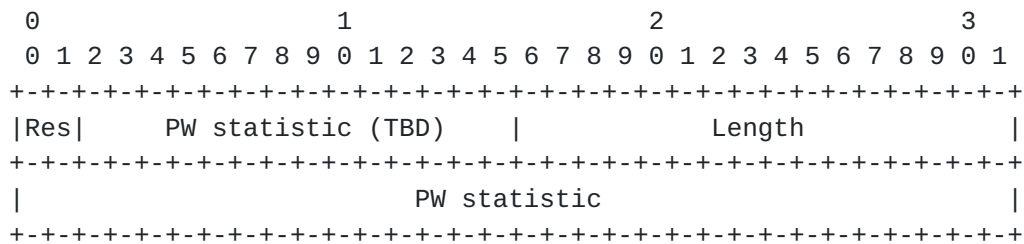


Figure 1: PW Statistic Message Format

The first 2 bits are reserved, and MUST be set to zero on transmit, and ignored on receive.

PW statistic contains a particular P2MP PW statistic information within one leaf PE, information includes: AC numbers, the effective MTU, the minimum speed link and maximum speed link.

3.2. How to use P2MP PW accounting

In order to support the proposed mechanism, a node must be able of handling PW statistic advertisement.

Once an egress PE successfully processes a Label Mapping Message for a P2MP PW, or it fails to accept the signaling for interface parameters not matching, it should send appropriate PW statistic information to notify the root PE of the PW ACs status.

Once an new AC attached to an egress PE for a P2MP PW, or an existed AC detached, the egress PE should update the statistic and send updated statistic TLV along with notification message.

When the root PE receives the leaf PE statistic reporting, it can store the values and combine the local information it has with received reporting information.

4. IANA Considerations

This document uses a new LDP TLV types; IANA already maintains a registry of name "TLV TYPE NAME SPACE" defined by [RFC5036](#). A value of 0x096D is suggested for assignment with this TLV.

5. Security Considerations

This section will be added in a future version.

6. References

6.1. Normative references

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6.2. Informative References

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