LDP Typed Wildcard PW FEC Elements
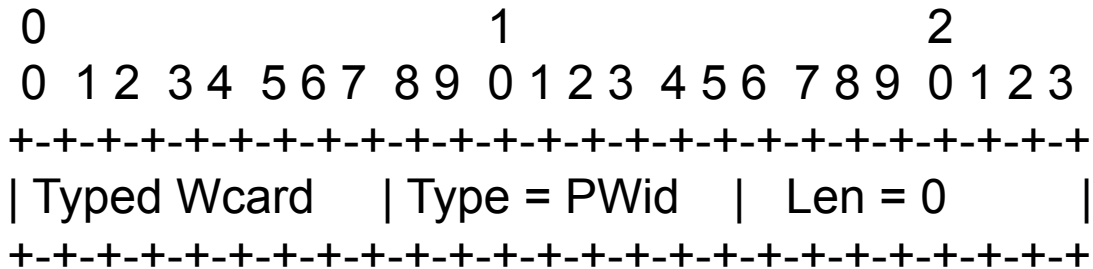
draft-raza-pwe3-pw-typed-wc-fec-00.txt

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Background

- Label Distribution Protocol (LDP) [RFC5036] defines the general notion of a "Typed Wildcard Forwarding Equivalence Class (FEC) Element".

- This specification defines the typed wildcard FEC elements for the Pseudowire Identifier (PW Id) and Generalized Pseudowire Identifier (Gen. PW Id) FEC types.

- The procedures for Typed Wildcard processing for PWid and Generalized PWid FEC Elements are same as described in [RFC5918] for any typed wildcard FEC Element type.

Typed Wildcard for PWid/Generalized PWid FEC Element

```
 0                   1                   2
 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3
 +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
 | Typed Wcard    | Type = PWid    |  Len = 0        |
 +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

Type can be = PWid FEC Element (type 0x80 [RFC4447]) or Generalized PWid FEC Element (type 0x81 [RFC4447])

Operation-1 **PW Consistency Check** Between 2 LSRs A and B

1. LSR A marks all its learnt PW bindings from LSR B as stale and sends a Label Request message towards LSR B with Typed Wildcard.

2. LSR B replays its PW Binding database.

3. When PW bindings are received at LSR A, the associated binding state is marked as refreshed (no stale).

4. When done replaying LSR B sends End-of-LIB Notification [END-OF-LIB] for the PW FEC.

5. LSR A cleanup remaining stale PW bindings.

Operation-2 **PW Graceful Shutdown** Between 2 LSRs A and B

1. LSR A sends a Label Withdraw message towards LSR B with Typed Wildcard FEC elements.

2. Upon receipt of such message, LSR B will delete all PWid and Generalized PWid bindings learnt from LSR A.

3. LSR B would send Label Release message corresponding to recieved Label Withdraw with Typed FEC element.

Thank You