

Signaling Root-Initiated Point-to-Multipoint Pseudowire using LDP

draft-ietf-pwe3-p2mp-pw-03.txt

Background

- Specifies a mechanism to signal Point-to-Multipoint (P2MP) Pseudowires (PW) tree using LDP.
- Supports unidirectional P2MP traffic from Root-PE to Leaf-PE(s) as well as OPTIONAL P2P traffic from any Leaf-PE to Root-PE.
- Supports RSVP-TE or mLDP signaled transport LSPs.
- Introduces new FECs, TLVs, and LDP capability.

Label Mapping Message for Upstream-Assigned Label

- A mandatory message sent by a Root-PE to all Leaf-PE(s).
- Contains:
 - A P2MP Upstream PW FEC element (**new**)
 - Interface Parameters TLV (**new sub-TLV**)
 - Group ID TLV
 - A Transport LSP TLV (**new**)
 - A label TLV for the upstream-assigned label used by a Root-PE to forward traffic to Leaf-PE(s).

Label Mapping Message for Downstream-Assigned Label

- An optional message sent by a Root-PE to a given Leaf-PE.
- Contains:
 - A P2P Downstream PW FEC element (**new**)
 - A label TLV for the downstream-assigned label used by a given Leaf-PE to forward traffic to a Root-PE.

Selective Tree Interface Parameter Sub-TLV

To support selective multicast traffic, a new Interface Parameter sub-TLV is defined according to the format described in [RFC4447]:

```
+-----+
| Multicast Source Length (1 Octet) |
+-----+
| Multicast Source (variable length) |
+-----+
| Multicast Group Length (1 Octet) |
+-----+
| Multicast Group (variable length) |
+-----+
```

P2MP PW LDP Capability

An LSR having P2MP PW capability **MUST** recognize **both** P2MP Upstream FEC Element and P2P Downstream FEC Element in LDP Label Binding Message.

IANA Allocations

- FEC type name space:
 - P2MP PW Upstream FEC Element
 - P2P PW Downstream FEC Element
- LDP TLV type name space:
 - Transport LSP TLV
 - P2MP PW Capability TLV
- LDP MP Opaque Value Element type name space:
 - L2VPN-MCAST application TLV
- Pseudowire Interface Parameters Sub-TLV name space:
 - Selective Tree Interface Parameter sub-TLV.

Thank You !