What is this about?

• 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 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)           |
+---------------------------------------------+
```
An LSR having P2MP PW capability MUST recognize both P2MP Upstream FEC Element and P2P Downstream FEC Element in LDP Label Binding Message.
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.
Typed Wildcard FEC Format for new FEC

Use RFC 6667 **Typed Wildcard for PW FEC Elements**

Type field: include "P2MP PW Upstream" and "P2P PW Downstream" FEC element types.
Extend Additional field "PMSI Tun Type".

PMSI tunnel Type 0xFF to mean "wildcard" transport tunnel type.
IANA Allocation

- FEC type name space:
  - P2MP PW Upstream FEC Element
  - P2P PW Downstream FEC Element

- LDP TLV type name space:
  - 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

- WildCard PMSI tunnel type.
Comments?

Next steps

- The draft has been around for 5 years!
- Was waiting for requirements draft to be an RFC which already happened Sep, 2014 [RFC7338]
- Authors think is ready for WG last call?

Thank you