



How do we build/signal these LSPs, along with which path, and for which FECs?

→ Label Distribution Protocol

LDP

- Build LSPs following the IGP shortest-path trees,
- for IGP-learned prefixes.

RSVP-TE

- Build LSPs following arbitrary paths in the network.
- for arbitrary / user-provided FECs.

- LDP signals LSP according to 2 modes:
 1. "Ordered LSP control"
 2. "Independent LSP control"

Node 1: Ordered

Procedure run on each router.

(generation) If router is the egress for an IGP-leared prefix p :

- Advertise a label mapping (p, label) to all neighbors.

(distribution/propagation)

Upon receiving a mapping (p, label) from neighbor x :

- If neighbor x is the IGP next-hop for p :
 - Install $(p, \text{label}) \rightarrow x$ in LFIB;
 - Advertise a label mapping (p, label) to all neighbors;
- Else:
 - Remember $(p, \text{label}) \rightarrow x$ for later.

Node 2: Independent

Procedure run on each router

(generation) For all IGP-learned prefixes p :

- Advertise a label mapping (p, label) to all neighbors;

(distribution/
propagation)

Upon receiving a mapping (p, label) from neighbor x :

- If neighbor x is the IGP next-hop for p :
 - Install $(p, \text{label}) \rightarrow x$ in LFIB
- Else:
 - Remember $(p, \text{label}) \rightarrow x$ for later.

Note: Cisco router default to NODE 2.
Juniper " " " " NODE 1.