Mikrotik User Meeting

Yogyakarta, 20th October 2018

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Junior Network Engineer
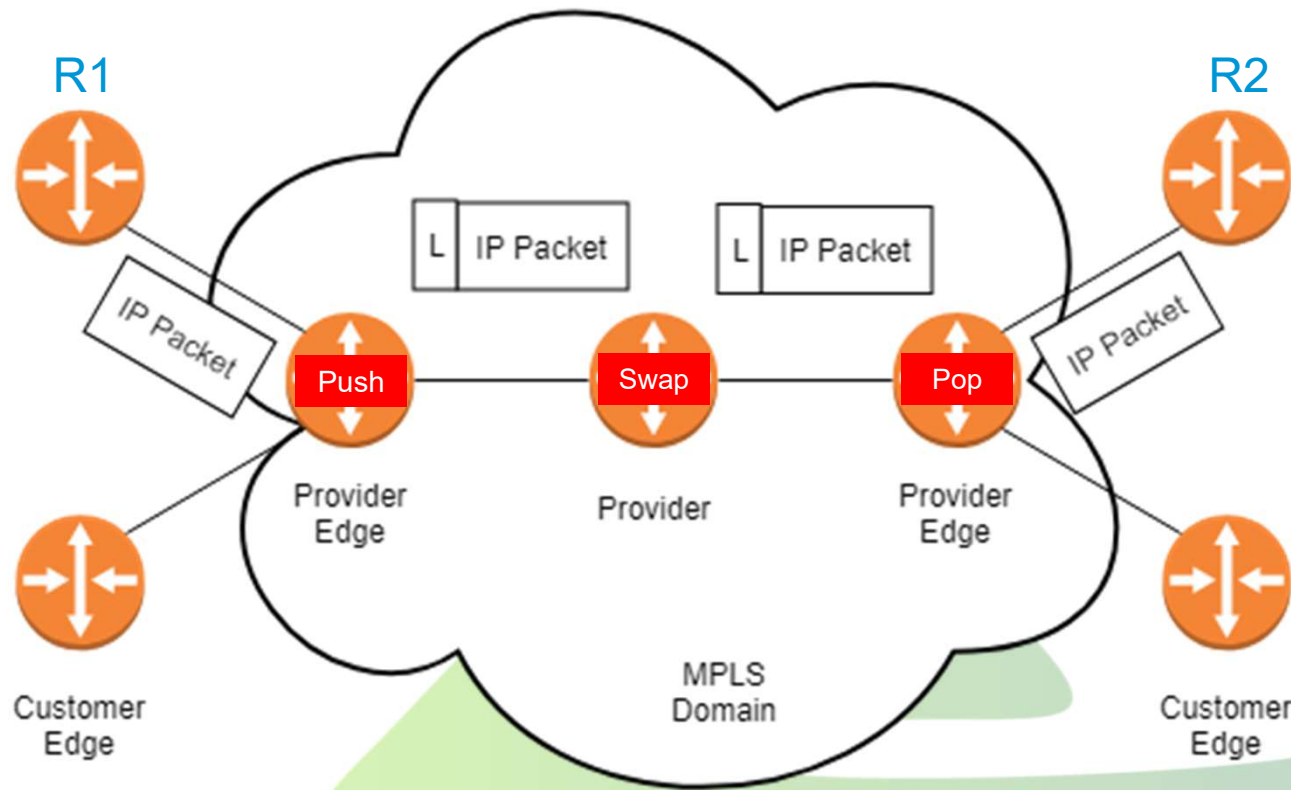## Mikrotik Consultant
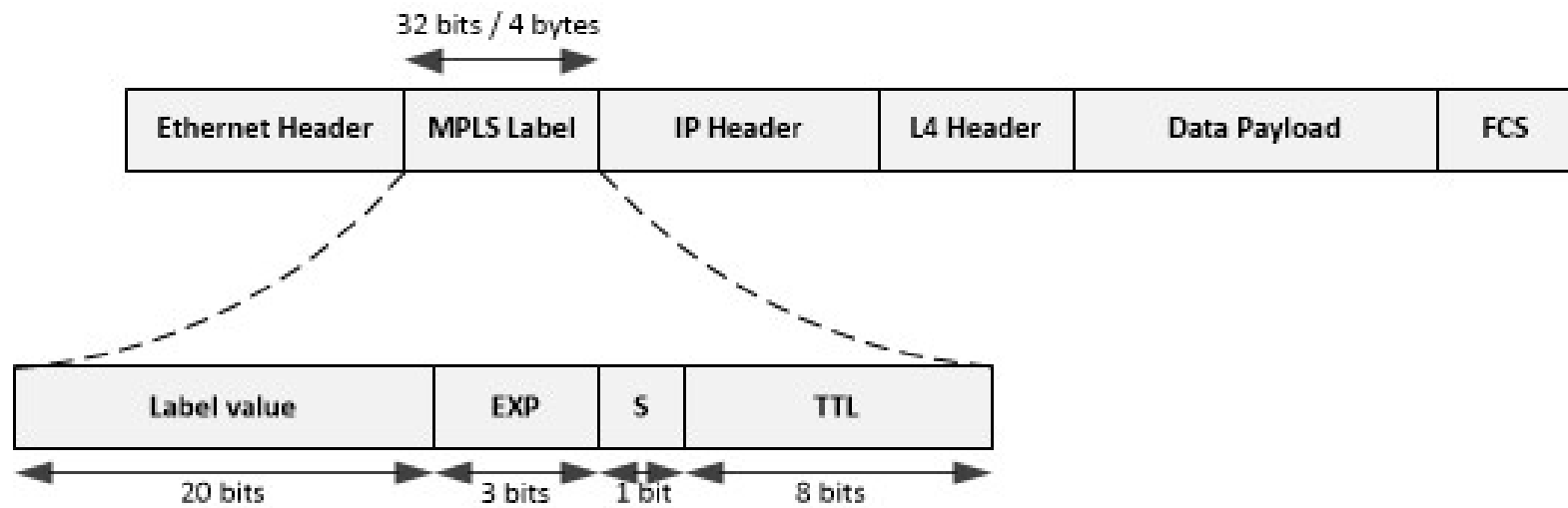
Multi Protocol Label Switching

What is MPLS?

- MPLS is type of data carrying technique for high performance telecommunication network

- MPLS is a new forwarding mechanism in which packets are forwarded based on labels.

- Labels can also correspond to other parameters, such as quality of service (QoS) or source address.

How MPLS work?

MPLS Label

MPLS Traffic Engineering

What is MPLS Traffic Engineering?

- Traffic Engineering is one of many service that we can use in MPLS.

- Traffic Engineering refers of the process of selecting path which traffic will be sent through that network.

- MPLS traffic engineering requires OSPF or ISIS with extensions for MPLS TE as the IGP.

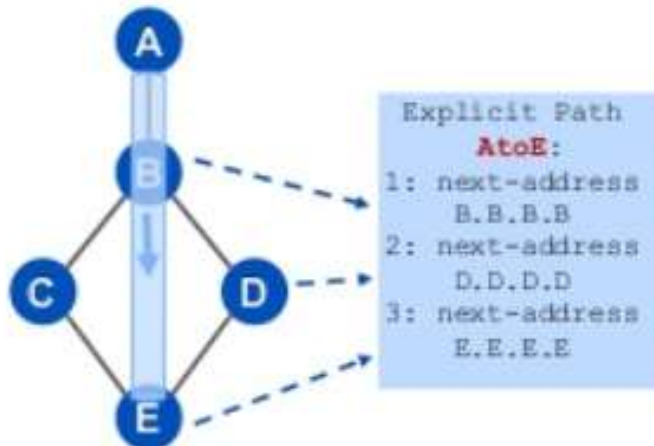- RSVP or CR-LDP is used to establish traffic engineering tunnels (TE tunnels) and propagate labels.

How MPLS Traffic Engineering work?
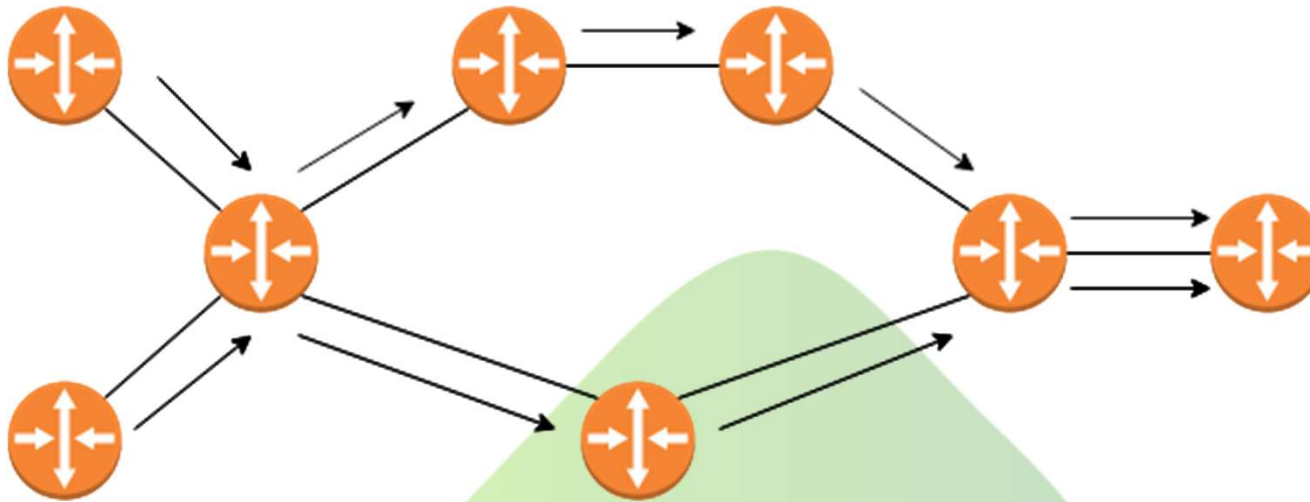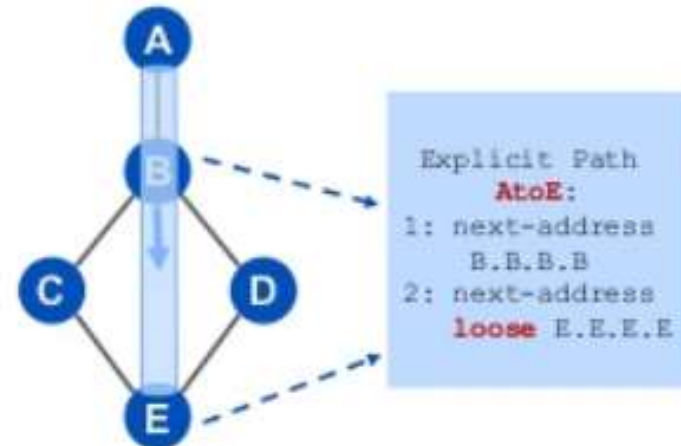
Path Selection

Strict Path
A network node and its preceding node in the path must be adjacent and directly connected.

Explicit Path
AtoE:
1: next-address
   B.B.B.B
2: next-address
   D.D.D.D
3: next-address
   E.E.E.E

Loose Path
A network node must be in the path but is not required to be directly connected to its preceding node.

Explicit Path
AtoE:
1: next-address
   B.B.B.B
2: next-address
   loose E.E.E.E

MPLS TE Services

- TE Fast Re-Route

- TE Path Protection

Why MPLS Traffic Engineering?

- Handling unexpected congestion

- Better utilization of available bandwidth

- Route around failed links/nodes

- Capacity planning

Thank you☺

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