

R1    All Routers    R2    R2 (P)    R1 (PE)

ldp\_setup\_noauth.pcapng

LDP Hello Message

ID LSR ID	10.0.0.1
Hold Time	15
Type	Hello
IPv4 Transport Address	10.0.0.1

LDP Hello Message

ID LSR ID	10.0.0.2
Hold Time	15
Type	Hello
IPv4 Transport Address	10.0.0.2

LDP Hello Message

ID LSR ID	10.0.0.2
Hold Time	15
Type	Hello
IPv4 Transport Address	10.0.0.2

TCP (SYN)

Source Port	47126
Destination Port	646
Stream index	0

TCP (SYN)

Source Port	47126
Destination Port	646
Stream index	0

TCP (SYN, ACK)

Source Port	646
Destination Port	47126
Stream index	0

TCP (ACK)

Source Port	47126
Destination Port	646
Stream index	0

LDP Initialization Message

ID LSR ID	10.0.0.2
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TCP (ACK)

Source Port	646
Destination Port	47126
Stream index	0

LDP Initialization Message

ID LSR ID	10.0.0.1
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LDP Label Mapping Message

ID LSR ID	10.0.0.2
ID LSR ID	10.0.0.2
FEC Element Type	Prefix FEC (2)
FEC Element Length	24
Label	3

LDP Label Mapping Message

FEC Element Type	Prefix FEC (2)
FEC Element Length	24
Label	3

LDP Label Mapping Message

LDP Hello – periodic UDP multicast (224.0.0.2) for neighbor discovery; discovered LSRs then open a TCP session to exchange labels and session parameters

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Frame 4 | 2020-05-03T19:07:38.039693Z

Frame 5 | 2020-05-03T19:07:40.044597Z

Frame 6 | 2020-05-03T19:07:40.045066Z

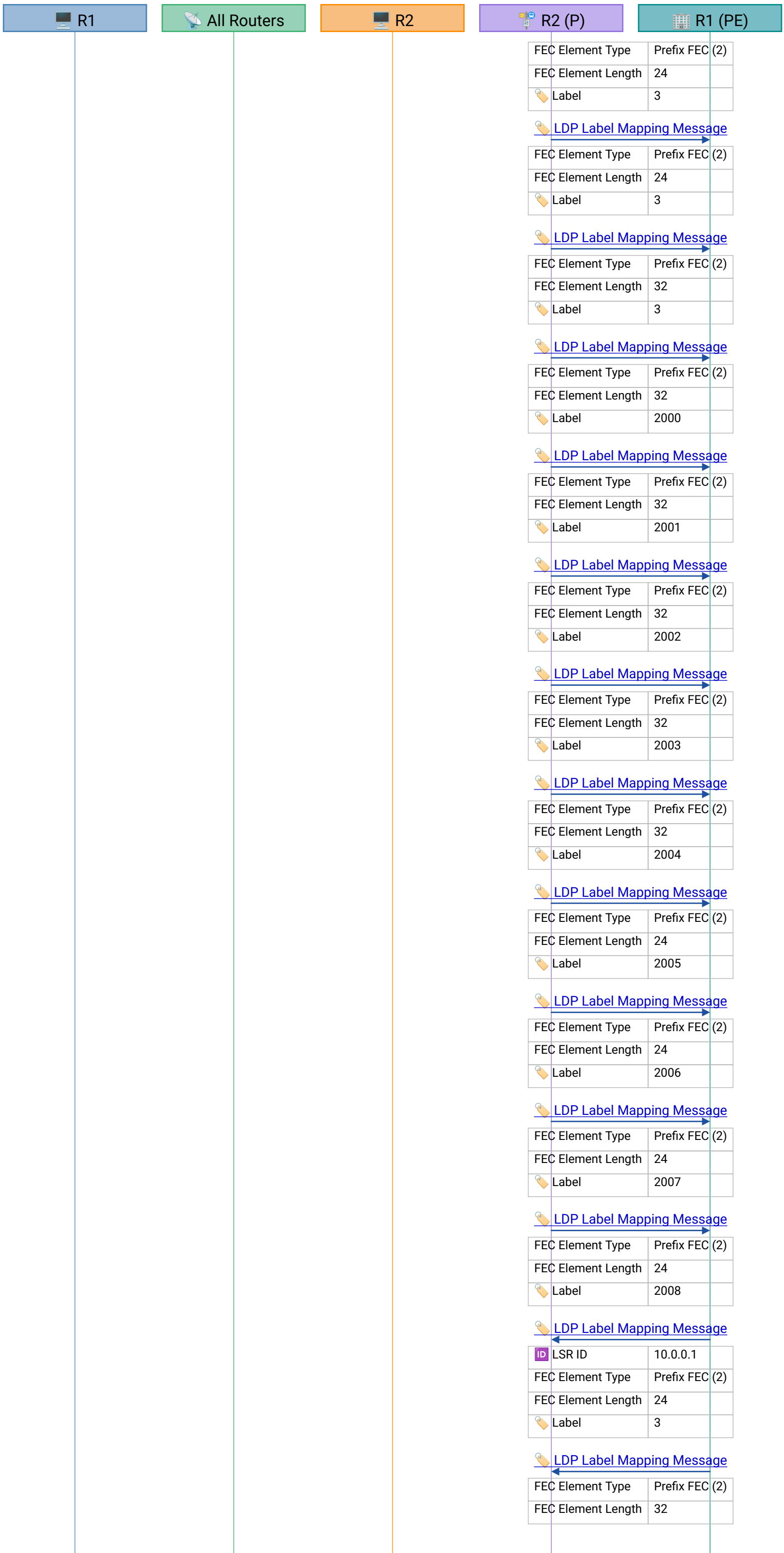
Frame 7 | 2020-05-03T19:07:40.045477Z

LDP Initialization – negotiates session parameters (keepalive timer, label advertisement mode: DU vs DoD, path vector limit); both LSRs must agree or session is torn down with a Notification

Frame 9 | 2020-05-03T19:07:40.059991Z

LDP Initialization – negotiates session parameters (keepalive timer, label advertisement mode: DU vs DoD, path vector limit); both LSRs must agree or session is torn down with a Notification

LDP Label Mapping – advertises a local label binding for a FEC (prefix) to the peer; downstream LSR assigns labels and propagates upstream to build the LSP hop by hop



💡 LDP Label Mapping – advertises a local label binding for a FEC (prefix) to the peer; downstream LSR assigns labels and propagates upstream to build the LSP hop by hop



Label	3
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LDP Label Mapping Message

FEC Element Type	Prefix FEC (2)
FEC Element Length	32
Label	1002

LDP Label Mapping Message

FEC Element Type	Prefix FEC (2)
FEC Element Length	32
Label	1003

LDP Label Mapping Message

FEC Element Type	Prefix FEC (2)
FEC Element Length	32
Label	1004

LDP Label Mapping Message

FEC Element Type	Prefix FEC (2)
FEC Element Length	32
Label	1005

LDP Label Mapping Message

FEC Element Type	Prefix FEC (2)
FEC Element Length	32
Label	1006

LDP Label Mapping Message

FEC Element Type	Prefix FEC (2)
FEC Element Length	24
Label	1007

LDP Label Mapping Message

FEC Element Type	Prefix FEC (2)
FEC Element Length	24
Label	1008

LDP Label Mapping Message

FEC Element Type	Prefix FEC (2)
FEC Element Length	24
Label	1009

LDP Label Mapping Message

FEC Element Type	Prefix FEC (2)
FEC Element Length	24
Label	1010

LDP Label Mapping Message

FEC Element Type	Prefix FEC (2)
FEC Element Length	24
Label	1011

LDP Label Mapping Message

FEC Element Type	Prefix FEC (2)
FEC Element Length	24
Label	1012

LDP Label Mapping Message

FEC Element Type	Prefix FEC (2)
FEC Element Length	24
Label	1013

TCP (ACK)

Source Port	47126
Destination Port	646
Stream index	0

Frame 13 | 2020-05-03T19:07:40.32375Z