Lab 4 Postlab

* 1. A copy of the “Nokia My Learning Lab has ended” email for your session.
  2. Output from the “info” command in the “configure service” context of router P5.

A:R5-rae00033>config>router# info

----------------------------------------------

#--------------------------------------------------

echo "IP Configuration"

#--------------------------------------------------

interface "system"

address 10.10.10.5/32

no shutdown

exit

interface "toR1"

address 10.1.5.5/24

port 1/1/1

no shutdown

exit

#--------------------------------------------------

echo "ISIS Configuration"

#--------------------------------------------------

isis 0

router-id 10.10.10.5

level-capability level-1

area-id 49.01

traffic-engineering

reference-bandwidth 10000000

level 1

wide-metrics-only

exit

level 2

wide-metrics-only

exit

interface "system"

no shutdown

exit

interface "toR1"

interface-type point-to-point

no shutdown

exit

no shutdown

exit

#--------------------------------------------------

echo "LDP Configuration"

#--------------------------------------------------

ldp

import-pmsi-routes

exit

tcp-session-parameters

exit

interface-parameters

interface "toR1" dual-stack

ipv4

no shutdown

exit

no shutdown

exit

exit

targeted-session

exit

no shutdown

exit

* 1. The output of show service id 10 base command in lab 2.

A:R5-rae00033# show service id 10 base

===============================================================================

Service Basic Information

===============================================================================

Service Id : 10 Vpn Id : 0

Service Type : Epipe

MACSec enabled : no

Name : epipe1

Description : (Not Specified)

Customer Id : 1 Creation Origin : manual

Last Status Change: 01/31/2025 19:15:45

Last Mgmt Change : 01/31/2025 19:15:45

Test Service : No

Admin State : Up Oper State : Up

MTU : 1514

Vc Switching : False

SAP Count : 1 SDP Bind Count : 1

Per Svc Hashing : Disabled Lbl Eth/IP L4 TEID: Disabled

Ignore MTU Mismat\*: Disabled

Vxlan Src Tep Ip : N/A

Force QTag Fwd : Disabled

Lcl Switch Svc St : sap

Oper Group : <none>

-------------------------------------------------------------------------------

Service Access & Destination Points

-------------------------------------------------------------------------------

Identifier Type AdmMTU OprMTU Adm Opr

-------------------------------------------------------------------------------

sap:1/1/2:10 q-tag 1518 1518 Up Up

sdp:8:10 S(10.10.10.8) Spok 0 8682 Up Up

===============================================================================

* 1. The output of the show router ldp bindings services command in lab 2.

A:R5-rae00033# show router ldp bindings

===============================================================================

LDP Bindings (IPv4 LSR ID 10.10.10.5)

(IPv6 LSR ID ::)

===============================================================================

Label Status:

U - Label In Use, N - Label Not In Use, W - Label Withdrawn

S - Status Signaled Up, D - Status Signaled Down, e - Label ELC

WP - Label Withdraw Pending, BU - Alternate For Fast Re-Route

Service Type:

E - Epipe Service, V - VPLS Service, M - Mirror Service

A - Apipe Service, F - Fpipe Service, I - IES Service, R - VPRN service

P - Ipipe Service, C - Cpipe Service

FEC Flags:

LF - Lower FEC, UF - Upper FEC, M - Community Mismatch,

BA - ASBR Backup FEC

===============================================================================

LDP IPv4 Prefix Bindings

===============================================================================

Prefix

Peer FEC-Flags

IgrLbl EgrLbl

EgrNextHop EgrIntf/LspId

-------------------------------------------------------------------------------

10.10.10.1/32

10.10.10.1:0

-- 524287

10.1.5.1 1/1/1

10.10.10.2/32

10.10.10.1:0

524285N 524285

10.1.5.1 1/1/1

10.10.10.3/32

10.10.10.1:0

524284N 524282

10.1.5.1 1/1/1

10.10.10.4/32

10.10.10.1:0

524283N 524284

10.1.5.1 1/1/1

10.10.10.5/32

10.10.10.1:0

524287U --

-- --

10.10.10.6/32

10.10.10.1:0

524282N 524286

10.1.5.1 1/1/1

10.10.10.7/32

10.10.10.1:0

524281N 524283

10.1.5.1 1/1/1

10.10.10.8/32

10.10.10.1:0

524280N 524281

10.1.5.1 1/1/1

-------------------------------------------------------------------------------

No. of IPv4 Prefix Bindings: 8

===============================================================================

===============================================================================

LDP IPv6 Prefix Bindings

===============================================================================

Prefix

Peer FEC-Flags

IgrLbl EgrLbl

EgrNextHop EgrIntf/LspId

-------------------------------------------------------------------------------

No Matching Entries Found

===============================================================================

===============================================================================

LDP Generic IPv4 P2MP Bindings

===============================================================================

P2MP-Id

RootAddr Interface

Peer

IngLbl EgrLbl

EgrNH EgrIf/LspId

-------------------------------------------------------------------------------

No Matching Entries Found

===============================================================================

===============================================================================

LDP Generic IPv6 P2MP Bindings

===============================================================================

P2MP-Id

RootAddr Interface

Peer

IngLbl EgrLbl

EgrNH EgrIf/LspId

-------------------------------------------------------------------------------

No Matching Entries Found

===============================================================================

===============================================================================

LDP In-Band-SSM IPv4 P2MP Bindings

===============================================================================

Source

Group

RootAddr Interface

Peer

IngLbl EgrLbl

EgrNH EgrIf/LspId

-------------------------------------------------------------------------------

No Matching Entries Found

===============================================================================

===============================================================================

LDP In-Band-SSM IPv6 P2MP Bindings

===============================================================================

Source

Group

RootAddr Interface

Peer

IngLbl EgrLbl

EgrNH EgrIf/LspId

-------------------------------------------------------------------------------

No Matching Entries Found

===============================================================================

===============================================================================

LDP In-Band-VPN-SSM IPv4 P2MP Bindings

===============================================================================

Source

Group RD

RootAddr Interface

Peer

IngLbl EgrLbl

EgrNH EgrIf/LspId

-------------------------------------------------------------------------------

No Matching Entries Found

===============================================================================

===============================================================================

LDP In-Band-VPN-SSM IPv6 P2MP Bindings

===============================================================================

Source

Group RD

RootAddr Interface

Peer

IngLbl EgrLbl

EgrNH EgrIf/LspId

-------------------------------------------------------------------------------

No Matching Entries Found

===============================================================================

===============================================================================

LDP Recursive with In-Band-SSM IPv4 P2MP Bindings

===============================================================================

Source

Group

InnerRootAddr

RootAddr Interface

Peer

IngLbl EgrLbl

EgrNH EgrIf/LspId

-------------------------------------------------------------------------------

No Matching Entries Found

===============================================================================

===============================================================================

LDP Recursive with In-Band-SSM IPv6 P2MP Bindings

===============================================================================

Source

Group

InnerRootAddr

RootAddr Interface

Peer

IngLbl EgrLbl

EgrNH EgrIf/LspId

-------------------------------------------------------------------------------

No Matching Entries Found

===============================================================================

===============================================================================

LDP VPN Recursive with Generic IPv4 P2MP Bindings

===============================================================================

P2MP-Id

InnerRootAddr RD

RootAddr Interface

Peer

IngLbl EgrLbl

EgrNH EgrIf/LspId

-------------------------------------------------------------------------------

No Matching Entries Found

===============================================================================

===============================================================================

LDP VPN Recursive with Generic IPv6 P2MP Bindings

===============================================================================

P2MP-Id

InnerRootAddr RD

RootAddr Interface

Peer

IngLbl EgrLbl

EgrNH EgrIf/LspId

-------------------------------------------------------------------------------

No Matching Entries Found

===============================================================================

===============================================================================

LDP GRT Recursive with Generic IPv4 P2MP Bindings

===============================================================================

P2MP-Id

InnerRootAddr

RootAddr Interface

Peer

IngLbl EgrLbl

EgrNH EgrIf/LspId

-------------------------------------------------------------------------------

No Matching Entries Found

===============================================================================

===============================================================================

LDP GRT Recursive with Generic IPv6 P2MP Bindings

===============================================================================

P2MP-Id

InnerRootAddr

RootAddr Interface

Peer

IngLbl EgrLbl

EgrNH EgrIf/LspId

-------------------------------------------------------------------------------

No Matching Entries Found

===============================================================================

===============================================================================

LDP Service FEC 128 Bindings

===============================================================================

Type VCId SDPId LMTU

Peer SvcId IngLbl RMTU

EgrLbl

-------------------------------------------------------------------------------

E-Eth 10 8 1500

10.10.10.8:0 10 524279U 1500

524279S

E-Eth 20 8 1500

10.10.10.8:0 20 524278U 1500

524278S

-------------------------------------------------------------------------------

No. of VC Labels: 2

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===============================================================================

LDP Service FEC 129 Bindings

===============================================================================

SAII AGII IngLbl LMTU

TAII Type EgrLbl RMTU

Peer SvcId SDPId

-------------------------------------------------------------------------------

No Matching Entries Found

* 1. The output from the ping command from your CE to the remote CE.

R5-rae00033 # ping 192.168.10.4

PING 192.168.10.4 56 data bytes

64 bytes from 192.168.10.4: icmp\_seq=1 ttl=64 time=25.2ms.

64 bytes from 192.168.10.4: icmp\_seq=2 ttl=64 time=6.15ms.

64 bytes from 192.168.10.4: icmp\_seq=3 ttl=64 time=5.23ms.

64 bytes from 192.168.10.4: icmp\_seq=4 ttl=64 time=5.93ms.

64 bytes from 192.168.10.4: icmp\_seq=5 ttl=64 time=6.45ms.

* 1. From the show router ldp bindings services command what is the service label signalled by your router? What label is signalled by the far end PE? Do these labels have to be the same? Explain.

E-Ethernet Label. These labels need to be the same because the labels determine what route, and actions need to be taken with any unlabeled packet has to do when it arrives at the router.

* 1. If you changed the interface address of your CE to 192.168.200.1/24 would you be able to ping the far end CE? Explain why or why not.

No you would not be able to, this is because both ends have their respective addresses configured as the destination so if it changes the route to the respective CE will wound up being lost.