* + 1. FAT PW Configuration Objective:

Objective of this section is to provide a breakdown of step by step configuration on each node that needs to be performed to enable FAT PW feature

* LAG configuration
* Forwarding domain, flow points configuration
* IP interfaces configuration
* IGP such as ISIS or OSPF configuration (we are using OSPF for our test purpose)
* LDP & MPLS configuration
* Targeted LDP and pseudo wire configuration
* FAT capability enable within pseudo wire context
* L2VPN service creation, associating it to attachment circuit & pseudowire
* Attachment circuit creation to transmit CE traffic over L2VPN infrastructure

***Procedure:***

***5171-08 (PE) Node:***

# LAG Interface towards PE2 Configuration

oc-if:interfaces interface PE2-P-LAG config name PE2-P-LAG cn-if:type lag

oc-if:interfaces interface PE2-P-LAG config agg agg-admin-mode agg-mode-lacp oc-if:interfaces interface PE2-P-LAG config agg hash-mode enhanced-hash-mode oc-if:interfaces interface PE2-P-LAG config agg member-ports 20

exit exit exit exit exit

oc-if:interfaces interface PE2-P-LAG config agg member-ports 21 exit

exit exit exit exit

# NNI Port Classifier

classifiers classifier vlan100 filter-entry vtag-stack vtags 1 vlan-id 100

# FD

fds fd LAG mode vpls

# FP

fps fp fpLAG fd-name LAG logical-port PE2-P-LAG classifier-list vlan100

fps fp fpLAG fd-name LAG egress-l2-transform push-vid-100 vlan-stack 1 push-tpid tpid-8100 push-vid 100

exit

# IP Interfaces

oc-if:interfaces interface PE1-P1-LAG-intr config name PE1-P1-LAG-intr cn-if:type ip admin-status true mtu 1500 underlay-binding config fd LAG

oc-if:interfaces interface PE1-P1-LAG-intr ipv4 addresses address 172.16.2.110 config ip 172.16.2.110 prefix-length 30

# OSPF configuration

ospf instance 1 router-id 192.168.20.3

ospf instance 1 areas area 0.0.0.0 network 192.168.20.3/32 ospf instance 1 areas area 0.0.0.0 network 172.16.2.108/30 ospf instance 1 interfaces interface lb0 type broadcast ospf instance 1 interfaces PE1-P1-LAG-intr type broadcast

# LDP

ldp instance default lsr-id 192.168.20.3

ldp instance default interfaces interface lb0 enable-ipv4 true

ldp instance default interfaces interface PE1-P1-LAG-intr enable-ipv4 true

# MPLS Label Switching

mpls interfaces interface lb0 label-switching true

mpls interfaces interface PE1-P1-LAG-intr label-switching true

# Targeted LDP for PW

ldp instance default target-ldp peers 192.168.20.4 exit

exit exit exit

# VPLS Dynamic PW

pseudowires

pseudowire pe1\_pe2\_spoke\_pw1 mode mesh

pw-loadbalance fat-pw fat-capability tx-rx configured-pw

pw-id 4

peer-ip 192.168.20.4 exit

exit exit

# UNI Port

classifiers classifier vlan102 filter-entry vtag-stack vtags 1 vlan-id 102

# FD

fds fd AC\_UNI\_FD1 mode vpls

# FP

fps

fp AC\_UNI\_FP1 stats-collection on fd-name AC\_UNI\_FD1 logical-port 15

mtu-size 2000

cos-to-frame-map default-c2f frame-to-cos-map default-f2c classifier-list-precedence 102 classifier-list vlan102

exit exit

# L2VPN

l2vpn-services l2vpn L1 forwarding-domain AC\_UNI\_FD1 pseudowire pe1\_pe2\_spoke\_pw1 service-type vlan

signaling-type ldp mtu 1500

exit exit

***5171-09 (PE2) Node:***

oc-if:interfaces interface PE2-P-LAG config name PE2-P-LAG cn-if:type lag oc-if:interfaces interface PE2-P-LAG config agg agg-admin-mode agg-mode-lacp oc-if:interfaces interface PE2-P-LAG config agg hash-mode enhanced-hash-mode oc-if:interfaces interface PE2-P-LAG config agg member-ports 20

exit exit exit

exit exit

oc-if:interfaces interface PE2-P-LAG config agg member-ports 21 exit

exit exit exit exit

# FD

fds fd LAG mode vpls

# FP

fps fp fpLAG fd-name LAG logical-port PE2-P-LAG classifier-list vlan100

fps fp fpLAG fd-name LAG egress-l2-transform push-vid-100 vlan-stack 1 push-tpid tpid-8100 push-vid 100 exit

oc-if:interfaces interface PE1-P1-LAG-intr config name PE1-P1-LAG-intr cn-if:type ip admin-status true mtu 1500 underlay-binding config fd LAG

oc-if:interfaces interface PE1-P1-LAG-intr ipv4 addresses address 172.16.2.109 config ip 172.16.2.109 prefix-length 30

# OSPF configuration

ospf instance 1 router-id 192.168.20.4

ospf instance 1 areas area 0.0.0.0 network 192.168.20.4/32 ospf instance 1 areas area 0.0.0.0 network 172.16.2.108/30 ospf instance 1 interfaces interface lb0 type broadcast ospf instance 1 interfaces PE1-P1-LAG-intr type broadcast

# LDP

ldp instance default lsr-id 192.168.20.4

ldp instance default interfaces interface lb0 enable-ipv4 true

ldp instance default interfaces interface PE1-P1-LAG-intr enable-ipv4 true

# MPLS Label Switching

mpls interfaces interface lb0 label-switching true

mpls interfaces interface PE1-P1-LAG-intr label-switching true

# Targeted LDP for PW

ldp instance default target-ldp peers 192.168.20.3 exit

exit exit exit

# VPlS Dynamic PW

pseudowires

pseudowire pe1\_pe2\_spoke\_pw1 mode mesh

pw-loadbalance fat-pw fat-capability tx-rx configured-pw

pw-id 4

peer-ip 192.168.20.3 exit

exit exit

# UNI Port# Classifier

classifiers classifier vlan103 filter-entry vtag-stack vtags 1 vlan-id 103

# FD

fds fd AC\_UNI\_FD1 mode vpls

# FP

fps

fp AC\_UNI\_FP1 stats-collection on fd-name AC\_UNI\_FD1 logical-port 1

mtu-size 2000

cos-to-frame-map default-c2f frame-to-cos-map default-f2c classifier-list-precedence 103 classifier-list vlan103

exit exit

# L2VPN Service

l2vpn-services l2vpn L1 forwarding-domain AC\_UNI\_FD1 pseudowire pe1\_pe2\_spoke\_pw1 service-type vlan

signaling-type ldp mtu 1500

exit exit

#REMOVE L2vpn services (this config is shared for reference only if end user wants to remove L2VPN)

config

no l2vpn-services l2vpn L1

no pseudowires pseudowire pe1\_pe2\_spoke\_pw1

no ldp instance default target-ldp peers 192.168.20.3