draft-boutros-I2vpn-vpls-active-active-00.txt

AA-VPLS - Signalling



PE3 signals that its upstream label for MHID=3 is 30/31.

Any remote PE in the same VPLS instance will recognize that any packet coming from PE3 with the next label after the PW label =30/31 is coming from MHID3.

It will thus learn the SMAC as being in MHID3.

It will not reinject the packet into MHID3

AA-VPLS – Unknown/Mcast



PE3 and PE30 signaled the MH-Site-ID3 and upstream labels.

PE3 and PE1 are DF for Site 3 and Site 1 and PE3 is DF for site10

- 1. Mcast Packet with src MAC M3 arrives at PE3.
- 2. PE3 floods packet to AC40 and AC13.
- 3. PE3 encap packet with upstream label (Flood to DF at MH Sites) and flood over PWs or over p2mp LSP to PE1, 2, 10, 30.
- 4. On PE1,2,10,30 learning of M3 will be against MH virtual port (MHID3).
- 5. PE1, floods packet to AC4 and AC1 (DF for Site1).
- 6. PE10 floods only to AC5 and PE2 to AC2.
- 7. On PE30, learning will be against MH Virtual port.
- 8. PE30, floods packet to AC300.

AA-VPLS – Known Unicast



Assume PE3 and PE1 are DF for Site 3 and Site 1.

- 1. Packet with src MAC M3 arrives at PE30.
- 2. PE30 encap packet with upstream label (Unicast Packet) and send packet over PW PE10.
- On PE10 learning of M3 will be against MH virtual port (MHID3).
- 4. PE10 sends packet to M5 over AC5.



Properties

- Per-flow load-balancing among multiple active attachment circuits connected to the same multi-homed site
- Fast Convergence upon redundant link or node failure
- Flexible PE location
- Shortest-path routing
- P2M Multicast optimization
- MAC Flush reduction
- Policy support (E-TREE and more)
- No requirement for control-word presence