VPWS interworking; VPLS Topologies

Essentials: VPLS Topologies

Agenda

- Reminder: **Post-lab #12** will be due @ 11:59pm on **Thu Apr 6** for everyone
- Reminder: Field Trip to Nokia next Monday
- Review: Topology for Post-Lab 9 which uses spoke-terminated VPLS
- Review: Four MTU values: SAP, service, SDP, Network port
- Lab prep: an IES is a L3 interface which has an MTU!
  Check out SA Module 5, slides 8-11 for configuration details
- Complete SA Module 2 – x-Pipe interworking (slides 55-78, very brief)
- Complete SA Module 3 – VPLS (slides 34-55)

Assignments and Lab work

- Exercise on SAPs: due by **next Wed** Mar 22 @ 3pm (to be posted)
- Read NRS-II book: Chapter 19 on VPLS by Mon Mar 13
- Lab #10: Spoke-terminated VPLS; IES = SA Lab guide, lab #8
- Lab 9 post-lab: due by 11:59pm **the day before** your lab session #10.

VPLS Rules for SDPs & SAPs

The VPLS coverage in this course is relatively easy. There's only a single line of new configuration (**`mesh-sdp {#}:{vc-id} create`**) and three fairly simple fowarding rules.

1. A frame received on one SAP to be flooded through the VPLS is transmitted on the other SAPs, mesh SDPs and the spoke SDPs
2. A frame received on a spoke SDP to be flooded through the VPLS is transmitted on the SAPs, the other spoke SDPs and the mesh SDPs
3. A frame received on a mesh SDP to be flooded through the VPLS is transmitted on the SAPs and the other spoke SDPs, but not any other mesh SDPs

VPLS Topologies

1. Hub-and-spoke: least configuration (fewer LSPs) but single point of failure
2. Full-mesh: reliable, requires full mesh or get disconnections
3. Hierarchical (H-VPLS): good for scalability, eg. metro-area VPLS
4. Spoke termination on VPWS: hybrid of full-mesh and hub-and-spoke