VPLS Config; SAPs & MTU
Essentials: SDPs; SAP encapsulations and treatment of Q-tags

Agenda
– Term Test #2: next **Fri, March 13** in class.
– New material:
  – SA Module 3 – VPLS, sections 1-2 (slides 1-34)
  – Start Module 2 – SAPs
– Coming Next: Complete Module 2 – MTU, x-Pipe interworking

Assignments and Lab work
– Readings: re-read: MPLS modules 1-2; read SA Module 1
  Ref: NRS-II book: Chapter 19 on VPLS by Mon Mar 12
– Lab #8: SA Lab 2: basic Epipe / VPWS service
– Coming next for theory: **Exercise 2** on SAP definitions
– Coming next in Lab: SA Lab 3: VPLS

References
– NRS-II Chapter 18: VPWS Services, p. 1018-1066
– Inter-dependencies of MTU values: SA Module 2.24-25; NRS-II p. 1046-7

Treatment of Q-tags on SAPs (looking ahead to Lab #9)

In Lab 9, we will build a VPLS along side existing ePipe services. Remember what "P" in VPN stands for: private or _separate_ traffic, so there's no chance of interference IFF we define the SAPs correctly.

SA Module 1 covers three possible SAP encapsulation "modes":
– **null encapsulation**
– dot1q encapsulation (a single q-tag)
– qinq encapsulation (two q-tags)

SA Module 2 explains about the equivalency of a "native VLAN" (for Dot1Q encapsulation) and how to specify it in the SAP definition. There are two options:
– default SAP: e.g. 1/1/1**:***
– **null SAP** e.g. 1/1/1**:0**

Please distinguish the "**null encapsulation**" from "**null SAP**"; they're very different things!

For Lab 9 – VPLS (next week), make sure you've read and _understood_ SA Module 3, slides 8-11.

Compatibility for Ethertype on singly and doubly tagged frames

Ref: SA Module 2, slide 14; NRS-II p. 1029-1030

In the SR OS, the ethertype of Dot1Q or QinQ frames can be configured to any value in the range 0x600-0xffff (1536..65535), with a default = 0x8100. The configuration is applied on a per-port basis, with the command:

configure port • {port Num} • ethernet • {dot1q-etype | qinq-etype} {value}

Below is a chart for multi-vendor interoperability (from data published in 2008). Note that any frame with a non-matching etype is simply considered untagged.

Vendor	Top / Outer Tag	Bottom / Inner Tag
Cisco	0x8100	0x8100
Foundry	**0x9100**	0x8100
Extreme	**0x88a8**	0x8100
Juniper	**0x9100**; configurable	0x8100
Nokia 7x50 SR	0x8100; configurable	0x8100; configurable