

Finish MPLS; Intro to VPN Services

Agenda

- Pop Quiz: Review of MPLS Ch 5
- Exam dates:
 - **SBA: Sat April 14** groups posted on Blackboard by Mar 30
 - **Theory exam: Mon April 23 @ 9am** (room TBC)
- Term Test #2: **Wed March 14 @ 4pm**, room **T302**
 - covers all lecture & lab material up to and including Wed Mar 7
 - skip Module 5 slides 93-140 (details of Bandwidth constraints)
- Complete material from Module 5:
 - Section 2 – Basic TE config, slides 84-92
 - Section 5 – MPLS shortcuts, slides 162-184
 - (We'll save Module 6 for later in the semester)
- Start VPN Services: SA Module 1; NRS-II Ch 17
- Return test #1; full solutions posted on course site

Assignments and Lab work

- Read: SA Module 1 by Mon Mar 5
- Read NRS-II book: Chapter 17 by Mon Mar 5
- Lab 7: IPv6 over MPLS (NRS-II Lab 13.4)
- Lab 7 post-lab: due = 11:59pm Thu/Sat for Fri/Mon lab sections.
- Lab 8: SA Lab 2: basic Epipe / VPWS service

Uses for Label Switching

- LDP or RSVP shortcuts for forwarding regular IP traffic
- LDP or RSVP shortcuts for resolving BGP next-hops
- LDP for creating IPv6 tunnels across IPv4-only MPLS networks
- **RSVP-TE for TE**, possibly with LDP-over-RSVP

–VPN Services at L1, L2, L3!!!

Since this last one is so exciting, we'll take our first peek into SA in lecture today.

SA Terminology

Module 1, section 3 (p. 42-66) introduces *lots* of new terminology. It is summarized here for convenient reference (... and possible testing in quizzes).

Term	Scope	Description
Customer or Subscriber	local; unique	Mandatory; numeric ID for purposes of management, billing, and reporting; ALL services under some ID
Service ID	local; unique	Unique numeric ID which identifies a specific service; either purely local (1 router) or distributed (>1 router); specified as: X-pipe, VPLS, VPRN, IES, mirror
Service Access Point (SAP)	local; multiplex	The port where the customer connects, eg. 1/1/1 port mode must be "access" (default = "network")
Svc Distribution Point (SDP)	local; multiplex	A numeric ID that corresponds to a uni-directional tunnel to carry 1+ services; end point is a system ID; configured to use LDP (shortest) or RSVP (longer); services use SDPs in spoke or mesh mode (TBA)
Virtual-Circuit (VD-ID)	GLOBAL	Numeric ID that must be globally identical; for human sake, make equal to service ID

Despite the fact that *only* the VC-ID is globally significant, you'll notice on slide 66 that the recommended best practice of also making Customer ID and Service ID globally unique!