

Intro to VPN Services

Agenda

- Pop Quiz: Review of MPLS Ch 5
- Date for Lab Exam: Fri April 7
 - groups to be assigned; regular lectures & labs are cancelled on that day
- Term Test #2: March 8 starting at 4pm
 - covers all lecture & lab material up to and including Mar 6
- Heads-up: Field Trip to Nokia, Kanata Campus **Mon Mar 20** noon-4pm
 - depart 12:30pm at the latest, small parking lot between T & J buildings
 - NET3010 section A2 canceled on that day; pls confirm with Prof Perron
 - must organize drivers & passenger lists soon
- VPN Services: SA Module 1; NRS-II Ch 17
- Return test #1

Assignments and Lab work

- Read: SA Module 1 by Mon Mar 6
- Read NRS-II book: Chapter 17 by Mon Mar 6
- ~~Lab 6 post-lab: due by **Mon Feb 27 @ 8am**~~
- Lab #8: SA Lab 2: basic Epipe / VPWS service
- Lab 7 post-lab: due by 11:59pm **the day before** your lab session #8.

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!