Course Completion & Review

Essentials: What do you need to know?

Agenda

- Final Exam: 3 hrs; please confirm: 2pm on **Mon Apr 15rd**; room TB210
- NEED: decision on SBA date; each session is 2.5 hrs, in T108
- "Guesstimate" marks available on BB: very skewed and approximate
- Complete from previous lectures:
  - SA Mod 5 VPRN, last ~dozen slides
  - MPLS Mod 6: highlights of LDP-IGP sync (to maintain six-9's reliability)
- SA Module 4: OAM & services tools
  - Much of the material on OAM tools have been covered already
  - Highlights of Mirror service: like RSPAN but goes across L3 network
- Remaining time spent on course review
  - Starting with "What is a FEC?"

OAM Tools

Customer side:

- ping: can determine path MTU; number of apparent hops (return)
- traceroute: can determine apparent hops (outbound)
- Both of above may be going through a VPN!

Provider side:

- ping & traceroute within provider domain
- oam lsp-ping: LDP ("prefix x.x.x.x/32") or RSVP ({lsp-name})
- oam lsp-trace: can determine every P router along path; uni-directional
- oam ldp-treetrace: determines all ECMP paths for LDP LSPs
- oam sdp-ping: tests uni- or bi-directional connectivity; uni-directional
- oam sdp-mtu: convenient tool for testing mtu of SDP
- oam svc-ping: works for all VPN levels (VPWS, VPLS, VPRN)
  - gives complete info on all service parameters, bi-directionally
- oam cpe-ping: for VPLS, and depending on SR-OS, for VPWS
- show service fdb-mac: MAC address table(s) for VPLS service(s)
- **oam vprn-ping**: ping addresses known within the VPRN VRF
- **oam vprn-trace**: traceroute anywhere known within the VPRN VRF

Items below this line not listed
in Module 5 on OAM tools;
VPRN tools never mentioned in NRS-II !

What is a FEC?

Really ... Can you now define it in terms of all that you've learned?

SBA (Date TBA)

– See study tips from Week 12, Day 1 lecture summary notes.
– See "List of Labs" posted on course site for topics covered in lab work.

Also ...

- BE EARLY!
- Sessions are 2.5 hrs long; **NO** extra time possible (remote equipment)
- configs are auto-saved every ~5 mins and at end of exam
- final configs are then delivered directly to the Professor
- each student has his/her own set of 6 routers which must be configured;
  – there are 4 additional routers for which you have no admin access;
  – these 4 extra routers are pre-configured with the required connectivity
- the SBA preview document posted on course site has additional details
- modified & updated every year
- potential topics include all material from the MPLS and SA courses
- if you work through the supporting infrastructure, you'll realize that it's just about impossible to create an SBA that avoids certain protocols and fundamentals. Be sure to identify these protocols and know how to configure them!
- BE EARLY!

Final Exam (Apr 15)

- 3 hrs; 100 marks (approx)
- Includes all material on MPLS and SA covered in the course
- Questions are short answer and/or may require drawing a simple diagram
- Expect some questions to be very simple, fact-based while others will require a deeper understanding and connection between related concepts.
- You are allowed one 8x11" sheet of paper; double-sided; MUST be hand-written (no photocopies); may *not* contain any sample questions & answers