

Introduction to MPLS

Essentials: PDU encap/decap; DLCI vs label; Advantages of MPLS

Agenda

- Any thoughts on this?? <https://www.youtube.com/watch?v=R0xYCy2eft8>
... or maybe this? <https://www.youtube.com/watch?v=As8XkJNaHbs>
(watch at least 3:37-10:06 !!)
- Check-in: status of Nokia accounts, course materials, and lab credits
- Wk1day1 lecture notes, lab 1 in-lab docs tweaked & reposted
- Recap of first lecture:
 - Welcome
 - This course is hard work, but it's very worth while (*3 emails from Nokia!*)
 - No laptops or cell phones in lectures; no cell phones in labs
 - Getting connected to Nokia: many steps, but necessary & do-able
Please **note** the alternate URL in case of connectivity issues!
 - Slide-decks and courseware: provided free, and I'll nonetheless strongly encourage you to get a copy of the NRS-II textbook!
- New material: MPLS Module 0, 1; as much of Module 2 as time permits

Assignments and Lab work

- Reference readings: NRS II textbook, Ch 11, pages 473-513; many items are clarified for this section.
- Lab 1 post-lab: book a MySRLab session; connect & use MySRLab; due date is currently set for Fri Jan 17 for everyone; due date will *normally* be as indicated in Wk01Day1 lecture notes
- Lab 2 Pre-Lab: Review NET3008 on OSPF and multi-area OSPF for Lab 2; due **before** your lab section next week (otherwise no point to the prep?!!)
- Surprise quiz next week

Summary for Module 1

- Versatility & functionality of MPLS with respect to virtualizing networks
- Capability of MPLS for unsurpassed redundancy and re-convergence: ie. sub-50ms; achieved via the Fast Re-Route (FRR) capability of MPLS
- Key terminology for MPLS: FEC; iLER, LSR, eLER; and Push, Swap, Pop

Material in Module 2 includes:

- Label stack: inner label (service label) and outer label (transport label)
- format of MPLS header: 4 fields
- "address" of MPLS labels
- Behavior / operation of each of the 4 fields
- Implementation / location of labels: frame-mode vs cell-mode