

## Introduction to MPLS

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

### Agenda

- Surprise pop-quiz
- 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 pre-lab, lab 1 in-lab docs updated & reposted
- Recap of first lecture:
  - Welcome Congratulations & I'm delighted to see you all again
  - This course is hard work, but it's very worth while
  - No laptops or cell phones in lectures; no cell phones in labs
  - Getting connected to Nokia: many steps, but necessary & do-able
  - Slide-decks and textbook: provided free; available now / soon
  - Services (name three?!)
  - MPLS: lots of motivation & reasons for using it; very versatile & flexible
- Questions from previous lecture?
- Continue on from slide 27 in MPLS Module 1
- Time permitting: Start slides in MPLS Module 2

### Assignments and Lab work

- As per notes from previous lecture: readings & quiz from e-text "NRS II", especially Ch 11, pages 473-513; many items are clarified for this section.
- Review NET3008 on OSPF and multi-area OSPF for Lab 2.

### 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