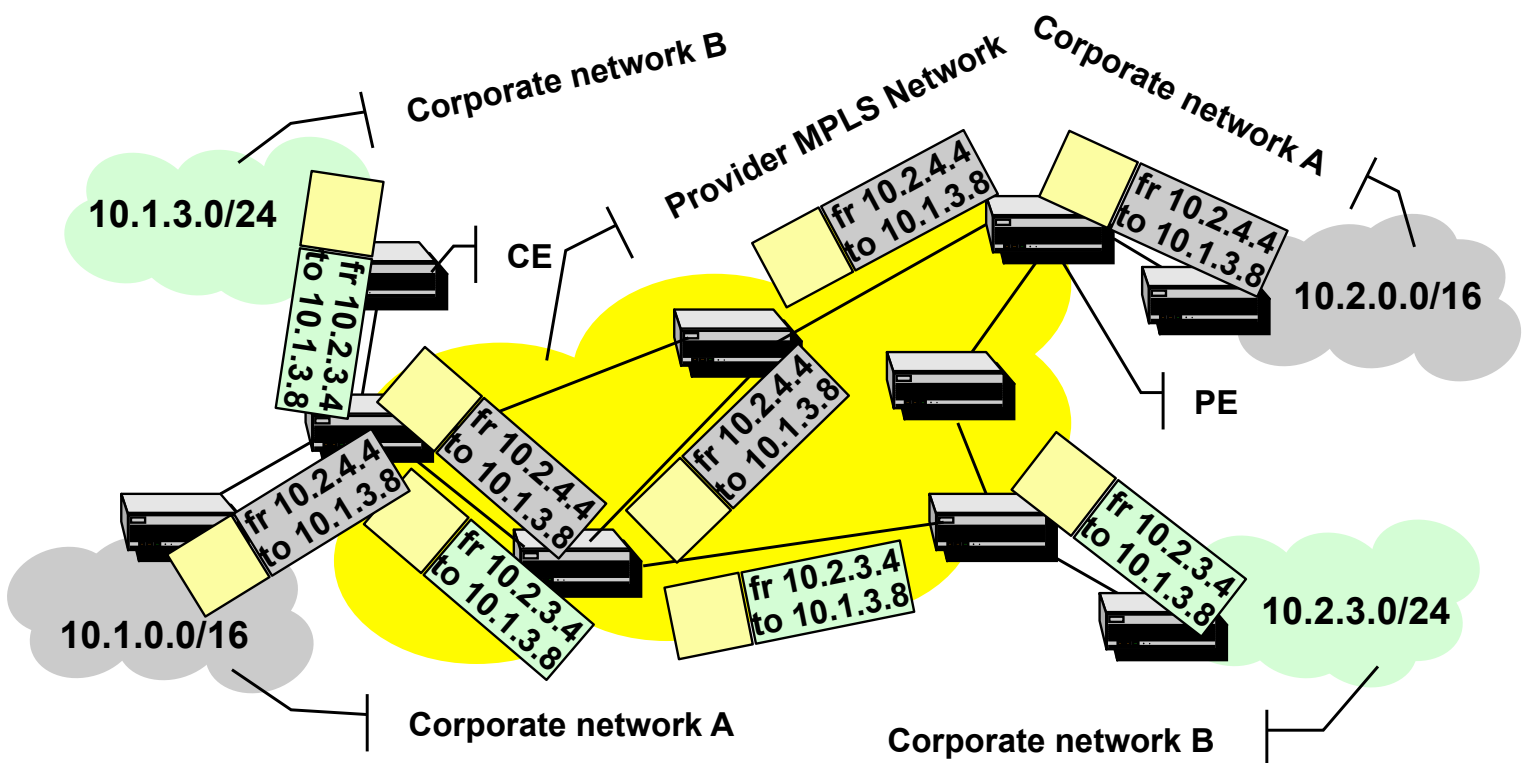


Computer Networks Technologies and Services	February 14th, 2014
First and last name	Student ID

NOTES

- i. Nothing else than what is needed to write (pen, eraser), a piece of ID, and possibly water and food can be taken at the seat where you take your exam. Please leave any other non allowed item you might have (coat, bag, phone, calculator, and any other object) at the front or back of the classroom.
- ii. The answers to all questions must be written exclusively on the provided sheets of paper. Do not forget to write your name and student ID on each sheet of paper deployed.
- iii. In case you will use whole pages or part of pages as a draft copy, please indicate it clearly and possibly cross out such parts before handing in the exam.
- iv. The score assigned to answers varies from zero to the maximum score reported at the end of the question.
- v. When answering questions, please feel free to use drawings whenever they can help expressing and clarifying the answer.
- vi. Answers that are not understandable (for example because written badly or with bad handwriting) might be considered wrong.
- vii. During the test, any communication with other classmates is prohibited and will cause the student to be sent away from the classroom
- viii. The instructors and the assistants that are present during the test are there for the sole purpose of verifying proper progress of the exam. Their role is not giving any support to the interpretation of the text, neither helping the students to correctly formulate the answers. Please avoid any such request.

Question 1) With reference to the MPLS-based VPN solution depicted in the following figure, specify (directly in the boxes in front of packets in the figure) the MPLS labels possibly prepended to each of the packets shown in the figure. (10 points)



Question 2) List packets sent and received by an IPv6 host that, right after completing its bootstrap, sends a packet to a host with an IP address with the same prefix. (6 points)

Question 3) Briefly describe the existing frameworks for Quality of Service provisioning DiffServ and IntServ, specifying their purposes and their main operating principles. (8 points)

Question 4) Explain what characterizes an all-optical switch and what are the benefits that can be brought by its deployment. (6 points)