INSTITUTO SUPERIOR TÉCNICO

Traffic Engineering

Lab Project #2

Introduction to GNS3

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OCTOBER 2018

1 Goal

The next lab sessions will be dedicated to MPLS. Since most of the work will be developed in GNS3, the goal of this lab session is to recall basic GNS3 concepts or become familiar with GNS3 and Cisco IOS if you have not used it before.

2 Equipment

PC with GNS3, VPCS, Wireshark and Cisco IOS.

3 Preparation of the work

To start getting familiar with Cisco IOS there are several introductory turorials in Cisco site. There are also several videos in YouTube explaining the basics of Cisco IOS. We recommend that you install GNS3 and VPCS in your own PC to be able to replicate these and other exercises at home. In the Web site of GNS3, there are various vídeos and documents that explain how to download, install, and configure GNS3. You may also easily find tutorials on VPCS.

4 Setup

4.1 Configuration of PCs

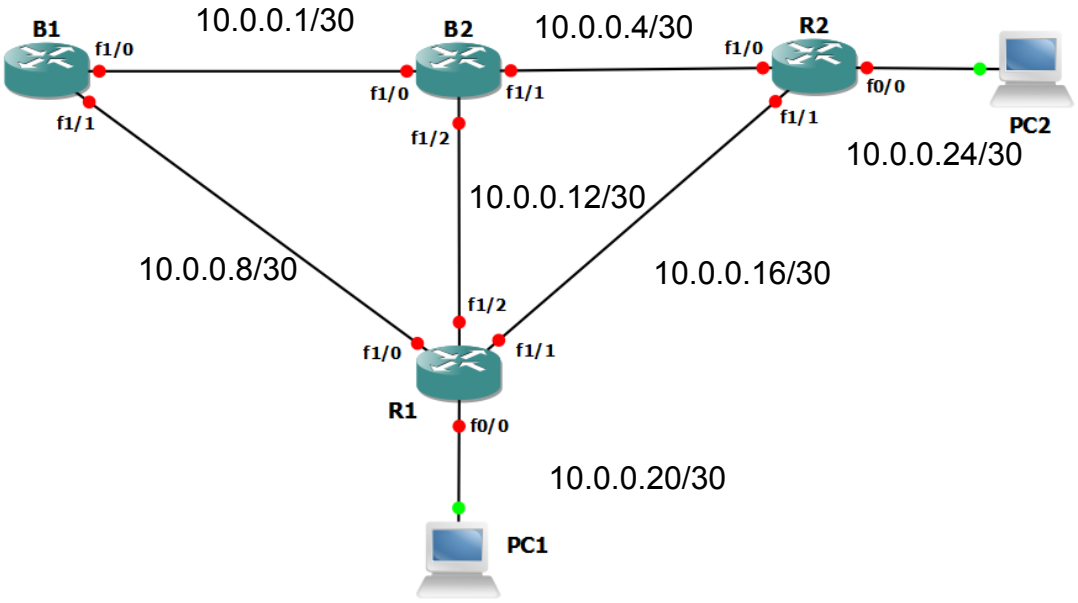
Open the **VPCS** application (Virtual PC Simulator for Dynamips/GNS3). You can simulate up to 9 PCs with this application. The prompt indicates the PC that is being configured or analyzed. To change to a specific PC just type its number. Thus, to configure PC1 type **1**, if the prompt indicates another PC.

Note: For sake of simplicity, if you wish and understand what you are doing, you may replace VPCS with simple IP routers, provided that MPLS is not enabled on these (why?).

4.2 Configuration of network architecture

Implement the following network architecture.

Define IP addresses. Configure the network. Change the network configuration such that different routes are established between PC1 and PC2. Test and emulate the system. Emulate the activation / de-activation of some network links and observe changes in routing.



5 Assignment duration

This assignment and the 3th must be completed in three lab sessions. The report of this assignment must be delivered jointly with the one of the 3th lab assignment, and it is due November 16th (Friday), at 11:59PM.