NS Lab 6 – Switching

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Lab dates: Wednesday Oct.12 and Friday Oct. 14
Hand-in time (submit to blackboard) by Friday October 14 23:59 CET
Total points: 15 points

Abstract

The goal of this assignment is to let you to familiarize with the basic configuration of an Ethernet switch.

This is a group assignment. Form a group with 3/4 colleagues and use Blackboard to enter the names of the people in the group.

NOTE: you will need at least one laptop per group member with an Ethernet port. You should also bring any Ethernet cable you have at home (we don't have enough for all of you).

Task 0 – Connecting to the switches

You will be working with Cisco 2950s switches. The user documentation is available at: https://www.os3.nl/non-wiki/pgrosso/2950scg.pdf

The four switches are connected together. The switches are all in subnet 10.0.0.0/8 and their IP addresses are as follows:

- 10.0.0.1/8
- 10.0.0.2/8
- 10.0.0.3/8
- 10.0.0.4/8

You can wire your group laptops to any of the first 8 FastEthernet ports (Fa0/1-Fa0/8) on any of the switches. You must configure the IP addresses on your laptops appropriately to guarantee you have connectivity to the switches.

You will be able to connect to any of the switches using telnet protocol (use an application of your choice). The username and password for the telnet session are *student/nns16*. You will use a number of *show* commands to get information from the devices.

Task 1 – Topology (3 points)

Log into to switches and determine their respective names.

Observe carefully how the switches are connected and draw the full topology. Indicate clearly which port is connected to which port.

Task 2 – VLANs and Spanning Trees (12 points)

Identify which active VLANs are configured on the switches (*ignore the vlans higher than 1000*!). For each VLAN you identified:

- find the VLAN name
- draw the VLAN topology, i.e. indicate which switches and which ports are configured on this VLAN
- determine the VLAN spanning tree and draw it, i.e as above show which switches and which ports are participating , clearly indicate what is the root bridge and why and the role of each interface
- identify two ports on two different switches where you can connect two laptops to have connectivity. Indicate along which route the traffic will flow.

Submission:

1. Use the provided template. Return the PDF with name **NNS16-Lab6-*groupnumber*.pdf**