Prof. Dr. Christian Schindelhauer   Freiburg, 2009-11-03
Michael Pereira, Dominik Erb

Practical Exercises

Communication Systems (Rechnernetze II)

Topic 03: Basics III

Exercise 1:
This exercise sheet will cover basic knowledge needed for Communication Systems

1. Install the bridge-utils package on your machine. First use ./configure, then make, then make install. Second, copy files with sudo cp /usr/local/sbin/brctl /usr/sbin/

2. Now add the dummy interface to the Linux-Kernel(modprobe dummy). Power up the dummy0 interface on your machine and configure a MAC adress to it by just taking the eth0 MAC and change the second block number. Check that the interface is visible with ifconfig.

3. Now start setting up a simple two ports bridge named br0, check if stp is enabled with brctl and if not, enable it. (The Spanning Tree Protocol is a link layer network protocol that ensures a loop-free topology for any bridged LAN.)

4. Add the dummy0 and eth0 interface to the bridge interface br0 and release all IPs of dummy0 and eth0. Second associate one single IP (172.23.19.xxx) to the bridge interface br0 and check which interfaces are associated to the bridge (brctl show)

5. Analyse the generated pakets with wireshark on dummy0. Is there a difference between enabled and disabled stp?

6. Try to ping some neighbors Ethernet. Do you see any packets from neighboured machines? If you see any packets, which MAC Adress is shown?