

CSE-556 Internetworking Fall 2002

Laboratory Assignment 4

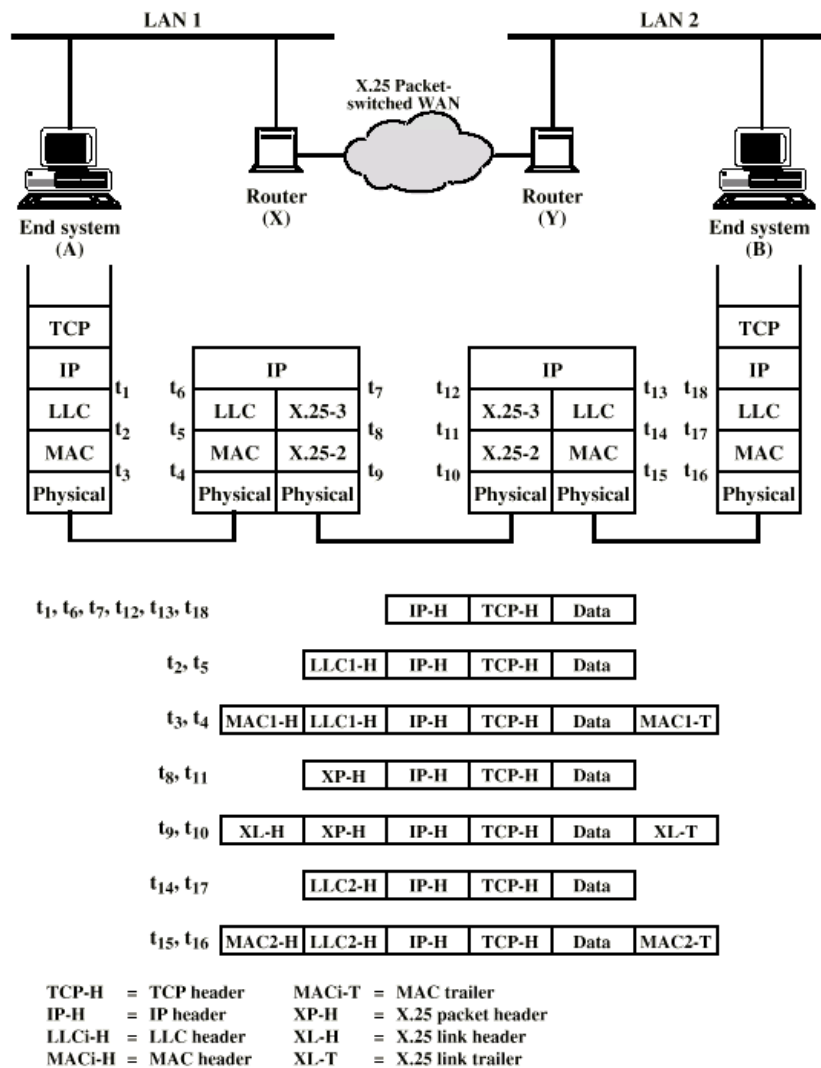
Objective

The objective of this Laboratory Assignment is to get familiar with establishing a PPP and Ethernet connection between devices and establishing a TCP/IP internetwork using static routes.

Theory

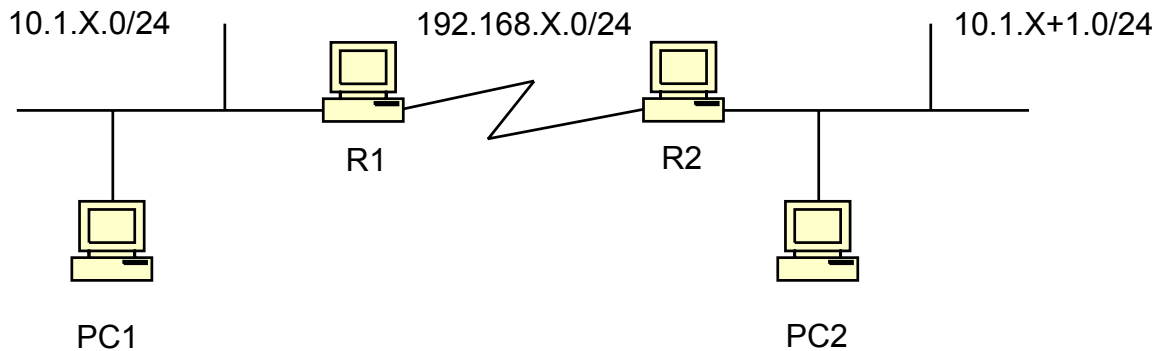
A network is made up of communication links. Each link runs a datalink layer protocol. A common data link layer protocol for serial links is the Point to Point Protocol – PPP standardized by the IETF. For establishing a local area network a common standard is the Ethernet, standardized by the IEEE.

The operation of the Internet Protocol (IP) is shown in the figure below:



Lab Assignment

Create the network topology shown in the figure below:



You would need the following pieces of equipment/hardware:

1. Two Ethernet cross-over cables
2. One Null Modem Serial Cable
3. Four PCs equipped with Ethernet NICs

Please note the following:

1. R1 is running Red Hat Linux 7.2
2. R2 is running Windows NT/2000 Server/Workstation
3. PC1 and PC2 can be running any desktop operating system (Windows 95/98/NT/2000/XP, Linux)

Lab Tasks:

1. Enable a PPP link between R1 and R2 by installing RAS/DUNS on R2 and establishing a PPP connection initiated by R1. Describe the steps and list the commands you undertook to achieve this task.

