Network training

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Contents

1 Introduction

1.1 Topologies

Give an known example, or explain one, for each of this network topologies:

1. Bus,

2. Star,

3. Fully connected.

1.2 TCP connection

According to TCP (RFC761 (January 1980)) , what are the sequence used in order to establish a connection between two hosts?

1.3 TCP or UDP?

1.3.1 Sensors

You are creating a network application using sensors. The sensors can receive settings (rate of measurement, range...) and they continuously send their measurements.

1. Should settings' packets be sent with UDP or TCP? Why?

2. Should measurements packets be sent with UDP or TCP? why?

1.3.2 Website

Does HTTP (RFC2616 (June 1999)) rely on TCP or UDP?

1.4 FTP

1.4.1 Is FTP secure?

According to the file ftp-connect.pcap is FTP secure? What could you do to use it more securely?

1.4.2 FTP and TCP

According to the file ftp-disconnect.pcap does FTP respect the TCP protocol to close a connection?

1.5 DNS

1.5.1 Some news

According to the file nslookup.pcap what is:

1. the DNS server ?

2. the domain name for which the IP address is needed ?

3. the IP address of the domain ?

1.5.2 Which one?

According to the file nslookup-whoseone.com.pcap what is:

1. the DNS server ?

2. the domain name for which the IP address is needed ?

3. the IP address of the domain ?

1.6 Ping-pong

1.6.1 Are you there?

According to the file ping.pcap :

1. what is the node 127.0.0.1 doing ?

2. Is the node 127.0.0.2 on the network ?

3. the IP address of the domain ?

1.6.2 Who has this IP?

According to the file arp.pcap and to ARP (RFC826 (November 1982)) . What is trying to do the source ? What ARP is used for ?