

SYSC 4602 Assignment 1

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October 29, 2022

Part 3: Ethernet Frame Structure

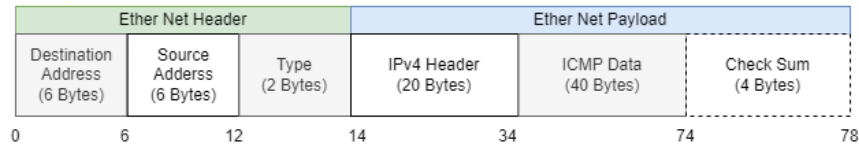


Figure 1: Ethernet Frame Structure Diagram

Part 4: Protocol Overhead

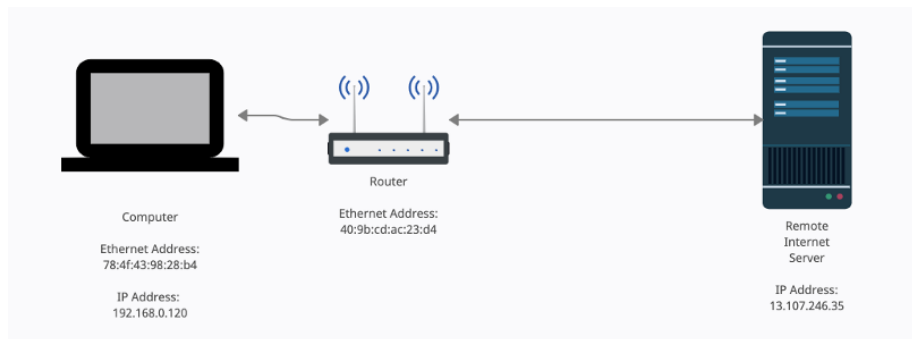


Figure 2: Relative positions of computer, router, and internet server

Part 5: Demultiplexing Keys

What is the broadcast Ethernet address, written standard form as Wireshark displays it?

The broadcast ethernet address is **FF FF FF FF FF FF** which is represented as all **1's** in hexadecimal. As stated in the lab manual, broadcast traffic is sent to a reserved Ethernet address that has all bits set to **1's**.

Which bit of the Ethernet address is used to determine whether it is unicast or multicast/broadcast?

The ethernet address uses the **first bit** to determine whether it is unicast or multicast/broadcast. If the first bit is '0', it is denoted as unicast, whereas if it's '1', it is denoted as multicast/broadcast. Note that broadcast is a special case of multicast and thus; they are both denoted using the first bit as '1'.