Basics of MAC Addressing

CSE320 – Data Communications

Department of Computer Science and Engineering School of Data & Science

MAC Address

- □ Stands for Media Access Control
- ☐ Every node in the LAN is identified with MAC address
- ☐ Physical address, hardware address
- ☐ Globally unique
- ☐ Can not be altered
- ☐ Provided by manufacturer
- ☐ Represented in hexadecimal format, 48 bits long
- ☐ Example, 00:1B:44:11:3A:B7
- ☐ Separators can be: hyphen(-), colon(:) or period(.)

□ IP Address
 □ MAC Address
 □ Name of the person

Why do we need both IP and MAC address?

- ☐ MAC address works on layer 2 network, identify devices within the same broadcast network
- □ IP address used on layer 3, identify the devices on different networks

How to find the MAC address of a device

1. Open command prompt, type ipconfig/all command and press enter



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Select Command Prompt
                                                                                         П
                                                                                              ×
  Autoconfiguration Enabled . . . . : Yes
Wireless LAN adapter Local Area Connection* 2:
  Media State . . . . . . . . . . Media disconnected
  Connection-specific DNS Suffix .:
  Description . . . . . . . . . . . . . . . Microsoft Wi-Fi Direct Virtual Adapter #2
  Physical Address. . . . . . . . . 68-14-01-83-F9-29
  DHCP Enabled. . . . . . . . . . Yes
  Autoconfiguration Enabled . . . . : Yes
Wireless LAN adapter Local Area Connection* 3:
  Media State . . . . . . . . . . . . . Media disconnected
  Connection-specific DNS Suffix .:
  Description . . . . . . . . . . . . . Microsoft Wi-Fi Direct Virtual Adapter #3
  Physical Address. . . . . . . . 6A-14-01-83-F9-29
  DHCP Enabled. . . . . . . . . . Yes
  Autoconfiguration Enabled . . . . : Yes
Wireless LAN adapter Wi-Fi 3:
  Connection-specific DNS Suffix . : domain.name
  Description . . . . . . . . . . . Realtek RTL8723BE 802.11 bgn Wi-Fi Adapter
  Physical Address. . . . . . . . : 68-14-01-83-F9-29
  DHCP Enabled. . . . . . . . . : Yes
  Autoconfiguration Enabled . . . . : Yes
  Link-local IPv6 Address . . . . : fe80::fc4d:f11a:9cca:ec71%11(Preferred)
  IPv4 Address. . . . . . . . . . . . . . . 192.168.0.5(Preferred)
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