**ENUMERATION**

IOS = Internetwork Operating System (Hệ Điều Hành Đa Nhiệm)

**2.3.7 Navigate the IOS**

**P1. Establish basic connections, access the CLI, explore help**

**Basic connections:** use **console connectors (port and cable?)** to connect devices (Switch and PC1)

**Access the CLI:**

*CLI vs Terminal*

**Explore help:** Type ‘?’ next to the S1 command

*USER Exec commands (Exec: someone in a higher position, Command: direction)*

When I type a letter, it is automatically “translating … domain server (find DNS name)”, so I use no “IP domain lookup” so stop it.

* S1> enable
* S1# conf
* S1(config)#no ip domain lookup
* S1(config)#exit

I can type a random letter in order to find the commands (aka context-sensitive help)

**P2. Explore EXEC modes**

1. **EXEC privileged EXEC mode**

S1> enable

S1# ?

*\*A list of commands appears\**

I can type a random letter + Tab -> my partial command can be filled automatically

1. **Global Configuration mode**

S1> enable

S1# configure

S1# end

**P3. Set the clock**

**1.5.7: NETWORK REPRESENTATION**

17 intermediary devices (thiết bị trung gian) (device with many connections)

17 end devices (device with only one connection)

8 end devices that are not PC

4 Network media (phương tiện truyền thông mạng): Wireless (radio waves), Straight through cooper, coaxial, serial DCE/DTE.

Client-server model: it has the client devices (PC) send the request to the server.

Functions of intermediary devices: connect 2 devices, connect the Internet.

2 criteria for choosing a network media type: bandwidth, distance.

1 WANs

3 LANs

The internet: interconnected – network, where many networks connect together

Use Wifi (a type of radio waves) or Ethernet cable

Also use those methods

**(Central)**

Central Server: lưu trữ hệ thống dữ liệu

Các lớp mạng trong kiến trúc mạng phân cấp 3 lớp

Core switch (lớp lõi) (Switch Layer 3, Router, Firewall) > Distribution Switches (lớp phân phối) > Access Switches (lớp truy cập)

**(Branch)**

Branch Server

Laser

Sales – IP Phone0

Accounting – IP Phone1

Wireless AP

**(Home office)**

WRS

Inkjet

Modem

Intranet

Internet

Miscellaneous (The mixture of different things)

**2.5.5 CONFIGURE SWITCH**

**P1 Verify the default switch configuration**

***Switch#*** *Show running-config/ show run*

Interface: giao diện

Fast Ethernet interfaces: 24

Gigabit Ethernet interfaces: 2

Range of values: 0 – 4, 5 – 15

NVRAM (RAM NON-VOLATILE): able to save data when the electricity shut down

**P2 Configure a basic switch configuration**

Change name: configure terminal -> hostname S1 -> exit

Secure console line password: configure terminal -> line console 0 -> password meomeo -> login -> exit (remember to verify)

Secure Privileged mode access -> enable -> configure terminal -> enable password meomeomeo -> exit (remember to verify)

***Switch#*** *Show running-config (to see the current configuration)*

Encrypt password to secure access to privileged mode 0 -> … -> enable secret meomeomeomeo -> exit (remember to verify)

Encrypt the enable and console passwords -> service password-encryption

**P3 Continue a MOTD (Message Of The Day) Banner**

Message that everyone can see when log into the switch

Banner MOTD “Hello feng” -> exit (verify)

**P4 Save configuration File to NVRAM**

***Switch#*** *Copy running-config startup-config/ wr*

***Switch#*** *show startup-config*

**P5 Configure S2**