

## Chapter 6. Basics of Cisco routers & iOS

### 6.1 Router memories

1. ROM
2. Flash
3. NVRAM
4. VRAM

#### 6.1.1 ROM (Read only Memory)

- Holds diagnostic software used when router is powered up.
- Stores the router's bootstrap program.

What is bootstrap all about?

Well, when you turn on the router, it needs something to tell it what to do? And that's what we find in the bootstrap.

So what do we need it to do?

Well I need my device to check the hardware, see what's installed, look at the various components, and make sure they're functioning properly. And what do we call that particular phase?

- POST (Power On Self-Test)

#### 6.1.2 Flash memory

- Contains the operating system (Cisco IOS)
- VLAN.dat (Information of virtual LANs in switches)

#### 6.1.3 NVRAM

Stores startup configuration.

This may include IP addresses (routing protocol, hostname of a router).

Startup-configuration:

It's a backup copy of your running configuration and it's stored in NVRAM because NVRAM is nonvolatile.

#### 6.1.4 VRAM

- Contains the running copy of the configuration file.
- Stores the routing table.

- ARP information can be stored here.

And remember, RAM is volatile. – Power is turned off, everything in RAM is gone.