



Describe common terms related to hardware memory in Cisco routers and switches



Keith Bogart

CCIE #4923



- ✉ kbogart@ine.com
- 🐦 [@keithbogart1](https://twitter.com/keithbogart1)
- in [linkedin.com/in/keith-bogart-2a75042](https://www.linkedin.com/in/keith-bogart-2a75042)

CCIE Routing & Switching



Video Overview

- Describing ROM
- Describing DRAM
- Describing NVRAM
- Describing Flash

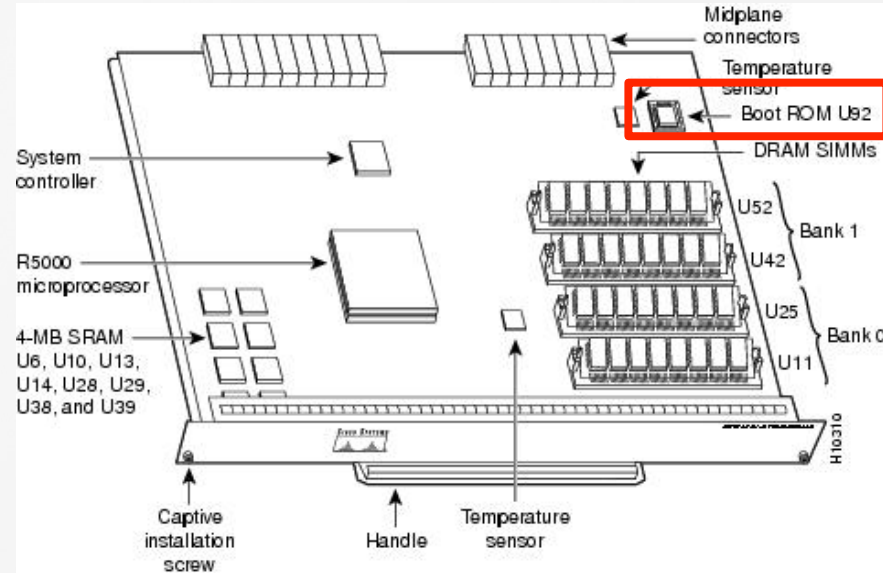
ROM

» ROM = Read-Only Memory

» Also called, EPROM

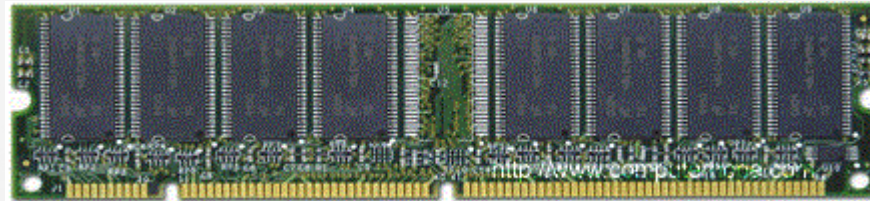
» Contains;

- ROM Monitor
- Boot Loader/Helper
- Power-On Self Diagnostic Programs (POST)
- Sometimes full IOS image.



DRAM

- » DRAM = Dynamic Random Access Memory
- » Contents erased upon loss of power.
- » Two Types:
 - Primary memory (also called “main” or “processor” memory).
 - Shared memory (also called, “packet” or “I/O” memory)



What is DRAM used for?

» Tables/Databases that have frequent changes:

- Routing Tables
- ARP Tables
- MAC Address Tables

» Interface buffers and queues

» Device Configuration Information used at runtime (Running-Config)

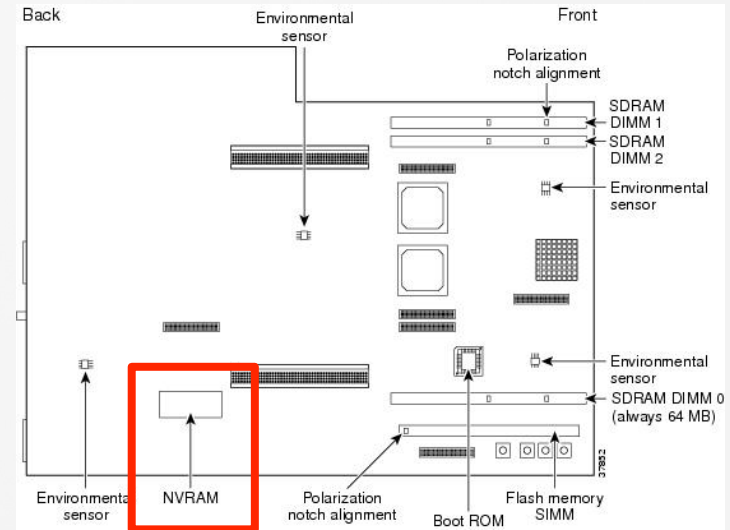
» IOS Software

NVRAM

- » NVRAM = Non-Volatile Random Access Memory
- » Battery-backed Static RAM
- » Contents saved even upon loss of power.

What is NVRAM used for?

- » Startup-Configuration File
- » Permanent storage of HW Revision and identification information.
- » Configuration Register



FLASH

- » Flash Memory another type of ROM
- » Erasable and Reprogrammable
- » Contents retained upon loss-of-power
- » No battery-backup required

