

CCNA 1

Introduction to Networks



CISCO™



Arhitectura hardware a unui router / Switch



Arhitectura generală:

- Sursă(e) de alimentare
- Mother board
- CPU
- Circuite integrate specializate – ASIC
(Application-Specific Integrated Circuit)
- Interfețe
- Memorii





Tipuri de memorii:

- **ROM = Read-Only Memory**
 - Instrucțiunile necesare procesului de boot (bootstrap)
 - **POST = Power-On Self Test** – diagnosticarea componentelor hardware
 - Sistem de operare de urgență (scaled-down IOS)

- **RAM = Random-Access Memory**
 - Conține sistemul de operare (IOS), încărcat în timpul procesului de boot



- RAM (cont.)

- Configurația curentă a echipamentului – *running-config*
- Tabela de rutare
- ARP cache / DNS cache
- Buffer pentru pachete / frame-uri

Conținutul acestei memorii este volatil – se pierde atunci când echipamentul este scos de sub tensiune / restartat.



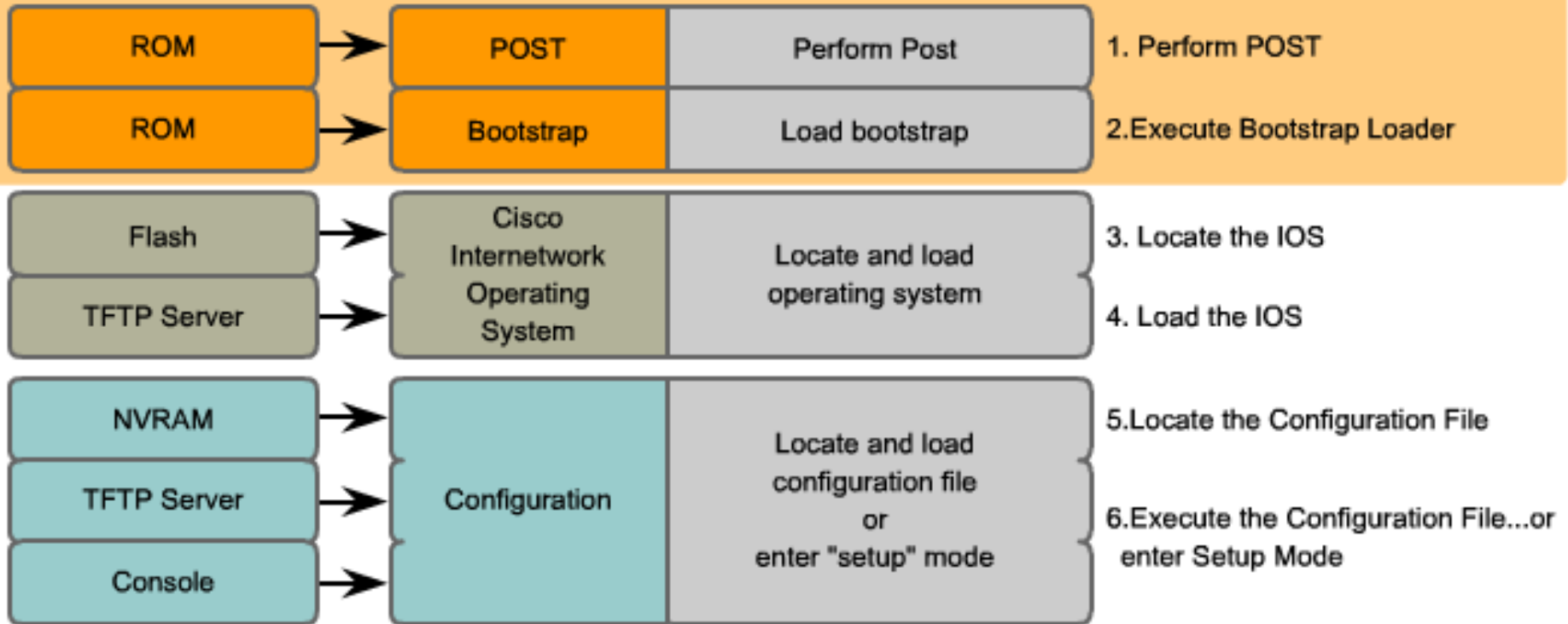
- Flash Memory

- Conține sistemul de operare **IOS**
- Alte fișiere – semnături IDS, fișiere MP3 pentru „music-on-hold” etc.

- NVRAM (Nonvolatile RAM)

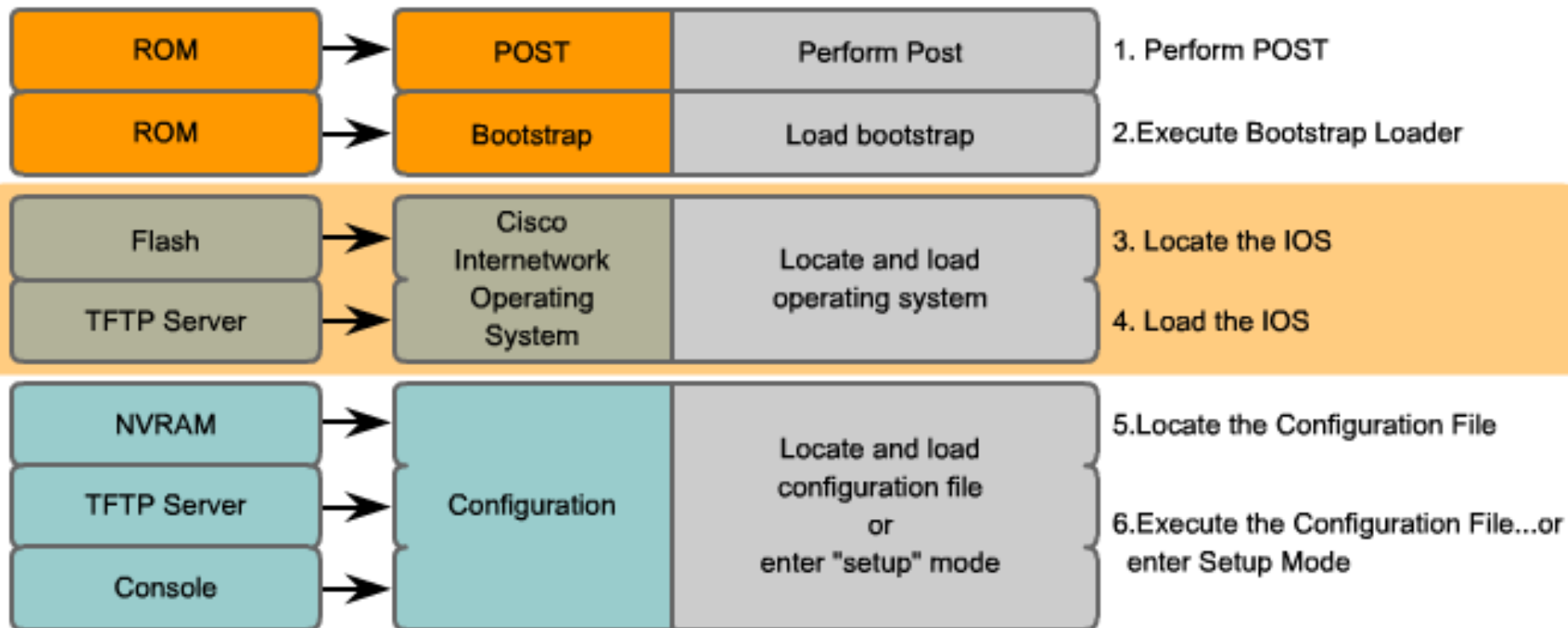
- Conține configurația salvată a echipamentului (*startup-config*)
- Conținutul nu se pierde la decuplarea de la tensiune





```
System Bootstrap, Version 12.3(8r)T8, RELEASE SOFTWARE (fc1)
Cisco 1841 (revision 5.0) with 114688K/16384K bytes of memory.
```



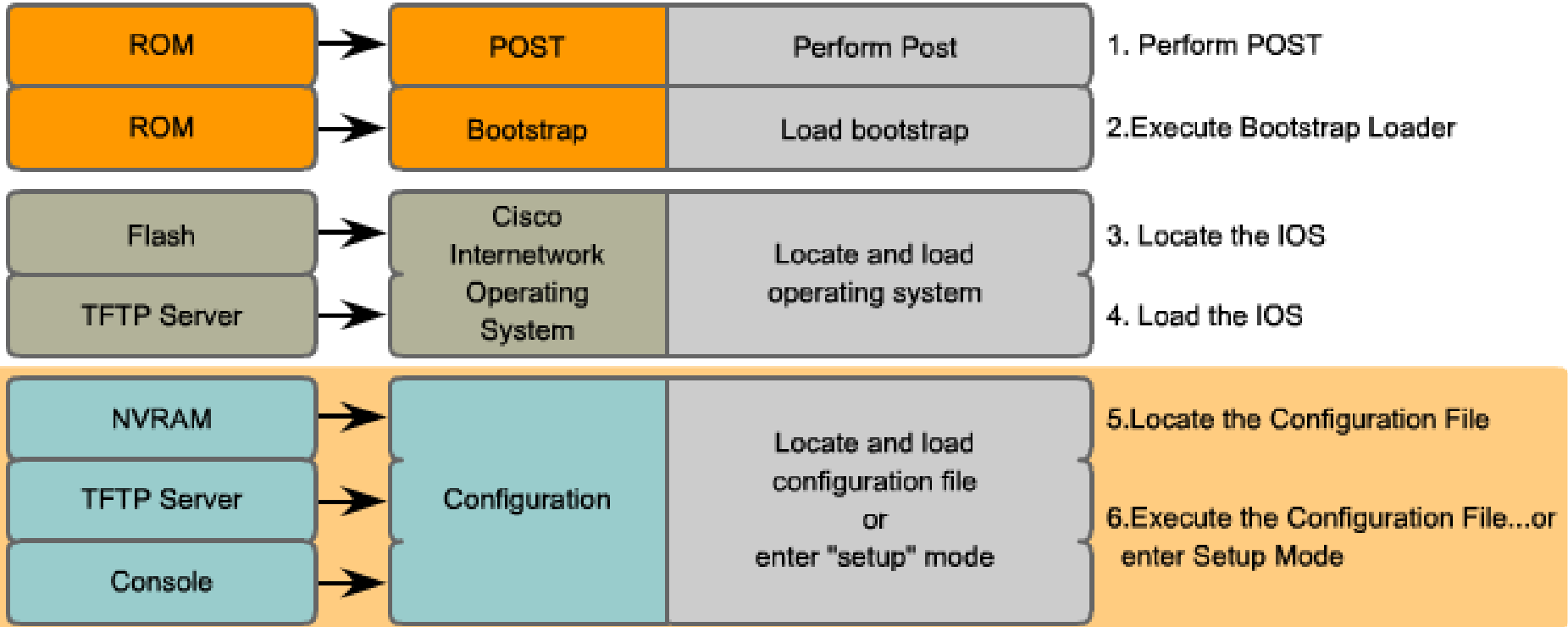


```
System Bootstrap, Version 12.3(8r)T8, RELEASE SOFTWARE (fc1)
Cisco 1841 (revision 5.0) with 114688K/16384K bytes of memory.
```

```
Self decompressing the image :
```

```
##### [OK]
```





```
Copyright (c) 1986-2006 by Cisco systems, inc.
Compiled Mon 15-May-06 14:54 by pt_team
```

```
--- System Configuration Dialog ---
```

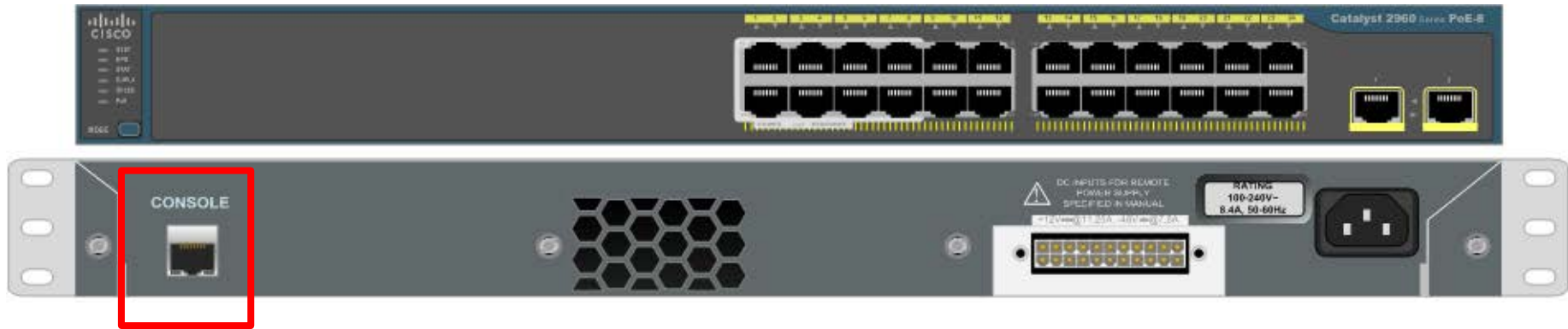
```
Continue with configuration dialog? [yes/no]: no
```



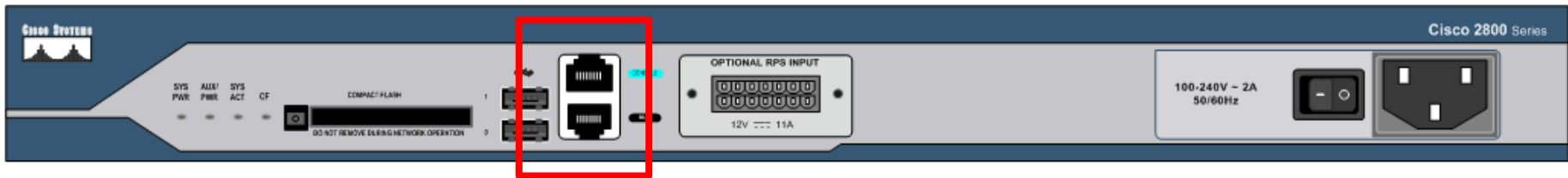
Accesul pe echipamentele Cisco



Accesul pe echipamente – se face folosind **portul de consolă** (management *out-of-band*)



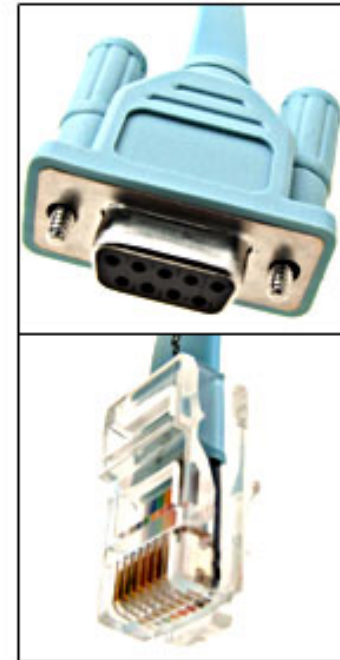
Switch – Catalyst 2960



Router – Cisco 2811



Cablul folosit – roll-over (RJ45 – DE9)

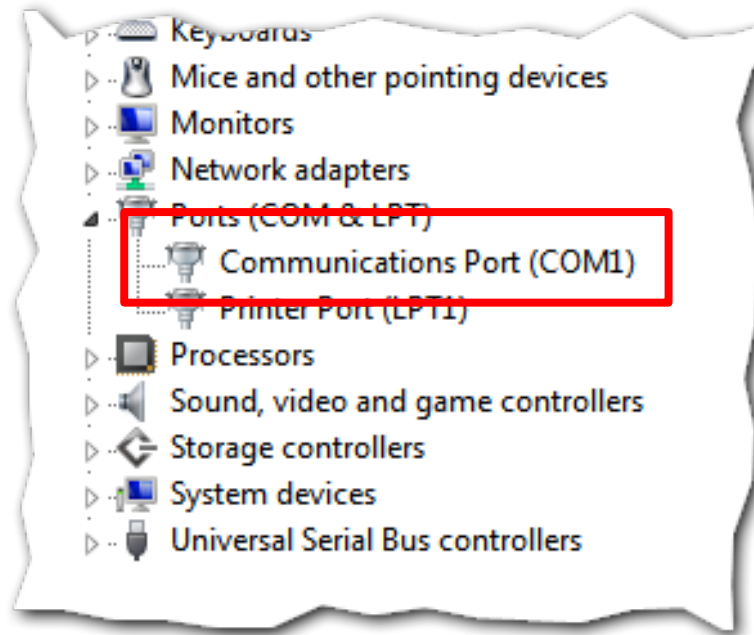


+ Adaptor DE9 - USB



Etape necesare conectării:

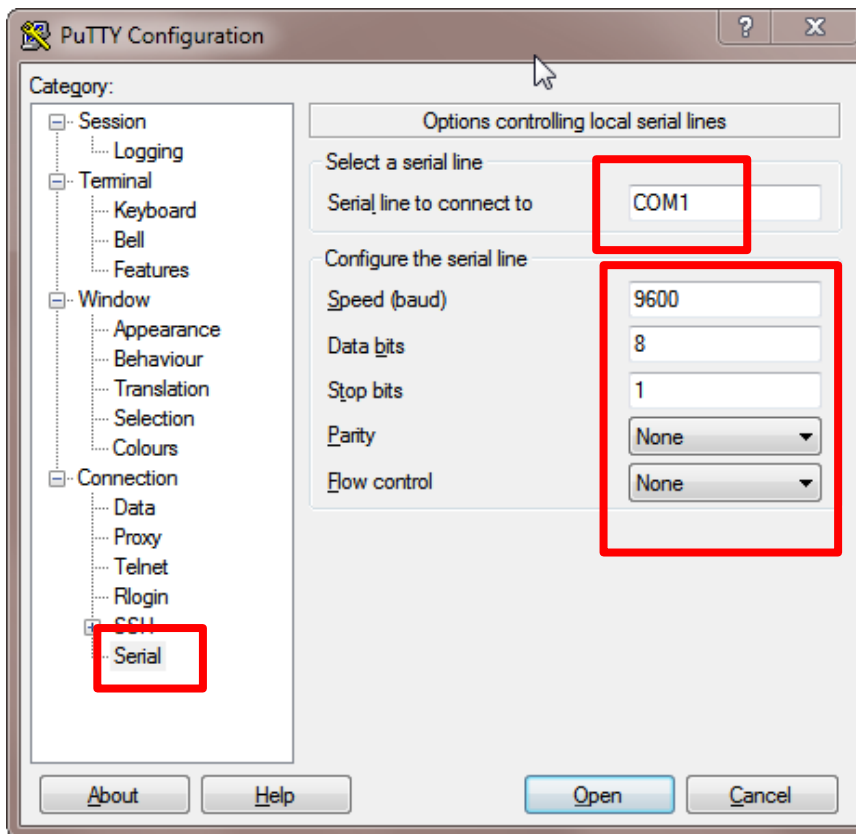
- Verificare port COM alocat adaptorului COM-USB



Etape necesare conectării:

- Configurare emulator de terminal – putty.exe

(<http://www.chiark.greenend.org.uk/~sgtatham/putty/>)



Speed (bits / second)	9600
Data bits	8
Parity	None
Stop bits	1
Flow Control	None

9600 – 8 – N – 1 - N

Etape necesare conectării:

- Configurare emulator de terminal – putty.exe

