Computer Networks – IT2050

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**Lecture 01 – Overview of configuration of Network Devices**

Diagram

Description automatically generatedNetwork Devices – Internal Components

CISCO IOS Software

* As with a computer, a network device cannot function without an operating system
* CISCO calls its OS as the **CISCO international Operating System** – **CISCO IOS**

Command Line Interface – CLI

* The CISCO IOS software uses a command line interface as the traditional console environment
* This environment is accessible through several connection methods
  + Console
  + Aux Port
  + Telnet – is a protocol **that allows you to connect to remote computers (called hosts) over a TCP/ IP network (such as internet).** Using telnet client software on your computer, you can make a connection to a telnet server (that is, remote host).

**Diagram

Description automatically generated**

**User Level Passwords**

|  |  |  |
| --- | --- | --- |
| **Access from** | **Password Type** | **Configuration** |
| Console | Console password | **line console()**  **login**  **password faith // password can be anything** |
| Auxiliary | Auxiliary password | **line aux()**  **login**  **password hope // password can be anything** |
| Telnet | Vty password | **Line vty 0 4**  **login**  **password love // password can be anything** |

**Router Modes**

Diagram

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Diagram

Description automatically generatedGraphical user interface

Description automatically generated with low confidence**Router Modes**

Diagram

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**Router Memory**

**Diagram

Description automatically generated with medium confidence**Router Memory consist of

* RAM
* NVRAM
* Flash
* ROM
* Console
* Interfaces

RAM

* Store **running or active configuration files**
* Loses content when router is powered down
* A working storage

ROM

* Read only Memory
* Stores **bootable IOS image and bootstrap program**

NVRAM

* Provides storage for the **startup configuration file**
* Retains content when router is powered down

Flash Memory

* Holds the **fully functional IOS Image**
* Retains content when router is powered down
* Is a type of electronically erasable, programmable ROM (EEPROM)

**Displaying Configuration files**

show running-config Graphical user interface, text, application

Description automatically generated show startup-config

Graphical user interface, text

Description automatically generated

**Managing Configuration files**

Diagram

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**Copy Command**

* Copy files in a router (configuration file, new version of the IOS software)
* Move configuration files among RAM, NVRAM and TFTP server

Copy running-config startup-config

Diagram

Description automatically generated



**Text, letter

Description automatically generatedcopy running-config startup-config cont.**

Diagram

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Graphical user interface, text, application, email

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