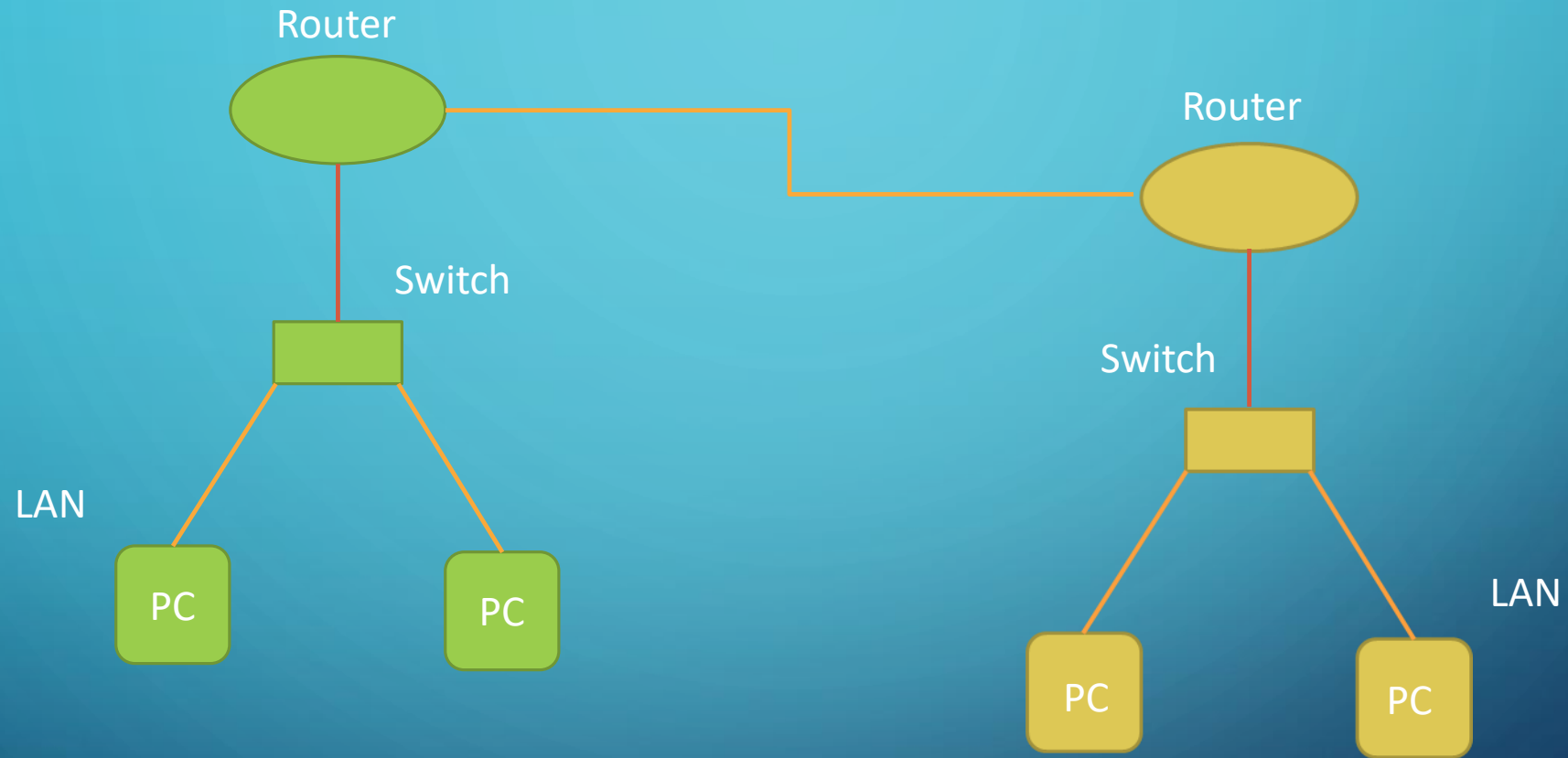


ROUTING AND SWITCHING

- Any kind of data delivery via network can be categorized as Routing or switching.
- Routing means data delivery between different networks or broadcast domains.
- Switching is the process of data delivery inside the same network.

ROUTING AND SWITCHING



ROUTING AND SWITCHING

- Router (Cisco)
- Hardware Components : -
 - Processor
 - Motherboard
 - ROM
 - DRAM
 - NVRAM
 - Flash Memory (Storage)
 - Power Supply
 - Ports

ROUTING AND SWITCHING

- Router Software Components : -
 - IOS (Internetworking Operating System) - It is a kind of operating system which is permanent inside flash memory.
 - Start-up – Various configuration that are permanently saved in NVRAM and loaded automatically when the router boots up.
 - Running – The configuration which are active on the router. (Temporary inside DRAM)

ROUTING AND SWITCHING

- Router Categories : -

Based on position and importance in the topology.

- Access layer router (Ensures speed and reliable data delivery)
- Distribution Layer router (Ensures that packets are properly routed between subnets and VLAN)
- Core layer router (Backbone of Network)

ROUTING AND SWITCHING

- Based on manageability : -
 - Integrated services router (ISR) : - Comes with lots of features.
 - Non ISR : - You need to add extra feature

ROUTING AND SWITCHING

- Router ports : -
 - Management Port
 - Console port
 - AUX port
 - Data transfer port
 - WAN port (Serial port, DSL port, ISDN port)
 - LAN port (Ethernet, Fast Ethernet, Gb port, 10 Gb port)

ROUTING AND SWITCHING

- Router function : -
 - Routing
 - Default gateway providing
 - Traffic filtering
 - Network Address translation (**NAT**)
 - Traffic prioritizing

ROUTING AND SWITCHING

- Routing : -

This is a process to find out routes for accessing the different networks and to transfer data between different networks.

ROUTING AND SWITCHING

- Types of Routing : -

- Static – It is not based on measurement or estimates of current traffic and topology but on the choice of route is done previously. It very difficult to maintain in large scale scenario.

- Dynamic – It can change route decision on the basis of topology and traffic change. Here routers can decide the best route by communicating each other.



END OF DAY 7

NETWORKING (CCNA TRAINING)

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