Network Devices : Hubs, Switches & Routers

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Hubs

- Used to communicate on the same network
- Doesn't identify MAC addresses (broadcasts all the ports) (Layer 1)
- Doesn't provide equal speed out of each port
- Uses single broadcast domain & single collision domain
- Doesn't implement any security

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Switches

- Used to communicate on the same network
- Works on MAC addresses (Layer 2)
- Provides equal speed out of each port
- Uses single broadcast domain & multiple collision domains
- Creates a CAM table (Content Addressable Memory) to speed up communication
- Uses an ASIC chip as an hardware platform (Application Specific Integrated Circuit)

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Routers

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Used to communicate over different networks

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Works on IP addresses (Layer 3)

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Chooses always the shortest path to reach a destination

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Implements load balancing

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Creates a routing table