

Switches

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This past week I've been learning more about switches. Switches are networking devices that connect end devices on a network and use packet switching to transport data. Switches have a startup process, remote configuration, secure access and cryptographic features. Switches first execute POST, then load the Bootloader from the ROM, followed by the CPU performing a few startup operations, then the Flash file system is initialized loading the IOS and transfers control of the switch to the IOS. In switches, a VLAN interface can be used to remotely configure the switch. VLAN interfaces are the only interfaces that need to be manually activated after the powering on of the switch. Some switches are full duplex that allows bidirectional data flow and 100% efficiency in both directions. Some switches also sport Auto-MDIX that allow any type of Ethernet cable (crossover, straight through, or rollover) to work regardless of the devices being connected. When remotely accessing a switch it's important to be wary of telnet connections as they are done in plain text. For more security, SSH is strongly encouraged to ensure end to end encryption. SSH used port 22 while telnet uses 23. Switches that support cryptographic features have "k9" in their IOS file name. Switches have many different features and have many advantages in comparison to hubs. Overall switches have a lot of functions and I look forward to continuing to learn more about them.