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Task 1

A file of 256 MB is to be sent from a file server to a file client, across which are connected through a C3750 switch together. According to network speeds (1 Gbps) from the server to the switch, and (100 mbps) from the client the switch, calculate how much time it takes for transferring file between the server and the client?

File size: 256 MB = 2048 Mb

Transfer speed: The limiting speed is 100 Mbps (lowest speed).

Transfer Time = $\frac{2048\ \text{Mb}}{100\ \text{Mbps}} = 20.48\ sec$

what is the use of wire 4 5 7 and 8 in straight and crossover?

Ethernet Cables (10/100 Mbps):

- One pair for transmitting data, another for receiving data.
- The remaining two pairs were often used for **Power over Ethernet (PoE)**

Gigabit Ethernet:

- Uses all 4 pairs for data transmission and reception simultaneously.
- Achieves 8 times faster speeds than 10/100 Mbps.
- PoE is still supported, with power sent over the same wires used for data transfer.