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Oral 180 second English:

Transmission channel

Hello, my name is Julien and I'm going to talk about the functioning of a transmission channel.

First, what is a transmission channel? It is the physical or remote device that allows the transmission of information from a point A to a point B. Example an Ethernet cable, it receives the information in its input and transmits it in its output. The information that passes through the cable is not readable, if you connect directly to the cable, you will not understand a word. The information is coded by digital messages, the information is transformed into electric, electromagnetic, or light signal. Unfortunately, these are not perfect, there is noise and distortion:

- Noise is created by interference caused by electronic, electromagnetic or crosstalk components.

- Distortion is due to physical limitations of the channel or imperfections of the equipment.

It is very important to take this defect into account when designing a transmission channel. Besides, what are the different types of transmission channels?

- The electric cable, simple shielded copper cable which transmits an electric signal. Example an Ethernet cable composed of a maximum of 8 electric wires in pairs.

- Then there is the optical fiber, a glass or plastic cable. It conducts light signals at a very fast speed, with little loss, and almost no distortion or noise.

- In third the electromagnetic channel allows a wireless transmission to greater or lesser distance. Example: ionosphere signal that can go all around the globe.

For illustrate, you send a message to your sister in USA from your phone in France. The message is sent by waves to the closest antenna, then in electric signal. Thanks to the submarine cable the message goes to USA, and then the closest antenna to your sister going to convert the electric signal in waves. Then your sister phone receives the signal, so the message.

Finally, the transmission channel is everything that allows us to connect the world to us. Waves and cables are the basis of our world today. Thanks for listening me.