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Tipos de cableado

The means of transmission is the physical medium that allows information to be transmitted. Transmission is through electromagnetic waves. Every media we're going to see meets a number of features in terms of: bandwidth space of transmission speed between cost reliability restorers and ease of installation are classified in: Driven: they are the ones that use a solid medium (cable) for transmission. Not guided: Provide support for waves that need to be transmitted, but not directed. They use air to transfer (wireless) data. The estimated cable investment in the installation is 6% of the total cost, and yet 70% of network faults have been shown to be amplification due to wiring deficiencies. Cables transmit electrical or light impulses. Transmission speed, range and quality (without noise and interference) are the elements that characterize this type of medium. The evolution of this technology is an optimization orientation of these three variables. One of the main problems of data transfer by electrical cable is the magnetic field generated by electromagnetic induction. The existence of a magnetic field around a cable will create interference with adjacent cables due to this phenomenon. There are three types of cables: coaxial, distorted pair, fiber optic. Each of these cables provides a solution to the above mentioned issues. A curly pair guided the twisted pair resembles the phone's cables. It consists of eight 2-2 cables identified by colors for easy installation. It is sluggish to reduce electrical interference. They are easy to install, low cost and have a transmission speed up to some Mbps. UTP: an inexperienced distorted pair. Cheaper, simpler and more flexible. A deformed couple is protected. More protected, less flexible. Depending on the number of single-length braids, distorted pair cables are categorized (1, 2, 3, 4, 5, 5e, 6, 7, 7a, and 8). The higher the number of braids, the higher the transfer speed because they cause less disruption. In cable pairs, we distinguish between two classifications: by category: each indicates electrical characteristics for the cable. By department: Each indicates the distances, bandwidth, and allowable applications for which it is useful. Bandwidth Classes B C D 100 Khz 1 Mhz 20 Mhz 100 Mhz Cat.3 2 KM 500 m 100 m - Cat.4 3 KM 600 m 150 m - Cat.5 3 KM 700 m 160 m 100 m Since UTP Cable Category 5 is cheap and easy to install, Increased utilization on LANs star topology. Sometimes, however, it's... Due to the bandwidth requirements of today's networks. The speed reached is up to 100 Mbps. Guided:Coaxial cable The coaxial cable is similar to cables used in TV antennas: copper wire in the central part is surrounded by a metal grid and separates the two multi-elements with a plastic cylinder, protected by an exterior cover. High bandwidth and excellent noise immunity (due to its hieregend network). Thick Coaxial: Started to be used on a LAN but is currently only used for the network distribution artery structure. There are two types: RG-100: most common. Core of 2.6 mm, 9.5 mm diameter 1 cm cable mesh approx. RG-150: It has a sequence of caliber layers that better protect against electromagnetic interference. Core 3.7 mm, 13.5 mm mesh 1.5 cm cable diameter. Coaxial Fine: Given its flexibility it is easier to install even though it is more expensive and has lower immunity from interference. Core 1.2 mm, network cable 4.4 mm approx. 0.5 cm. There are several types but the most common is RG-58 (in Spain it is called RG-58/U). Broadband Coaxial:Used for analog signaling, typically for sending cable TV signal. It can be used for transmissions up to 100 km away. A 300MHz cable can maintain data transmission speeds of up to 150 Mbps. It can be used over longer distances. The sections between returnees and stations can be longer. Supports additional stations on a common line. Offers higher frequency and faster transmission speed. Training: Fiber optics very fast transmission speed: Up to 1. Gbps allows you to install cables of very high length: up to 30 km. However, its installation and maintenance comes at a high cost. It is used when it is essential to cover long distances or the amount of information is high. The UM's non-guided communication is based on the distribution of electromagnetic waves in space. Radio waves: These are those that use WiFi or Bluetooth networks. They are able to travel long distances and press solid materials such as walls or buildings. They're multi-directional. Microwave: Travel in a straight line so that the receiver projector must be carefully aligned. They're having trouble crossing buildings. Due to the curvature of the Earth itself, the distance between the returnees should not exceed 80 km away. This is a cost-effective way to communicate 2 geographical areas through 2 towers high enough that their edges are visible. Infrared: They cannot move solid objects Which indicates short-distance transmissions. They are very convenient for laptops but do not get high transmission speeds (e.g. the TV controller). Light waves: They're one-way. They can be used to communicate in 2 adjacent buildings. (e.g. laser) comparisons between medium media maximum TRANSMISI speed & OACUTE; N Distance Between Restores Pair Distorted 1 GBPS 2-10 Km Coaxial 2 GBPS 10-100 km Fiber Optic >10 GBPS >100 Km Waves Radio 1 MBPS 100-1000 km microwave 10 MBPS 80 km infrared 10 MBPS 200 km waves light 1 MBPS 1 KM Cable is the means that through the information flows through the network. There are different types of cables typically used on LAN networks. A network can use one or more cable types, although the type of cable used will always be subject to the network topology, the type of network it uses, and the size of the network. These are the most common types of cables on LAN networks: an unwashed curly pair cable (UTP) This type of cable is most common. It has a shielding variable but the variable that does not rock is usually the best choice for SME. Image.1. UTP cable quality resulting in the amount of data it is able to transmit varies depending on the cable category as well. Gradations range from the phone cable, which only transmits the human voice to a Category 5 cable capable of transmitting 100 Megabits per second. UTP categories The difference between the different categories is stretching. The more pressure, the greater the data transfer capacity. Type 3 or 5 cables are recommended for deploying networks in SMEs (small and medium enterprises). However, it is convenient to use type 5 cables because they will allow transfers from 10Mb technologies to 100 Mb technology. This is a plastic connector that resembles the phone cable connector. The acronym RJ refers to the Jack standard recorded, created by the phone industry. This standard defines the position of the cables on the pin that corresponds to them. A distorted pair cable is projected / a pair protected distorted (STP) cable One of the disadvantages of a UTP cable is that it is sensitive to electrical interference. For environments with this issue there is a type of UTP cable that carries protection, so, protection against electrical interference. This type of cable is often used in token ring topology networks. Coaxial cable The coaxial cable contains a copper condalant inside. It is wrapped in a soul to separate it from a mesh-shaped metal shield that distinguishes the cable from possible external interference. Stlch 3. Coaxial cable through Coaxial cable is more complicated than that of UTP and has a high level of resistance to interference. On the other hand, you can also connect greater distances than with twisted torque cables. There are two types of coaxial cable, thin and thick known as coaxial thin and thick coaxial. You can often hear references to the thin coaxial cables such as thinnet or 10Base2. This refers to an Ethernet-type network with Fine Coaxial Wiring, where 2 means that the largest possible segment is 200 metres, being actually reduced to 185m. Coaxial cable is very popular in networks with bus topology. You can often hear references to thick coaxial cables such as thicknet or 10Base5. This refers to an Ethernet network with thick coaxial cables, with 5 means the largest possible segment is 500 metres. Coaxial cable is very popular in networks with bus topology. A thick coaxial cable has an extra layer of plastic that protects the copper transporter from moisture. This makes this type of cable a great choice for extensive BUS networks, though it should be noted that this cable is difficult to bend. The most common coaxial cable connector is the BNC connector. B.N.C. represents Bayonne-Neal-Kunselman. BNC connectors can be of three types: Standard, Terminator, and Connectors in T. Fig.4. The fiber optic cable BNC connector fiber optic cable consists of a glass center surrounded by several layers of protective material. What is transmitted is not electrical signals but light, so the problem of interference is eliminated. This makes it ideal for environments where there is a lot of electrical interference. It is also widely used in connecting networks between buildings due to its immunity to humidity and sun exposure. With a fiber optic cable, signals can be transmitted at much greater distances than with coaxial or distorted pair cables. In addition, the amount of information that can transmit is greater and is therefore ideal for networks through which you want to make video conferencing or interactive services. The cost is similar to a coaxial cable or UPT cable but the installation and modification difficulties are greater. Sometimes 10BaseF sounds like a reference to this type of wiring. Actually, these initials are talking about an Ethernet network with fiber optic cables. Fig.5 Fiber Optic Cable Features: The smooth outs are made of Tylon or PVC. Cavalier fibers help give power to cables and make it harder to break. Plastic coating is used to vaccinate the central fiber. The center of the cable is made of glass or plastic fibers. Fiber Optic Connectors Most Common Fiber Optic Connector He's an ST. author. It is also increasingly used by SC connectors for easier use. Summarize the types of cable types used on LaN networks without wiring Not all networks are implemented by wiring. There are networks that use high-frequency radio signals or infrared horns to communicate. Every point in the grid has an antenna from which it emits and receives. Mobile phones or long-distance satellites can be used. This type of connection is especially suitable for use with laptops or for older buildings where wiring cannot be installed. The drawbacks of these types of networks are their high costs, their sensitivity to electromagnetic violations and the low safety they offer. They're also slower than cable-using networking. Wiring.