

23/7/24

Experiment 2

Aim:

Study of different types of network cables

a) Understand different types of network cable

Different types of cable used in networking are:

1. Unshielded Twisted Pair (UTP) Cable
2. Shielded Twisted Pair (STP) Cable
3. Coaxial cable
4. Fibre optic cable

UTP

i. Category 3

Max. Data Transmission (MDT): 10 bps

Adv:

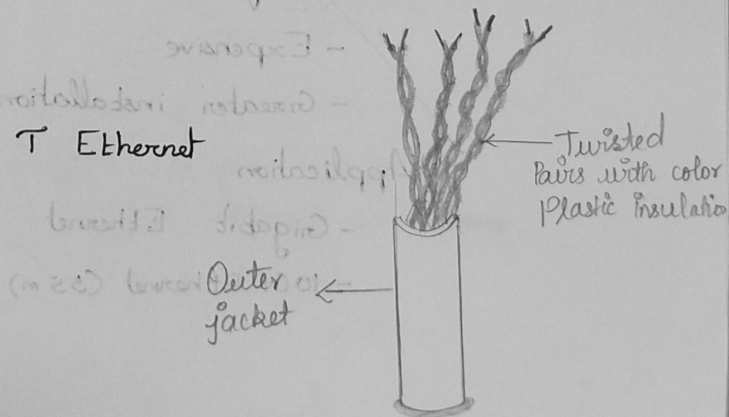
- Cheaper in cost
- Easy to install as they have a smaller overall diameter

Dis-adv:

- More prone to EMI

Application

10 base T Ethernet



a) UTP

ii. Category 5

MDT: Up to 100 Mbps

Application

- Fast ethernet
- Gigabit ethernet

iii. Category 5c

MDT: 1Gbps

Application:

- Fast ethernet
- Gigabit ethernet

STP

Category 6, 6a

MDT: 10 Gbps

Advantages:

- Shielded
- Faster than UTP
- Less susceptible to noise and interference

Disadvantages

- Expensive
- Greater installation effort

Application

- Gigabit Ethernet
- 10G Ethernet (55m)



STP

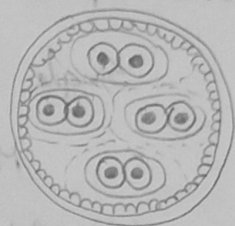
SSTP

Category 7

MDT: 10 Gbps

Application

- Gigabit Ethernet
- 10G Ethernet (100m)



Coaxial Cable

RG-6, RG-59, RG-11

MDT: 10-100 Mbps

Adv

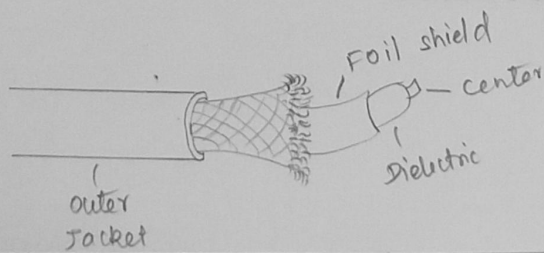
- High bandwidth
- Immune to interference
- Low loss bandwidth
- Versatile

Dis-adv

- Limited distance
- Cost
- Size is bulky

Application

- Speed of signal is 500m
- Television network
- High speed internet connections



Fibre Optics Cable

Single mode, Multi mode

MDT: 100 Gbps

Adv:

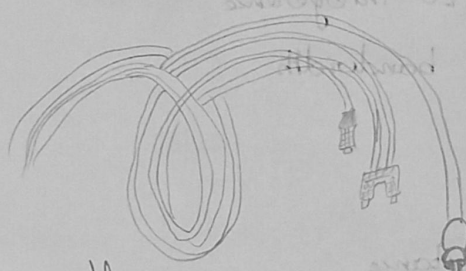
- High speed
- High bandwidth
- High security
- Long distance

Dis-adv

- Expensive
- Requires skilled installers

Application

- Max dist is around 100 m



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Result

Different types of network cables have been studied