**Intro to Networking**

**What is networking?**

The connection of computers that can share resources

* Each machine on a network is called a node

Networks power the internet

**The Packet**

A size of data that is transferred over a physical medium to another node on the network

* Commonly TCP/IP or UDP

Network Medium

* Unshielded twisted pair (UTP)
  + Limited distance, may need repeaters to boost signal
* Shielded twisted pair (STP)
  + Wrapping of the wire to make sure there’s no disturbances in the wire itself
* Coaxial cable
  + Most familiar with; when cable that connects the modem to the wall
* Fibre cable
  + Uses light
  + Longest length

^All of these cables have different maximum length

All susceptible to wire/fibre taps

**RFCs** – request for comments

Publication of some kind that fully defines a type of technology in all its aspects

**Network topologies** - structure

* Bus
* Ring
* Star
* Mesh
* Hybrid

Graphical user interface, application

Description automatically generated

**Backbone is the cable**

Graphical user interface, application

Description automatically generated

**Each node is connected to the next**

* Issue is, is that if one node drops, then the whole network fails as node 2 cant get to node 4 without node 3

Graphical user interface, application

Description automatically generated

**All nodes connected to a central net device**

If the central net device fails, none of the nodes can talk to each other

Graphical user interface, application

Description automatically generated

**Can have a mix of topologies**

More common

Graphical user interface, application

Description automatically generated

**Each node is connected to one another**

* **Always a path to it**

Also very common