

- Different types of Open Standards/Closed: (generally not everything is open only a few)
  - **Code:** Is the source code/programming code is used to create software
  - **Machine Form Factor:** Open range of ways arrange a PC (ie open case for a desktop so you can fit more rams etc) or data centre eg: so companies collaborate to an open computer project to create data centre to be efficient
  - **Network Protocols:** we need it opened so all computers can communicate via a protocol.
  - **CPU:** x86 (instruction set is open)→ AMD + Intel. These company create different cpu design and manufacturing processes that are closed
  - **Network hardware:** They use open network hardware but cisco and HP make extensions to differentiate themselves from other companies. Their OS for their device is also closed
  - **Operating system:** Opened- Run on any hardware? Any software run on os? (Method/criteria of working out if it is closed)
    - **IOS:** is least open since OS is closed the file system is closed and software has to be approved by apple
    - **OSX:** osx file system is generally closed. Hardware must be apple hardware. Run any software created by people
    - **Windows:** closed by Microsoft. Can run on any hardware (amd intel). Anyone can create software or application for windows
    - **Android:** OS is open and can run on any hardware (Samsung) and software and application can run on top of it.
    - **Linux:** open sourced. Can run on any hardware and any software can be made.
- Port 80: is port where apache works
- Firewall: What port and ip address being blocked
  - To enable ports (opened so it can be accessed eg: remote desktop eg: port 80 or 3389) → Control panel → Windows firewall → Advanced setting → Inbound rules → New rule → Port → TCP Port (90 % of application is on) → specific local port: 80 or 3389
- **Advantages: Local file server: (centralised file serving):** (home group on my pc for printers)
  - Faster than cloud
  - Means of backing up local hosts
  - Control/security
  - Convenience and migration
- Four aspect of windows files and print services (local file sharing)- (Service message block): They allow us to access printers, files and other services authorised.
  - **Server message block:** *delivery system* language between client PC and a server/other computer offering resources and service you want to use. The smb packet moves the files/print job around the network to a printer.
  - **Authentication and Authorisation:** Authentication- proving you are who you say you eg: shared username and password, active directory username &password, home group, Microsoft account. Authorisation determining what is it you're allowed to do.

- **Name resolution:** giving resources on network meaning name like: accounting printer. Instead of ip address
- **Service announcement:** they advertise resources/facilities (eg= printers, other PC) available on browsers  
**Eg:** Samba (file sharing) google drive
- Different types of windows file server
  - **Local account:** Creates username and password. Client logs in to grant rights to files and printer and other resource authorised. For one server
  - **Active directory:** for multiple servers. Computers that use this are part of a domain. Deleting and adding computer/changing password only needs to be done once to the domain. Think of a domain as a encapsulating of many servers
  - **Home group:** common users present on a computer. Allowing home group to have access to resource means all computers part of home group is given rights as well. Disadvantage: can't differentiate between users. But a local account can be used for resources that you don't want to be shared. (Think jin cherng chong pc). For trust already present
  - **Microsoft account:** account stored by Microsoft. Allow Microsoft to sign rights to resources they have implemented. Microsoft can offer services like skydrive built in. Allow feature of active directory except you don't need to set up domain controller.
- **Alternative traditional local file server:**
  - Printers are often network aware: so don't need a file server.
  - Cloud storage: The bad thing is cost and performance (transfer files are much slower than local area network)
  - Drop box: cost (pay for it after free limit) Replication: replica copy on different devices. So we can download from every device. Space inefficient

### The three different types of software licences for digital work: (restrictive to less)

- **Copyright Licence:** form of intellectual property created for the purpose of enabling the creator of the software to be financially compensated. Idea that when we pay for software we pay for license and we agree to operate it under end user agreement. Idea that we don't pay software to own it (not open sourced)
- **Copyleft Licence:** A group of licenses that allow copy and redistribution but require derivative work to be licensed under same term. So if it opens source software then the derivative must be open sourced EG: linux- Ubuntu, debian all under same terms.
  - **Creative commons:** is a type of copyleft. Right to distribute copyrighted work without charges. Types of creative commons includes-
    - **Attribution:** Licensees may copy, distribute, display, perform the work and make derivative work but author or license must be credited.
    - **Share-alike:** licensees may distribute derivative work under a license identical to licence of original work
    - **Non-commercial:** Must be for non-commercial purposes for copying and distribution etc  
**EG: Wikipedia + khan academy**

- **No derivative:** licensees may copy, distribute, display and perform the work but not derivative work based
- **Permissive Software Licence:** (BSD) anyone can take code or software with bsd and derive it and profit from it. Apple used bsd os as a base and extended it. Redistribution and use of source code and binary forms with or without modification are allowed to be sold for commercial gain. But can't original creators product to endorse derivative
- **Public Domain:** works can be released as public domain. Released after a certain number of years.
- **Windows file share vs apache web server download:** generally windows file sharing is faster for school labs as the apache web server download speed is capped. The windows file share is streamlined for speed
- **SSH vs RDP:** Generally ssh is suited for Linux while RDP is more suited for Windows. RDP is meant for allowing Graphical user interface remote access to a windows server or computer. SSH is predominantly meant for allowing remote access via command line for Linux (but windows ssh is possible and also ssh can also allow GUI for Linux.). Determining whether to use SSH or RDP depends on many factors like what is the user wanting to do. The easiest rule is working out if the user is trying to remote accessing to a Linux or Windows device/server.

If device/server is Windows use RDP if it is Linux use SSH. If the device/server is Linux but you need GUI then install GUI in the SSH client. But both SSH and RDP has their own purpose

- **Absolute vs Relative path:** The absolute path is the full path from very beginning of file system eg: linux: (forward slash) /root/ windows C:\ or linux: /(name)
- While the relative path is the locating relative to current working directory so it starts not at the beginning of file system.
- **Windows vs Linux Path:** so for windows path it uses \root\usr (backslash) and also / Linux path is just: /root/temp (forward slash).
  - **SCP vs CP:** The difference between the two is that scp is designed to be used over a network. It allows to copy a file or a set of files between two internet connect Unix system in the world