

July Requests

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Today's topics

- Cut Copy and paste
- Broadband
- Which Laptop
- Viruses & anti-virus
- Passwords

Cut, Copy and paste

Cut Copy and Paste and Undo

Function	PC	Mac
Cut	<control>x	<command>x
Copy	<control>c	<command>c
Paste	<control>v	<command>v
Undo	<control>z	<command>z
Redo	<control>y	<command>y

Broadband

The Last Mile

- The Broadband network is split into 2 parts, the Backbone which is everything upstream from the exchange, and 'the last mile' between the exchange and the home.
- The majority of the last mile is over the old BT telephone network which is still owned and managed by BT Openreach
- Following privatization BT was forced to sell broadband services using these BT lines launching the plethora of Broadband providers we see today

The copper

- The speed you will get over a copper last mile is dictated by the distance between your home and the end of the fibre network, originally this was inside the exchanges, but increasingly they are extending fibre into street cabinets or even to the home, thus vastly increasing the speed. Beware, many fibre offerings are only as far as the cabinet.
- Because this network is still owned and operated by BT, there is rarely a speed difference between the different providers, assuming you compare the latest modems from each
- Unless you have a house full of teenagers it is unlikely you will need over 15Mb/s

Which provider?

- There are always deals and bundles (TV, Mobile, sport, fibre) so its very difficult to recommend one provider over another as the picture changes month by month and it depends on what other services you have.
- If you have poor broadband speed, you may be able to get a better service over one of the wireless networks, especially if you have good 4G or 5G coverage.
- There are low orbit satellite providers that are increasing in popularity in rural areas poorly provided by wired services, however these are expensive and suffer from poor latency.

Which laptop should I buy?

- Even the cheapest laptop today has sufficient horsepower for surfing, documents and spreadsheets, you probably only need a higher performance one if you are editing videos or other compute intensive work
- Avoid Chromebooks as they severely limit the software you can run on them.
- If you have a lot of photos or videos, go for a larger storage machine (e.g. 1Tby) but in any case don't go below 256GBy
- Always go for the largest screen you can get, our eyes aren't going to get any better.
- There are some very good deals on refurbished laptops, after all, last years model was the greatest thing since sliced bread then.
- After sales service is important so you may be better off buying from Currys

What is a virus?

What is a Virus?

- Wikipedia definition:
“A computer virus is a type of computer program that, when executed, replicates itself by modifying other computer programs and inserting its own code. If this replication succeeds, the affected areas are then said to be "infected" with a computer virus”
- Strictly speaking a it's a virus only if it gets itself buried into a host program (e.g. Microsoft Mail) if it runs on its own its called a Worm
- People create Viruses for a number of reasons, profit (e.g. ransomware where it demands payment to restore your computer), political power, to demonstrate a vulnerability of a product, corporate gain, or just plain devilment.

A VERY simple virus example

- A simple program to print “Hello Mendlesham”
 - `print ("Hello Mendlesham");`
- Now with a virus
 - `print ("Hello Mendlesham");`
 - `# the next line will delete your windows directory rendering your computer useless`
 - `rmdir "C:/Windows"; ;`
- Typically they are much more complex than this and include mechanisms for infecting other computers

Anti-Virus

Anti-Virus

- Attacks range from annoying e.g. sending an embarrassing email to everyone on your email contacts list to devastating e.g. encrypting your hard disk and only allowing you to access it if you pay a ransom.
- Viruses usually propagate as email attachments.
- Prevention
 - Be very wary of any email attachment.
- Protection
 - Always check that Anti-Virus software is installed on any PC you use and check that it is active.

Anti-Virus software

- Never rely on the Microsoft built-in Anti-Virus software or software that came ‘Free’ with your computer e.g. McAfee or Norton. Your license will expire after a year, it may not be working and you are NOT PROTECTED.
- We recommend that near the end of your free license, you uninstall the current Anti-Virus and install the free (Basic) AVG software instead.
 - Settings>Apps & features, then scroll down to the app you want to uninstall, left click on it and select uninstall
 - Go to <https://www.avg.com/en-gb/free-antivirus-download> and follow the instructions to install AVG.
- Never have 2 anti-virus software programs running at the same time.
- Always keep your Anti-Virus software up-to-date
- AVG will often ask if you want to upgrade to their Pay version, you almost certainly do not need to do this.

Passwords

How to stop someone guessing your password and minimise the impact if it is stolen

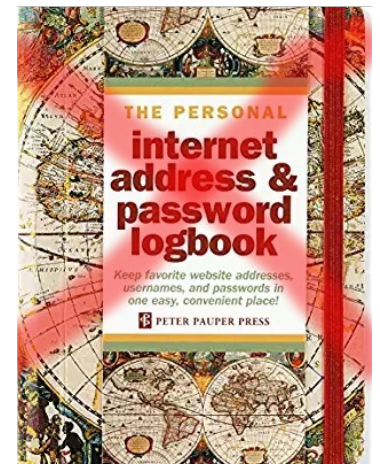
- Make it long
- Include mixed cases (Cc), numbers, and odd characters (-,+ etc)

But this makes them harder to remember so;

- Have a code
 - e.g. instead of Pass, use ssaP
- Use a phrase you can remember
 - e.g. mY-soN-waS-borN-iN-1990
- Have one password for each site
 - e.g. for Amazon use Amazon-ssaP1

How to prevent your passwords being stolen

- **NEVER WRITE THEM DOWN !!!!!**
- If you have problems remembering them, use a password vault
 - e.g. LastPass – Cloud based or
 - KeePass for local storage or
 - MacPass



Two Factor Authentication

What is 2-Factor Authentication ?

- 2 Factor Authentication is based on “something you know (a password) and something you own (a mobile phone or email account) thus doubling the security of the connection. Increasingly web sites that involve money or private data will implement this.
- How it works
 - When you register on a web site, in addition to your password, you also register your email address and mobile phone number.
 - When you log into the site, it first asks for your password (factor 1), then sends you a text or email.
 - The text or email contains a code (usually a 6 digit number) that you must enter into the web site in order to log on. This confirms that whoever is logging in also has your mobile phone (factor 2).
- If you are in an area with poor mobile coverage, some sites allow you to specify an email address instead of mobile number. If you get a new phone, don't forget to update the number on the web sites that use it.

Advanced Security

- Use fingerprint or face recognition if possible on phones and laptops