

BUYING A NEW MACHINE FOR YOUR BUSINESS

While sometimes it may well seem more cost effective to go out and purchase a laptop or desktop machine direct from supplier or a high-street /online store, we are finding an increasing amount of customers that end up getting frustrated by the whole process. This could be because the machine is not as good as they were led to believe, not compatible with the software that is required to run on it, or not able to join or work on their business network - these are all common issues we see far too often when companies prioritise cost over functionality.

Likewise, some companies will purchase the latest, newest and most shiny and expensive tech, only to realise that unfortunately "bleeding-edge tech" is sometimes just another word for "not tested in the real world" resulting in issues with crashing applications, overheating devices and other faults.

Most importantly, when you purchase a laptop or desktop direct, a machine will be delivered to you in a box and that is all you will get. You will still need to setup Windows yourself with an account, add it to your business network, make sure it has the right naming convention and security policies, install software, setup shares, antivirus, install the flux capacitor (ok I made that one up), so on and so on..... or you could issue that machine to an end user and ask them to do everything that is needed. Most new machines result in a call to our team here at CETSAT asking for assistance, that we then need to schedule with one of our engineers as a new machine is not covered under MSP Support as it is not a break fix incident, or a return to status request. This means the ticket will have a longer SLA (Service Level Agreement) as our engineers are already booked up on pre-arranged projects or dealing with higher priority incidents. When an engineer does become available and is assigned to the case, we sometimes find out the device is not fit for purpose as it sadly fits into one of the two categories above.

We do understand however, that some customers want to purchase their own machines, so we wanted to provide you with a brief guide and hit list of what you should look for if you wanted to "go it alone".

OPERATING SYSTEMS

Microsoft Operating System - Make sure if you get a Windows Machine that it is running Windows 10 Professional. Not Windows 10 Home, not Windows 10 S or X and not a Google Chromebook (more on that later). If the machine is not running Windows 10 Professional, you will not be able to join it to your Business Network, preventing your end user from being able to do any work without a costly Windows 10 Professional Licence upgrade, nor will you be able to enable that all important device encryption to protect your data at rest.

Apple Operating System - When you buy a new Mac it should always come with the latest Operating System which is currently MacOS Catalina 10.15.5 (as of 28th June 2020), if it does not you will be able to update this over the internet from day one. Contrary to belief Apple Mac's work well in a predominantly Windows environment and we do have a number of Mac users here at CETSAT, myself included. Things of note though are that you will need an Apple ID to be able to install apps, updates and lock the device down and this can cause issues if your employees/end users use their personal account. We find it is best to have a company Apple ID and recommend it if you can, otherwise you can find apps locked to old employees, or sometimes even Mac's and MacBook's reduced to zero functionality as they are encrypted by a previous employee, inaccessible and cannot be factory reset without their personal Apple ID.

Google Chromebook - If you happen to pop into a local high-street store that sells Laptop's and PC's you may well be told that a Google Chromebook can do everything you can do on a PC for less than half the price. I say this, as I have had many a customer tell me the same thing after one of our engineers has had to have the disappointing conversation with them that it cannot do the things they were promised. Unfortunately, a Google Chromebook is not much more than an large Android Phone or Tablet and although some of the newer ones can now run Android App's the majority of them simply run Google's Chrome Web Browser meaning you can only use Web App's and not run any of your required business applications or files on them. Unless you are a basic home user, purchasing for a younger member of your family, or your business is heavily invested in and uses Google's own suite of apps (G-Suite) I can only recommend that Chromebooks are avoided.

Linux - If you are looking at Linux machines and don't know what Linux is, all you need to know is it is not Windows and it is not Apple. This means it will not run Windows or Apple Apps and if you inadvertently buy a machine with a Linux Operating System because it was cheaper, you will probably need to buy a Windows license and then wipe the whole machine to install windows just to make the device work with your network. If you do know what Linux is and you are looking for a machine for a specific purpose, you will know that there are many distributions of Linux, just make sure that the machines specifications are suitable for the tasks that you will be performing. Basically, if you do not know what Linux is, do not buy a machine running Linux.

MACHINE SPEC's (the technology inside them)

I will warn you now, this is going to be a little techy and a little bit geeky, if that's not for you can I recommend you speak to CETSAT before you "go it alone" and we will happily do all these bits for you.

PROCESSORS

Intel have been the market leaders for years, with processor names that you will know like i3, i5, i7, i9 (Bleeding Edge - see above) and Xeon (Servers) plus some older names like Pentium, Celeron and Atom. There are generations of these processors and we are currently in the 10th Generation of the "i" series processor, with a new generation each year. This means if a machine you are looking at has an 8th gen i5, it is two years old so should be cheaper at least, but won't be as powerful or efficient as a newer 10th gen processor.

AMD have been nipping at Intel's heels for some time now and if you speak to most gamers who have some really well built machines, or pull back the hood on all the latest games consoles you will find an AMD chip. With AMD processors like Ryzen 3, Ryzen 5 and Ryzen 9 and the Ryzen Threadripper (fancy name I know) you can more than see the similarity in names with Intel's own i3, i5, i7 and i9's and this makes it easier to compare specs. The two major differences with AMD vs Intel are architecture, meaning the AMD chips are using much smaller silicon (look up Nanometres if you are interested) and therefore are more efficient, but also the cost, with AMD being considerably cheaper than Intel.

Other Processors.....

There are now some machines in the wild that run processors made by Qualcomm, called Snapdragon and referred to with the funky name of "System on a Chip" (SoC). These are built on ARM CORTEX Technology (not Intel or AMD) which is the technology that runs the processors we find in our smart phones and tablets. These processors are powerful and certainly close to powerful enough to start appearing in some new laptops like the Microsoft Surface Pro X, Lenovo's Yoga and the Samsung Galaxy Book S. One day in fact, ARM CORTEX could surpass the technologies of Intel and AMD and they are indeed close, but we are not there yet. ARM CORTEX uses a completely different programming language to Intel and AMD's (x86) and although these devices can run a version of Windows 10, the experience is limited. What this means for your business is that devices with these chips cannot run all of the software that you can already run on existing Intel or AMD based machines and most likely will not be fit for purpose for business use until the technology evolves a little more, or developers re-write the code in their software to support the new chips.

Choosing the right processor for my needs;

A basic user that does nothing but browse the internet, watch YouTube and listen to the occasional tune on their PC is what we would refer to as a Home User and requires a machine for content consumption. These users would get away with an Intel i3 Processor or a lower entry level AMD Ryzen 3.

For an Office user that creates content in Microsoft Office and accesses emails using Outlook, requires access to shared network files, views and edits PDF's we would recommend an Intel i5 Processor, a higher end AMD Ryzen 3 or to look at an AMD Ryzen 5.

For what we would regard as a bit more of a "Power User" - someone working on more processor intensive tasks like large spreadsheets with macro's and many formulae, video editing, photo editing or CAD design we would then be looking at Intel's i7 processors, top end AMD Ryzen 5's or moving up to a AMD Ryzen 7.

There is a rare case scenario to have to look at an Intel i9 or an AMD Ryzen 9 or Ryzen Threadripper and at CETSAT, of the hundreds of clients we have, we can count our clients end users that need a processor of this spec on just one hand.

STORAGE

You will need the right amount of storage for all your applications and files, so it is important you get the right size for both your current and future usage, so make sure there is room to grow. There are two basic kinds of storage on a laptop or desktop PC, an HDD (Hard Disk Drive) or an SSD (Solid State Drive). In its simplest form, an SSD is flash storage and has no moving parts whatsoever. This means SSD storage is lighter, quieter, produces less heat and most importantly more than 5 x faster than its HDD equivalent. In comparison HDD storage is made up of magnetic tape and spinning disks with many mechanical parts inside. They're larger than SSDs and much slower to read and write. Now that the technology is so much cheaper and the performance gains over the technology it replaces are huge, we recommend that all new machines should have an SSD.

RAM

RAM is what allows you to multitask, allowing you have multiple applications open at the same time, multiple excel spreadsheets, multiple email accounts in Outlook at the same time and each and every tab you have open in your web browser. If you, or your end user are a heavy multi-tasker (or not necessarily good at closing one thing down before you move onto another) the more RAM you have the better. If you do not have enough RAM applications will need to be parked or paused before you can move onto the next one and then you need to wait for those parked/paused apps to wake up and become functional again before you can use them, both of which take up valuable time in your day to day work. With the way that people now work and the applications that most people run, we recommend a minimum of 8GB RAM for all users which is always a good baseline when you are looking for new machines.

GRAPHICS

Many people think graphics are not an important thing to consider when purchasing a new machine (Unless you are someone that Games or uses Photo Editing, Video Editing or CAD Software). Something that all users should consider though, no matter what kind of user they are, is monitor outputs and the Graphics Processor in a machine is what is responsible for this. If you want multiple monitors, you will need multiple outputs and you need to look at your existing kit to make sure your new machines has the right number of ports. There are 4 different kinds of Display Ports, plus VGA, HDMI or DVI meaning your new machine could have up to 7 different kinds of connections and you need to make sure you have the right adapters or cables to make this work with your monitors/displays.

PORTS

With USB 3 came USB C and Thunderbolt 3, which is referred to as the "one for all" connection type allowing Networking, Data, Sound, Video and Power to all work over one kind of port, however USB C still has different versions and its important you have the right peripherals and cables to use these ports. Just so you know, although the ports look identical and you can plug a USB C cable or adapter into a Thunderbolt 3 port, you cannot use a Thunderbolt 3 cable, adapter or dock in a USB C port making your peripheral choice even more important. As laptops get smaller, they have less ports meaning you need a dock or port replicator and it's very important to make sure the device you get has the right ports you need and most importantly uses the right technology.

WARRANTY

When you purchase a new machine, check the warranty. They usually only come with a consumer grade 12-month warranty and when you purchase direct you will be responsible. This means if the device develops a fault you will need to deal with the manufacturer yourself and will be responsible for packaging and shipping the device back to them. The repair could take weeks, meaning the end user will be without a machine. If you can, always look at the Business Grade Warranties and see if you can get a 3-5 year next business day, or 4 hour onsite support. These warranties mean the vendor will come to you, fix the device or replace it onsite if it is not fixable. When we source machines at CETSAT we always look for the best level of warranty and can only recommend you do the same.

ROUND UP

So, you will all agree, after looking through all those tips and bits of advice, there is an awful lot of things to consider when looking for a new machine to make sure you get the right tool for the job. If you can take all that into account when you purchase your new machines and most importantly let us at CETSAT know in plenty of time you are doing so, so we can get it booked in and have an engineer assigned for you, it will put you in good stead and ensure that you, your end user and the team that supports your IT platforms and end users are all happy. If you don't want that burden, please contact CETSAT and let us help you by taking all those worries away.....

BUYING A MACHINE FROM CETSAT

At CETSAT when we are asked to provide hardware for one of our many clients, we take the time to look at the existing machine we are replacing and its purpose, along with the software that it runs. Or, if a new machine for a new user we investigate what that user will be doing on the machine and the demands it needs to meet. We then use this along with our industry knowledge to source tried and tested machines, from reputable and reliable vendors, with great business grade warranties that we are happy to put our name to. We then perform "base builds" on these machines in our workshop, removing unnecessary software called "bloatware" and installing all the latest drivers and operating system updates. We then install all the software a user needs and test the product thoroughly before it gets delivered to the end user ready for the final bits and pieces to be done either in front of the user in person, or remotely using our remote support software we provide to all our clients.

This means the end user gets a machine that works exactly for their needs, time is booked out with the correct engineer to ensure the machine is setup, tested and handed over to the end user in a timely fashion and that the best level of service is delivered by and to all involved, ending up with a happy customer, which is the primary reason we are in this business and this is all part of the service when ordering a new machine from CETSAT.