Anatomy of a Computer system
By Jamie Grant IT Guru Solutions.

One of the most common phone calls I get is from customers who want to buy a new computer or laptop. They want to know what all the different names and numbers mean and whether it will be alright to do a particular job. I will explain what each part does and I have broken it down into an analogy which even my wife can understand.

Think of an office with a desk and a filing cabinet.

Processor i.e. Pentium, Celeron, AMD – these are the hands that move the paper around the desk. The bigger and better the processor, the faster the paper will be moved around the desk.

RAM – Random Access Memory – This is the desk space. The bigger the desk space the bigger space the hands have to work in.

Hard Drive – This is the filing cabinet. The bigger the filing cabinet the more paper can be stored and accessed.

If there is a big process or many small processes happening and there isn't a big desk space (RAM) then it will use a part of the filing cabinet (hard drive) as extra desk space. This is called *virtual memory*. Like being in the office and having to go and get paper out of the filing cabinet instead of it being on your desk, it will slow you down, and so the process slows down.

This should hopefully give you a basic understanding of how each component in the computer works.

So how does this relate to all the information you are bombarded with in a shop or online?

Processors – There are 2 main manufactures of processors. Intel and AMD. They both produce excellent processors and there is only the computer manufactures relationship with them that determine which processor goes in which computer.
In the Intel world of processors they have a Pentium and Celeron ranges. The Pentium is the better processor. It has RAM added onto the chip, this is called 'cache' making the processing quicker than using the RAM or desk alone.
The numbers after the processor are in Ghz. The higher the number the faster the processor. When it comes to an Intel and AMD comparison it is very difficult to compare the chips side by side as each uses slightly different numbering.! An Intel Pentium 4 2.4GHz is equivalent to an AMD AthlonXP 2100+ processor. I would not admit to fully understanding the differences either!.

RAM – Random Access Memory. Rule of thumb is the more the faster. I would recommend a minimum of 1GB of memory. You could run a PC with less but I am trying to future proof a PC. As better software comes out it requires more memory.

Hard Drives – There are 3 types of hard drives SCSI, IDE and EIDE.

SCSI *small computer system interface* has the benefit of faster data transmission rates and can have up to 16 devices in a chain and are in higher end computer systems and servers.

IDE *Integrated Drive Electronics* is what is in most older than 1 year PC's. IDE is slower than SCSI and only 2 devices can be put in a chain.

EIDE *Enhanced Integrated Drive Electronics* is the most common hard drive type to be purchased in a new system. It has the speed of SCSI without the cost.

The storage capacity of hard drives range from 40GB to 500GB. For most office environments the minimum hard drive of 40 GB would be ample.

To sum up a Pentium 4 2.4GHz with 1GB of RAM and 40GB hard drive would be sufficient for most office admin processes. As soon as you start talking about CAD Computer Aided Design and video editing then higher spec's are required.

I hope this helps to uncomplicated the world of computer jargon, and enables your business to choose the right computer for the job.