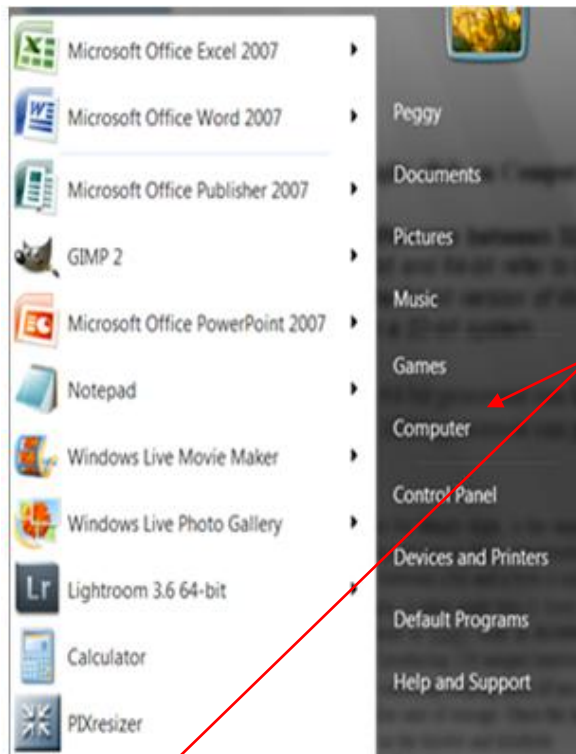


Difference between 32 bit and 64 bit processor

To find out which Processor and Operating System is installed on your computer:



Go to Start

Right click on Computer

Left click on Properties.

The next window will display the system

The display will show either 32-bit or 64-bit.



What is the difference between 32-bit and 64-bit versions of Windows?

The terms 32-bit and 64-bit refer to the way a computer's processor (also called a CPU), handles information. The 64-bit version of Windows handles large amounts of random access memory (RAM) more effectively than a 32-bit system.

- 64 bit processor can handle twice the amount of data compared to 32 bit processor.
- 32 bit processor can process 32 digits at a time whereas 64 bit can handle 64 digits.

What is a bit?

- A bit, short for **binary digit**, is the smallest unit of measurement used for information storage in computers. A bit is represented by a 1 or a 0 with a value of true or false, sometimes expressed as on or off. Eight bits form a single byte of information, also known as an *octet*. Thus, the difference between a bit and a byte is size, or the amount of information stored.
- For example, it takes eight bits (1 byte) to store a single character. The capital letter "A" is expressed digitally as **01000001**. A small case "a" is represented in binary code as **01100001**. Notice the third bit is different in each octet. By rearranging the bits within the octet, a byte is capable of producing 256 unique combinations to form letters, numbers, special characters and symbols.
- It can get confusing keeping units of storage straight, but if you have trouble remembering which is a bit and a byte, note that the smaller word is the smaller unit of storage. Once the difference between a bit and a byte is understood, this helps to remember the difference between greater units such as the kilobit and kilobyte.
- 64 bit = 8 bytes

What is a cpu ?

The Central Processing Unit (CPU) is responsible for interpreting and executing most of the commands from the computer's hardware and software

The CPU could be considered the "brains" of the computer. A CPU has four primary functions: *fetch*, *decode*, *execute*, and *writeback*.

What are the main problems encountered if buying a new computer with 64bit Operating system?.

The main problems which are encountered are any peripherals such as Printers, Scanners, any other hardware you may have, which is 32-bit. These will not run on a 64-bit machine.

What can we do?

In most cases (unless the device is very old) 64-bit Drivers can be downloaded from the manufacturer's website. These Drivers are installed in your computer, NOT in the device. This enables the Device and the computer to "talk to each other".

What is a Driver?

A driver is a small piece of software that tells the Operating system and other software how to communicate with a piece of Hardware. For example, all printers come accompanied with drivers to install that tell the operating system exactly how to print information on the page.

Can we use Programs which are in 32-bit on a 64-bit machine?

In most cases Yes. However if the program is very old, it may not work.

What you will find in the Programs Folder, will be a folder for the 32-bit and a folder for the 64-bit programs.

Below are two graphs to help you understand what is compatible, with 32-bit and 64-bit if you are thinking of upgrading an existing computer.

WHAT IS COMPATIBLE IF I HAVE A 32-bit COMPUTER.				
Processor CPU	32-bit	32-bit	32-bit	32-bit
Operating System	32-bit	32-bit	64-bit	64-bit
Program (ie. Microsoft Office)	32-bit	64-bit	32-bit	64-bit
	Yes	NO	NO	NO

WHAT IS COMPATIBLE IF I HAVE A 64-bit COMPUTER.				
Processor CPU	64-bit	64-bit	64-bit	64-bit
Operating System	64-bit	64-bit	32-bit	32-bit
Program (ie. Microsoft Office)	64-bit	32-bit	32-bit	64-bit
	Yes	Yes	Yes	No