Computers and Stuff.

Sam Houliston.

Improve performance by defragmenting your hard disk??

Fragmentation occurs when the computer's file system cannot or will not allocate enough contiguous space to store a complete file as a unit. Instead, the file system puts parts of the file in gaps between other files (usually those gaps exist because they held a smaller file that has been previously deleted).

When reading data from a conventional electro-mechanical hard disk drive, the disk controller must first position the head to the track where a given fragment resides, which it does relatively slowly and then wait while the disk platter rotates until the fragment reaches the head.

The common belief is that you should regularly de-fragment your hard disk so it doesn't have to do all that extra work looking for the 'parts' of a file before it (the file) can be opened. This was definitely the case some time ago, (pre XP days) but today, it is not nearly such a problem.

The new file systems such as NTFS are designed to decrease the likelihood of fragmentation and improvements in modern hard drives such as RAM cache, faster platter (disk) rotation speed, command queuing and greater data density reduce the negative impact of fragmentation on system performance. Additionally, modern systems profit enormously from the huge disk capacities currently available, since partially filled disks fragment much less than full disks and on a high-capacity HDD, the same partition occupies a smaller range of cylinders, resulting in faster seeks.

If you have a machine without a mechanical hard drive, ie: a flash drive, you don't have this problem. Flash Drives have no moving parts and so random access of file fragments does not suffer this delay making defragmentation to optimize these drives unnecessary. Furthermore, since flash memory can be written to only a limited number of times before it fails, defragmentation is actually detrimental. This applies to memory stick, camera memory cards etc, they should not be defragmented as all that does is hasten the failure of the device.

With a mechanical drive, no matter what you do, the average access time can never be lower than a half rotation of the platter, and platter rotation (measured in rpm) is the speed characteristic of HDDs which has experienced the slowest growth over the decades. The faster the rotation speed of the HDD the quicker the computer will access and load files.

So is it really worth defragmenting your HDD??

Window has had a Defrag utility for some time, but starting with Windows Vista, Microsoft has made it run automatically at a scheduled time. This is usually set to run at 1.00am, but you can

A

change the schedule to run at a time to suit you, once a month should be sufficient. There are many other Defrag programs on the market, some free, some you can buy relatively cheaply, but you have to be careful with these as they can actually slow down your machine.

Here's how!!

Starting with Windows XP, Microsoft added a "Prefetch" to their Windows program. Prefetch is a component of the Memory Manager that speeds up the Windows boot process and shortens the amount of time it takes to find, load and start programs. From Windows Vista, SuperFetch and ReadyBoost were added which monitor the way you use your computer over time and loads the majority of the files and data needed by them into memory so that they can be accessed very quickly when needed. This list is updated often, depending on what you do with your computer and windows stores the data in a folder named C:\Windows\Prefetch.

Windows stores the files in the Prefetch folder in a pre-set way so they can be very quickly accessed. Windows' Defrag knows this and leaves them alone, a lot of the 'after market' ones don't and will change the order of the files. Windows also "locks" files in a pre-set position, and once again, its Defrag program know this too and also leaves them alone. An "After-market" Defrag will see these Locked Files and will think them as being fragmented and will try and defrag them. This can really upset the apple cart.

If you install and/or un-install a lot of programs regularly and your hard drive is 100Gig or less, then you should run the Windows Defrag perhaps once a week. If, on the other hand, you have a relatively large hard drive and you use your computer for emails, Facebooking, writing letters, Googling etc, then once a month is plenty. Set the schedule for a time when the computer will be switched on and not used. A Defrag can take about 30 minutes and since Vista, Microsoft has made the Defrag utility pause when it detects computer usage – this can extend the Defrag time to several hours.

> A simple friend brings a bottle of wine to your party.
> A real friend comes early to help you cook and stays late to help you clean.

Cloud computing

Last issue we mentioned Cloud Computing, there's some more info HERE.

What's going on inside your computer.

Has your internet connection become slower than it should be? There may be a chance that you have some malware, spyware, or adware that is using your internet connection in the background without your knowledge. If you've only got a small monthly traffic allowance
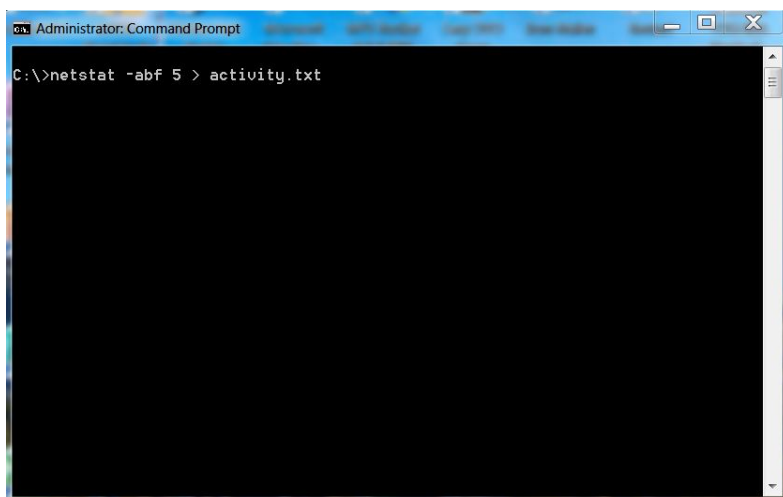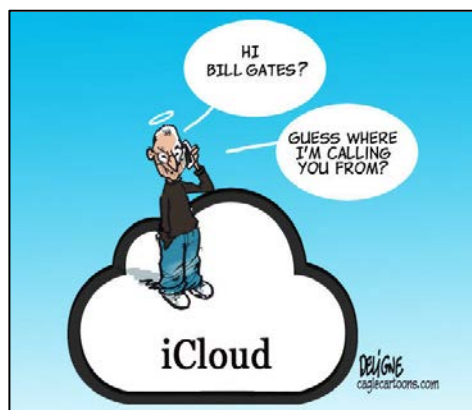
(uploads and downloads) from your Internet Provider, this could be chewing up your valuable monthly quota and costing you money.

Here's how to see what's going on under the bonnet.

If you are running a PC using Windows XP (with a minimum of Service Pack 2), Vista or Win 7, Microsoft has given you a free tool to keep an eye on things, it's called Netstat.EXE and it lives in the C:\Windows\System32 folder.

Here's how you use it.

- Click on **Start**, then **All Programs**, then **Accessories.**
- Right Click on **Command Prompt** then click **Run as Administrator**
- At the Dos Prompt type **CD ..** (that is CD, one space then two dots) then press the enter key. Continue the above until you end up with the **C:** Dos prompt.
- At the Dos Prompt, type **netstat -abf 5 > activity.txt** and press enter, making sure the spaces are exactly as shown. It should look like this (right).

- Wait about 2 minutes then press CTRL C (hold down the CTRL button and press C).

After you've typed CTRL C, make sure your printer is turned on then open Word (or your word processor) and open the file **activity.txt** which you will find in drive C. Print the file. You can then check the contents and see what is going on.

This is what the **netstat -abf 5 > activity.txt** routine is all about.

- The **–a** option shows all your internet connections and listening ports,
- the **–b** option shows you what application is making the connection, and
- the **–f** option displays the full DNS name for each connection option for easier understanding of where the connections are being made to (no - not what you're thinking Ted).
- The **5** option will poll every 5 seconds for connections to make it more easy to track what is going on, and
- the **> activity.txt** sends all the results into a file called activity.txt.

Once you've printed the file, you will see all the processes on your computer (browsers, IM clients, email programs, etc.) that have made an internet connection in the last two minutes, (or however long you waited before pressing CTRL C). It also lists which processes connected to which websites. If you see process names or website addresses with which you are not familiar, you can search for "what is (name of unknown process)" in Google and see what it is. It might be a completely legitimate system function you didn't know about or a function of one of your running programs – or it could be a dud. If it looks like it is (a dud) you can use Google again to find out how to get rid of it.

C

Another way is to use the free program called CurrPorts. You get this from HERE. All you do is download the Zip file from the website, extract **cports.exe** and run it. There is no need to install it. CurrPorts runs under most versions of Windows and you can get both 32 bit and 64 bit versions. You will find more information about CurrPorts and how to use it on the above website.

A simple friend doesn't know your parents' first names.
A real friend has their phone numbers in his address book.

How to make a panoramic photo.

How often have you been in a wonderful scenic situation and wish you had a panoramic camera to be able to capture the complete view – not just a part of it. Some of the newer digital cameras have that facility, but if you've still got the old camera you've had for yonks, it's only wishful thinking – up till now.

Provided you are a Windows User, there is a free Microsoft program that will expertly combine two or more photos and produce a perfect panoramic photo for you.

Here's how you do it.

First thing is to download and install the free Microsoft program called Microsoft ICE (Image Composite Editor) and you can do that from HERE

Now that you have the program, take your photos, starting from the left and working around to the right, or go the other way, doesn't matter, just make sure you overlap each one. This works a lot better if you have a tripod and can pan the camera from left to right (or right to left) keeping everything in the one plane. If you have one photo that was taken a little higher or lower than another, Ice will match them where they overlap and you will end up with a ragged top and/or bottom.

Next, save your photos into a directory in your computer (or you can work from the SD card if you wish) and open ICE.

We have taken the 3 photos below to demonstrate how it works, these were taken not using a tripod so you will see the result.
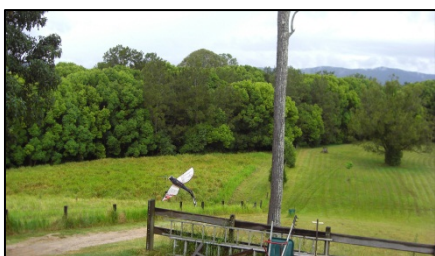
Open ICE and click on FILE then click NEW PANORAMA. Navigate to the photos you wish to include in your panorama, hold down the CTRL key, then click them in any order, ICE has a look at them and sorts them out for you.
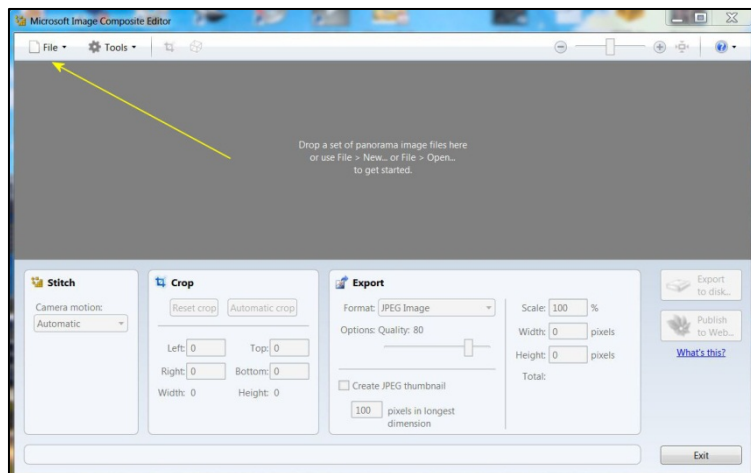
When you have them all selected, click OPEN down the bottom right hand corner of your screen and you end up with the picture below.

Now, before you finish, there a few housekeeping tasks you should do…..you can zoom in or out of the photo by using the wheel on your mouse or by moving the slider bar towards either the + or – up the top right of the photo.
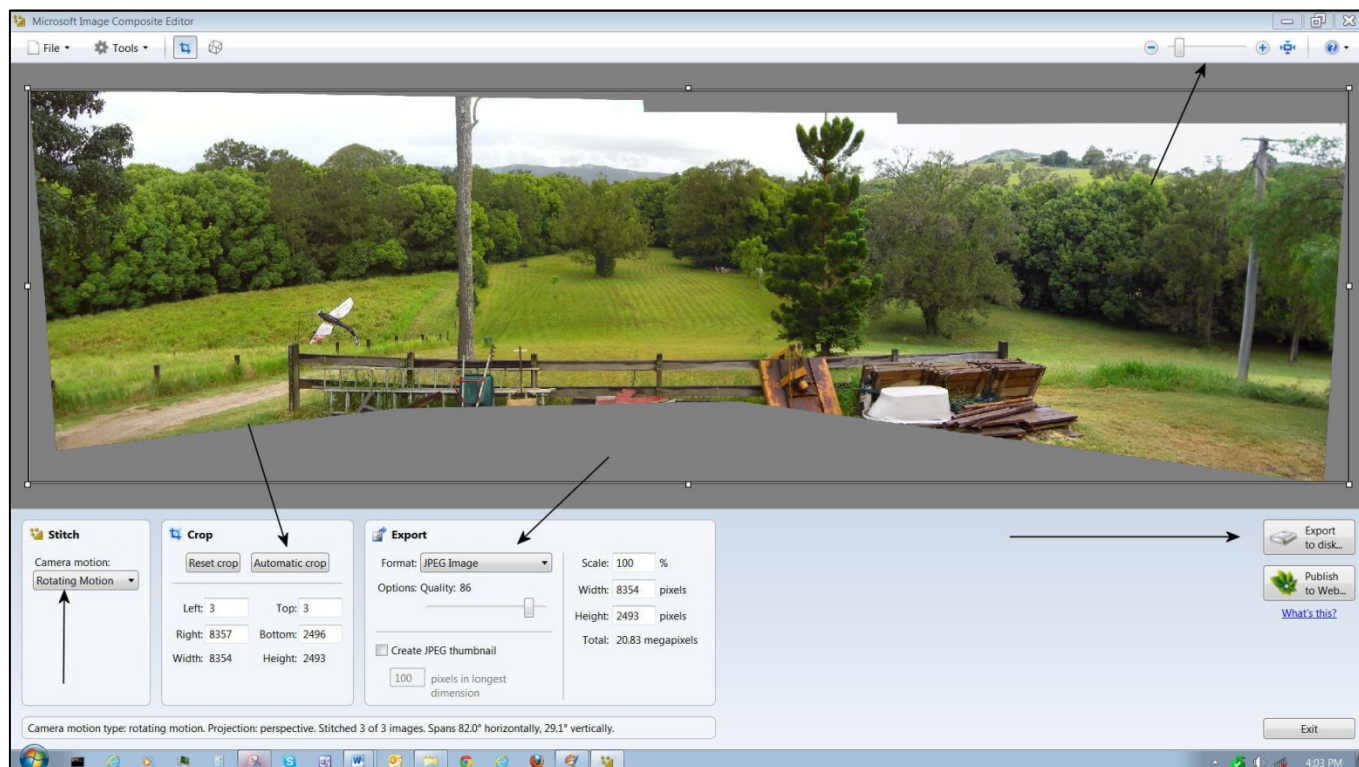
- In the STITCH window, select AUTOMATIC, ICE will select the best method of joining the photos together. You can do it manually if you wish but Microsoft knows better.
- In the CROP window you can select AUTOMATIC CROP and see what ICE does with your pic. If you don't like it, select RESET CROP and it will stay as is and you can crop it later with your photo handling program (such as Paint Shop Pro etc)
- In the EXPORT window, select the file format in which you wish your photo to be saved.

E

When you've done all that, and you are happy with the result, click Export to Disk (unless you wish to publish it on a web site). ICE will ask you where you want the finished result saved and ask you for a name for the file. Fill all this in then click SAVE.

This is what you end up with. And – working with photos, if you use a tripod, the results are even better

Ice is a very easy program to use and has hundreds of uses. For example, if you have an A3 document (or larger) that you want to shrink to A4, you can scan bits of it and have ICE put it all together for you, then when it's a JPG file you can make it any size you wish.

Have a fiddle with it, it will also work with video.

BEAUTY PARLOUR:
A place where women curl up and dye.

Domain Names.

The Internet hasn't been with us for all that long, though now, how would we get on without it?? Looking back, it's hard to realise that the first domain name was registered on the 15th March 1985 – only a bit over 35 years ago.

Most people would assume that the first domain name was registered to a huge computer company such as IBM or Texas Instruments or some other monolithic company like GM or Exxon or MGM but no, the reality is the first domain belonged to a small local computer company. In 1985, shortly after domains were available for purchase by the public, the small computer firm from Cambridge, Massachusetts, Symbolics, purchased the very first one

Although Symbolics.com was the first domain name ever registered, it was not the first ever created. Nordu.net, a name that was created by the registry on January 1, 1985, was the first domain name of all-time and used for the first root server (nic.nordu.net). Once domains were allowed to be registered, however, Symbolics.com was the first name taken.

F

Symbolics, Inc. placed their stake in the virtual soil of the budding internet and into internet history with the purchase of its domain name, it became the very first domain registration and the first commercial domain name all in one swoop. As the internet had yet to gain any real traction among the general populace, Symbolics, which designed and manufactured a line of Lisp machines, single-user computers optimized to run the Lisp programming language, was a lonely domain for quite some time.

By 1992 a mere 15,000 commercial domains had been registered, but by 2009, over 20 years later, a whopping 192 million domains names had been registered. 84 million of those registrations were for commercial domains. On the 21 January, 2012, there were 136,324,856 domain names currently registered and 412,919,709 deleted from service. See HERE.

They might have been first, but Symbolics didn't last the distance, the Company faded into obscurity, but the name lived on and is now owned by domain trader XF Investments.

You can see the oldest domains names HERE

CHICKENS:
The only animals you eat before they are born and after they are dead.


Moving web hosts.

Netregistry.

There's a special part of the brain that's called the 'too-hard basket.' It's a seemingly bottomless pit where dreams, fantasies and things that need to be done, but seem far too complex, are stored for a tomorrow that never comes.

In the past, this was where the idea of moving web hosts would be filed away. There's long been a perception that once you choose a web provider that you're stuck with them no matter what. It's often looked like as less of a marriage and more like a jail term – with no chance of parole.

These days, those commonly-held beliefs are far out of date. Choosing a hosting provider is no longer about sending your data into the digital abyss. If you're getting poor service, constant downtime or the company is charging you like a wounded bull, then it's quite easy to find greener pastures.

If you, as a small business owner, want to move from one ISP to another there is generally a

G
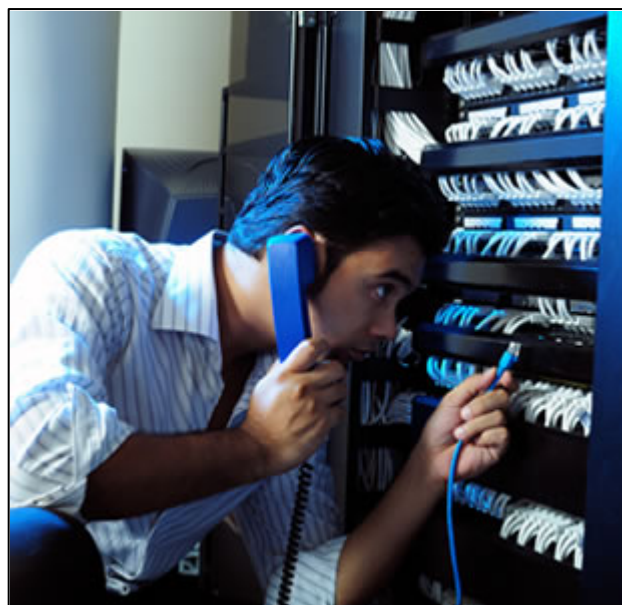
checklist of things you should follow and as long as you follow it explicitly, the change will go pretty smoothly.

Like everything in small business it's about planning and understanding the situation. Generally you would purchase a hosting package with your new provider, that's normally the first thing you do. You then have to make a decision on your email. Let's say your hosting package includes your email addresses (which is 95% of the time), you've then got to recreate all of your mail accounts,

This is one of the ingredients that contributed to the idea of moving web hosts seeming to be hard. If you wind the clock back a decade, the concept of clicking into the options menu of an email client like Outlook would seem like an alien one. Now, it's a two-minute operation that your new provider can easily talk you through over the phone.

The easiest way to do it is to use the same passwords as you do with the old provider. If you want to use new passwords then all that does is give you an additional step later on. The next step is one where people's eyes have glazed over in the past, and where the concept of moving providers has quickly been shuffled towards being difficult. In reality that is not the case.

You then need to load up your site to your new provider. Normally your new provider will give you some kind of staging IP address or a web address so that you can test that your site's all working correctly. If it's a straight HTML site, typically it's a straight copy from one server to another and everything should just work. If you are using a site that's got some PHP scripting, and it's connected to a database, then you've obviously got to recreate that with your new provider.

While this might sound like a complex step, you are going to be on the phone with someone who has migrated hundreds of sites over the years, and they will be able to streamline the process. Migrating a complex retail site, with display items, a data base, financial transactions etc is probably about an hour's work. It's not massive. A big part of that is once you've done it all, it's just testing and going through the pages to make sure everything is OK. If it's a transactional site, all your transactions are going to happen normally. Once you've tested everything and it's working correctly, the final step will be to delegate the domain.

Once you make the jump to a new provider, there's a brief period of between two and 24 hours where both sites will be running in parallel, depending on how it's set up. Some people might be seeing the old site and some might be seeing the new one. In a static site it's not an issue, you are just looking at the same information on the site and you can have both running simultaneously. If your site is a little more dynamic – with forums for instance – then you will want to lock the old site during the transition. This prevents users signing up on the old one while the new site is stretching its legs. Again, it's not a big deal.

The final part is where you fix up your mail clients. It's simply a case of changing the server name in the options menu – which the person on the other end of the phone will talk you through.

H

Measurement converter in Word.

From Word 2003 (XP) onwards, Microsoft has added a very handy little measurement converter – and it's a synch to work.

If you were doing a story which requires you to put measurements in both Metric and the old imperial format, normally you would have to use a calculator or open Excel to convert one to the other – well, if you know where to look, Word will do it for you easily.

Word converts the following.

Length	Area	Volume
miles to kilometers	square feet to square miles	U.K. pints to liters
kilometers to miles	square miles to square feet	U.S. pints to liters
inches to centimeters	square yards to square miles	liters to U.K. pints
centimeters to inches	square miles to square yards	liters to U.S. pints
millimeters to inches	acres to hectares	liters to gallons
feet to centimeters	hectares to acres	gallons to liters
centimeters to feet	acres to square miles	ounces to deciliters
meters to feet	square miles to acres	deciliters to ounces
feet to meters		quarts to liters
yards to meters		liters to quarts
meters to yards		cubic feet to cubic miles
		cubic miles to cubic feet

Temperature	Weight	Speed
Celsius to Fahrenheit	pounds to kilograms	mph to km/h
Fahrenheit to Celsius	kilograms to pounds	km/h to mph
	grams to ounces	
	ounces to grams	
	stones to kilograms	
	kilograms to stones	

Let's say you want to convert 25.45 miles to klms, all you have to do highlight the 25 miles, right click, then select **Additional Items** and there's your answer. When you double click the

I

converted number, Word automatically inserts it into your document. So if you wanted to have both formats in your document, just type 25.45 miles twice and convert one of them.

The only thing you have to be careful about is how you type the number to be converted. 25.45miles will not work, there has to be a space between the number and the word. Apart from that, it's a piece of cake.

MOSQUITO:
An insect that makes you like flies better.

CD/DVD Cleaner

If you've got some favourite CD/DVD's that the kids/grandkids have had a go at and given a bit of a touch up, fear not, they can be brought back from the brink.

All you have to do is slip into the bathroom (not the toilet as they call it these days) grab the tooth paste and a clean cotton cloth and you're in business. The tooth paste can't be that new gel stuff, it has to be the old fashioned white stuff.

Apply a small amount to a cotton cloth and rub in a straight line from the centre of the CD outward, not in circles, covering any scratches. Rinse off the toothpaste with water.

Another Alternative to MS-Office.

If you've just bought a new computer or you have an old computer and you don't want the expense of having to buy Microsoft's Office suite, there are a number of alternatives out there. Provided your computer runs the following, either Windows 2000 / Windows XP / Windows Vista (32bit,64bit) / Windows 7 (32bit,64bit) and you only want a computer to surf the internet, do some emailing (webmail) write a few letters, do the odd spreadsheet and/or open or create a demonstration, then the free version of Kingsoft Office Suite could just be what you want.

It will read all of Microsoft's Word/Excel/Powerpoint files and MS-Office will open and read the corresponding Kingsoft files. In the Free version you get Kingsoft Writer, Kingsoft Presentation and Kingsoft Spreadsheets and if you want to do more complex tasks there are two other versions, the Professional, which costs US$69.95 or the Standard version for $49.95. It also comes with a built in PDF converter.

Various reports say it is the best free alternative to MS-Office so it could be just the thing for you. I haven't tried it so can't give a personal recommendation, but all who have say it's good. If you want a copy, you can download it HERE. Unfortunately, it does not support Apple machines.

J