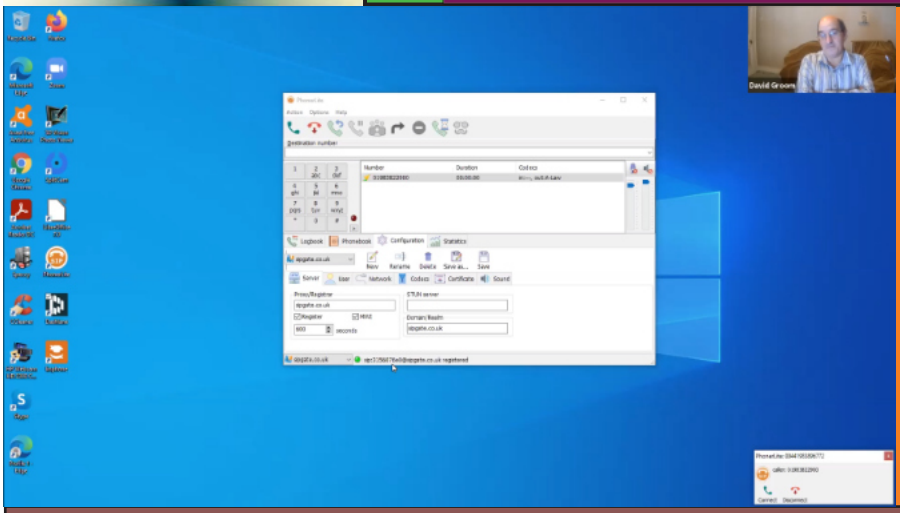
Issue 213

SPRING 2021

ISLE OF WIGHT PC USER GROUP

HOT KEY

April 2021



The bottom right of this screenshot shows a phone call being received over VoIP using the PhonerLite softphone, during David Grooms presentation at our March meeting.

In this issue

Pages

The Isle of Wight Personal Computer User Group

We welcome anyone who has an interest in computers and related technology and what you can do with them.
We are a group which seeks to exchange ideas and new information.
Membership is £12 per annum

Our meetings are normally held on the first Wednesday of each month from 7.00 to 9.00 pm. Until further notice these will be held online via Zoom.
Visitors are always welcome.

If you would like to know more about us, you are most welcome to come along to one of our meetings, or you can contact one of our Committee Members listed on page 3.

The Club web site address is **www.iwpcug.org**
We also have an e-group discussion area on Groups.io: **https://groups.io/g/iwpcug**
Details of how to join are on page 4.

FUTURE MEETINGS

Date	Subject	Speaker
7th April	Spam and Managing Unwanted Emails	Jonathan Burt
5th May	A Life in Computing	Peter Warren
2nd June	My Life in Animation	Christian Chessell
7th July	TBA	

ISLE OF WIGHT PC USER GROUP COMMITTEE

Chairman : David Groom

Secretary : Susanne Bone

Treasurer : Mike Hoar

Membership and Database Secretary : Roger Skidmore

Committee Member : Steve Sutters

Treasury Supervisor : Phil Rogers

Note:

Contact details removed prior to publishing on the internet

Suggestions for new events, topics or speakers for talks are always welcome.
Please contact Steve Sutters, or any committee member, with your ideas.
If necessary we may be able to find a speaker for your subject.

Chairman's Report

Our meetings calendar is on page 2 and shows the meetings we have planned for April, May & June, all of which will be held via Zoom.

For those of you who were unable to join us at the AGM the key highlights are as follows:

- That the committee remains unchanged from the previous year.
- The subscription for next year (i.e. the year starting 1 January 2022) was set at £12.
- Thinking ahead to a time when we can have more physical social interaction there was some discussion whether, given the success of Zoom meetings, physical meetings were actually needed. One possibility aired was that we could have a mix, with some future meetings via Zoom, and some at the Riverside Centre. Another possibility would be to have physical meetings, but to also either co-present them via Zoom, or video these and put them online so that people who did not attend could see what was happening. As we are some months away from the possibility of physical meetings no final decision was made.

Following the indexing and search facility on our web site for HotKey articles a request has been made to have a search capability on the list of past meetings held on the web site, and I hope to have this in place by the time of the next issue.

David Groom

Joining the Email Discussion Group

Send an email to: iwpcug+subscribe@groups.io, you will receive a confirmation email, follow the instructions in that email, and then wait for your approval request to be approved by one of the moderators.

All members are encouraged to join this group (it's free and private to club members) so you can keep in touch with events and join in with the discussions.

You can also keep in touch by regularly visiting www.iwpcug.org

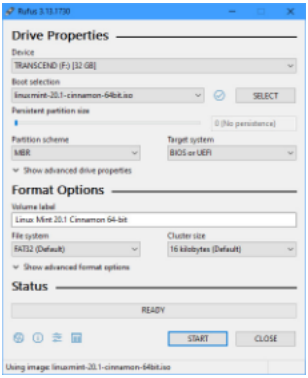
Plop and Rufus

These aren't related but I always think of them together. **Plop** is a boot manager and typically I have used it booting from a CD to enable a USB drive to boot when it wouldn't on its own. Rufus is a brilliant utility to create a bootable USB from an ISO file, typically from a Linux ISO to create a bootable USB stick. Linux will boot much faster from a USB stick.

"The Plop Boot Manager is a small program to boot different operating systems. The boot manager has a built-in ide cdrom and usb driver to access that hardware without the help/need of a bios. You can boot the operating systems from hard disk, floppy, CD/DVD or from USB. You can start the boot manager from floppy, CD, network and there are many more ways to start the boot manager. You can install the boot manager on your hard disk. There is no extra partition required for the boot manager." Download from: https://www.plop.at/en/bootmanager/intro.html

Rufus is a utility that helps format and create bootable USB flash drives, such as USB keys/ pendrives, memory sticks, etc. It can be especially useful for cases where:

- you need to create USB installation media from bootable ISOs (Windows, Linux, UEFI, etc.);
- you need to work on a system that doesn't have an OS installed;
- you need to flash a BIOS or other firmware from DOS;
- you want to run a low-level utility.



Despite its small size, Rufus provides everything you need!"

Download from https://rufus.ie it is completely freeware, courtesy of the developer.

Some more goodies: **LucidPress** and **LucidChart** (easily searched for). These are on-line programs for DTP and flowcharting. For small projects they are completely free, e.g. a poster or small leaflet or a simple chart. Being on-line means that by sharing the password you can do small scale joint development.

Also try "**LunaPic**" for crazy or serious online image management. Again, completely free.

Roger Skidmore

Mobile Broadband

Those of you that have seen me on our Zoom meetings will know that my video stream is often poor quality, as I struggle to get a reasonable upload speed on my landline broadband. In fact I've just used a broadband speed test website and my download speed is reported as 6.44Mb/s, and upload is 0.34Mb/s (a year ago these figures were approximately 15MB/s down and 1.5Mb/s up. In part this is due to the distance of my house from the BT cabinet, but since this has not changed in the past twelve months the poor speed now is mainly down to problems with my line. Getting the line fixed is on my list of things to do.

For a year or so I have been considering the possibility of using mobile broadband as my main internet connection. With the fact that I was presenting the Zoom meeting last month I felt I needed a much better upload speed than I was getting and so revisited the possibility of mobile broadband using 4G.

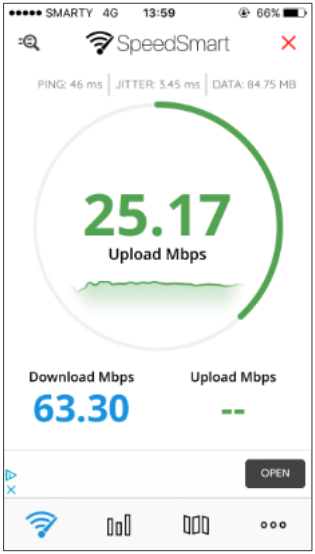
Sitting in my office using my mobile phone I get 32.8Mb/s download and 14.4Mb/s upload on my standard Vodafone plan, but I have noted that the speed has varied quite considerably over the year.

I'd had a conversation about mobile broadband last year with a friend, and afterwards he investigated various providers and settled on **SMARTY** (a virtual operator using Three's network), and he was getting particularly good speeds with them.

I had a look at the SMARTY web site and was impressed with the value of their data packages. They do six different plans, starting at £6 per month. The 50GB plan had no speed restrictions, has a monthly allowance of 50GB data, unlimited UK calls and texts (something which admittedly I did not need for my purposes), and was available on a 1 month plan which I could cancel at anytime for the current price of £12 a month. Also most importantly they allow "Unrestricted tethering in the UK", which meant I could connect my phone to my computer and use that as my internet connection. Not all providers allow unrestricted tethering. For just £12 it seemed worth investigating, so I signed up, and a few days later the SIM card arrived in the post.

I had no idea how much data a two hour zoom call would use which is why I went for the 50GB plan. However the usage data provided by SMARTY shows that I used 2.45 GB on 3 March – the day on which I did the Zoom presentation.

Sitting in my office using my mobile phone I get 55.8Mb/s download and 7.63Mb/s upload. I re-performed the test moving three feet and I stood in front of a window and got the following results – 32.19Mb/s download and 18.53Mb/s upload. I then moved up one storey and re-performed the test and got the following results – 40.42Mb/s download and 15.033Mb/s upload. On a different occasion I got the speed results as shown in the screenshot to the right. As you can see the speed is variable, but consistently better than I am currently getting on my fixed landline. It is worth pointing out that this is using 4G, if you were in an area which has 5G coverage then speeds would be higher still (though I am not sure anywhere on the Island currently has 5G).



It's worth noting that SMARTY do an unlimited plan, with unlimited data, and unlimited calls and texts for just £20 a month, again with unrestricted tethering in the UK. Again this is on a one month plan, so can be cancelled at any time.

So assuming we want to use a mobile broadband account for our internet connection the next question is how do we physically connect to the internet?

Obviously the easiest way is simply to put the SIM into a mobile phone and use the mobile phone, however that's going to be very limited in what we are able to do do as we will only be able to use the apps that are on the phone, and not have wider access to our home PC's.

One possibility would be to setup your mobile phone as a Wi-Fi hotspot, and then any devices you own which have Wi-Fi can connect directly to the phone and then use the phones mobile broadband connection. You will need to go into the settings of the phone turn on Wi-Fi hotspot and create a Wi-Fi password. However this obviously only works for devices that have Wi-Fi, and so might not be an option if you have a desktop PC.

Alternatively if you connect the mobile phone to your computer using a USB cable you can then set up a tethered connection. You will need to go into the settings of the phone turn on tethering. Once connected by the USB cable your mobile phone will appear as a network connection in your computer and you should then be able to connect to the internet. This also has the advantage that the mobile phone will get charged through the USB cable at the same

time as providing the internet connection. This is the method I used when I used the SMARTY SIM card to provide an internet connection during my Zoom presentation.

Once a computer has access to the internet from your phone (either by Wi-Fi or USB tethering) it is then possible to share that connection via ethernet to another computer. You need to go to the Network Connections menu. The easiest way to get there is by searching for "Network Connections" in the Windows Search box. Right click on the active Internet connection and select Properties. Toggle "Allow other network users to connect" from the Sharing tab and select the relevant ethernet port from the pulldown menu. After you click OK the internet should flow to your client device over its Ethernet port. The downside to this is that you obviously need to have the first computer (the one connected to the mobile phone) powered-on in order for other devices to share its' connection.

If you have a number of devices which need to connect to the internet, and you want mobile broadband to be a long term solution then the best option would be to go for a dedicated mobile broadband router. These are similar to the standard modem routers which most of us already have, but they have a SIM slot in which to put the mobile SIM card. These routers may also have a connection for an external antenna, which should allow for better reception / transmission. A search on Amazon for 4G routers shows they are available new from £70 upwards.

Overall I am pleased that I have investigated mobile broadband, but something inside me tells me that a fixed connection using wires, or fibre optic cable, to an exchange should be more reliable than a mobile connection, and in part this is seems to be backed up by the variation in tested speeds seen in my tests of SMARTY, as reported three paragraphs earlier. However I also recognise that for many people, who may further away from an exchange than I am resulting in a much slower connection speed, then using mobile broadband as your main internet connection may achieve better results than is possible on a landline.

However there is one further possible benefit for me. One of the reasons I have not yet switched my landline broadband provider was the possibility that the switch over might not happen correctly, and me finding I was without internet access for a few days, which could be problematical for my work. Now that I have a backup solution in the form of my SMARTY data plan I have no reason to be worried about a temporary loss of my landline.

David Groom

My Go Faster Computer (Continued)

An interactive article to be read in conjunction with Google – as no acronyms or technical terms used below are explained – look 'em up! A simple question in the Google address bar will answer almost anything.

I have at last commissioned my Go Faster Computer after a major false start. I thought I had nearly done it, setting everything up with my MSI Tomahawk 450 Max motherboard, Ryzen 5300G processor and 16Gb RAM. My 256 Gb SSD hard disk was neatly partitioned in three for Windows, DOS programs (now no longer usable) and Extra space. I even wrote about the computer in the ~January 2021 edition of HotKey, but it did not perform as it should, and worse, my out of date Acronis True Image backup and cloning software proved erratic.

What had I done wrong? I had failed to understand the new UEFI/BIOS configuration. I had configured my hard disk as MBR and not GPT - look up on Google. Back to the beginning, just like that long snake on the board. I reset my "BIOS" – or UEFI as we now know – to "not CSM" mode which then only allows UEFI/GPT setup. Windows rejected my now MBR formatted hard disk so I dug out my free Gparted CD to remove the existing partitions and reconfigure my SSD as GPT.

I then disconnected my computer from the Internet and successfully installed Windows 10, declining all Microsoft's blandishments to sign in and offer up my soul (well, not until later).

I rely heavily on Acronis True Image to successively clone my hard disk. I have messed up my installation so many times that I know to do stage backup clones as I go. Eventually I do a cloned backup only once a week or fortnight if I'm really confident. And data backups to external USB hard disk more frequently using Syncback.

Take home points – Acronis has to be up to date, and yes, I did pay for it. Use GPT mode for speed and security – forget about old and faithful MBR. Do learn about Gparted – it's free and can sort out hard disk problems at a fundamental level (download ISO and burn to disk or USB stick – remember "Rufus").

Roger Skidmore (eternal novice)

Free Web Design Tools

Web design needn't be scary or expensive. In fact, it needn't cost you anything, apart from a tiny bit of effort.

Weebly, Yola, Wix and WordPress all offer free web creation tools. I prefer Weebly just because I am familiar with it, and am least comfortable with WordPress because I find it too complicated. All of them provide you with a web address, or URL, once you have created your "Hello World" first web page. All of them invite you to spend money for more pages, more add-ons and a personalised web URL (Uniform Resource Locator) which is not actually necessary.

Example – https://iwlug.weebly.com provided by Weebly – for IW Linux Users Group. I have purchased the domain name (at about a tenner a year) of www.iwlug.org.uk from www.123-reg.co.uk which works just as well but is easier to remember.

Weebly is a bit like desk top publishing and I think I've got the hang of it, but presented with Wix or Yola I would have to start again. I'm told they are just as easy – once you get the hang of it.

So don't be deterred. These days of lockdown are ideal times to have a go and see if you can get your "Hello World" page up and running. If you succeed we will even publish your shiny new web address in the pages of HotKey magazine.

Roger Skidmore

Connecting the World

One of the things that it is easy to forget as we use the internet is how exactly does data get from the server to our web browser? Or more specifically how is the world connected so that data can flow from one place to another?

According to www2.telegeography.com/submarine-cable-faqs-frequently-asked-questions as of early 2021 there are approximately 426 submarine cables in service around the world, totalling over 1.3 million kms in length. Some cables are quite short, like the 131 kmcable between Ireland and the UK. Others are incredibly long, such as the 20,000 km Asia America Gateway cable.

There is a map on the back cover showing the location of these cables, and an interactive map can be found at www.submarinecablemap.com.

David Groom

My Paint

MyPaint (downloadable from http://mypaint.org) began in 2004 when Martin Renold bought himself a Wacom graphics tablet. He noticed that the program he was using would sometimes drop a stroke when scribbling too fast. He thought he could be more expressive if his brush reacted in a different way to pressure and speed.

Martin wrote a few prototypes, and applied what he'd learned in his engineering studies. His simple program grew into a brush editor with a simple digital canvas. In 2006 Martin released version 0.4, and thought it was complete. MyPaint now did everything he wanted it to do, but artists found it and began to use it. Some of them asked for features that Martin also wanted, so development continued. Since then, many more have contributed to the code, or spread the word about MyPaint on the Internet.

Fast-forward to today. MyPaint is a nimble, distraction-free, and easy tool for digital painters. It supports graphics tablets made by Wacom, and many similar devices. Its brush engine is versatile and configurable, and it provides useful, productive tools.

The standard brushes can emulate traditional media like charcoal, pencils, ink, or paint. But you don't have to limit yourself to just the standard ones. It's easy to make expressive, artful new brushes that don't respond like anything conventional.

Fullscreen mode declutters the interface, leaving you with just your brush and your creativity. You can still reveal the tools you want, when you need them. This distraction-free approach means you can focus better on the art you make, not the tool you make it with.

MyPaint has simplicity, yet it gives you all the tools you need to create great artwork.

Many notable artists use MyPaint, including digital illustrator and concept artist David Revoy. You'll find growing MyPaint user communities on DeviantArt and Tumblr. MyPaint comes from the Linux art world, but it has Mac OS X and Windows ports too. Now anyone can pick up MyPaint and draw to their heart's content!

A screenshot of the MyPaint interface can be seen on the back cover.

Text taken from the MyPaint web site http://mypaint.org

Olive - A Free Video Editor

I've just come across Olive (https://www.olivevideoeditor.org), a free and open-source cross-platform video editing application for Linux, Windows and macOS. The developers state that this is still in development, as such the program may not be bug free.

It is released under GNU General Public License version 3. It is written in C++ and uses Qt for its graphical user interface, FFmpeg for its multimedia functions, OpenImageIO library, OpenColorIO for color management and CMake build system for configuring.

The plan of the development team is to combine complete colour management, a fast and high-fidelity half-float/float-based render pipeline, node-based compositing and audio mixing, and a highly efficient automated disk cache all together in the one program. According to the development team, this batch of features is one "no other Non Linear Editor ('NLE') - not even commercial - has tried to do".

History

Olive 0.1 was in development for a year before it was published. The original author said that the program itself was his first C++ and his first large-scale programming project. Due to being inexperienced the author says that a lot of programming and video handling mistakes were made. Since the code base of 0.1 wouldn't allow planned features and because the development team saw that the "codebase was full of problems that made it unsustainable", the program had to be rewritten from the ground up.

Version 0.2 (unofficial title The Rewrite) is planned to provide the solid base for the planned features. Even though 0.2 is not officially released yet, nightly builds can be downloaded and tested. It is also planned to add support for OpenTimelineIO.

The far future version 0.3 is planned to improve project management features allowing users to pre-cache only the parts of a video needed. It is also planned to improve the integration of multiple projects making collaborative work easier as well as improving the render pipeline for network rendering to allow multiple computers working together rendering the same project for preview caching and for export.

The above article is based on https://en.wikipedia.org/wiki/Olive_(software)

Digitising 125 Years of Images From The New York Times

All Things Open (https://allthingsopen.org/) is a technology conference held in October every year, it is always a wonderful learning experience. For 2020 the conference shifted to an online format, which had its ups and downs. The chance encounters with acquaintances in the hallways and having lunch with friends were noticeably absent, but the learning experience was as good as always. Honestly, in some ways, it was better because everyone got a front-row seat, and there were no standing-room-only talks.

One major advantage of the online format was that all of the talks were recorded, and so people who missed the conference can watch the hundreds of talks available in an All Things Open 2020 playlist on YouTube (https://bit.ly/39qBXVv).

In one talk, available on YouTube (https://youtu.be/Qxv7ADhE4m0) you will learn how The New York Times built a system to digitise their photo collection to make it more accessible. Their archive of photographs covers 125 years. To say its archival collection is huge would be an understatement. The video runs for 40 minutes.

The physical photo archives at The New York Times are organised using traditional archival organisational methods, which are similar to, but not exactly like, the card catalogues that used to be found in libraries. This makes finding things in the archives a time-consuming experience. By moving the collection into the digital realm, the collection becomes easier and quicker to use.

Suman Roy and William Davis cover many of the technical issues involved in the digitisation process. Most notably, they describe various scanning and optical character recognition (OCR) issues. While most people will never need to digitise a collection anywhere near the size of The New York Times' archive, the insights the speakers share apply to digitisation projects of any size.

Environmental Cost of the Internet

In an ideal world the internet would be powered by renewable energy sources like solar or wind power. Many internet companies claim to power their data centres using renewable energy, in some parts of the world they are still largely powered from the burning of fossil fuels and it can be difficult for consumers to choose which data centres they want to use. Data server centres require power for the air conditioning to keep the servers from overheating too. Storing photos, documents and running services from ones own computer is a way to save energy use.

Like all inventions the internet and modern electronic devices cannot be uninvented. I would not want to have to use a mechanical typewriter, mechanical calculator or slide rule. Also I would far rather send an email than write and post a letter. I was surprised to find out how much energy data centres use to serve the World Wide Web.

Streaming is now one of the biggest consumers of energy regarding our Internet usage. Video services such as YouTube and Netflix are designed to encourage binge watching, and although some shows are great fun, and/or educational, it can become addictive. So can using social media sites like Facebook and Twitter. This can all eat up valuable time. The web has helped many people keep sane and fight loneliness in this time of lockdown though.

How about going to charity shops (won't be long now) for DVD's rather than streaming them over the internet. You won't get the latest films but will result in a lower carbon footprint. Also watching live TV is more economical and recording if necessary.

Mobile data is much more energy intensive than cabled internet due to the fact that it’s much more efficient to transmit data through cables than it is through the air so why not limit use of mobile broadband.

Emails

Send fewer and limit the number of recipients;

Avoid attachments and email signatures, especially images that weigh down mailings; Plenty of times I've thought there was a relevant attachment on an email only to waste time finding it is a senders icon instead.

Unsubscribe from the newsletters you're no longer reading.

Delete unnecessary emails.

I used to always send photos over the internet with the highest resolution for the best definition but this is often not necessary. For instance I could barely tell the difference between jpegs of 640 x 480 and 1600 x 1200 when uploaded to Wightbay. Also means less space taken up on the SD camera card with 640 x 480 jpg's.

Equipment we use

Energy efficient processors use less power and don't need as strong fans (if any) to keep cool so are quieter too.

Thoroughly research hardware to make sure it is right for the purpose. With battery powered devices can the batteries be replaced?

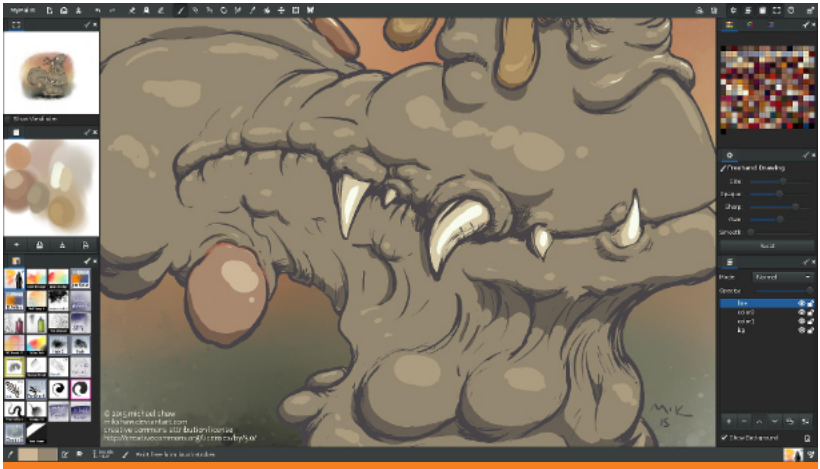
Recycling your handset. Many supermarkets, charity shops and mobile phone retailers offer recycling services, often for a good cause.

There is a lot of info from the site below. If you type in "Ethical Shopping - The Good Shopping Guide" this will come up:

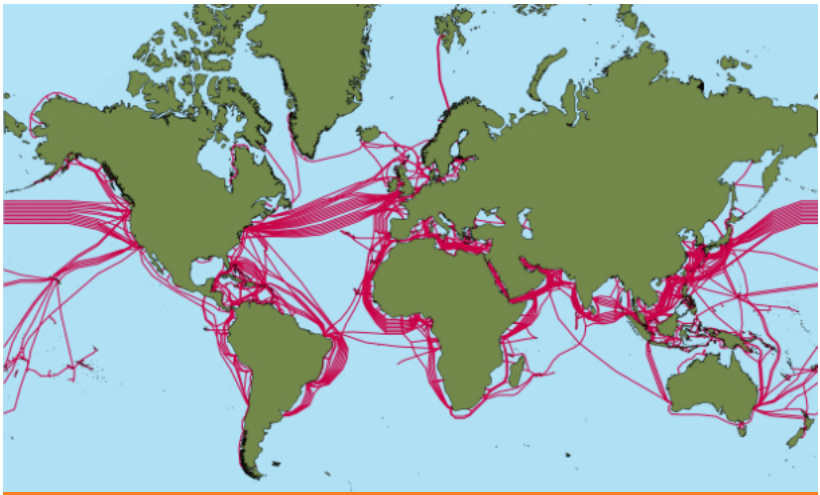
https://thegoodshoppingguide.com/

I am about to transfer to WightFibre. They are now offering 50Mb download and upload! with anytime UK phone calls and mobile calls up to an hour for £30.35p a month. It's good dealing with a local company so far. I will let readers know how I get in with them and how they compare with my present provider TalkTalk.

Stephen Sutters



The MyPaint interface, see page 11 for details of this program



Global undersea cables, map plotted using data from
https://github.com/telegeography/www.submarinecablemap.com
see page 10 more more details

We try to publish HOTKEY quarterly in April, July, October and January
This edition was produced using Affinity Publisher
and printed by Desktop Print Studio, Duver Road, St Helens.