The background features a dark blue field with numerous out-of-focus circular light spots (bokeh) in shades of cyan and blue. From the bottom right, several bright blue fiber optic light trails extend upwards and outwards, each ending in a small, sharp point of light.

>PC Update

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From The Editor November 2021

Hugh Macdonald

Hello and welcome to the November 2021 edition of PC Update.

It's an interesting issue, with our feature articles being on the various types of solid state drives available today and how to understand Internet speeds, which is important as NBN speed tiers increase. From The Conversation, and following on from last month's monthly meeting topic, we also have an article on how safe your information is online.

Our member fiction section has expanded this month. As well as a now regular contribution from George Wright, we have one from Tim McQueen as well. For the first time in a few months, Tim has also reviewed a book.

And as usual we have our regular segments of DOTW Winners, Yammer Highlights and the East SIG Report.

Thanks to all our club contributors, and I hope you enjoy the issue!

Monthly Meeting November 2021

The November 2021 Monthly Meeting was held online on Wednesday 6th October 2021, with about 70 members in attendance via Zoom. This was the program for the evening:

Guests: Yoko Fukuda, Kajsa Sjöman, Iqbal Samin Prithul

Topic: Self balancing Robots and Covid Around the World

Yoko Fukuda: Yoko is a tour guide in Tokyo who upsized her vehicle for the Olympics.

Kajsa Sjöman: Kajsa is a nurse and worked in a major Stockholm hospital during the height of the pandemic in Sweden. She and her fiancé have both had Covid-19.

Iqbal Samin Prithul: A young student in Bangladesh who has been involved with our Microcontroller group.

Meeting Agenda

Meeting begins at 7pm. MC is Peter Bacon.

Presentation: Self-balancing Robots.

AGM and President's Report.

Interval: Music

Panel Discussion: Covid Around The World.

iHelp Online with Mike Allison. Please submit questions to ihelp-questions@melbpc.org.au before the segment.

Meeting concludes at 9pm. Informal iHelp Online will continue after the meeting.

If you missed out the first time and would like to view any of these presentations, you can do so at <http://services.melbpc.org.au/videos/>

The username is videos and the password is drum286.

How vulnerable is your personal information?

Four essential reads

Eric Smalley, *The Conversation*

When you enter your personal information or credit card number into a website, do you have a moment of hesitation? A nagging sense of vulnerability prompted by the parade of headlines about data breaches and hacks? If so, you probably push those feelings aside and hit the submit button, because, well, you need to shop, apply for that job, file that insurance claim, apply for that loan, or do any of the other sensitive activities that take place online these days.

First, the bad news. If you regularly enter sensitive information online, chances are you've had some data stolen somewhere at some point. By one estimate, the average American had data stolen at least four times in 2019. And the hits keep coming. For instance, a data breach at the wireless carrier T-Mobile reported in August 2021 affected 100 million people.

Now for some good news. Not all hacks are the same, and there are steps you can take to protect yourself. The Conversation gathered four articles from our archives that illuminate the types of threats to your online data, what data thieves do with your stolen information, and what you can do about it.

1. Take stock of your risk

Not all cyberattacks are the same, and not all personal data is the same. Was an organization that has your information the victim of a ransomware attack? Chances are your information won't be stolen, though the organization's copy of it could be rendered unusable.

If an organization you deal with did have customer data stolen, what data of yours did the thieves get? Merrill Warkentin, a professor of information systems at Mississippi State University, writes that you should ask yourself some questions to assess your risk. If the stolen data was your purchase history, maybe that won't be used to hurt you. But if it was your credit card number, that's a different story.

Data breaches are a good opportunity "to change your passwords, especially at banks, brokerages and any site that retains your credit card number," he wrote. In addition to using unique passwords and two-factor authentication, "you should also consider closing old unused accounts so that the information associated with them is no longer available."

2. The market for your stolen data

Most data breaches are financial crimes, but the hackers generally don't use the stolen data themselves. Instead, they sell it on the black market, usually via websites on the dark web, for other criminals and scammers to use.

This black market is awash in personal data, so much so that your information is probably worth a lot less than you would guess. For example, stolen PayPal account information goes for \$30.

Buyers use stolen data in several ways, writes Ravi Sen, an associate professor of information and operations management at Texas A&M University. Common uses are stealing your money or identity. "Credit card numbers and security codes can be used to create clone cards for making fraudulent transactions," he writes. "Social Security numbers, home addresses, full names, dates of birth and other personally identifiable information can be used in identity theft."

3. How to prepare for the inevitable

With all this bad news, it's tempting to throw up your hands and assume there's nothing you can do. W. David Salisbury, a professor of cybersecurity management, and Rusty Baldwin, a research professor of computer science at the University of Dayton, write that there are steps you can take to protect yourself.

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"Think defensively about how you can protect yourself from an almost inevitable attack, rather than assuming you'll avoid harm," they write. The key is focusing on the information that's most important to protect. Uppermost are your passwords, particularly for banking and government services. Use different passwords for different sites, and use long - though not necessarily complicated - passwords, they write.

The most effective way to protect your data is to add another layer of security via multifactor authentication. And rather than rely on websites to text or email you authentication codes, which can be hijacked, you should use an app or USB device that uses public-key encryption, they write.

4. Don't make it easy for the thieves

The risk to your personal information isn't just having it stolen from a third party. Phishing attacks can get you to do the thieves' work for them. These emails fool people into entering personal information and passwords on fake websites controlled by data thieves.

It turns out that you're probably pretty good at sensing when something is off about an email message. Rick Wash, an associate professor of information science and cybersecurity at Michigan State University, found that the average person is as good as a cybersecurity expert at sensing when something is weird about an email message.

The trick to protecting yourself from phishing attacks is remembering that phishing exists and could explain what you're sensing about an email message.

"The people who were good at noticing phishing messages reported stories about specific phishing incidents they had heard about," he wrote. "Familiarity with specific phishing incidents helps people remember phishing generally."

Editor's note: This story is a roundup of articles from The Conversation's archives.

Eric Smalley, Science + Technology Editor, *The Conversation*

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Solid State Drives

Tom Burt, Sun City Summerlin Computer Club

Solid State Drives (SSDs) have been around for quite a while. However, prices have come down while capacities and performance have gone up. As a result, adding an SSD to an existing system has gone from being a luxury to a practical way to increase the performance of a desktop or laptop significantly.

SSD capacities have grown from 32 GB to 64GB ten years ago to 256 GB, 512 GB, and 1 TB today. So if you're flush with cash, you can get a 2 TB SSD.



A majority of SSDs are sold as 2.5-inch drives with a SATA controller and power supply. These drives look to PC hardware and software just like a regular hard disk drive. Most SATA SSDs are rated as SATA III, which can deliver data between the drive and the motherboard at 6 billion bits per second.

Sequential read/write speeds are now up in the range of 500 Megabytes per second for top-line SATA III drives. In addition, for random I/O, high-end drives are rated at up to 100,000 input/output operations per second. This makes SATA SSDs about three times faster than hard disk drives.



Two new SSD PCIE card form factors have begun to supplant the SATA format in the past five years. One is a small card that combines flash memory chips and a SATA controller. It plugs into a special M.2 socket on the motherboard. To the PC's CPU, it appears as a secondary SATA controller. These cards are recognizable because they have two notches (B+M) in the connector end. Performance is comparable to a 2.5 inch SSD, but the card takes up much less space and uses less power. As a result, these are now popular in laptop PCs.



The second new form factor is called NVME (Non-volatile Memory Express). An NVME SSD does not include a SATA controller; it is directly connected to the PCIe data bus of the motherboard via a simple memory controller interface. The NVME SSD card also plugs into an M.2 socket on the motherboard. The NVME SSD card only has a single notch (M only) in the connector end.

For more details on the M.2 slot, see the following:

<https://www.howtogeek.com/320421/what-is-the-m.2-expansion-slot/>

Topline NVME SSDs like the Samsung 980 Pro above can read data at up to 7000 megabytes (56 gigabits) per second if installed on a motherboard supporting PCIe 4.0. This is about 12 times faster than a SATA hard drive. The 1TB 980 Pro unit retails for about \$200. A mid-range unit like the 1TB Samsung 970EVO retails for about \$140 and can read at up to 3500 megabytes (28 gigabits) per second.

The significant performance difference in SSDs is that they can instantly access a block of data anywhere in the drive's memory. By contrast, a hard disk drive must position the read/write heads to the correct track and then wait for the desired block to rotate under the heads. This access time can take up to 10 milliseconds or more – easily 5,000 times longer than the SSD. In addition, the newer NVME SSD cards can transfer data 6 to 12 times faster than a SATA drive can.

Upgrading a PC to use an SSD can take either of two routes: adding the SSD to an existing desktop PC while keeping the PC's original hard drive installed; the second is to replace the PC's hard drive with an SSD. The second approach is the only practical one; there isn't room in the laptop for two drives. However, the first approach may be more satisfactory for desktops since it combines high performance while not forsaking high storage capacity. For example, you can use the SSD to store the operating system, applications, and very frequently accessed data files and then use the much larger hard disk drive to store all your other documents, photos, music, videos, and such.



Most new motherboards come with at least one M.2 connector, so adding an NVME or SATA M.2 SSD is possible if you're building a PC desktop tower. In the image at the left, there are screw holes for three different lengths of M.2 card. 80 millimeters (the one with the screw) is the commonest. For commercially-made brand-name desktops, you may have to go with a 2.5 inch SATA III drive connecting via a SATA cable to one of the SATA ports on the PC's motherboard. In a laptop, that will also likely be the case; you will replace the laptop's hard drive with a 2.5 inch SATA SSD. However, for a desktop without an M.2 connector, you can also buy a PCIe to M.2 adapter card that has an M.2 connector on the card and plugs into a PCIe slot on the motherboard. These adapters cost \$10 to \$15.

For a tutorial on installing an M.2 SSD, see the following:

<https://www.techradar.com/how-to/how-to-install-an-m2-nvmesata-ssd-on-your-pc>.

In upgrading to an SSD, you will need to consider whether to reinstall your operating system (Windows, Mac OS, possibly Linux) and applications from scratch or attempt to copy (clone) your existing system to the SSD. If you wish to copy your current hard drive's system, you will need an imaging or cloning tool such as Acronis True Image, Casper, or Macrium Reflect. The challenge is to get the size of your operating system's hard disk partition to be no larger than the size of your new SSD. There are many complications related to this, and details are beyond the scope of this article. However, you might want to stop by our Tuesday Hardware / Software Repair SIG and get some advice before diving into an SSD upgrade.

If you're now convinced, an SSD is the way to go, what's the best size and make to buy? Lower-end SATA drives are often on sale for about 12 cents per gigabyte. These drives are OK but may not be as fast as the top-end drives. Higher-end drives are selling for about 20 cents per gigabyte. The Samsung EVO series drives get very high ratings and have some of the best performance specs at very good prices.

Other brands are good also but read the recent reviews carefully. A few years ago, some vendors got good initial reviews on their solid-state drives and then switched to cheaper, slower memory chips. Check the usual online stores (Amazon.com, NewEgg.com, TigerDirect.com) and watch for sales. A 500 GB drive is very attractive at current prices, and you will most likely not run into capacity issues.

Understanding Internet Speed

Joe Callison, Seniors Computer Club of Kansas City

How fast is my internet connection? Am I getting what I am paying for? These are typical concerns for consumers, especially if they think their internet connection is too slow. We will look at this from the top-down, starting with the service from the internet provider to the residence or business, then the modem/router that provides the local network over wire and Wi-Fi, and finally the adapters in the computing devices connected to the local network.

Internet service is provided under language like “speeds up to” many megabits per second (Mbps). This is the maximum speed that will be delivered with the lightest load on the providers’ distribution system. Suppose many consumers happen to be streaming movies simultaneously on the same network branch that you are connected to. In that case, you may only experience 80 or 90 percent of the maximum speed. This possibility should be considered before you decide on what speed of service you need. Do you know what speed you need? I doubt that most people do. Let’s look at some of the requirements.

Netflix recommends 3 Mbps for standard quality video (SD), 5 Mbps for high-definition video (HD), and 25 Mbps for ultra high definition video (UHD). Hulu recommends 3 Mbps for content from their streaming library, 8 Mbps for live streaming, and 16 Mbps for 4K content. Remember that if you have two people in the household or business who may be streaming videos simultaneously, these requirements will double, and four people would quadruple. To ensure that you always receive at least these speeds from your provider, you should increase the total simultaneous requirements by 25%. Suppose you don’t stream high-definition movies (or games) over the internet at all. In that case, you can use a rule of thumb of 5 Mbps for each simultaneous connection to the internet, which is plenty adequate for email, internet browsing, standard quality video or video conferencing, and such.

The modem/router which may be leased from your internet service provider or provided by you must be capable of handling the total simultaneous network requirements, in addition to providing each connected device with its needed speed. Old “G” routers (802.11g) generally have either 10 or 100 Mbps for each wired connection and a maximum of 54 Mbps for Wi-Fi connections. The Wi-Fi speed will drop off dramatically as the distance from the router increases.

The “N” routers may have a single 2.4 GHz radio like the “G” routers or may have both a 2.4 GHz and a 5 GHz radio (dual band). The single band generally provides up to 300 Mbps, and the dual band up to 600 Mbps (total for both bands). The wired connections maybe 100 or 1000 Mbps. Newer “AC” routers are all dual-band and are often identified by a total combined Wi-Fi speed such as AC1200 for one with a 300 Mbps 2.4 GHz radio and 900 Mbps for a 5 GHz radio, or AC1900 for one with a 600 Mbps 2.4 GHz radio and 1300 Mbps for a 5 GHz radio. Wired ports are generally rated for 1000 Mbps.

A modem and or router may have a total bandwidth limitation that is less than the sum of the ratings of all individual connections. In other words, a router with four wired ports rated 1000 Mbps each may only be capable of delivering a fraction of that if all ports are active simultaneously. Unfortunately, the bandwidth rating is often a very difficult specification number to find.

The wired Ethernet adapter or Wi-Fi adapter in your computer or other internet-connected devices may also be a G, N, or AC capable type with its own specifications for speed. For the last several years, computers have included wired adapters rated 1000 Mbps. The ratings for Wi-Fi adapters vary greatly, as does their antenna’s capability to send and receive signals over distance. For example, the 5 GHz adapter in the laptop I am using connects to the router at 390 Mbps at a distance of about 20 feet. An external USB 3.0 Wi-Fi adapter I recently tested connects at over 700 Mbps from the same distance. For those with 1000 Mbps internet service, the Ethernet cable used for wired connections can limit achievable speeds. It will generally be necessary for cables over a few feet in length to use CAT 5e or CAT 6 cables to obtain

maximum speeds.

Ultimately, the most interesting number is the speed we can actually get at our computer or device. The speedtest.net site is often used to test the speed between your device and a selected server on the internet. For the most accurate test, other background tasks that could be connecting to the internet should be temporarily halted. Also, note that the site recommends using their app for testing connections rated 100 Mbps or more instead of the browser version. I have tested both ways on my 1000 Mbps capable internet service, and the browser version showed 394 Mbps compared to over 900 Mbps with the app. Real-world connections can be much slower than the test speeds because of the load on the servers for a particular website you are connecting to. Using a VPN service also generally results in slower speeds.

Member Fiction: Identifying Yourself As A Computer Nerd

George Wright

When deleting emails over six years of age you recognise you don't trust anybody.

When deleting emails under three days old you recognise you need get some new friends.

When emailing yourself, you can't believe a word they say.

If $a^2 + b^2 = c^2$, y can't ab square and ub 2? If uc this u qualify.

You give your computer an enema when the hard disk is full.

After eating burnt toast for breakfast you decide to remove the cable linking the toaster to computer.

You like android and you'd like to mince and stew all apples.

You know that all things come to those who wait and you're still waiting, waiting, waiting.

If you interlink with your wife's network, does this make Netherlands and does it all look Dutch?

Member Fiction: Thinking Machines

Tim McQueen

Daryl was frustrated. He'd left the job in Philadelphia, suspecting that international travel bans would come, but had risked going home via Cambridge to catch up with colleagues. He'd no sooner landed in London than the Australian government had announced a cap on overseas arrivals. As he wasn't a politician, a military officer, a senior cleric or an A, B, or C grade celebrity he figured it could be as long as two years before he got home. Daryl had thought of an alternative. He'd booked a train to Moscow, via Munich, where he'd spend his 14 day European quarantine. The University of Munich had fully catered quarantine accommodation with non-contact meeting facilities. From Moscow he'd take the Trans-Siberian eventually to Shanghai. Finally, there would be a position as a supernumerary on a container vessel to Melbourne. He didn't think the arrival cap would be as strictly enforced for residents returning by sea. So, depending on the quarantine requirements in Russia and China he might get home in a couple of months.

He recalled his first trip to Cambridge. He'd come over for post-graduate mathematics in the early 2000s. He and Gerry had been given an assignment: to study the work of Babbage, Lovelace and others to determine whether it was possible to build something like the Babbage's Difference Engine using current technologies. They'd hit paydirt; it was feasible. Daryl decided they should aim to build a device that could solve different kinds of problems. Gerry had the inspiration that the design should be adaptable; to be bigger or smaller as required. Rumours about their research reached the press. The device was, inappropriately, labelled 'the thinking machine' and the name stuck, and is still referenced in the lower case 't' inserted before most things associated with thinking machines. As they sought funding to build the first model the United Nations stepped in. This device was too important for development to be left to one nation. Research centres were established throughout the world to assist their efforts. The first device completed was probably about a t5. Now, of course, smaller devices proliferate with t1s powering a variety of home appliances, and t0s starting to appear in hand-held tcommunicators. There is even talk of t00s in microscopic applications.

At the other end of the scale the UN promulgated the t10 - a 'world thinking machine'. However if any country announced the intention to host the t10 half a dozen other countries insisted that would be unacceptable. The compromise was the t9, one in each of the major political/population centres. This caused some minor issues. The UK, after Brexit, refused to join the European group based in Munich. They decide to pursue the special relationship with the Federated Former Crown Colonies of the Americas (FCA). There was immediate reaction from Northern Ireland, Scotland and Wales staying with Europe. The FCA viewed the special relationship as an historical anomaly but allowed England to join. After New Zealand and the Pacific nations joined the Jakarta group, the Australian government decided to follow England's lead. The FCA saw this as a great advantage with Australia available as a troop base and espionage centre. Daryl and Gerry had found a way around Turing's definition of computability. They had designed a supplementary device (again erroneously named the accelerator) to solve previously intractable problems. That was what he had been working on in Philadelphia.

Daryl's tcommunicator alerted him that Gerry wanted to talk. "When you left here I got you to hand over your role to Ed. I remember you thought Ed didn't understand the concepts and would not be suitable. Seems you were right; he tells me the accelerator failed on its first run. The machine proclaimed error 42 and stopped."

“Can I speak to him? Ed, do you have the current accelerator instructions to hand?”

“Yes, Edition 1.00 dated 23 July”.

“OK, now check Edition on the t9”.

“Edition 0.95”.

“That’s the issue. Didn’t I ask you to run an instruction refresh as your first task?”

“Yes, but a commercial job came in and revenue work always takes priority over admin”.

“That worked well in this case, didn’t it. Make the refresh now and that should fix the problem”.

Gerry asked “How did you know? And why 42?”

“Well these intractable problems may have large numbers of independent variables. Humans are usually incapable of solving them. When we tested the accelerator we put in a maximum of 4 independent variables until we could confirm it worked. Testing with 1 and 2 was easy, 3 harder, and 4 almost impossible. Having proved that, we were happy it would work with any number. The instruction refresh removes the limit. And 42? Just a whim - the answer to everything from ‘Hitchhiker’s Guide to the Galaxy’”.

“Thanks Daryl. You’ll be happy to know that the Secretary General of the UN has decided that the t10 should be housed at a research centre in Melbourne with you as Director. You’re booked to fly home tomorrow.”

Book Review: I, Warbot

Tim McQueen

I, Warbot - the dawn of artificially intelligent conflict.

Kenneth Payne

Hurst & Company, London

Payne based his title for this book on Asimov's famous short story 'I, Robot', with its three rules for robots:

- A Robot should not injure a human being;
- A Robot must obey orders from human beings unless they conflict with rule 1;
- A Robot must protect its own existence unless in conflict with rule 1.

Payne feels that this might be a good starting point for rules for warbots.

In 1096, Pope Urban II banned crossbows as an extreme threat to human life. Since then we've had gunpowder, rocketry, nuclear weapons and, more recently, drones and cyber warfare. Reading Daniel Ellsberg, Eric Schlosser and others shows that the world only just survived the Cuban missile crisis, and the movie 'Dr Strangelove' was closer to a documentary than a dystopian comedy. Humanity seems to have an ability to adjust to new threats as they arise.

Payne starts his survey examining what we think we know of warbots to date. Most of our impressions come from movies and science fiction. Fictional artifacts like The Terminator do not exist.

We need to investigate potential warbot psychology. Payne's first chapter examines how to build a warbot. Automated weapons have been around since at least the late 1930s with Hitler's V2s. These were quite primitive; they could not take evasive action or be re-directed. In contrast Payne sees the victory in the Battle of Britain as being due to automation. Not so much the invention of radar itself as its incorporation into an overall system of anticipation, planning and disposition of scarce fighter resources.

British Infantry soldiers refer to their rifle as a weapon system. Their successful use depends on ammunition, intelligence (where is the enemy?), transport, engineering, catering and so on. The circle enclosing the system can be narrowed or widened as necessary.

The chapter 'i-Battle is joined' envisages how warbots might fight. Payne looks at the history of Artificial Intelligence (AI). This has gone through periods of frenetic activity and major advances punctuated with dead ends and disappointment. The current trend of neural networks training with real world examples holds promise. However, most Chess playing machines can do nothing else, although some newer developments can teach themselves to play Arcade games from scratch.

But no AI has emotions or can experience the world in a human way. Look at the example of self-driving cars. They often work well in daylight on wide, straight roads. How would they perform in the narrow medieval streets of some European cities at dusk in pouring rain? Perhaps a way around this issue would be for human-machine teams to form. This is much the case with the US F35 fighter jet; the pilot is a controller managing systems that fly the aircraft and launch munitions. There are possibilities of mind control; already a quadriplegic has managed to fly an F35 through thought alone.

The rate of change of automation in warfare is accelerating. By the time our proposed nuclear submarines are launched it is more likely that smaller autonomous devices which can stay underwater 'forever' (there's no need to feed machines) will have made them obsolete.

It does seem unlikely that we are about to be invaded by flocks of drone assassins. Global heating is a greater threat than artificially intelligent conflict.

Finally, Payne reveals his proposed rules for warbots, inspired by Asimov's rules. I, Warbot is a dense and interesting book covering an array of topics from 'The art of war' to advanced genetics. It is recommended reading for Melbourne PC User Group members.

DOTW Highlights October 2021

Roger Brown

DOTW is a lighthearted look at some of the sillier events of the week. Don't take it too seriously and do pop over to Chit Chat and vote each week. Thanks to those of our members who occasionally 'feature' for taking the gentle humour in such good part.

October winners were:

Nationals frontbencher Bridget McKenzie who criticised her Liberal Party colleagues for advocating a net zero carbon emissions target, saying that it was easy for members in inner city electorates to back the target, as opposed to those in regional areas

Scott Morrison and his government for approving increased support for controversial fossil fuel projects that promise to capture and store carbon dioxide emissions by awarding them carbon credits.

The Queensland woman charged with pretending to be a doctor and issuing 600 fake Covid "medical exemption" certificates and who "doesn't believe she's done anything wrong" and is "entitled" to issue the certificates.

The LNP Coalition for blocking a bid to have former attorney-general Christian Porter investigated over his financial disclosures, despite the Speaker of the House having argued there was a case for further scrutiny.

Australia for joining India and China to resist a global bid at the Glasgow summit to phase out coal as an energy source.

East SIG Report October 2021

Neil Muller

Host Paul Woolard opened the October meeting, once more joined by an increased audience, again from home via Zoom. Paul announced that starting this month, videos of each presentation will be available on the East SIG website after consent from the presenter. The first presentation of the night was **George Skarbek** presenting his normal Q&A segment. With most members on their computers during lockdown, more questions than normal were asked this month.

1. I need to break up a large video file into 5 separate parts and would like your suggestion how I should go about this. I've only done very basic editing in the past so need something that's free and simple to use. Once I break the video into individual parts I can then edit each part separately. Some of the programs I've looked at seem too complicated so I would like something simple.
2. Some years ago I used the free Video Editor that comes with Windows. It was remarkably easy to use, very limited in its capabilities, but for splitting a video file up is probably all you need. What I would do is open a copy of the video and work on it, so that you still have the original. Then find the first part and delete everything else and save that as part 1. Take another copy of the original and cut part 1 and everything after the end of part 2 and save that as part 2. Repeat the same procedure for the remaining parts. You will then have 5 parts which you can edit while still retaining the original. This is not elegant but it is simple and will work.

[John Hall, convenor of the Video Production SIG] If you look on the Video Production SIG website, you'll find links to various video editing programs that you can use, from the very simple to the more advanced.

[Author] Microsoft Video Editor is now bundled with the Microsoft Photo Editor and can be hard to find. In Windows 10 click on the Windows Start button and type Video Editor. Audience members recommended downloading the original Microsoft Movie Maker from the Microsoft Store, saying it was much easier to use than the Windows 10 version. A tutorial on the Windows 10 Video Editor by Kevin Stratvert titled "How to use Free Windows 10 Video Editor" can be found at <https://tinyurl.com/j3zk5b9x>.



Figure 1 - Microsoft Photos - Videos App

1. This is a tip that might be useful for others. I've been looking at getting my computers ready in case I decide to put Windows 11 on in the future. The Microsoft PC Checker tells me everything except for TPM 2 is okay. The "Ask Woody" newsletter suggested users update their BIOS when the MS Checker can't find TPM. I've now updated my BIOS and it included TPM 2, so I'm now ready to go.

I have a Synology NAS box and one of the issues I have is whether to hibernate it or not. I've been googling this and I'm getting mixed opinions. The default setting is 20 minutes. I find when I walk away then come back some time later it's starting up all the time. What's your opinion?

[David King] I've had a Synology NAS for some years and have never thought about turning it off. It goes off to sleep by itself.

[John Hall] If it's a NAS rated drive I'd leave it on all the time.

2. I was host of a Zoom meeting last night and saved the recording to the cloud. It was not a MelbPC meeting but is a licenced version of Zoom with a 1GB allocation. Today I received an email from Zoom stating I recorded 1.89 GB and to please delete the file. Has anyone seen a message like this before, with either a MelbPC or non MelbPC account? It's not a problem now as I've downloaded the file to my PC, but I was wondering what I should do in the future?
3. Record the meeting to your local hard drive and problem solved.



Figure 2 - Zoom

1. I have a 2 ½ inch drive out of an old laptop that won't boot. I want to make sure the drive is bootable but I'm unsure what tool to use. I can see the files, but wonder whether BCDEdit can be used to ensure it boots?
 2. BCDEdit is a command-line utility and would be my first choice. Alternatively, if you have a very elderly computer, unplug drive C and plug in the 2 ½ inch drive and see if it boots. Refer <https://tinyurl.com/yzy8zzpd>
-
1. A few days ago, I installed a large disk drive into my computer. I used Macrium Reflect to clone the old hard drive prior to the installation. However, I wanted to increase the size of the old partitions, but had trouble finding a program that would easily do that. I eventually found a free program called NIUBI Partition Editor, a free disk partition manager for Windows 10/8/7/Vista/XP (32 & 64 bit). NIUBI downloaded easily and did the job to move the partitions where I wanted them.
 2. Thank you for that. I not familiar with that program, but anyone who needs to move partitions may like to give it a go.
-
1. I use to buy and sell through Ebay a few years ago. Recently I wanted to sell something so started to list the item. Before I could complete the listing Ebay asked for date of birth, car licence, Medicare information and other details. I didn't feel comfortable giving Ebay my personnel information, so didn't go ahead with the listing. I thought I'd ask this audience what experience others have had and whether I should give Ebay my personnel information? Have others had this request? Ebay claims it needs this information due to Government regulations.
 2. [Dave Botherway] I haven't seen that request on Ebay, although I don't sell very often. I don't think Ebay should need that level of detail, so would be wary of that request.
No one else from the audience was able to offer any help or had that type of request from Ebay.



Figure 3 - Ebay

Following Q&A, **Trevor Hudson** played one of his videos on “How to trim MP3 files using Audacity”. (Refer <https://tinyurl.com/4asva36p>).

Audacity is a free and widely respected sound editing program, with features rivalling many commercial programs. Trevor’s video uses a single mp3 sound file which he manipulates using the various tools on offer with Audacity. He commences by showing how to delete a silent passage in the audio file. He shows which tools to use on Audacity’s menu to select the passage to be deleted and then how to delete it. The video then showed using different tools and technique, how to insert a silent passage of set duration into the sound file.

Using the same mp3 file, Trevor then showed how to trim and time shift (i.e. move) the sound file, again highlighting the tools needed and how to use them. He finally played the sound file before showing how to save the file within the “Export” menu. Audacity can save audio files in a number of formats and Trevor demonstrated this by selecting to save the file as an mp3 audio file. For anyone using Audacity for the first time, this would be an ideal introduction to get you started.

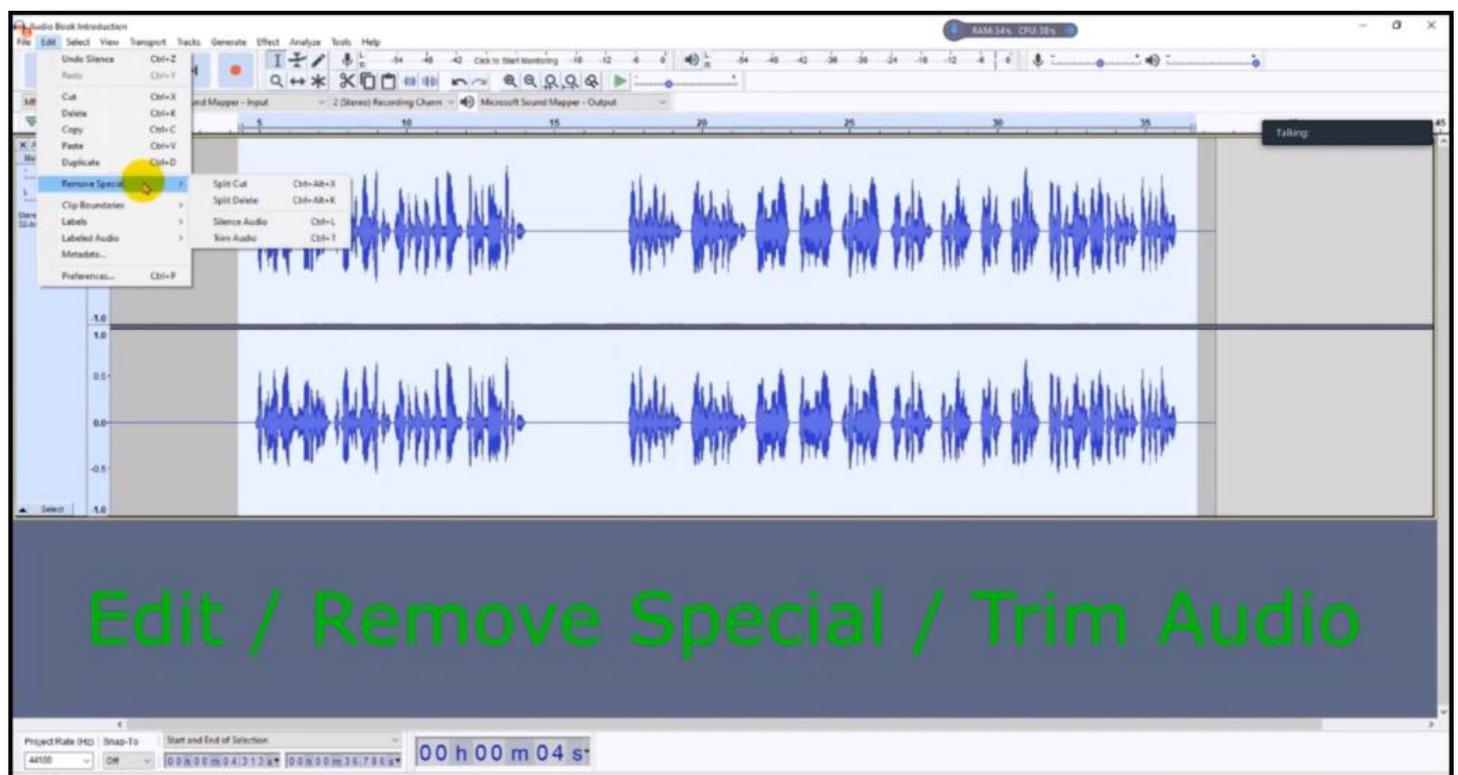


Figure 4 - Audacity Trim, image taken from Trevor’s video

The next presentation was by **Dave Botherway** on the scam aspects of “On-line Shopping”. As October was Cybersecurity Awareness Month, Dave set out to investigate firsthand the type of scams found on Facebook Marketplace and on Ebay after being scammed when assisting a relative with a hard to buy item.

There are many ways scammers can connect with you in today’s digital world. Messages to your private email or mobile phone number, should raise a red flag. When using email watch out for unsolicited messages that fall into the following categories:

- Good news messages from PayPal, Microsoft, Banks etc. – Always check the main part of email address. Look at the domain name for misspelling e.g. @micorsoft.com, errors in the text or how they address you in the email.
- Impersonating Authority figures – Never share personal information over the phone
- Blackmail and threats – These try to make you afraid and act out of emotion
- Online flirting – Trying to build up trust using a touching story or an appealing profile. Never send money to someone you don’t know just because they have a good profile or a touching story. Images can be searched online using TinEye.com

Things to do if you think you’re being scammed

- Talk to people you trust
- Stop talking to the scammers
- Use an image reverse search e.g. TinEye.com
- Do research
- Use a website validator such as www.scam-detector.com/validator



Figure 5 - Scam Detector

A good reference for security tips can be found on the website www.MakeUseOf.com titled “50+ Security Tips to Protect Yourself When Browsing Online”. <https://tinyurl.com/z7sfd7y2>. The tips are broken up into topics such as Passwords, Web browsing, Social media, Antivirus, Data, Email, Software and Smartphones.

Dave’s first experience shopping on-line was in 2004 when he first enrolled on Ebay. He mainly uses PayPal for payment because of the added protection and over the years has experienced few problems. When recently asked to purchase a product for a relative, that failed to turn up, Dave made a successful claim against PayPal. This sparked his interest in scam buying where items for sale appeared too good to be true.

When starting out this investigation of on-line scams, Dave ensured:

- his virus software was updated
- he needed to be alert to pitfalls when visiting scam websites
- to keep accurate records
- to use PayPal for all payments due to its buyer protection and to a lesser degree use credit cards.

To research how the on-line scams work and what happens thereafter, Dave's investigation was told in the following three stories.

Story 1 - Dave received an unsolicited offer via Facebook at UUHBH.com for a 2021 Apple iPad Pro selling at US\$95.99. This iPad is currently selling in Australia for \$1,899. Dave paid with PayPal and waited a month - then after contacting the seller twice and receiving no reply, lodged a claim with PayPal. Dave then described the process for making a PayPal claim. His claim was quickly accepted and a refund received.

Story 2 - A legitimate story on Facebook reporting the sale of outdated Dell Inspiron 17" Laptops appeared following Microsoft's announcement it would no longer be supporting Series 7 CPU's. The article stated these laptops were being sold at bargain prices to clear old inventory. As there was possibly some truth to the offer, Dave tried a second attempt knowing PayPal would protect him if this was another scam. Contacting the seller about the progress of the sale again proved fruitless, so another claim was made on PayPal. The claim was readily accepted and the refund was back into his bank account in two days.

An interesting aspect of this story was after the PayPal claim was accepted and a refund received, an email arrived from the seller with a genuine tracking link. Dave followed the tracking link each day and finally a parcel did arrive. When opened, the parcel revealed a small pillow case or cushion cover, not the laptop he ordered.

Story 3 - An offer on Facebook for a Mystery Electronic Box was the final scam Dave investigated. The cost was \$0.01 but at the very last stage of the order US\$19.90 was requested for postage and handling. Dave checked the sellers email address on **ScamDoc**, which gave the lowest reliability rating of 1%. As this was a research project, Dave continued with the purchase. Again, a tracking link was received which Dave followed till the parcel arrived. When opened, the parcel revealed a legitimate 3 in 1 USB cable, that could have been purchased for \$3.90 on Ebay.



Figure 6 - ScamDoc

In conclusion Dave offered the following advice when shopping on-line for bargains

- Ensure your virus, operating system and browser software is up-to-date
- Be wary of unsolicited promotions via email, Facebook etc.
- Use <https://www.scamdoc.com/> to gauge the “digital identities” (reliability) of email address & website.
- Use PayPal and credit cards for payments
- Keep a record of all steps to enable making a claim
- If ‘Too-good-to-be-true’, it probably is
- Caveat Emptor (Buyer Beware)

Audience Comments & Questions

- A number of members regularly purchased from Shopping Square at <https://www.shoppingsquare.com.au/> and found the site to be reliable, sell genuine goods and have good delivery times
- PayPal is very expensive, with high exchange costs to use for trusted overseas sites, so a few members recommended using a free Latitude card, formally known as 28 Degrees.
- Normally the buyer is required to pay for the return of goods purchased with PayPal, but PayPal will on occasions pay postage for faulty returned goods.

The nights final presentation was one out of the box, on a topic that most of the audience knew nothing about. The topic was “Wi-Fi Calling” and was presented by **Stewart Bedford**. After his presentation, most of the audience were seen reaching for their smart phones, checking whether their phone featured “Wi-Fi Calling”. In the report that follows, is a virtual copy of Stewart’s PowerPoint presentation. I’ve done this with Stewart’s permission, due to the quality of the presentation and to avoid missing any important details, on a topic I feel many others will also be unaware of.

Stewart commenced outlining his phone, a current model Samsung A20 costing around \$200. This is one of Samsung’s cheaper models but still comes with Wi-Fi Calling. Stewart started investigating Wi-Fi Calling when he noticed this option was turned off on his new phone. He had no idea what it was at first, so this prompted his interest to investigate further.

Firstly, some Mobile Phone tips

Flight Mode

Flight mode switches off the phone’s connection to Wi-Fi networks. Stewart outlined how you can still make calls and use the internet with Flight Mode turned on. Using the technique described below however, you cannot receive calls.

- Switch on Flight Mode on your phone.
- Turn the Wi-Fi back on. This can be your home or hot spot Wi-Fi.
- While you cannot make or receive normal mobile phone calls, you can make calls using **VoIP** (Voice over Internet Protocol) with apps such as Line, Messenger and Skype.
- You can also make calls using “Wi-Fi Calling”.
- You also have access to the internet.

Uses for an old mobile phone without the need for a SIM Card

There are a number of uses for an old discarded phone with its SIM card removed

- You can still use the phones Wi-Fi facilities for VoIP Calls with apps such as Line, Messenger and Skype etc.
- Stewart uses an old phone with an app called “Simple Radio” to listen to radio stations throughout the world.

Wi-Fi Calling

VoLTE

A smart phone needs to be able to make voice calls over the 4G network (i.e. use VoLTE) to be able to make voice calls using “Wi-Fi Calling”.

- VoLTE or “Voice over Long-Term Evolution” simply means your phone can make voice calls on the 4G network.
- Many phones may have this option, but unless VoLTE is activated, the 3G network is used when you make a call.
- VoLTE delivers some improvements to mobile voice calling. You can experience faster call connection times compared to 3G, also talk and browse at the same time using 4G.
- 4G voice calls are high definition for sharp, clear call quality.
- Battery usage is claimed to be improved.
- Your RSP has to support both VoLTE and “WiFi Calling”.

What is Wi-Fi Calling

- Wi-Fi calling enables you to make mobile phone calls using a fixed broadband Wi-Fi connection from a compatible mobile phone or tablet i.e. *Routing your phone calls via your router instead of a mobile phone tower.*
- When you can't connect to the mobile network, your mobile phone uses your Wi-Fi network instead, so you can make and receive calls, voice, video and text as you would normally.
- When overseas and connected to Wi-Fi, Wi-Fi Calling allows you to make and receive calls back to Australia at no additional charge. Subject to that Wi-Fi network allowing Wi-Fi Calling and they are connected to an activated provider. At this time you can't make these calls from say Rome to London.

Requirements for Wi-Fi Calling

- A mobile phone service that supports Wi-Fi Calling. Most major suppliers Telstra, Optus and Vodaphone now have Wi-Fi Calling enabled, *but not every reseller.*
- **A “Wi-Fi Calling” enabled phone that also has VoLTE enabled.**
- Apple iPhone 6 onwards, Apple Watch 3 onwards, Samsung Galaxy devices, S7 onwards, Note 5 onwards, Google Pixel 2 devices onwards & LG devices G6 onwards
- Ensure your phone has the latest updates.

Features of Wi-Fi Calling

- **Wi-Fi calling does not need an app and uses your existing phone number.**
- Services such as Skype, Messenger, WhatsApp need an app at both ends. These apps will not hand over to a mobile network *if you move away from Wi-Fi while in a call.*

- None of these apps use your existing mobile number, although you can get a Skype phone number, but it will be different from your current number.

Setting the phone for Wi-Fi Calling

The following screen captures from Stewart’s presentation show how to turn on Wi-Fi Calling and VoLTE on his Samsung A20 smartphone.

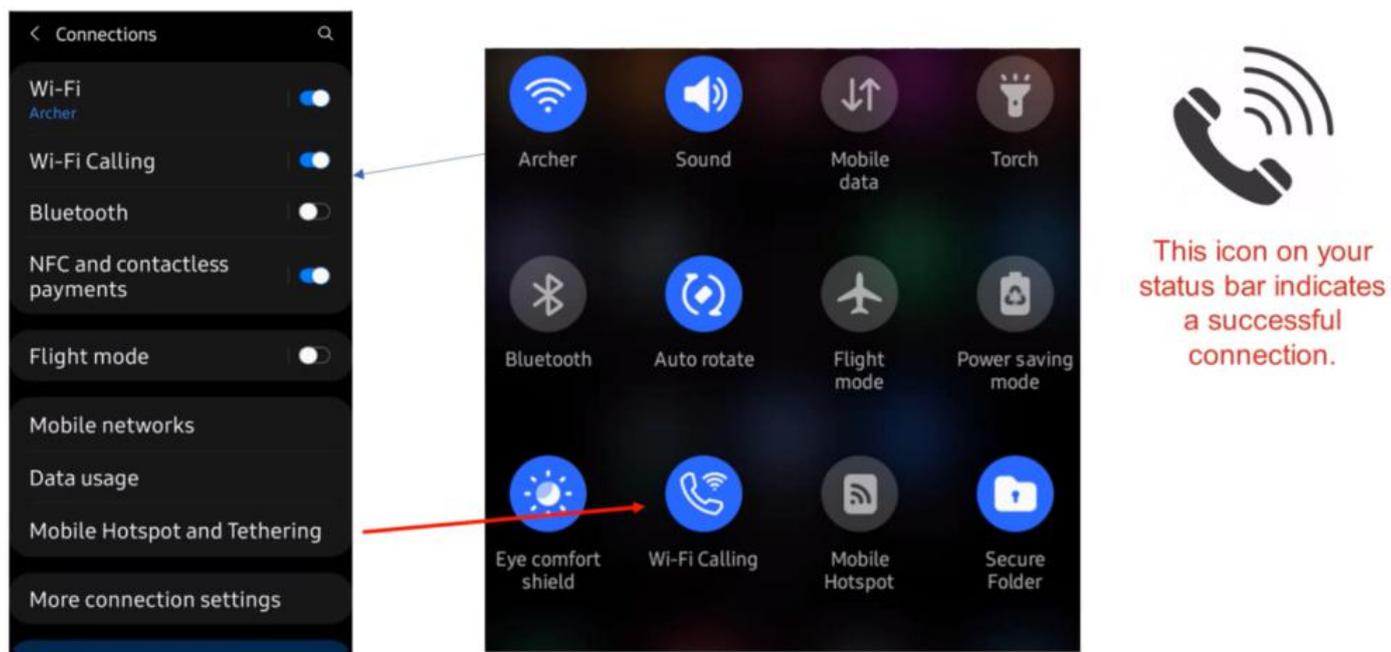


Figure 7 - Wi-Fi Calling on the Samsung A20 (Screen capture from Stewart’s presentation)

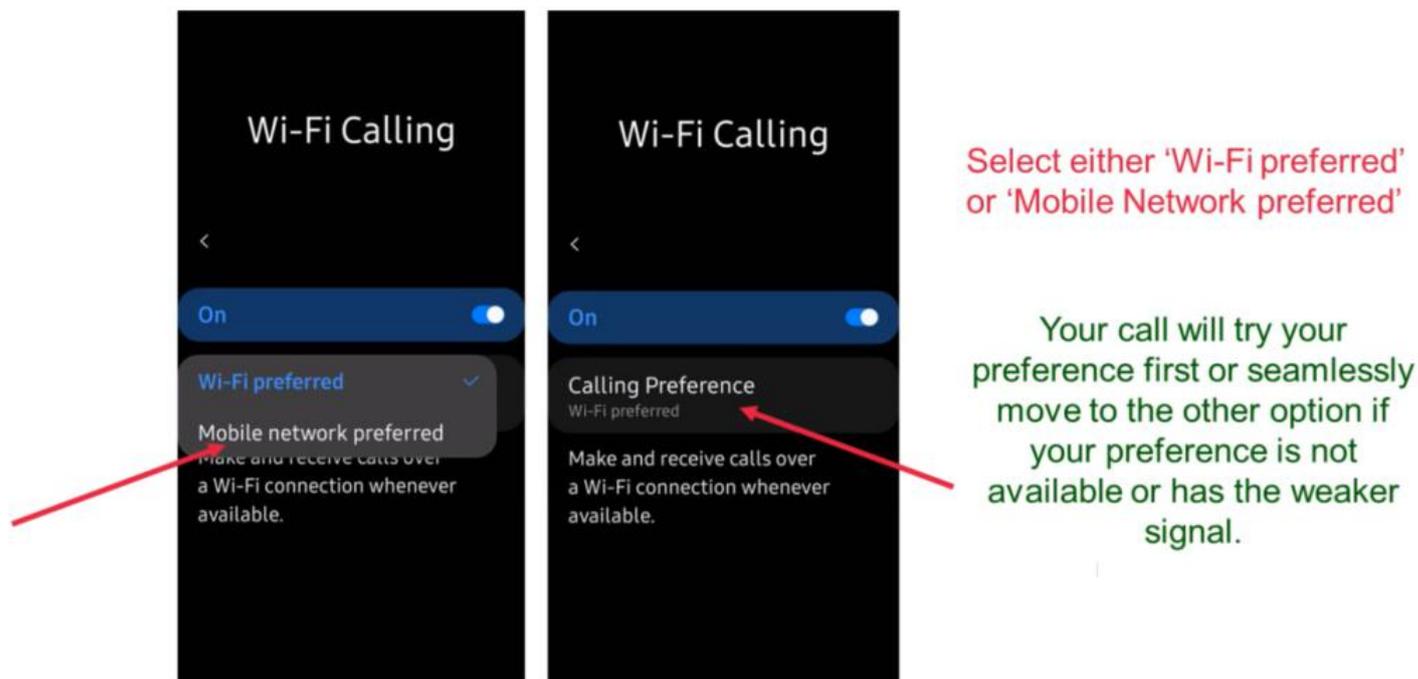


Figure 8 - Wi-Fi Calling Preferences on the Samsung A20 (Screen capture from Stewart’s presentation)

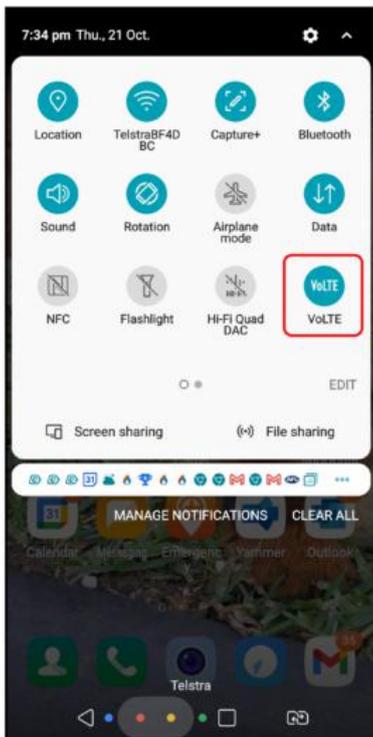
Enabling VoLTE (4G Voice Calls.)



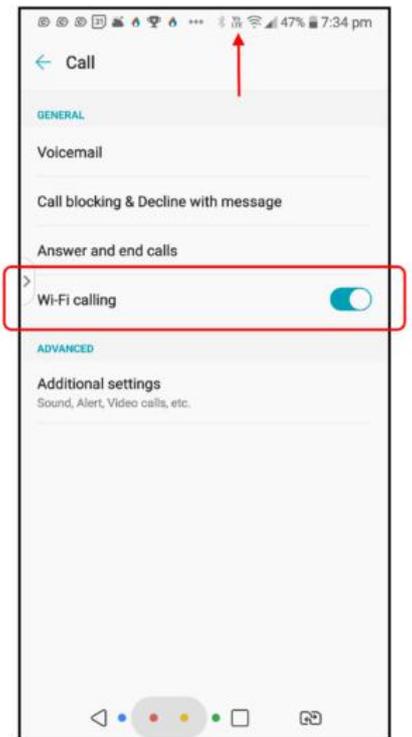
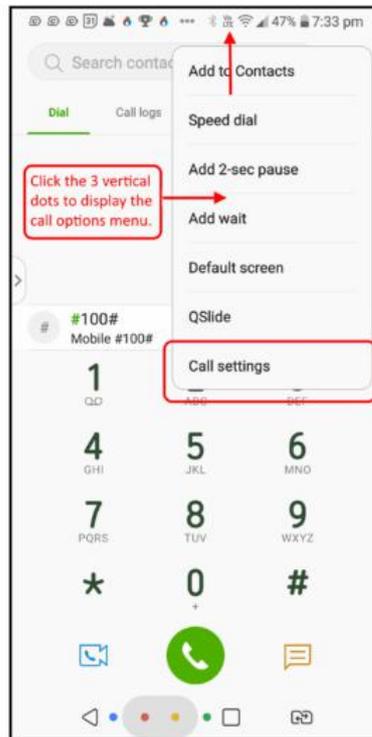
Figure 9 - Enabling VoLTE on the Samsung A20 (Screen capture from Stewart's presentation)

During questions that followed the presentation, it became obvious the settings for Wi-Fi Calling & VoLTE are not universal and differ between phone manufacturers. Below in Figure 10 are screen captures of Wi-Fi Calling and VoLTE settings for a LG V30+ smartphone. The Wi-Fi Calling settings for the LG are similar to the Pixel 4A according to a Pixel 4A owners in the audience.

Selecting VoLTE from the Notification Panel



Selecting Wi-Fi Calling from the keypad screen



Screen shots from an LG smart phone

Figure 10 - Wi-Fi Calling settings on a LG V30+ Smartphone.

Why use Wi-Fi Calling

Wi-Fi Calling is an answer to the mobile black spots, even in urban Melbourne.

- If you are in a low or no mobile signal area, or even have a weak signal in parts of your house and have a good Wi-Fi, then you will be able to make a call and the quality of your calls will also improve.
- Wi-Fi Calling should work with all major carriers and some resellers and equipment less than 5 years old or so.
- If you start a call on Wi-Fi Calling and move away while in the call, your call will seamlessly switch over to VoLTE (4G).
- Calls are encrypted even when using Wi-Fi hot spots, shopping centres etc.
- There are conflicting reports on calling over a VPN. Stewart has a VPN running and had no trouble.

Summary

- Wi-Fi Calling is an alternative to existing VoIP Apps. It doesn't require an app at each end and uses your existing phone number.
- Potentially a fee free alternative to existing roaming options when overseas and calling back to Australia.
- Improves call quality in mobile call black spots and low signal areas where you have access to Wi-Fi.
- All calls are encrypted for privacy protection, including ones from public hot spots.
- Switching from mobile calls to Wi-Fi Calling and back is automatic and seamless. VoLTE or (4G) must be available for the handover to work seamlessly.
- Wi-Fi calling does not use much bandwidth. A call takes one MB/minute, and video calls take 6 to 8 MB/minute. This can be a saving if you currently have a small call allowance and unlimited broadband.
- Wi-Fi Calling is being progressively rolled out so circumstances may vary depending on your handset and who supplies your mobile phone service.

An update from Stewart.

When Stewart gave this presentation, Wi-Fi Calling was a recent discovery for him. After an additional 2 weeks Stewart was able to offer the following update.

Since I made the presentation, I have had some time to evaluate Wi-Fi calling. In the settings, If I select my *'calling preference'* as *'wi-fi preferred'*, my phone will initially try to direct my call via my router, should the signal from the wireless router be weaker than the mobile phone service signal then VoLTE is automatically selected. If I select *'mobile network preferred'* then the phone will try VoLTE first, if the Wi-Fi signal is stronger, it will be selected.

The Wi-Fi Calling icon on my phone is also intermittent even sometimes when I am quite close to the router. If you switch on flight mode and re-engage your Wi-Fi you cut off the mobile signal leaving the router as the only option for Wi-Fi calls, even if under normal circumstances it may be the weaker signal.

What I have found like yourself, is there seems to be no logic to Wi-Fi signal strength which is affected by obstructions, walls etc. or even rogue interference from electrical equipment from you or a nearby source. This sometimes causes weak signals near the router and stronger signals elsewhere. Changing the channel in your router's settings can sometimes cure this. Most people leave their router on the default

channel, so if your neighbours are transmitting on the same channel you are, then this can cause interference. Also of course your router may be the cause. I have just ordered a new one.

As I sit here, I am less than 1 metre from the router on the other side of an interior wall, my phone is showing VoLTE as the stronger signal. If I move to another room further away the WiFi calling icon will appear as the stronger signal.

The whole process is seamless, if you have set up your phone for Wi-Fi Calling and *Wi-Fi Preferred* then when you make a call the strongest signal is automatically selected, firstly Wi-Fi Calling is selected, if the VoLTE is the stronger signal, then it is selected, if you happen to be in an area where there is no VoLTE then 3G is selected. Switching between these options is automatic and seamless

Yammer Highlights October 2021

Hugh Macdonald

Windows

With the move of our services from Microsoft to Google based the use of Melb PC e-mail addresses for a Windows login will cease to work. Turns out Windows Home users aren't affected as our Microsoft account type is "work" rather than "personal" and can only be used for the Windows login on Pro or Enterprise Windows versions.

Initially I thought we'd be able to simply change affected Windows accounts from Microsoft login to a local one, problem solved, but it's not that simple. Organisational accounts such as ours can't be changed, which makes sense in hindsight from an organisational security perspective, so unfortunately you're going to lose the account, but it's not the end of the world as you can create a new local admin account, copy all your data across to the new account and continue to use your locally installed programs. Any desktop customisation will have to be recreated and of course you'll no longer have access to any web based apps associated with the old account, but at least all your locally stored data will be available.

A further complication is the use of BitLocker as the recovery key is stored online in the associated Microsoft account which would potentially be a huge problem if it was needed at some stage in the future when the account was no longer available.

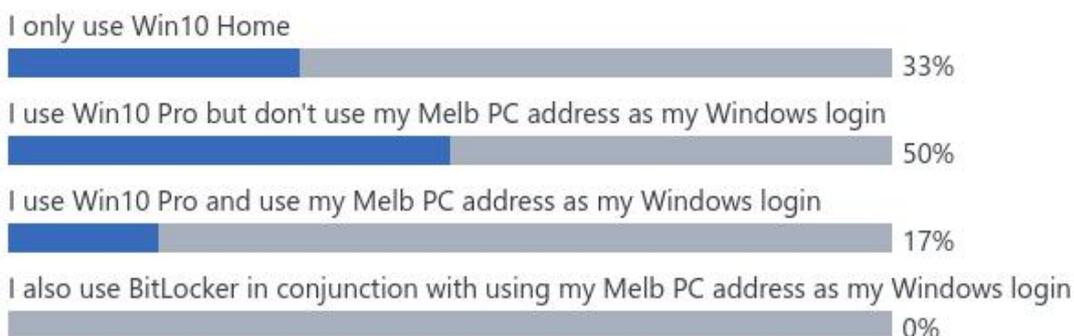
I was curious and wanted to get a feel for the number of our members who might be affected so created another of my infamously quick and dirty polls, asking whether people used Home or Pro, if they logged in using their Melb PC address and if they also used BitLocker in conjunction with it.

The results were somewhat surprising as I expected most to be using Home, but it turns out of the thirty members who responded, only a third used Home. Five reported using their Melb PC address for logging in but none reported using BitLocker, so hopefully that translates to the wider Melb PC membership.



Dennis Parsons – November 21 at 08:57 PM

For Win10 users do you use Pro on any of your computers and do you use your Melb PC address as your Windows login?



30 total votes · Change vote · Reload

<<https://www.yammer.com/melbpc.org.au/#/Threads/show?threadId=1485079698350080>>

<<https://www.yammer.com/melbpc.org.au/#/Threads/show?threadId=1476472712167424>>

Computer Help

Following the successful installation of Win11 on an officially non-compliant system using a modified ISO, as reported on last month, I can report that one month on it's still working exactly as if it were compliant. The "patch Tuesday" updates installed correctly, manual update checks works, the system continues to show as activated and functions with no apparent anomalies, noting I only use it occasionally.

Of course MS could potentially introduce changes in the future that render such systems inoperative or reduces their functionality but for the present it works as a way of using Win11 on older hardware.

<<https://www.yammer.com/melbpc.org.au/#/Threads/show?threadId=1428868101455872>>

Jan was wanting to replace her tablet which was getting rather long in the tooth and she'd had enough suffering with only 16GB of storage. She was willing to spend a reasonable amount so was spoilt for choice and wanted some help in narrowing the field. After a bit of to-and-fro she settled on a Lenovo M10 128GB FHD - she was happy until she noticed she'd be given the 64GB version so had to take it back and exchange it, fortunately a painless experience. One big advantage in buying from a bricks-and-mortar store.

Another member mentioned he'd recently purchased the 64GB version of the M10 (the price difference with the 128GB was larger at the time than Jan found) and was coming to grips with his first Android device having been using iOS for nine years.

<<https://www.yammer.com/melbpc.org.au/#/Threads/show?threadId=1471585658609664>>

Coronavirus Discussion and Comments

The Service Victoria app had an update recently that might prove useful to members who have other family members accompanying them to places where they need to check in. The app has had the facility to check in multiple people for some time but you could only have one vaccination certificate uploaded. Now you can upload multiple certificates allowing you to not only check in multiple people on the one phone but also show the vaccination status for each one. Hopefully big green ticks for all.

The process is much the same as uploading the first certificate - tap to add a certificate, open the myGov app and log in, upload the certificate to the Service Victoria app from the Medicare section and select which person from the listed names the certificate is for.



Check-in

Favourites

History

Certificates

You

Dennis Parsons



EDIT

 Valid certificate

 View certificate

Others

Helen Parsons



EDIT

 Valid certificate

 View certificate

Add another certificate

Show your COVID-19 digital certificate when you check in.

[Learn more](#)

