

Magazine of the Apple User Group of Canterbury Inc.

Applebyte



May 2014



**Large-scale Redevelopment
Christchurch centre, anyone?**

Waimairi School

May 28th 7:30 pm

APPLEBYTE is the monthly magazine of:
Apple User Group of Canterbury Inc.

Submissions for publication are due by the 12th of the month of publication. Please submit all articles to:

editor@appleusers.co.nz

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Meeting venue

Meetings are held on the last Wednesday of each month (except December) beginning at 7:30pm, at Waimairi School at the end of Tillman Avenue, off Bligh's Road.



Drinks and snacks are available while we all calm down after the excitement of the meeting.

Some members carpool to get to meetings. If you don't have a car and find it difficult to get to meetings, please contact a committee member to arrange transport. Usually there is someone living near you who can offer a lift.

Meeting programme

Wednesday 28th May 2014

7:30 Monthly Meeting

- Welcome and News
- Apple University
- iPad/iPhone Apps
- Information Interchange
- Supper

Come along and share your passion for Apple products. Learn about the latest technology, and enhance your skills. And meet with old and new friends over supper. Also remember to try your luck with the evening's raffle. Visitors welcome.



Submitting your article

Electronic submissions are preferred (to save wear and tear on my fingers). Just choose whatever format suits and send it to:

editor@appleusers.co.nz

One page is roughly 450 words. Most articles are less than 4 pages, but longer articles may be accepted if of particular interest or relevance. Please ask in advance if you are planning a longer article.

Please write clearly; short sentences are recommended to help you do this. Use a spell-checker. If you are quoting some other article, please include an acknowledgment of your source.

Pictures can help explain your article, so by all means include one (or more) if appropriate. The format is not important - jpeg, tiff and gif are all fine, but try to provide a high quality image (300 dpi) if possible.

For screen shots, you can use the build-in Apple functions Apple-Shift-3 or Apple-Shift-4, or a utility such as Snapz Pro, available from:

<http://www.macdownload.com>.

Next Deadline: 12 June 2014

Mac 911

Christopher Breen

Slim down your SSD with symbolic links

Late last year you wrote about speeding up an old Mac with an SSD. I followed your advice by replacing the media drive in my MacBook Pro with an SSD, leaving the original hard drive for other things. The problem I face now is that my SSD fills up quickly. Is there a way I can better manage its storage so files are stored by default on the old hard drive rather than the SSD?

Absolutely. There are a couple of ways you can go about this. If you find that a lot of the storage is being used by iPhoto and iTunes, you can simply shift their files over to the old hard drive and then point the apps to look there for their resources.

For iPhoto, copy the iPhoto Library archive from your **userfolder/Pictures** to the old hard drive (where you copy it isn't important). Then launch iPhoto while holding down the Option key. An iPhoto window will appear that lists any iPhoto Library archives you have as well as the path to the currently selected archive. Click **Other Library**, navigate to the newly copied library, and click Open. You can now delete the original

iPhoto Library archive. Whenever you work with iPhoto it will load and save images using this iPhoto Library archive.

Working with iTunes is less straightforward as you have to additionally adjust some settings within its preferences. I'll let Apple show you the way.

The other thing you might consider is moving some folders within your user folder to the old hard drive and creating symbolic links to them. The idea is that any app that wants access to folders such as Documents, Movies, Pictures, and Downloads will be directed to copies you've created on the old hard drive. This can't happen until you create links that tell the operating system "Look over there for the folders you want." Doing so requires some folder copying and the tiniest bit of Terminal work. Like so:

First, consider which folders you want to place on the old hard drive. The advantage of an SSD is that it accesses files very quickly and so you want to keep those files most often accessed on the faster drive. For this reason I'd suggest moving folders that contain large files that aren't used all that often—in my case the Pictures, Music, and Downloads folders. I would very definitely keep the hidden Library folder on the SSD as it contains lots of little files that the OS touches constantly.

Copy the folders you want to move to the old hard drive. You needn't put them in any particular place. I've created a folder at the root level of my old hard drive, named it My Home Folders, and then moved the folders into it. Now, to Terminal.

Within Terminal, enter **cd** and enter the location of your home folder on the SSD drive. The easy way to do this is to type **cd**, followed by a space, and then drag your home folder into the Terminal window. Press **Return** and Terminal will list the name of your home folder followed by a prompt—*chris\$*, in my case).

Now type **sudo rm -rf**, a space, and then the name of the folder you want to delete. (This is the folder you copied, right?) So, to delete the Downloads folder you'd enter **sudo rm -rf Downloads** and then press **Return**. Enter your password when prompted, press Return again, and the folder will be deleted. Repeat this for each folder you wish to delete (again, after making sure that you've made copies onto the old hard drive).

You must now create links on the SSD to the folders you moved onto your old hard drive. You can do this by typing **ln -s**, entering a space, and then dragging in the folder on your old hard drive that you want to create the link to. In our example I would type **ln -s** and then drag into the Terminal window the Downloads folder from the My Home Folders folder I created on my old hard drive. When I press Return the link to the folder is created within the home folder on the SSD.

Worth noting is that when you delete those folders from the SSD's home folder they'll also disappear from Finder windows' sidebars. You can put them back (minus the custom icon, which you also lose) by navigating to the (copied) folders on the old hard drive and dragging those copies into the sidebar. (If you drag the links from the SSD's home folder into the sidebar the links will simply disappear from the home folder.)

How to sync bookmarks with two iCloud accounts

Perhaps you believe that two iCloud accounts are better than one?

I've set up two iCloud accounts on the iPad Air that my girlfriend and I share—one for her iCloud ID and another for mine. The problem is that I see only my account's bookmarks in Safari. What do I need to do to have her bookmarks appear as well?

If, on the iPad, you travel to **Settings > Mail, Contacts, Calendars** and take a long look at those two iCloud entries, you'll find that one has more options listed in fine print beneath it than the other. Specifically, one will list Mail, Contacts, Calendars, Reminders, Safari, Notes, Keychain, Photos, Documents & Data, and Find My iPad. The other includes just Mail, Contacts, Calendars, Reminders, and Notes.

Why? Tap on the second account and in just-as-fine-print you'll see the words "Only your main account can use Bookmarks, Photo Stream, Documents & Data, Backup, and Find My iPad."

And—asking myself yet another question—what makes one account "main" and the other less so? The main account is the first one you created. Regrettably there's no option for designating one as main and the other secondary after you've set them up. In order to change the status of their dominance you must delete both accounts on the iPad and create them again, with the main account created first (so no, deleting the main account will not add these missing options to the once-secondary account).

Now, about those bookmarks. While the answer may not thrill you, I'd suggest you go about it this way: On the computer your girlfriend uses, either you or your girlfriend launch Safari, and choose Bookmarks > Add Bookmarks Folder. This will cause Safari's Bookmarks pane to appear. To this folder add all the bookmarks that your partner would like to use on the iPad. (If it helps with organization, you can create folders within this folder and then organize bookmarks by subject or theme.) Once you've added all the bookmarks desired and you've organized them to your liking, drag the folder to the desktop. It will appear there in its foldered form, complete with any bookmarks and folders you've added to it.

Transfer this folder to the Mac or account that the iPad's main iCloud account syncs with. Add it to Safari on that Mac (I'd put it in the

Favorites bar). As long as you've configured the Mac to sync bookmarks via iCloud, it shouldn't be too long before that folder full of bookmarks appears in Safari on the iPad. Once it does, your girlfriend can access her bookmarks simply by tapping on that folder in the Favorites bar within the iPad's copy of Safari.

Create a reminder on your Mac in an instant

Do you want a bit more convenience from the Finder?

I'm accustomed to creating quick reminders on my iPhone by using Siri. Obviously Siri isn't on my Mac but is there an easy way to quickly create a reminder without having to launch the Reminders app?

My colleague, Kirk McElhearn, covered something like this in *Create Reminders When You Aren't in Reminders*, where the key to success was Automator. I, too, have an Automator solution, but one that requires a single action.

Launch Automator and in the workflow template that appears, choose **Service**. At the top of the workflow configure the popup menus to read **Service receives no input in any application**. Select the **Calendar** library in the left-most pane and from the Actions pane (to the right) drag the **New Reminders Item** into the workflow area. Click on **Options** at the bottom of the action and enable **Show this action when the workflow runs**. Save and name your workflow—**Quick Reminder** has a nice ring to it.

Launch System Preferences, select **Keyboard**, click on the Shortcuts tab, and choose **Services** in the pane on the left side of the window. Locate your **Quick Reminder** entry near the bottom of the list of services, click to the right of its name, and enter a keyboard shortcut—I've used Command-Control-R.

Now when you want to create a new reminder without opening the app of nearly-the-same name, just press this keyboard shortcut. A **New Reminders Item** window will appear that contains Title, Add to, Priority, and Due date entries. Fill out the reminder in a way that makes sense to you (you can add an alarm if you've enabled the Due date option) and click the Continue button. The reminder will be added to the Reminders app.

Macworld Senior Editor Christopher Breen is the author of "Secrets of the iPod and iTunes (6th edition)," and "The iPod and iTunes Pocket Guide (4th edition)" both from Peachpit Press, and "Mac OS X 10.5 Leopard Essential Training (video)" from lynda.com. Find Chris' books at www.amazon.com and www.peachpit.com.

Innovation = Old Technology

Once upon a time (in the days of the reign of the Apple II, and later when the first version of the Mac OS was in its ascendancy) you were able to configure part of your computer's memory as RAM Disk, and run the operating system from there ... much faster than using your hard disk. By the end of the 1990s, interest in RAM disks began to fade, and Apple dropped the Mac OS RAM Disk creation option from OS X.

Solid State Drives (SSD) are faster than conventional hard disks (their mechanical counterpart), but since they are using flash memory for data storage, they have a limitation to the maximal number of possible write cycles. While this limitation is a fairly high number, some applications do a lot of shuffling data on the storage drive, and this process becomes more intensive as free space on the drive diminishes, further increasing the number of read/write cycles, which means a decreased lifespan for the SSD.

Swiss developer Power APP has just announced the release of **RamDisk4Mac** for Mac OS, a new utility that the company claims can speed up a Mac by factors of up to 40x, as well as increasing the lifetime of your MacBook's Solid State Disk. The virtual RamDisk drive can be treated like any drive on the Mac; files and data can be stored, and applications can be installed and run off that drive (although **note well** that until created data is saved to a physical volume it remains in a perishable state, and will



be lost in the event of a power cutoff or unrecoverable crash). Under normal circumstances, an image of your virtual drive is stored on the SSD or hard disk of the Mac when it is shut down, and it is re-read at the next startup. Power APP recommends using RamDisk for two types of applications:

- Anything that makes extensive use of the SSD, executing a lot of writing cycles.
- Applications where speed is important, that make you wait during completing a task.

According to Power APP's General Manager, Christian Schaffner, they developed RamDisk for internal use after killing several SSDs before their expected lifespan. Mr. Schaffner notes. "For better performance our MacBooks are equipped with SSD. We decided then to move the load away from the SSD to the RAM by creating a virtual drive in the RAM,

installing applications directly in this virtual drive. This has two effects. Data shuffling is happening in the RAM and not on the SSD, increasing the speed drastically. Writing cycles on the SSD are heavily reduced, which increases the lifespan of the SSD. Now that we have been using RamDisk for ourself without problems we decided that this tool is ready to be sold.”

RamDisk4Mac is available for \$8.99 (USD) and works on OS X 10.6 or newer. It is sold exclusively at:

<http://powerapp.ch/product/ramdisk4mac/>

PowerAPP recommends that a RamDisk should not be bigger than 50 percent of available memory. A SSD drive is not needed to run this app and benefit from it!

Alternative:

OS X users can create RAM Disks via the Terminal app for free. Open Applications > Utilities > Terminal and enter the following command:

```
diskutil erasevolume HFS+ 'RAM Disk' `hdiutil attach -nomount ram://xxxxxxx`
```

Replace the “x” characters above with the number that represents the desired size for your desired RAM Disk. The size of the disk is based on the number of 512-byte sectors. So, to create a 4 GB RAM Disk in OS X, replace the xxxxxxx’s in the Terminal command above with 8388608 which is the result of $(4 * 1024^3)/512$.

Run the command and you’ll have a 4GB Ram Disk (or whatever size you desire/can afford out of your system’s RAM) mounted on your desktop.

Run apps via RAM and watch them fly! (Or, when you want to show just how fast your Mac is via something like Geekbench, you restart your Mac, create a Ram disk, and run Geekbench off RAM.)

To remove the RAM Disk, just eject it via the Finder as with any other disk.

Of course, using Terminal:

- You need to use Terminal!
- You need to copy your applications and/or data to the Ram disk (each time)
- You need to save any changed data before ejecting the disk

RamDisk4Mac will enable you to:

- Create Snapshot Images of your RamDisk configuration
- Configure Start Up and Shut Down Options
- Configurable auto save
- Save wear on both mechanical and SSD disks

Helping MAIL

Email is a big help to us, and most of the time the Mail application does a pretty good job in keeping track of all our messages, both sent and received. Unfortunately, every so often, something may not seem as ideal as we would like it to be, and MAIL would seem to be wanting a bit of help from us.

In many cases, the problem is that Mail keeps a (sometimes, pretty large) database of mail information to help it respond quickly to our milliard of requests ... and sometimes, that database gets to not help very much at all! In fact, it may even hinder things by providing incorrect information.

It is time to rebuild and/or re-index your mailbox.

Note:

Both these options involve Mail going through your emails, so it makes sense to delete any emails that you don't want before you start. And empty the Deleted items and Spam folders. That being said, I should add that I have hundreds of thousands of emails in some folders, and this process still works - it just may take longer; like over-night!

If you use IMAP or Exchange with any of the accounts, the process will re-download every message from the server, so you may use a lot of your internet allowance.

You could also update to the latest version of Mail.

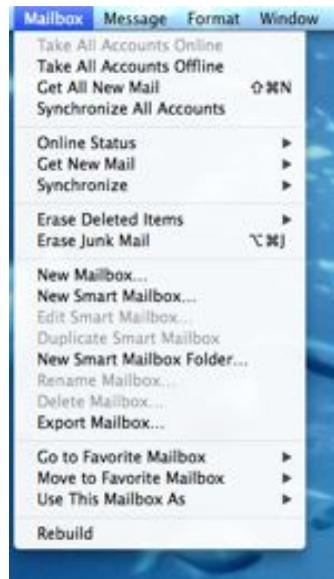
Step 1: Rebuild

Rebuilding a Mailbox in Mail sound daunting but it really isn't. Launch Mail, select one of your mailboxes and click on the Mailbox menu. At the bottom of the pane choose the Rebuild option. If you have a large mailbox, you can expect the process to take a few hours.

You must repeat this step for each one of your Mailboxes.

While the process takes place, you may experience system performance lag, as it can consume a lot of system resources and memory.

Now that you've completed these steps, work with Mail a little longer. If you are still having issues, or Mail fails to launch, you have step 2 to try.



Step 2: Reindex

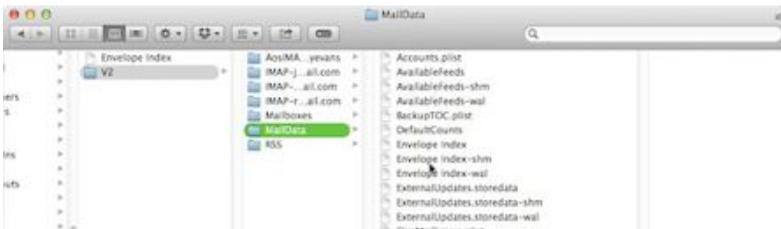
Manual reindexing of Mail messages is the only way to go if the application has become so unresponsive it barely works at all, search is not functioning correctly or the app won't launch.

Mail will automatically attempt to reindex your messages if it detects problems with the mailboxes, but sometimes a manual reindex is the best option. If you are still having problems with Mail after following step one, try manual reindexing.

Quit Mail if it's open.

To get to your home Library folder, hold down the Option key, then in the Finder choose **Go > Library**.

In `~/Library/Mail/V2/MailData`, delete any file that begins with “**Envelope Index**”, such as Envelope Index or Envelope Index-shm. (Before you actually delete the files, it makes sense to copy them to a folder on your desktop.)



Launch **Mail** and the app will build new Envelope Index files -- this can take a long time if there are numerous messages to go through.

If everything seems to be working correctly, you can now delete the copies of the "Envelope Index" files from your desktop.

In most cases, these two tips should solve most Mail problems -- I hope they help resolve yours.

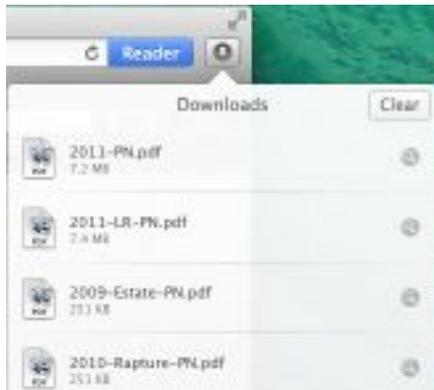
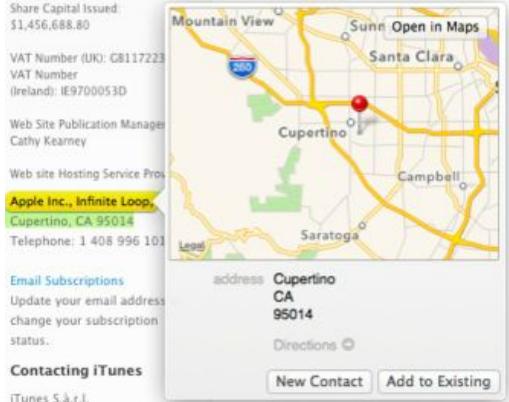
Last resort:

Unfortunately, you may have the special case where neither of these worked. A poorly performing Mail application is better than nothing - even if it doesn't seem so at first - so ... you did make a backup before you started, didn't you?

Safari

Get Maps fast

Trying to get a map for an address? You don't need to copy and paste the address into the search bar to find a map; all you need do is highlight the address text and right-click, then select "Look Up..." from the menu that appears. You'll get a contextual Maps interface that enables you to do various things, including opening the full version of Maps or getting driving directions right there within Safari.



Downloads tip

When you download files, they show in Safari's downloads lists (**View>Show Downloads**). Did you know you can drag files directly out of this list to move them from their default location in the Downloads folder or to open them using an app in your Dock?

VoiceOver

Understand and use VoiceOver's Commanders (**System Preferences>Accessibility>VoiceOver**) and you gain access to a range of tools that enable you to navigate Safari with your voice. **Vo-command-h** takes you to the next heading, **Vo-Command-l** to the next link. There's much more information at:

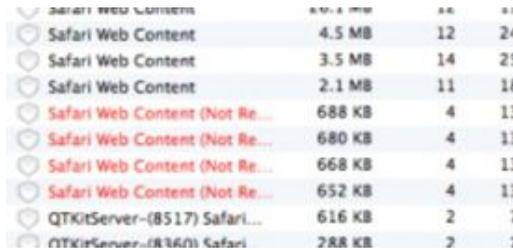
<http://www.applevis.com/guides/mac-os-x/understanding-and-using-voiceovers-commanders>

Identify problem pages

You're surfen' Safari and for no reason your browser performance lags. What's happening?

It's possible a badly constructed Web page is sucking resources, but which one? That's easy:

Launch **Activity Monitor** (from Utilities) and search for Safari Web Content.



Process Name	Memory	Open Files	Pages
Safari Web Content	4.5 MB	12	24
Safari Web Content	3.5 MB	14	25
Safari Web Content	2.1 MB	11	14
Safari Web Content (Not Re...	688 KB	4	13
Safari Web Content (Not Re...	680 KB	4	13
Safari Web Content (Not Re...	668 KB	4	13
Safari Web Content (Not Re...	652 KB	4	13
QTKitServer-(8517) Safari...	616 KB	2	7
QTKitServer-(8360) Safari...	288 KB	2	7

If one of those pages is using up lots of system, resources you'll be able to identify it on the list, but won't see the relevant URL.

Hover your cursor above the listed item and the URL will appear in a tooltip box.

Now, you know which page is causing the problem and you can close it down.

Know your history

If you press and hold the **Previous** or **Next** buttons in Safari a menu of all the pages you've visited before or after your current page within the page window appears. Hold down **Option** while pressing either button and the menu will show URLs rather than page titles.

Tackling Tabs

If you are one of those who has enabled Tabbed browsing in Safari, then you probably already know you can pull a Tab out of the collection to create a new Window. Here are a few other things you can do that you may not know about:

When you type something in the search field, the search results page will replace the current one when you hit Return. To keep the current page press **Command-Return** to open the results in a new Tab (or **Shift-Return** to open it in a new window).

When browsing with tabs in Safari on a Mac with a Multi-Touch trackpad, **pinch in using two fingers** to show all tabs.

When working with open tabs, **Command-Shift-]** toggles forward to the next tab, while **Command-Shift-[** toggles backward to the previous tab

When you accidentally close a tab, **⌘ + Z** reopens the last closed tab in Safari; but if you close the window (and those 8 tabs you want) head up to the History menu where Reopen Last Closed Window may save your bacon.

Are you able to contribute any tips?

Star Trek

Free-to-play MMORPG* now available for Mac

Star Trek Online, the award-winning free-to-play MMORPG*, is now live on Mac. Players can choose their destiny and play as Federation, Klingon, or Romulan factions. Explore the galaxy, captain a starship, and engage in epic space and ground battles.



“Star Trek fans have been asking for Star Trek Online on Mac since we launched in 2010. We know there’s a large gaming community that thrives on Mac and we’re thrilled to finally be able to let them experience Star Trek Online. It simply looks amazing on Mac widescreens.”

“Perfect World has created Star Trek Online to be the ultimate sci-fi MMORPG*, providing players with a rich and vibrant world true to the Star Trek franchise and we are thrilled to have it join the catalog of AAA games our technology has brought to Mac gamers globally,” said Vikas Gupta, CEO & President of TransGaming. “The richness and depth of the game are a direct result of the sophistication of the underlying code base and engine by Cryptic Studios, as well as the incredible amount of time that was invested in development. By utilizing TransGaming’s Cider technology to enable Star Trek Online, Perfect World has very effectively leveraged their investment to transcend platform boundaries and monetize the game on Mac without the need for any redevelopment.”

Star Trek Online is a free-to-play massively multiplayer online game where players can pioneer their own destiny as Captain of a Federation starship. Or they can become a Klingon Warlord and expand the Empire to the far reaches of the galaxy. With its latest expansion, Legacy of Romulus, players can work to rebuild the Romulan legacy as a member of the Romulan Republic. In Star Trek Online players have the opportunity to visit iconic locations from the popular Star Trek fiction, reach out to unexplored star systems and make contact with new alien species.

To download and play Star Trek Online today for free, and for more information about the Mac client, please visit the official website at: <http://www.startrekonline.com>.

** Massively Multiplayer Online Role-Playing Game*

[Ed: *If this didn't need any redevelopment, why did it take so long to become available on the Mac - it must be eons later than on the PC!*]

Thunderbolt devices

The world of Thunderbolt devices is continuing to grow, which is just as well as I am just getting my first computer to support the connections.

Firmtek (<http://www.firmtek.com/seritek/thundertek/px6g22/>) is adding the Thundertek/PX2+2 all-in-one unit to its offerings. Certified for use with Macs and PCs, the Thundertek/PX2+2 brings together two previous products from Firmtek, the Thundertek/PX PCI-e aluminum expansion chassis and Seritek/6G2+2 storage adapter.

The ThunderTek/PX is a PCIe 2.0 Thunderbolt™ Expansion Chassis. This device is designed for connecting a Thunderbolt enabled PCIe 2.0 card to the 2011 or later MacBook Pro, MacBook Air, iMac, Mac mini, 2013 or later Mac Pro or other Thunderbolt equipped computers. This inexpensive \$199.95 solution allows customers to add a professional PCIe 2.0 card to Thunderbolt enabled computers at about half the price of other units on the market.

The SeriTek/6G2+2 design is aimed to meet the needs of customers who wish to be able to easily add an internal SSD to their computer. Up to two 2.5" SSD or HDD can be attached to this PCIe 2.0 card, one on each side. The card provides the power and the ultra fast 6G SATA connections. With each port featuring bandwidth over 500MB/s, the 6G2+2 offers a great option for adding a bootable 6G SSD to any Thunderbolt enabled Mac computer. The card also provide 2 external eSATA connectors.

By mounting a SeriTek/6G2+2 card in the ThunderTek/PX housing, Firmtek are providing external storage with two internal SATA and two external eSATA ports. Internally, two high performance 2.5" SSDs in RAID 0 can provide performance over 700MB/s, while each of the external eSATA ports can support multi-drive disk subsystems.

ThunderTek/PX2+2 offers high-speed data transfers and lots of configuration options - all on the single thunderbolt port, and at a very reasonable price.

Without too much difficulty, I can see this arriving for my Macbook Pro shortly, and I will then have it if a Mac Pro turns up accidentally!

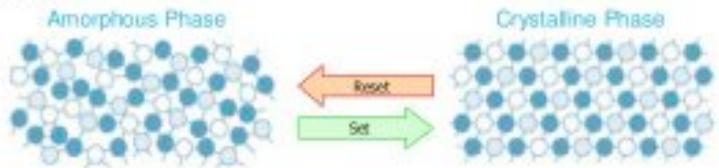
Disk -> SSD -> ?

IBM has shown what it says is the replacement for NAND flash found in this generation of SSDs. In conjunction with the University of Patras in Greece, IBM has unveiled the **Theseus Project** -- the first attempt to combine the new phase-change memory technology, NAND, and DRAM on a single controller. If successful, the new technology could be up to 275 times faster than current PCI-e based SSDs.

Phase-change memory is a type of non-volatile random-access memory that exploits the unique resistance of chalcogenide glass in a phase change between crystalline and amorphous states. Individual cells are expected to be able to be reprogrammed at least one million times, with more research needed to see if the number of cell reprograms could be even longer. PCM also has the ability to achieve distinct intermediary states, thereby having the ability to hold multiple bits in a single cell.

Phase Change Memory (PCM)

- Based on the thermal threshold switching effect of chalcogenidic materials
- Two Phases:



- Phases have very different electrical resistances (ratio of 1:100 to 1:1000)
- Transition between phases by controlled heating and cooling
- PCM cells can be reprogrammed at least 10^6 times
- Performance and price characteristics between DRAM and Flash

The combined solution, as proposed by IBM, has significantly faster write performance than current NAND solutions. Read time is expected to be between 100 and 300 nanoseconds, with a write time of between 10 and 150 microseconds. Testing performed has the test bed responding to requests in under 500 microseconds. The slowest response, at 2,000 microseconds, still eclipses 120,000 microseconds, as delivered by a TLC solution similar to that of the **Samsung 840 evo SSD**.

IBM's researcher, Ioannis Kolsidas, says that "the technologies are complementary, which is why the Theseus project is so important. We took two very different memory technologies and made them work on an existing PCI-e bus, which can be found on any PC or laptop today, taking it a step closer from demo to deployment."

A new version 2.0 is in progress. IBM expects phase-change memory to enter the market in 2016.

Mac Virus Protection (Opinion)

This is a comment on what you should and should not do to protect yourself from malicious software ("malware") that circulates on the Internet. It does not apply to software, such as keystroke loggers, that may be installed deliberately by an intruder who has hands-on access to the victim's computer. That threat is in a different category, and there's no easy way to defend against it. If you have reason to suspect that you're the target of such an attack, you need expert help.

OS X now implements three layers of built-in protection specifically against malware, not counting runtime protections such as execute disable, sandboxing, system library randomization, and address space layout randomization that may also guard against other kinds of exploits.

All versions of OS X since 10.6.7 have been able to detect known Mac malware in downloaded files, and to block insecure web plugins. This feature is transparent to the user, but internally Apple calls it "**XProtect**." The malware recognition database is automatically checked for updates once a day; however, you shouldn't rely on it, because the attackers are always at least a day ahead of the defenders.

The following caveats apply to **XProtect**:

- It can be bypassed by some third-party networking software, such as BitTorrent clients and Java applets.
- It only applies to software downloaded from the network. Software installed from a CD or other media is not checked.

As new versions of OS X are released, it's not clear whether Apple will indefinitely continue to maintain the **XProtect** database of older versions such as 10.6. The security of obsolete system versions may eventually be degraded. Security updates to the code of obsolete systems will stop being released at some point, and that may leave them open to other kinds of attack besides malware.

Starting with OS X 10.7.5, there has been a second layer of built-in malware protection, designated "**Gatekeeper**" by Apple. By default, applications and Installer packages downloaded from the network will only run if they're digitally signed by a developer with a certificate issued by Apple. Software certified in this way hasn't necessarily been tested by Apple, but you can be reasonably sure that it hasn't been modified by anyone other than the developer. His identity is known to Apple, so he could be held legally responsible if he distributed malware. That may not mean much if the developer lives in a country with a weak legal system (see below.)

Gatekeeper doesn't depend on a database of known malware. It has, however, the same limitations as **XProtect**, and in addition the following:

- It can easily be disabled or overridden by the user.
- A malware attacker could get control of a code-signing certificate under false pretenses, or could simply ignore the consequences of distributing code-signed malware.
- An App Store developer could find a way to bypass Apple's oversight, or the oversight could fail due to human error.

For the reasons given above, App Store products, and other applications recognized by **Gatekeeper** as signed, are safer than others, but they can't be considered absolutely safe. "Sandboxed" applications may prompt for access to private data, such as your contacts, or for access to the network. Think before granting that access. OS X security is based on user input. Never click through any request for authorization without thinking.

Starting with OS X 10.8.3, a third layer of protection has been added: a "**Malware Removal Tool**" (**MRT**). **MRT** runs automatically in the background when you update the OS. It checks for, and removes, malware that may have evaded the other protections via a Java exploit (see below.) **MRT** also runs when you install or update the Apple-supplied Java runtime (but not the Oracle runtime.) Like **XProtect**, **MRT** is effective against known threats, but not against unknown ones. It notifies you if it finds malware, but otherwise there's no user interface to **MRT**.

The built-in security features of OS X reduce the risk of malware attack, but they're not absolute protection. The first and best line of defense is always going to be your own intelligence. With the possible exception of Java exploits, all known malware circulating on the Internet that affects a fully-updated installation of OS X 10.6 or later takes the form of so-called "**Trojan horses**," which can only have an effect if the victim is duped into running them. The threat therefore amounts to a battle of wits between you and the malware attacker. If you're smarter than he thinks you are, you'll win.

That means, in practice, that you always stay within a safe harbor of computing practices. How do you know what is safe?

- Any website that prompts you to install a "codec," "plug-in," "player," "extractor," or "certificate" that comes from that same site, or an unknown one, is unsafe.
- A web operator who tells you that you have a "virus," or that anything else is wrong with your computer, or that you have won a prize in a contest you never entered, is trying to commit a crime with you as the victim. (Some reputable websites did legitimately warn visitors who were infected with the "DNSChanger" malware. That exception to this rule no longer applies.)
- Pirated copies or "cracks" of commercial software, no matter where they come from, are unsafe.
- Software of any kind downloaded from a BitTorrent or from a Usenet binary newsgroup is unsafe.

- Software that purports to help you do something that's illegal or that infringes copyright, such as saving streamed audio or video for reuse without permission, is unsafe. All YouTube "downloaders" are outside the safe harbor, though not all are necessarily harmful.
- Software with a corporate brand, such as Adobe Flash Player, must be downloaded directly from the developer's website. If it comes from any other source, it's unsafe. For instance, if a web page warns you that Flash is out of date, **do not follow an offered link to an update**. Go to the Adobe website to download it, if you need it at all.
- Even signed applications, no matter what the source, should not be trusted if they do something unexpected, such as asking for permission to access your contacts, your location, or the Internet for no obvious reason.
- "FREE WI-FI !!!" networks in public places are unsafe unless you can verify that the network is not a trap (which you probably can't.) Even then, **do not download any software or transmit any private information** while connected to such a network, regardless of where it seems to come from or go to.

Java on the Web (not to be confused with JavaScript, to which it's not related, despite the similarity of the names) is a weak point in the security of any system. Java is, among other things, a platform for running complex applications in a web page, on the client. That was always a bad idea, and Java's developers have proven themselves incapable of implementing it without also creating a portal for malware to enter. Past Java exploits are the closest thing there has ever been to a Windows-style virus affecting OS X. **Merely loading a page with malicious Java content could be harmful.**

Fortunately, client-side Java on the Web is obsolete and mostly extinct. Only a few outmoded sites still use it. Try to hasten the process of extinction by avoiding those sites, if you have a choice. Forget about playing games or other non-essential uses of Java.

Java is not included in OS X 10.7 and later. Discrete Java installers are distributed by Apple and by Oracle (the developer of Java.) Don't use either one unless you need it. Most people don't. If Java is installed, disable it — **not JavaScript** — in your browsers.

Regardless of version, experience has shown that Java on the Web can't be trusted. If you must use a Java applet for a task on a specific site, enable Java only for that site in Safari. **Never enable Java for a public website that carries third-party advertising.** Use it only on well-known, login-protected, secure websites without ads. In Safari 6 or later, you'll see a lock icon in the address bar with the abbreviation "https" when visiting a secure site.

Follow the above guidelines, and you'll be as safe from malware as you can practically be.

The rest of this comment concerns **what you should not do** to protect yourself.

Never install any commercial "anti-virus" or "Internet security" products for the Mac, as they all do more harm than good, if they do any good at all. Any database of known threats is always going to be out of date. Most of the danger is from unknown threats. If you need to be able to detect Windows malware in your files, use one of the free anti-virus products in the Mac App Store — nothing else.

Why shouldn't you use commercial "anti-virus" products?

- Their design is predicated on the nonexistent threat that malware may be injected at any time, anywhere in the file system. Malware is downloaded from the network; it doesn't materialize from nowhere.
- In order to meet that nonexistent threat, the software modifies or duplicates low-level functions of the operating system, which is a waste of resources and a common cause of instability, bugs, and poor performance.
- To recognize malware, the software depends on a database of known threats, which is always at least a day out of date. Most of the real danger comes from highly targeted "zero-day" attacks that are not yet recognized.
- By modifying the operating system, the software itself may create weaknesses that could be exploited by malware attackers.

An anti-malware product from the App Store, such as "ClamXav," doesn't have these drawbacks. That doesn't mean it's entirely safe. It may report email messages that have "phishing" links in the body, or Windows malware in attachments, as infected files, and offer to delete or move them. Doing so will corrupt the Mail database. The messages should be deleted from within the Mail application.

An anti-virus app is not needed, and should not be relied upon, for protection against OS X malware. It's useful only for detecting Windows malware. Windows malware can't harm you directly (unless, of course, you use Windows.) Just don't pass it on to anyone else.

A Windows malware attachment in email is usually easy to recognize. The file name will often be targeted at people who aren't very bright; for example:

♥♥♥♥♥♥♥♥!!!!!!!H0TBABEZ4U!!!!!!!.AVI♥♥♥♥♥♥♥♥♥♥♥♥.exe

Anti-virus software may be able to tell you which particular trojan it is, but do you care? In practice, there's seldom a reason to use the software unless an institutional policy requires it.

The ClamXav developer won't try to "upsell" you to a paid version of the product. Other developers may do that. Don't be upsold. For one thing, you should not pay to protect Windows users from the consequences of

their choice of computing platform. For another, a paid upgrade from a free app will probably have the disadvantages mentioned above.

It seems to be a common belief that the built-in Application Firewall acts as a barrier to infection, or prevents malware from functioning. It does neither. It blocks inbound connections to certain network services you're running, such as file sharing. It's disabled by default and you should leave it that way if you're behind a router on a private home or office network. Activate it only when you're on an untrusted network, for instance a public Wi-Fi hotspot, where you don't want to provide services. Disable any services you don't use in the **Sharing** preference pane. All are disabled by default.

As a Mac user you don't have to live in fear that your computer may be infected every time you install software, read email, or visit a web page. But neither should you assume that you will always be safe from exploitation, no matter what you do. The greatest harm done by security software is precisely its selling point: *it makes people feel safe*. They may then feel safe enough to take risks *from which the software doesn't protect them*. **Nothing can lessen the need for safe computing practices.** Keep those rubber gloves handy at all times.

Thanks to Linc Davis for this Opinion piece.



Apple's new 'Mother-ship' Head Office may be completed before Cathedral Square gets started!

Around, About

Peter Fitchett

Super-resolution Camera

Apparently Apple has filed a patent for a super-resolution camera engine for iDevices and beyond. In camera shootouts against Samsung's Galaxy S5, Apple's iSight camera fares well. Now Apple's super-resolution engine is out to vastly improve stabilizing shots, especially action and panoramic shots for higher clarity. Apple's new invention achieves a super-resolution by relying upon an optical image stabilization mechanism to cause a small shaking instead of reducing the shaking. As the image moves a small amount, multiple images are taken, then are combined to produce a single image with many more apparent pixels.

Know Who You are Mailing or Texting

Have you ever sent an email or text to the wrong person? This can be rather embarrassing - depending upon the content! An Apple invention may provide a simple but effective way to save your (fill this in for yourself!) when you juggle multiple conversations at once. The invention basically inserts a contact's picture, or photo corresponding to a contact, as the background image while you are composing your message to them.

Government Advise

Isn't it great to be able to rely upon technical advise from governments. Two items have come to light recently ... The United States Computer Emergency Readiness Team (US-CERT) is aware of active exploitation of a use-after-free vulnerability in Microsoft Internet Explorer. This can allow for arbitrary code execution. Internet Explorer versions 6 through 11 are affected. US-CERT recommends that users and administrators enable Microsoft EMET (Microsoft Enhanced Mitigation Experience

SeniorNet Mac

Computer Training Lessons: Two-hour sessions, once a week for four weeks. Course notes are provided. Classes are small with a maximum of six students and two tutors per lesson.

Social Events: Held on the fourth Tuesday of the month.

Newsletter: Supplied every two months.

We are now located at: 190 Worcester Str, Christchurch.

Contact: If you would like to join SeniorNet Mac and are in the 55-plus age group, please contact Allan Rutherford at (03) 352-4950, or email:

ajmr@xtra.co.nz,

or else leave a message on the club's answerphone at (03) 365 2003.

Toolkit) where possible and consider employing an alternative web browser until an official update is available. [*They should consider this NOW - after years of viruses, exploits and hacks?* - Ed] And just out from China: The Central Government Procurement Center issued the ban on installing Windows 8 on Chinese government computers as part of a notice on the use of energy-saving products, posted on its website last week. The official Xinhua news agency said the ban was to ensure computer security after Microsoft ended support for its Windows XP operating system, which was widely used in China. Microsoft has said that they are surprised. [*Users should not use a more secure Windows 8 - because XP, with all its viruses and hacks, is no longer supported!* - Ed]

Secrets on your iPhone?

Secret Calculator for iPhone. This is an app made by FireBird Creations. How do I put this... Hmmm... It let's you store secretly all of the stuff you don't want anyone else ever seeing on your phone. It looks like a calculator, works like a calculator, but when you put in a certain code into the calculator, it opens all your secret stuff. You can create folders within, store photos, videos, documents, and more. That's all I'll say about that. Works like a charm.

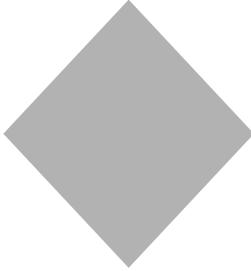
iWork

Apple have updated iWork for iCloud to better support collaborative team work. Significantly, compatible documents can now measure up to 1GB in size. Users can also apply formatting to charts, and create 2D and interactive charts. More color options are available, and the cap on image size has been increased to 10MB. If you are looking at that 1GB document size with some trepidation, you can take a little heart from the fact that you can get a few of your friends to help with its preparation - collaboration support has been expanded to 100 people. Gilbert & Sullivan started a list of people that we may be able to appropriate - but I think that I may need a few more than that!

AUGC contacts

Website	http://www.appleusers.co.nz	
Mailing Lists	Peter Fitchett listadmin@appleusers.co.nz	(3) 960 8189
	The AUGC Discussion List is for members who wish to discuss club matters.	
	The HELP list is open to all Mac users who wish to give or receive assistance.	
Membership	treasurer@appleusers.co.nz with printed Applebyte: \$45 per annum without printed Applebyte \$25 per annum (\$5 discount for early renewal)	

About the user group



Aims

The Apple User Group of Canterbury Incorporated (AUGC) is a non-profit organisation which exists for the purpose of exchanging ideas and expertise about the use of Apple computers, the Macintosh operating systems, and related hardware and software.

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Help:

A full list of helpers and volunteers can be viewed in the Contacts section of our website.

Snail Mail: PO Box 31-053, Christchurch, New Zealand.

Website: <http://www.appleusers.co.nz>



Apple User Group