The MCCC News

The Metroplex Commodore Computer Club

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Not Much New for Amiga

How is everyone doing as spring peeks around the corner, determining whether it's OK to fully show up or not (except for those parts of the country still getting railed by winter weather). Some of us may have even received our "We know everything still kinda sucks until most people get vaccinated, so have some money" relief payments by the time you read this, and hopefully it didn't all have to go to pay rent or bills or debts. It's been a year since we entered 'pandemic mode' in this country, and it's finally looking like we might get out from under (most of) it in the space of a few more months.

Y'know, between the pandemics and the nine-elevens and the economic depressions and the unprecedented political what-haveyous, I'll be very happy if we manage to cut way down on those "once-in-a-lifetime, nothing will ever be the same again" events. I've already had at least three of them in my lifetime, so I think we're good for a couple decades, okay?

In (seemingly) happier news, our Prez Mike Barclay will be having a birthday shortly after this month's meeting, so send him your well-wishes, or send him your cash, whatever is easier. From what I understand, the government can't spare any good wishes for Mike, so they'll be sending him about fourteen hundred bucks instead.

The new news train has been a bit slow on the Amiga front this month. There is a version 3.16 software development kit available for MorphOS. In curious grain-of-salt Amiga news, a reverse-engineered port of the original Sonic the Hedgehog game by Sega is coming to the Amiga, and said to be included at part of a future core update for Vampire hardware systems. I only saw this as a blurb on the GenerationAmiga.com site, and not repeated elsewhere. If true, I suspect its completely unofficial, or some sort of Easter egg, as I doubt anyone bothered to get Sega's blessing on this. Time will also tell if this is a release comparable to the original Sega Genesis/Mega Drive game, or some choppy recreation built with game-maker software. Only time will tell, if anything is said at all.

While we're on the Vampire subject, I will again plan to bring my V4 system to the next meeting. I may or may not make use of the Prez PC for a Vampire core update flash. I say 'maybe' because there was a recent minor V4 core update released, not one including Sonic the Hedgehog as far as I know, basically a bug fix. It is available in a form where the update patch is run from the system, so I may not need to connect to a PC at all, but I'll keep the option open, as past experience has shown me that such updates carry a not-insignificant chance of bricking the system, which will require the more direct flashing from a PC if that happens.

To my knowledge, one main change in this new update is actually the removal of a feature from the previous update. The last V4 core added a hardware hotkey switch between NTSC and PAL scan modes. However, the switch seemed to go off when keys other than the designated one were pressed, flipping scan rates unexpectedly. It would appear this was the cause of disruptions during some of our game testing at the last meeting. Instead of trying to fix the hotkey feature, this new update simply removes it. I'm not sure why that decision was made, but I'm not the one trying to incorporate new hardware or software features into something expected to be compatible with twenty to thirty-five year old games and software, so I won't bitch about it too much. Regardless, the V4 testing, and "Worms the Director's Cut" play-testing will continue at our next meeting, scheduled for Saturday the 20th, perhaps this time without the screen kicking into third gear in the middle of a game. Hope you can make it!

…Eric Schwartz
From the AmiTech Gazette
Dayton, Ohio, March 2021

YouTube Links

10MARC: Amiga 4000 Adventures
https://youtu.be/mH3lORBA7JQ

10MARC: Building an A2000 (part 3)
https://youtu.be/GVvr_HvVA30

"Tinyus" - Amiga port of Gradius shooter
https://youtu.be/XFd0ayRvVuk

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Current BBSs

Greg Goodwin has found a list of current BBSs, some running on Amiga. For the current list, click here:

https://www.telnetbbsguide.com/bbs/list/detail/

Supercomputing with Raspberry Pi

Although it's a very flexible term, supercomputing generally refers to the idea of running multiple computers as one, dividing up the work between them so that they process in parallel.

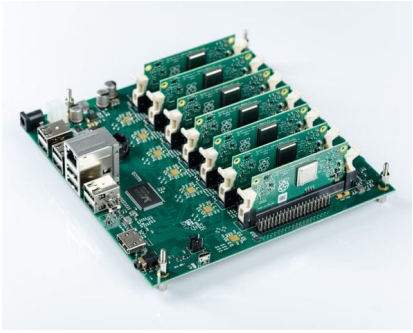
In theory, every time you double the amount of processing power available, you half the time needed to complete your task. This concept of 'clusters' of computers has been implemented heavily in large data processing operations, including intensive graphics work such as Pixar's famous 'render farm'. Normally the domain of large organisations, supercomputing is now in the hands of the masses in the form of education projects and makes from the cluster-curious, but there have also been some impressive real-world applications. Here, we'll look at some amazing projects and get you started on your own supercomputing adventure.

OctaPi

One of the first high-profile cluster projects surprisingly came from the boffins at GCHQ (Government Communications Headquarters) in the UK. Created as part of their educational outreach programme, the OctaPi used eight Raspberry Pi 3B computers to create a cluster. Kits were loaned out to schools with multiple coding projects to engage young minds. The first demonstrated how supercomputing could speed up difficult equations by calculating pi. A more advanced, and very appropriate, task showed how these eight machines could work together to crack a wartime Enigma code in a fraction of the time it would have taken Bletchley Park.

Turing Pi

As we've already said, most Raspberry Pi cluster projects are for education or fun, but there are those who take it seriously. The Raspberry Pi Compute Module form factor is perfect for building industrial-grade supercomputers, and that's exactly what Turing Pi has done. Their custom Turing Pi 1 PCB can accept up to seven Raspberry Pi 3+ Compute Modules and takes care of networking, power, and USB connectivity. Although claiming a wide range of uses, it appears to have found a niche in the Kubernetes world, being a surprisingly powerful device for its price. Future plans have been announced for the Turing Pi 2, based on the more powerful Raspberry Pi 4.



Water-Cooled Cluster

Multiple machines are one thing, but there's also the individual speed of those machines. The faster they go, the faster the cluster operates exponentially. Overclocking is common in supercomputing, and that means heat. This water-cooled cluster, which maker Michael Klements freely admits is one of those 'just because' undertakings, uses the kind of water cooling usually found on high-end gaming PCs and applies it to a Raspberry Pi cluster. This beautiful build, complete with laser-cut mounts and elegant wiring, has been extensively documented by Klements in his blog posts. We can't wait to see what he does with it!

Oracle Supercomputer

So how far can we take this? Who has built the largest Raspberry Pi cluster? A strong contender seems to be Oracle, who showed off their efforts at Oracle OpenWorld in 2019. No fewer than 1060 Raspberry Pi 3B+ computers were used in its construction (that's 4240 cores). Why 1060? That's as much as they could physically fit in the frame! The creation has no particular purpose bar a demonstration of what is possible in a small space, cramming in several network switches, arrays of USB power supplies, and a NAS (network-attached storage) for boot images.

Make your own

We're thinking you probably don't fancy trying to beat Oracle's record on your first attempt, and would like to start with something a bit simpler. Our sister magazine, The MagPi, has published a cluster project you can make at home with any number of Raspberry Pi devices (although just one might be a little pointless). In this case, four Raspberry Pi 4B computers were assigned the job of searching for prime numbers. Each is assigned a different starting number, and then each adds four before testing again. This is handled by an open-source cluster manager, MPI (Message Passing Interface). A solid introduction to what is possible.

Issue 41 of HackSpace magazine is on sale NOW! Each month, HackSpace magazine brings you the best projects, tips, tricks and tutorials from the makersphere. You can get it from the Raspberry Pi Press online store or your local newsagents. As always, every issue is free to download from the HackSpace magazine website.

Click below for the full blog with images.
Supercomputing with Raspberry Pi

April 10 Meeting — Dallas Makerspace

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