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Scary Fast

Apple's latest event announced new MacBook Pro's, and new iMac's which are all powered by their new M3 processors; the first processors built on the 3nm process used in personal computers. The M3 chips feature a brand new GPU architecture, a faster CPU and Neural engine and support for even more unified memory.

With the new GPU, Apple is introducing a new technology they are calling Dynamic Caching along with hardware-accelerated ray tracing. Dynamic caching allocates the use of local memory utilising the exact amount of memory required for any given task. Apple state this should increase the average utilisation of the GPU, increasing performance significantly for gaming and pro apps like Final Cut or Photoshop. I suspected that Apple would introduce ray tracing to their computing line when the iPhone 15 Pro's A17 chip came with it, and here they are. It will be interesting to see how Apples chips compare with NVIDIA's and AMD's ray tracing performance. The new GPU also brings hardware-accelerated mesh shading. Mesh shaders deliver greater efficiency in processing geometry. This enables more complex scenes in games, or graphics intensive applications. Mesh shaders have been in gaming news recently with the release of Alan Wake 2 which dropped popular graphics cards like the AMD RX 5700XT and NVIDIA GTX1080Ti from its recommended specifications chart for the game. Testing has shown computers with these cards can run the game, just not very well! The M3 chips are still very efficient with the chip able to deliver the same performance as M1 using nearly half the power, and 65% more performance at its peak.

The M3's performance cores are up to 30% faster than those in the M1. The efficiency cores are up to 50% faster than those on the M1 chips whilst delivering more performance and maximising battery life. The M3 chips can deliver the same CPU performance using half the power and overall 35% more performance at peak.

M3 Max allows for up to 128GB of its high bandwidth, low latency unified memory. Whilst the downside to this architecture is that it cannot be replaced after purchase, the upside is that it's a single pool of memory that the chip has access to, without having to copy between multiple pools. This improves performance and efficiency.

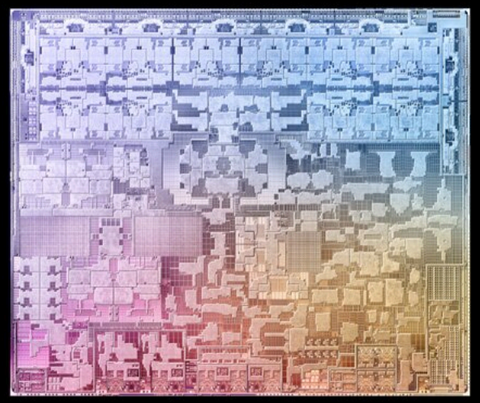
The chips Neural Engine is up to 60% faster than that on the M1 chips making AI and machine learning workflows even faster. Particularly potent when AI tools are being introduced in Adobe apps, Topaz or Final Cut Pro, among many more. M3 is able to decode the AV1 codec for the first time, for more efficient playback of streaming services

M3 features 25 billion transistors (5 billion more than M2), a 10-core GPU, 8-core CPU with 4 performance cores and 4 efficiency cores. The chip supports up to 24GB of unified memory.

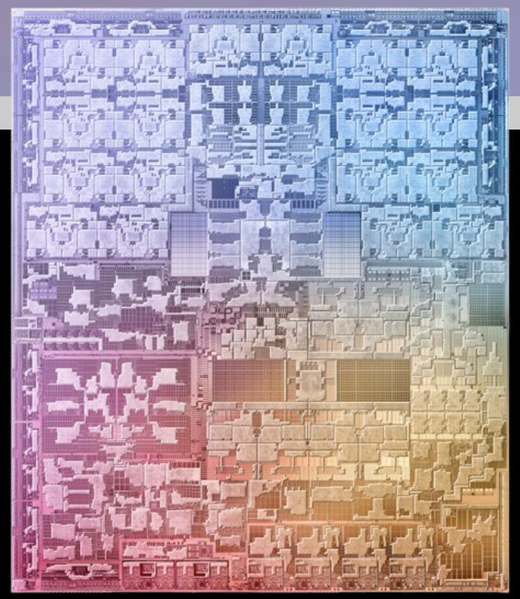
M3 Pro consists of 37 billion transistors with an 18-core GPU. The GPU is up to 40% faster than that of the M1 Pro. Its 12-core CPU consists of 6 performance cores and 6 efficiency cores which deliver 30% more single-core performance than M1 Pro. M3 Pro supports up to 36GB of unified memory.

The M1 Max has a transistor count of 92 billion. Its 40-core GPU is up to 50% faster than M1 Max. Its 16-core CPU features 12 performance cores and 4 efficiency cores for performance they state that is 80% faster than M1 Max. It also features two ProRes engines

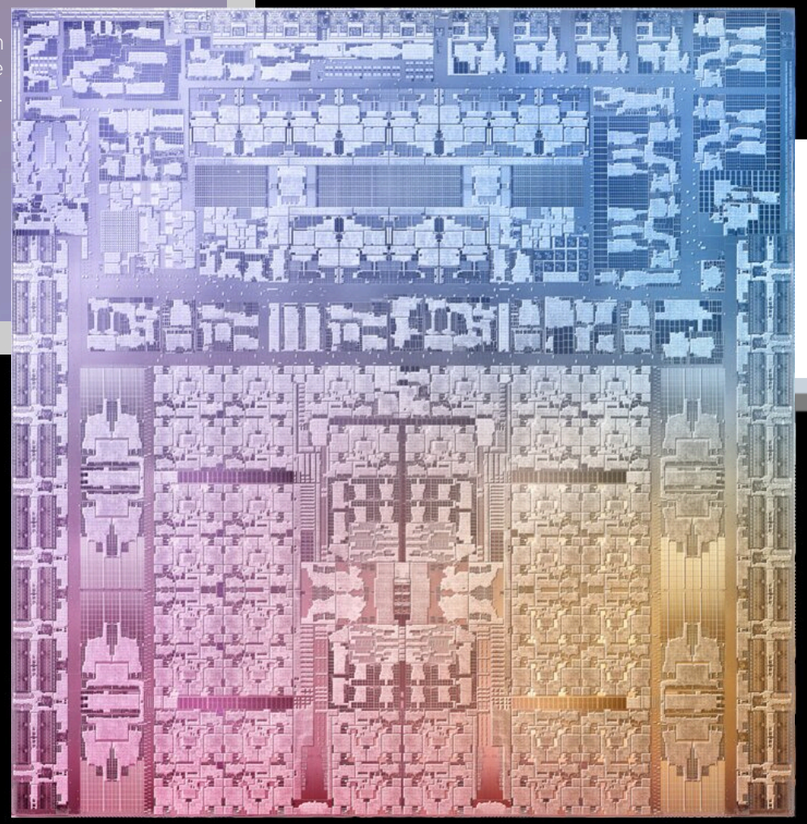
The M3 chips are more efficient than ever and the new MacBook Pros are able to achieve up to 22 hours of battery life. That's less time required to be plugged in, and less energy consumed over their lifetime, making them better for the environment.



M3



M3 Pro



M3 Max

It's been a couple of years since the iMac was refreshed with Apple's M1 chips, but now Apple is replacing the line with M3 equipped machines. Sadly, there's still no sign of a 27-inch Pro model which was rumoured to be something on the horizon. Apple do make a point of pointing out that the new iMac as an upgrade path offers 2.5x the performance of the most popular previous 27-inch Intel equipped iMacs.

The new iMac 24-inch comes with the Apple M3 chip with no option to upgrade to either the Pro or Max versions. The new 24-inch with M3 still makes the new iMac up to 2x faster than the previous M1 equipped model. The display is a 24-inch 4.5k Retina display with 11.3 million pixels, P3 wide colour gamut with over a billion colours, and 500 nits of brightness. At the top of the display is a 1080p FaceTime camera which is complimented by studio quality mics. There is also a 6-speaker sound system with Spatial Audio and Dolby Atmos support.

The new iMac also comes equipped with WiFi 6E which delivers download speeds that are twice as fast as the previous generation as well as Bluetooth 5.3 for connection to the very latest bluetooth devices. There are also up to four USB-C ports including two Thunderbolt 4 ports with support for gibabit ethernet (on some models) or connecting 6k displays.

The design remains the same coming in 7 colours; silver, green, yellow, orange, pink, purple and blue in a chassis just 11.5mm thick. The iMac also comes with colour matched accessories, with the option of adding a keyboard with Touch ID for unlocking, Apple Pay or Fast User Switching which allows users to profile switch with just the touch of a finger.

The new iMac is available to pre-order now starting at £1,399.00/AU$2,199.00 and will start shipping on the 7th November with just 8Gb of RAM. I would thoroughly recommend an upgrade to 16GB of RAM as 8GB is starting to look a little low these days and of course, this is not an upgrade that can carried out later down the line.

The new MacBook Pro lineup is fully kitted out with the new M3 chips and the 14-inch model now comes in at a slightly lower price-point to entice in students or potential creatives.

All MacBook Pros come with Super Retina XDR displays with 1,000 nits of sustained brightness and 1,600nits of peak brightness for HDR content. SDR content will be displayed 20% brighter than before at 600nits. The 14-inch model on M3 chips come with fewer ports than those equipped with M3 Pro or M3 Max chips with two Thunderbolt/USB 4 ports as opposed to three Thunderbolt 4 ports.

The new MacBook Pros with M3 Pro and M3 Max will also be available in a new Space Black; a new finish that is designed to reduce finger prints. Silver will also be available to choose on all models whilst Space Grey is still available on M3 MacBook Pros.

All in all, this is really an upgrade that has taken place under the skin but that's not a bad thing. The new design for MacBook Pros has certainly fared better than the previous models with their Touchbar and problematic keyboards, and its inclusion of useful "pro" features like SDXC ports. Battery life is excellent coming in at up to 22 hours for the 16-inch models and up to 18 hours on the 14-inch models.

The new MacBooks are available to pre-order now starting at £1,699.00/AU$2,699.00 for the 14-inch model and £2,599.00/AU$4,299.00 for the 16-inch model.

As well as Apple's Mac themed event, Leica launched yet another camera in their M rangefinder line, in the form of the M11-P. (sometimes referred to as Mechanical Perfection). Usually, these models model feature a few upgrades over the previous non-P model along with a couple of staples. These are the removal of the red dot logo giving the cameras an understated look, and the Leica script on the top plate.

As suspected, the M11-P gained a couple of the M11 Mono's extras; the 256GB of onboard memory so if you forget an SD card, or one corrupts you can still carry on shooting. It also gets the the sapphire glass protecting the rear screen. The big new feature is the M11-P is the first camera to integrate content credentials through the Content Authenticity Initiative which has been spearheaded by Adobe. The camera features a secure chipset that carries a store certificate with each image taken digitally signed using a C2PA algorithm. The idea is that the encrypted metadata content integrity and content verification. The image and its digital structure are sealed together to ensure image provenance is protected. Any edits can be tracked. This is going to be particularly important for photojournalists ensuring that what is represented is what was present at the moment the shutter was released. Also important given AI has made it's way into a photographs in the last year or so. Over 300 companies are signed up to the initiative and reports are saying that Nikon will be next to introduce a camera that meets the standard. I suspect in the next few years it will become standard for many cameras, and perhaps even smartphones.

Like the M11 the camera the M11-P comes in black or silver finishes. The black is a painted aluminium and weighs 20% less than the silver which features the more traditional brass top plate. The camera is available to pre-order now costing £8,000.00/ AU$15,190.00.

At the same time, Leica also launched a new version of the M-mount 28mm Summicron lens. This features the same retractable lens hood design seen on the 35mm/50mm Summilux lens refreshes as well as the capability to close focus down to 0.4m. It is available to order now for £4,400.00/ AU$8,290.00.

Content Authenticity Initiative