

M2:

The Next Level of Performance

Prepare for takeoff with the Apple M2 processor

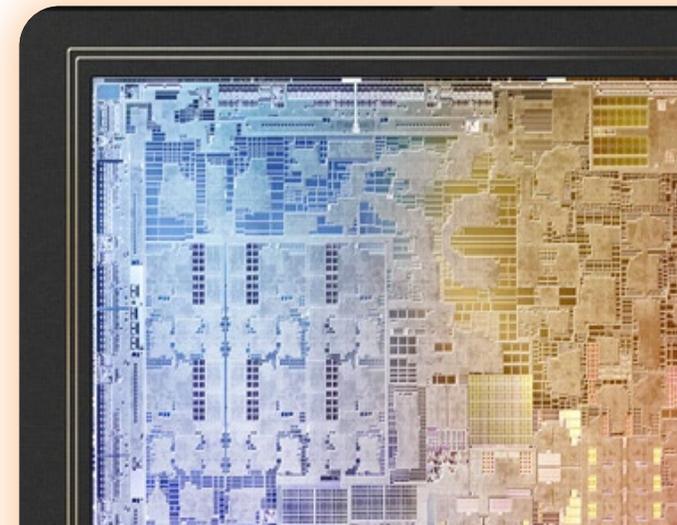
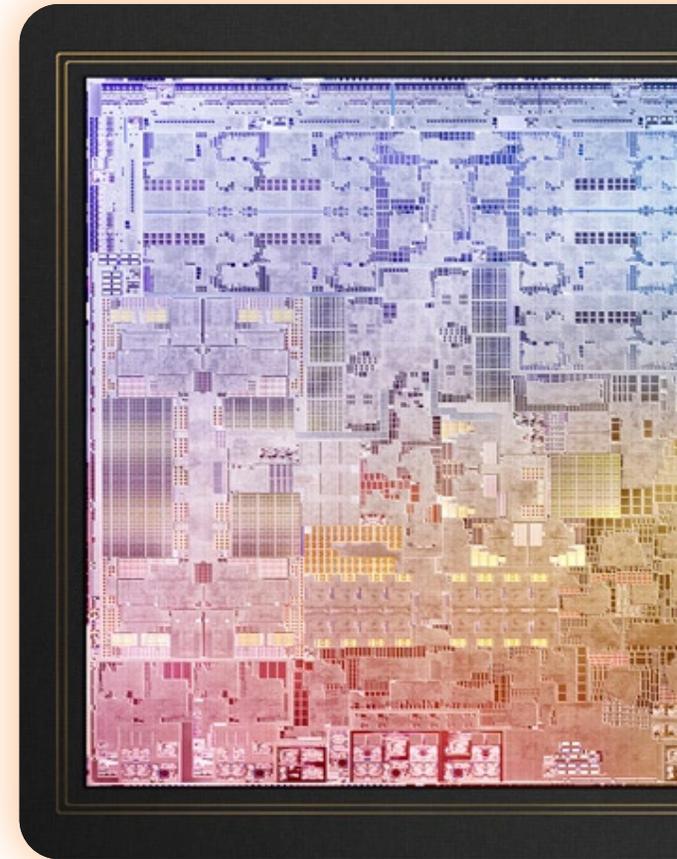
Introducing the supercharged next generation of the M-series

In June 2022, at the Worldwide Developers Conference (WWDC), Apple unveiled the M2 chip, the first entry in the second generation of Apple silicon processors that are currently redefining performance and efficiency for Mac devices. Initially appearing in the 2022 releases of the MacBook Air and 13-inch MacBook Pro, the M2 features the latest advancements in ARM architecture and allows computers to perform blindingly fast computing tasks without the need for an internal fan.

What are the background and specifications of the M2 chip, and what does it mean for Mac users?

What does this new technology indicate about where Mac is headed as an enterprise device?

Read on to find out!



The history of Apple silicon

Apple's M-series of microprocessors has seemingly only been around for a short time, yet remarkably, it's already carving out a significant spot in the history of computing hardware.

Traditionally, Apple powered its Mac computers with processors created by Intel and designed according to its x86 architecture, which also represented the norm for PC-compatible machines. When it debuted the M1 chip in November 2020, it marked a huge departure. Not only was Apple now making its own processors, but it was using the ARM architecture that was primarily associated with mobile devices up to this point.

But if the decision to create processors in-house and switch architectures was significant, what users mostly noticed were the drastic jumps in performance offered by the M1. One reviewer called the M1-equipped MacBook Air “stunningly fast” and observed that using it was “like stepping into a new world where we can demand much more from ultraportables.”^[1]

Apple followed the success of the M1 with further refinements, populating an entire M1 family with the M1 Pro and M1 Max (October 2021) and the M1 Ultra (March 2022). Focused on the requirements of creatives like video editors with the need for high-power computing capabilities, these advanced processors demonstrated the raw power of Apple silicon and its suitability for the most demanding professional tasks.

And just in case you were worried that Apple's pace of innovation had slowed, the appearance of the M2 is poised to continue revolutionizing Mac's role in the enterprise.

The logo for the Apple M1 processor, featuring the Apple logo and the text 'M1' in a white, sans-serif font.The logo for the Apple M1 Pro processor, featuring the Apple logo, the text 'M1' in white, and 'PRO' in blue below it.The logo for the Apple M1 Max processor, featuring the Apple logo, the text 'M1' in white, and 'MAX' in purple below it.

Investing in chips = Investing in enterprise

What does it mean that Apple has started making its microprocessors in-house for the Mac?

For one thing, it's a major step forward for Apple in offering a completely integrated product, controlling its entire technology stack. It also shows that Apple wants to ensure its devices deliver the same always-on, ready-to-use functionality that consumers have come to expect from Apple. Time spent booting up or rendering is a drain on productivity, and the lightning-fast computing power of Apple silicon works to make MacBook downtime a thing of the past.

More importantly, Apple is signaling with this technology that it is ready to take control of the enterprise hardware space. By showing that Apple devices can do more than just keep up with its competitors — that they can, in many cases, leave them in the dust — Apple increases its attractiveness for major, industry-leading corporations. Companies that are interested in putting more emphasis on remote work see that Apple can empower their employees to execute computing-intensive tasks wherever they are.



In the future, we expect to see more Fortune 500 companies either switching their device fleets over to Apple entirely or embracing the technology choice programs that employees have overwhelmingly indicated they want.² The power of the M-series chips adds to the celebrated usability and native security of the Mac to help align IT and end users — Apple can deliver top-tier performance from everyone's perspective in the enterprise.

Meet the M2

How is the M2 different from everything that came before? Let's dive into some of the key specifications of this microprocessor to examine what makes it special.

20b
System-on-a-chip (SoC) design made with second-generation 5-nanometer technology, comprising a total of 20 billion transistors

100 GB
Memory controller providing 100GB/s of unified memory bandwidth

24 GB
Up to 24GB of fast unified memory


CPU with faster performance cores and improved efficiency cores

10 CORE
10-core GPU

1.8t
Neural Engine that can handle 15.8 trillion operations per second

8k
Higher-bandwidth video decoder supporting 8K H.264 and HEVC video

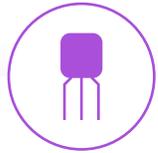

ProRes video engine for playback of multiple streams of 4K and 8K video


New Security Enclave for cutting-edge security


New image signal processor (ISP) with improved image noise reduction

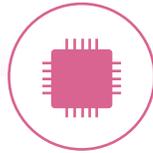


The new design translates into some hefty advantages over the original M1:



25
%

**MORE
TRANSISTORS**



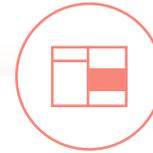
18
%

**FASTER
CPU**



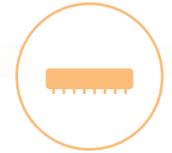
35
%

**MORE
POWERFUL GPU**



40
%

**FASTER NEURAL
ENGINE**



50
%

**MORE UNIFIED
MEMORY
BANDWIDTH**



And when you compare the M2 to the latest 12-core PC laptop chip, the M2 achieves almost 90 percent of its peak performance while using only one-fourth of the power. That means dramatically improved battery when you choose Apple silicon.

What reviewers are saying about M2

The M2 MacBook Air's fanless design, battery life, and clear bright screen — along with its impressive performance per watt — makes for a machine you'll use productively for years.

– Computerworld³

The M2 makes the MacBook Air a rapid, highly capable machine that will easily handle any general computing requirement and bursts of more demanding things.

– The Guardian⁵

I was able to use dozens of tabs in multiple windows of Chrome, bounce between multiple Spaces with Slack, email, and other apps, take endless Zoom calls, and play media in the background while I continued to get my work done without missing a beat. It also didn't heat up on the bottom panel or under the keyboard during my daily workload.

– The Verge⁴

... thanks to Apple's M2 chip, it's also far speedier than the last model, a computer I called "stunningly fast" just a year-and-a-half ago. Once again, Apple has set a new standard for ultraportables.

– Engadget⁶

³ "Review: Apple's M2 MacBook Air," *computerworld.com*, July 23, 2022

⁴ "Apple MacBook Air M2 (2022) review: all-new Air," *theverge.com*, July 15, 2022

⁵ "Apple MacBook Air M2 review: sleek redesign takes things up a notch," *theguardian.com*, August 15, 2022

⁶ "MacBook Air M2 review (2022): Apple's near-perfect Mac," *engadget.com*, July 14, 2022

The difference M2 makes

Used to dealing with performance issues from employees who always leave a lot of browser tabs open and have multiple applications running simultaneously?

The performance boost that M2 delivers to the Mac means that this work style doesn't have to cause IT headaches or drain productivity anymore. For many workers, the faster computing speeds provided by the M2 chip will translate into huge time savings that will have a positive impact on both productivity and work-life balance. Complex tasks like video analysis, voice recognition and image processing will no longer cause so much downtime in the middle of the workday. Faster rendering and code compiling will mean that, for example, photo and video editors and software developers will spend less time waiting on their machines and more time either getting their jobs done or dedicating themselves to pursuits outside of work.

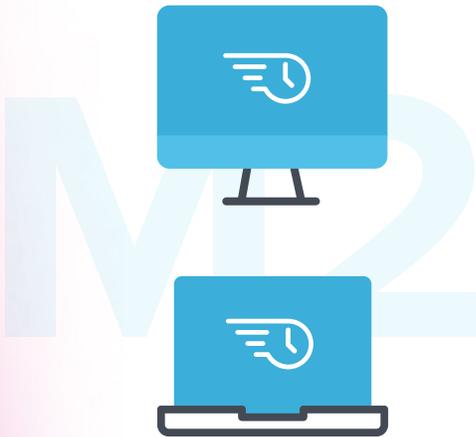
With energy efficiency contributing to long battery life (not to mention Apple's push for net-zero climate impact), the M2 chip will make it easier for employees to accomplish their goals without worrying so much about whether their computers are charged or whether a given task will cause everything to slow down.

This will enhance their ability to more easily budget their time, work freely in different locations and worry about more important things than computer performance.



Making M2 work with Jamf

With high-functioning computers like the M2-equipped MacBook Air and MacBook Pro, you'll want to employ software that unlocks their full potential for speed and productivity by extending Apple's functionality, while enhancing their already strong native security features.



Jamf is unmatched in its ability to comprehensively manage and secure Apple devices, offering functionality from zero-touch deployment and granular mobile device management (MDM) support to identity management and endpoint protection. With plentiful integrations available for third-party applications, the Jamf platform has a well-earned spot as the industry leader for Apple-specific IT solutions. Once you've figured out how you want to configure and provision your devices, use Jamf to ensure that they're always working correctly and securely for employees right out of the box.

Both macOS Monterey and macOS Ventura are designed to help users get the best performance out of the M2. With Jamf's same-day support for Apple operating system updates, you won't have to worry about missing out on the most up-to-date features and security. And you can use Jamf's management tools to nudge end users or push through upgrades, ensuring that your entire device fleet is running safely and efficiently.

Finally, the solutions in Jamf's product portfolio are already set up to run smoothly with Apple silicon, including managing applications that were optimized for Intel processors.

When you manage and secure your fleet with Jamf, you won't have to waste time finding workarounds to incorporate the new processor architecture — with the Jamf platform, your M1, M2 and legacy Intel Mac simply work.

Unlock the power of Apple + Jamf

Apple has never been a better answer for enterprise than it is now.

And with Jamf, you can unlock the full potential of Apple hardware and Apple business solutions. The Jamf portfolio empowers you to manage and secure Apple devices, giving control and efficiency to your IT admins while your other employees enjoy greater productivity and ease of use. From **zero-touch deployment** to **endpoint protection**, Jamf solutions ensure that your fleet is running correctly and under your control. Our products integrate with each other and with popular applications in the **Apple**, **Microsoft** and **Google** ecosystems. We're the most trusted name for helping organizations succeed with Apple, and we're not going anywhere.



Learn how Jamf and Apple
can help your enterprise
succeed at jamf.com.

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