Apple’s M3, M3 Pro and M3 Max 3-nanometer chips arrive with a big graphics boost

Description

We felt fairly confident that we would see at least one piece of next-gen Apple silicon as part of tonight’s Scary Fast event. But how’s this for an early Halloween surprise: We just got three new M3 chip models. It’s a sizable shakeup of the company’s standard release schedule. The news follows months of rumors that supply chain issues had hamstrung Apple’s ability to bring the M3 to market earlier, around the WWDC time frame.

Whatever the case, at least they’re arriving in time for the holidays, Halloween included, I guess. The first batch of chips arrive in three flavors: M3, M3 Pro and M3 Max. No Ultra this time, for the clean sweep, but the company’s clearly not ready to introduce a new Mac Studio just yet.

A refreshed 24-inch iMac and a pair of MacBook Pros (14- and 16-inch) are the first device to be powered by the new chips. The standard M3 will be available on the new iMac and 14-inch Pro. The M3 Pro is coming to both the 14- and 16-inch MacBook Pros, while the M3 Max is only available on the 16-inch model.

The GPU is really the top-line feature this time. It’s in line with the big push Apple has been making into gaming over the last several years. The M1 and M2 unquestionably represented big steps in the right direction. Apple has been getting some AAA games, though things like day-and-date releases are much more the exception than the rule. The M3 finds Apple silicon taking another big leap.

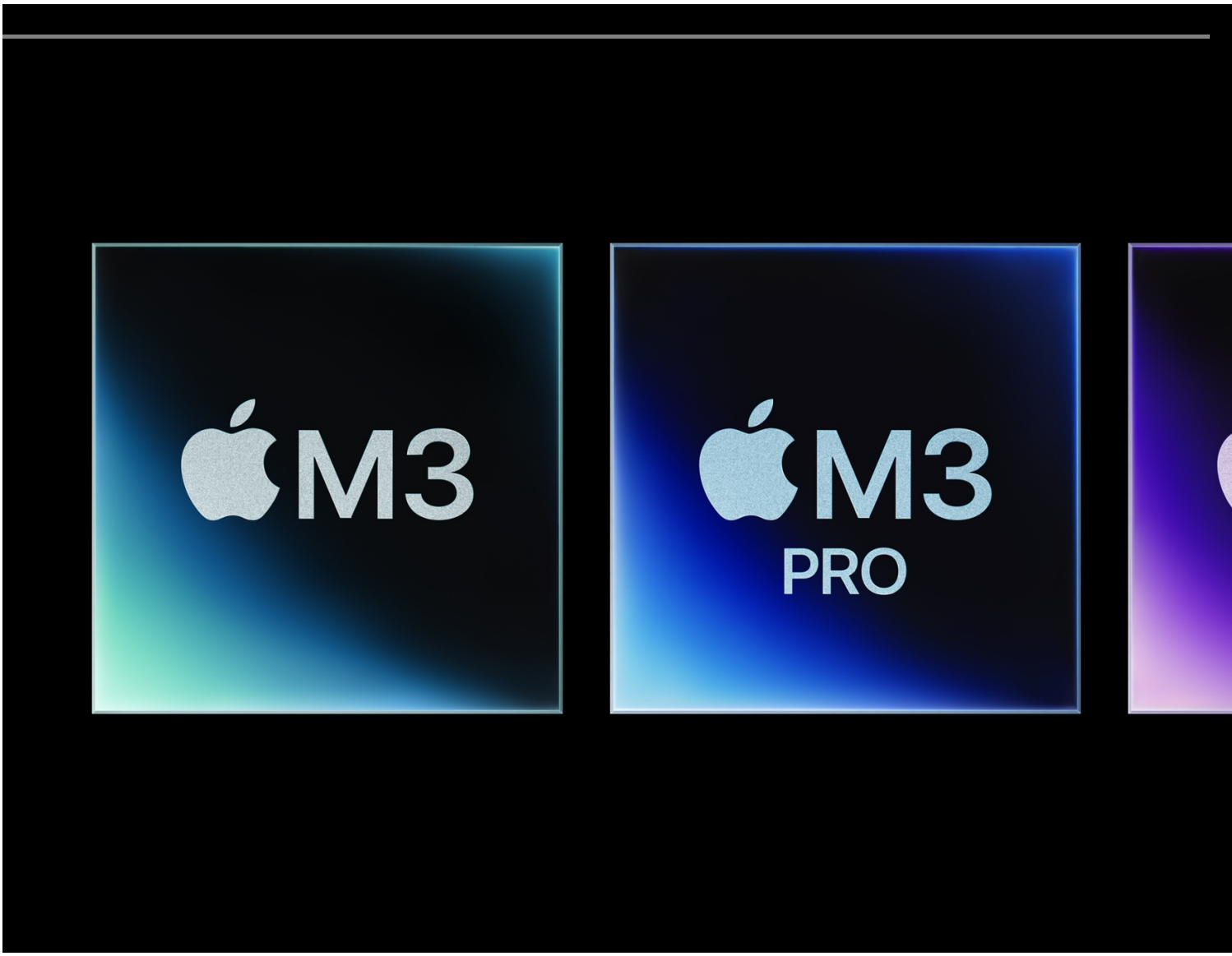

Image Credits: Apple

The new chip brings hardware-accelerated ray tracing and mesh shading to the system — that's a big advancement in terms of rendering capabilities. It means, among other things, more realistic lighting and reflections and the ability to render more complex geometries. All told, the company says rendering is up to 2.5x faster than the M1. Most of the comparisons are to the first gen, mind, but that's still a healthy bump.

Keep in mind, if you've still got an M2 Pro, Max or Ultra machine, you've still got more power than the plain M3 — the architecture is dramatically different. That said, it will still best the last-gen chips on some of the aforementioned activities, like ray tracing and mesh shading.

The new GPU also allows for Dynamic Caching, which allots the exact amount of local memory required for a task.

"This is an industry first, transparent to developers, and the cornerstone of the new GPU architecture,"

Apple writes. “It dramatically increases the average utilization of the GPU, which significantly increases performance for the most demanding pro apps and games.”

Naturally, the CPU is getting a boost here as well. Apple claims the new performance cores are up to 30% faster than the M1, while the efficiency cores get a 50% bump, while maintaining the systems’ impressive battery life claims, with up to 22 hours on a charge.

The M3 features five billion more transistors than the M2, a 10-core GPU and 8-core CPU. The M3 Pro has an 18-core GPU and 12-core CPU, while the M3 Max packs in 40 GPU cores and 16 CPU Cores.

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