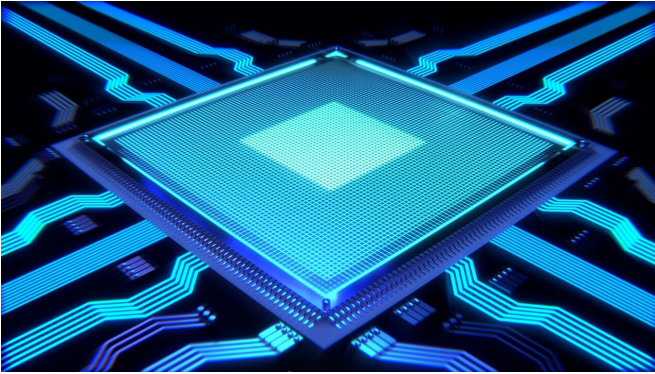


Report: Apple to unveil its own 12-core ARM processor on 2021 Mac

24 April 2020, by Peter Grad



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Apple will begin manufacturing its own processors for the next generation of computers, Bloomberg news [reported](#) Thursday. Apple's long-rumored transition from Intel to ARM-based processors is expected to start with a lower-priced Mac in 2021.

The new processors will utilize the design of the A14 system-on-a-chip that will power the next generation iPhone. The A-series ARM-based processors already used in iPhones and iPads have improved so much that they now exceed benchmark performance grades of Intel processors used in current Apple Macs.

The new 5 nanometer A14 processor is expected to offer significant improvements in chip speed and performance, according to the report. It can pack up to 80 percent more transistors than the 7nm A13 chip powering the iPhone 11.

Apple's new processors will have 12 cores to handle differing power demands. Eight cores, codenamed Firestorm, will handle performance-intensive tasks, while four energy-preserving cores, codenamed Icestorm, will be assigned to lower-power assignments.

For comparison, the current iPad Pro has four cores for high-performance tasks and four for actions requiring lower power.

Apple is reportedly exploring production of processors with more than 12 cores.

The new processor is expected to be used first in a lower-end laptop. ARM processors have shown improvements in efficiency and generate less heat than Intel processors, but they still can't outperform Intel processors powering higher-end MacBook Pros, iMacs and Mac Pro desktops.

The move to use its own processors, to be manufactured by Apple's partner Taiwan Semiconductor Manufacturing Co., comes after years of concern over Intel's inability to more quickly generate processor upgrades. With a line of processors and components sharing Apple DNA, the house that Steve Jobs built can strengthen its own ecosystem of apps and hardware. It should also permit for quicker turnaround on improvements and upgrades. Lower costs for consumers, too, are likely.

For Intel, the news was not unexpected, but still stirred concern. "This news has negative longer-term implications for Intel, in-line with our concerns around Intel's future market share," Brad Gastwirth, chief technology strategist at Wedbush Securities, explained in a report to investors. Intel shares declined up to 2.2 percent on Thursday.

It was in 2005 that Apple Co-founder Steve Jobs and Intel Chief Executive Officer Paul Otellini jointly announced the first Macs with Intel processors. The decision led to impressive achievements such as the first Mac Pro in 2006, the MacBook Air in 2010 and the MacBook Pro in 2012.

The Bloomberg report stated that the new [processor](#) is one of three new ones to be unveiled in the near future. The project is part of Apple's

Kalamata initiative to expand on the A14 system-on-a-chip that is the brain behind the iPhone 12 and next year's iPad versions.

The new processors will include graphics processing units designed by Apple. The report also stated the new Mac computers will continue to run on MacOS rather than iOS.

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