Leaked benchmarks show Intel Tiger Lake's speed
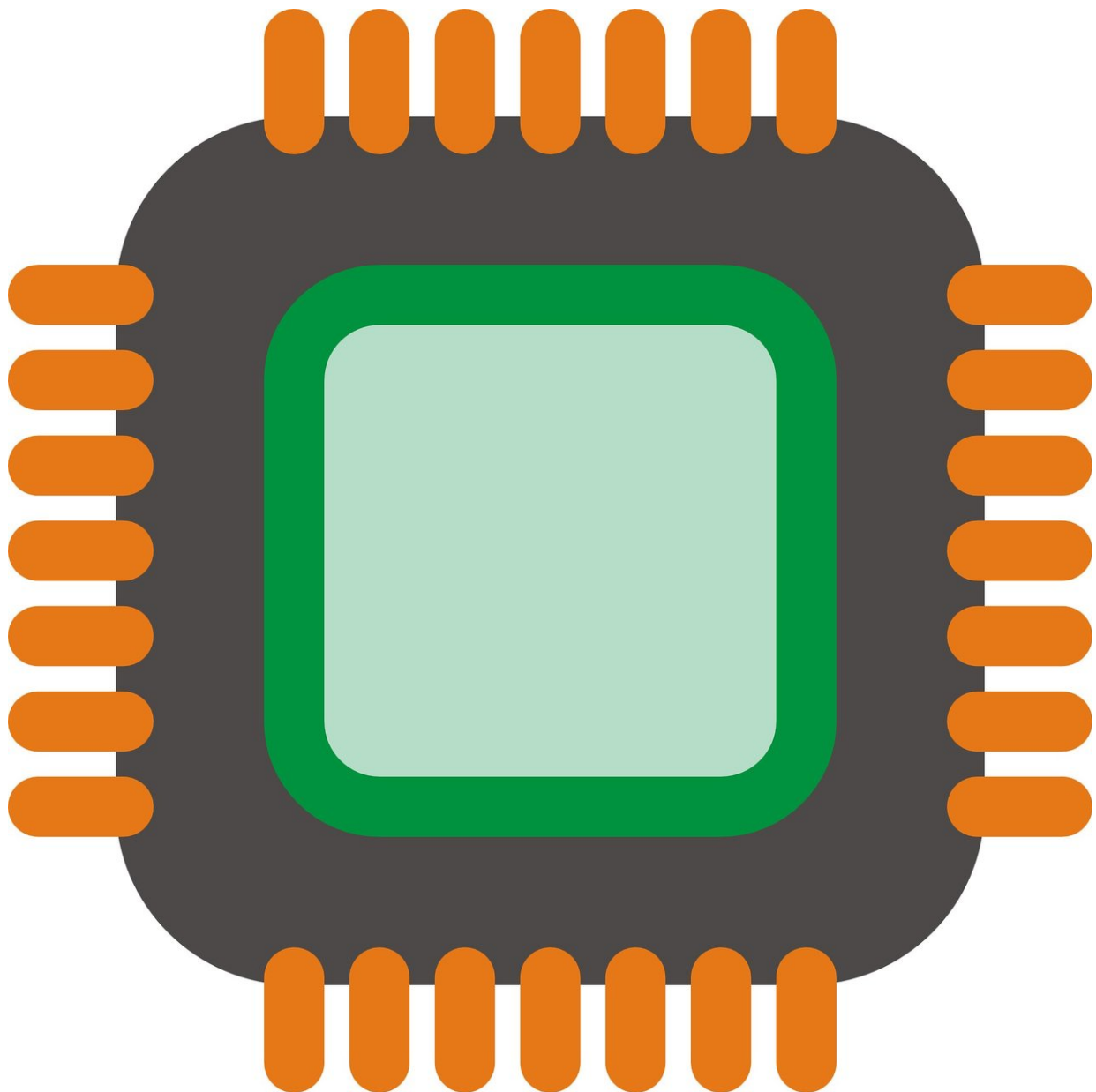
December 25 2019, by Nancy Cohen

What's in store for Intel processors? Life after Ice Lake? For a replay of Ice Lake's presence, Hot Hardware reminded readers that Ice Lake was one of the two families of 10th generation mobile processors that were released over the summer; the other was Cornet Lake, but Ice Lake won more attention.

As *TechRadar*'s Bill Thomas said, "Ice Lake was notable because it was Intel's first 10nm manufacturing process that actually made its way into *real* products."

Brandon Hill in Hot Hardware said the "processors are based on Intel's long-delayed 10nm+ process tech and feature an all-new graphics core."

Next year, though, Intel is to release another round of 10nm mobile processors codenamed Tiger Lake, with Intel's 10nm++ architecture. One wants to guess how it will measure compared with Ice Lake—test leaks are always welcomed by Intel watchers—and they have been coming in. A recent leak had Intel Tiger Lake-U CPU compared against an Ice Lake-U processor.

(What does the U mean? Intel's letters after the numbers tell the target purpose the computer is designed for. U "means the chip is designed for laptops and mobile devices," said *Business Insider*.)

The leak over performance benchmarks for the processors came from a Chinese tech portal, Zhihu. (Wikipedia describes it as a Q&A website. Questions are created, answered and organized by the community of its users. A 2017 article in Medium called it China's version of Quora.)

TechRadar had more: "Some leaked benchmarks for an unspecified Tiger Lake-U processor with 4 cores and 8 threads were posted by user JZWSVIC on Chinese tech forum Zhihu."

"A user posted the performance metrics of a Tiger Lake-U engineering sample along with its specifications," said Hassan Mujtaba, senior editor, hardware, at [Wccftech](#), and these showed a big increase to clock speeds compared with Ice Lake processors..

Conclusion: Intel Tiger Lake-U processors may turn out to be far faster than Ice Lake.

"The chip that has been tested is said to be a Tiger Lake-U part with ES2 marking. This is the second engineering revision of the Tiger Lake-U chips that are expected to roll out in 2020."

"Intel Tiger Lake 10nm++, 4 Core / 8 Thread CPU Engineering Sample With 4.3 GHz Allegedly Tested," said *Wccftech*. The chip has a total of 4 cores and 8 threads. The chip is said to feature a single-core boost 4.30 GHz.

Bill Thomas in *TechRadar*: "...all we can tell is that there are two versions of the [chip](#), a 15W and a 28W, the latter of which is obviously much more powerful than the current-generation 15W offering."

(The Tiger Lake-U engineering samples were tested at both 15W and 28W, said Mujtaba.)

The 15W variant was up to 32% faster than Ice Lake. (Commented Thomas in *TechRadar*: "The 15W Tiger Lake-U processor is up to 32% faster in one of the tests, which is a huge bump in performance for a single generation.")

The 28W variant was up to 62% faster than Ice Lake.

Mujtaba said that actually "We have seen several Intel Tiger Lake-U series chips leak out over the past couple of weeks."

One can see why there is curiosity.

The Tiger Lake processors expected in 2020 will feature some changes to the architecture, said Mujtaba.

"First up, they will have the new Willow Cove cores replacing Sunny Cove cores which are currently featured on Ice Lake processors. Along with the new cores, we will get cache redesigns...new transistor-level optimizations and enhanced [security features](#)."

Brandon Hill weighed on how to interpret the numbers: "As with previous Tiger Lake benchmarks that we've seen over the past few weeks, we can't verify that these entries are legit, but the performance improvements are in line with the generational shift that we should see going from 10nm+ to 10nm++."

Thomas reminded his readers that this is hardly the last of leaked benchmarks. "Either way, as the release of Tiger Lake draws closer, we're going to start seeing a ton of leaked benchmarks for the new chips, so we're only getting started with these early leaks."

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