Intel officially launched the first Ice Lake Gen 10 CPU built on the 10nm process

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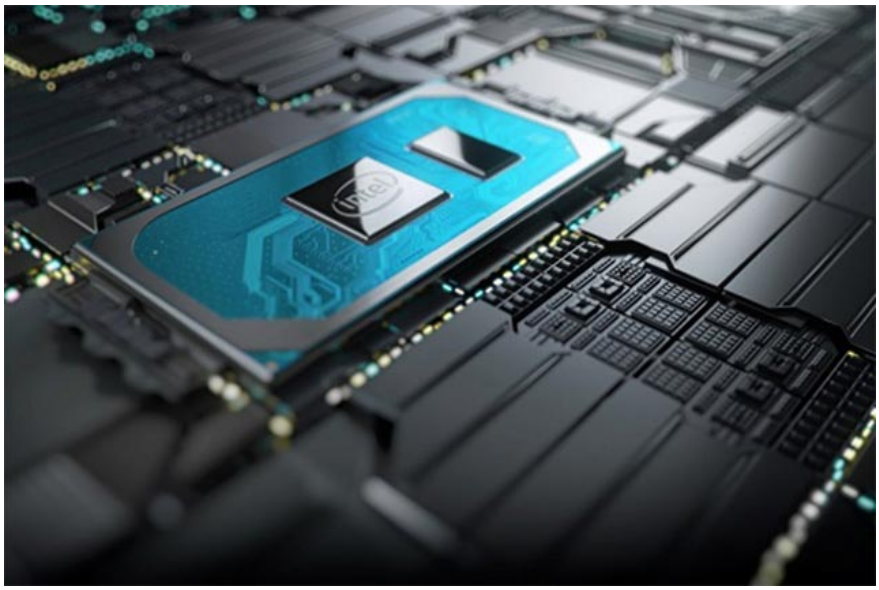
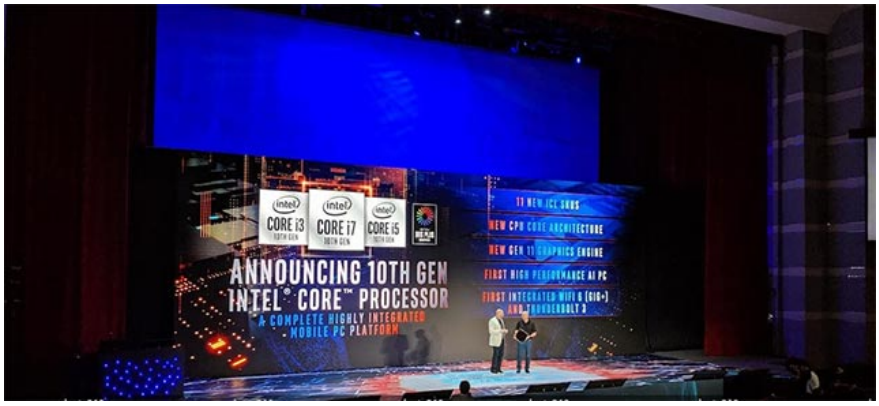
First disclosing information about the first 10nm chip on CES 2019 stage earlier this year, Intel attracted great interest from the community for this potential product. Up to now, after nearly 6 months, the largest processor chip in the world has kept its promise, officially released the 10th generation Ice Lake CPUs, accompanied by Gen 11 graphics, public Intel Deep Learning Boost technology (deep learning enhancement), 9 to 15W TDP, supports WiFi 6 and Thunderbolt 3 to help advanced users get the most out of their high-end laptops and PCs me In particular, this is Intel's first processor chip built on a 10nm process with the Sunny Cove microarchitecture



1. Intel revealed information about 8-core i9-9900KS CPU

The chip is an important step for Intel after years of delaying and struggling with the 10nm process. Intel originally planned to introduce a 10nm processor, named Cannon Lake in 2016. However, some financial and technological issues have delayed this plan. It is these difficulties that have caused the world's leading chip manufacturer to continue to struggle with the 10nm manufacturing process, thus extending the maintenance of the 14nm ++ process for 9th generation Intel Core CPUs.



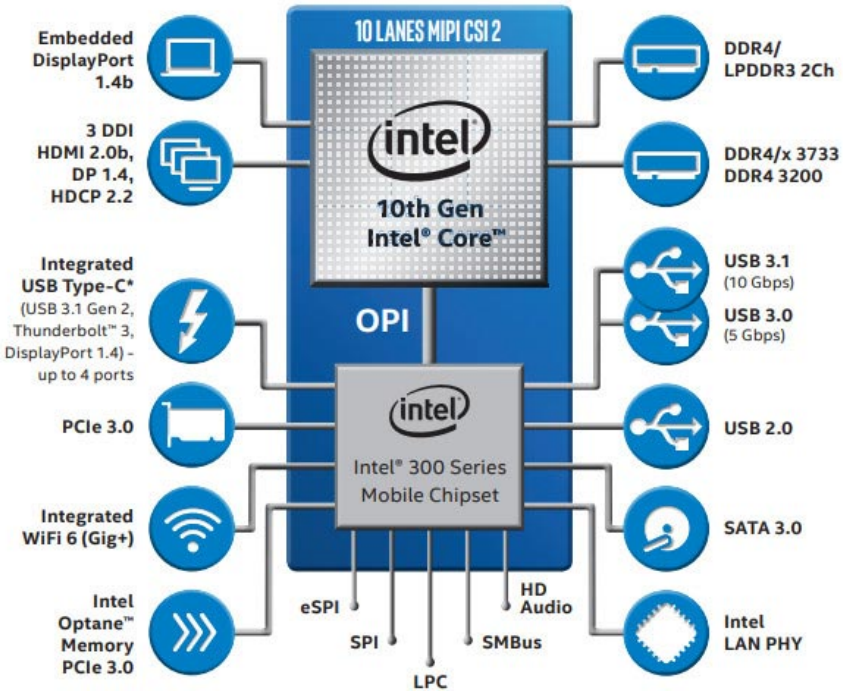
1. AMD launches Ryzen 9: 12-core CPU, PCIe 4.0, for $ 499

Intel claims they will release their first 10nm CPU in 2019 and eventually they have "kept their word." The company did not forget to reaffirm the first 10 nm Ice Lake batches that will ensure delivery on time for manufacturers and the first Ice Lake processor computers to hit shelves by the end of 2019.

Summary of hardware equipment and performance

The original 10-generation Core processor series includes low-power Ice Lake-Y (9W TDP) and Ice Lake-U (15W) models for laptops, 2-in-1 tablets and computers mini table, but at the same time can also be suitable for many types of embedded devices and IoT. The chips will have four cores, eight threads, and provide maximum turbo speeds of up to 4.1GHz, comparable to Apple's 13-inch MacBook Pro chip.

Besides, the Ice Lake-U processor will also come with Intel Gen11 Iris Plus graphics with up to 64 EU (Execution Units), with speeds up to 1.1GHz and 4K HDR video recording capability and play. High-end games.



1. Intel unveiled a powerful 9th ??generation H series CPU for gaming laptops

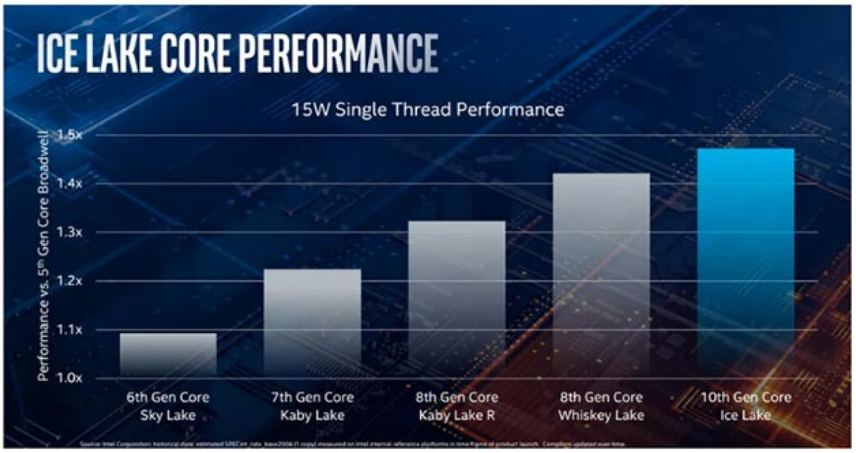
Intel Gen11 is the first integrated GPU created to combine the ability to create shading by changing speed by applying transformative processing capabilities to different areas of the scene to improve rendering performance. . Gen11 Iris Plus graphics will not be available with every Ice Lake SKU - some will come with 32EU UHD graphics. Iris Plus 11 is said to be stronger than the Vega 10 processor on rival Ryzen Mobile Ryzen 7 3700U from 2% to 25% depending on the test.

The Ice Lake Sunny Cove CPU cores will provide Intel DL (Deep Learning) Boost technology, designed to support heavy-duty, low-latency AI processing. Intel DL was previously introduced on a number of new 2nd generation Xeon server CPUs announced in April.

Intel said Gen11's Ice Lake graphics are also equipped with AI support for up to 1 Teraflop vector calculation for heavy inference tasks. Besides, Ice Lake will also own an Intel Gaussian Network Accelerator (GNA), 'special treatment' for 'low-power AI applications'.

In addition, these 10th generation chips will also provide integrated support for up to 1Gbps WiFi 6 (802.11ax). More specifically, Wi-Fi 6 technology is integrated on Ice Lake with Intel's solution called Intel Wi-Fi 6 Gig +, which can support 160MHz channels, double the standard Wi-Fi 6 standard. . 4 high-capacity 3 Thunderbolt ports (soon to have USB 4) are also very good 'toy' packages on Ice Lake. Thus, laptop manufacturers can easily place Thunderbolt ports on both sides of the product easily while still ensuring aesthetic design. In addition, according to Intel's calculations, the simplification of the Thunderbolt port design will also save about 300mW of power per port.

Compare performance with previous generation chips



1. Why aren't CPU and RAM computers packed together to increase processing speed?

Despite being produced on the new 10nm process, through the above comparison chart, it can be seen that the performance of Ice Lake has not improved too much compared to the previous generation 8th Whiskey Lake. However, compared to the archaic 'Skylake' architecture, Ice Lake will give 18% better performance, and even this increase will be higher depending on the application and the task it handles. Unfortunately, there is no comparison between Ice Lake and Coffee Lake Gen 9 processors.

In terms of graphics performance, Ice Lake will not disappoint you when deciding to upgrade. According to calculations from the manufacturer, Gen11's performance could nearly double from the previous generation depending on the game titles. However, looking at the comparison chart below, it can be seen that this GPU is still hard to deliver a smooth full HD gaming experience with over 60fps on heavy games like World of Tanks or Fortnite. However, such a level of performance is perfectly acceptable because it is still an integrated GPU chip running on CPU 15 TDP anyway, and the purpose it is towards is a thin, suitable laptop. with moderate work and entertainment tasks. If you want to have a smoother gaming experience, discrete graphics is probably still the best option.

1. Will Qualcomm's 5G CPU be available in the market in 2020?

Intel has not listed nor categorized specific Ice Lake models. The previously leaked release route shows that early stage models will be Ice Lake-Y dual-core SKU and Ice Lake-U (optional dual-core and quad-core). Early next year, we can expect a new generation of Ice Lake Refresh with a richer model number and at the same time more abundant than this original batch. Notably, Ice Lake along with the new Gen Coffee Lake Gen 9 chips will not be threatened by vulnerabilities ZombieLoad and MDS, which are currently storming Intel Core chips recently, not just Intel. but manufacturers also have a headache in finding solutions.

Computex 2019 (formerly known as Taipei International Information Technology Exhibition) is a major information technology event this year. This event will take place from May 28 to June 1 in Taipei, Taiwan. During this Computex 2019, Intel also launched Vpro product line for business and revealed the Intel X-Series product line to be released this fall.

Quantrimang will actively update the most notable information that took place during this year's event, invite you to read!

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