

# Performance Hybrid Architecture



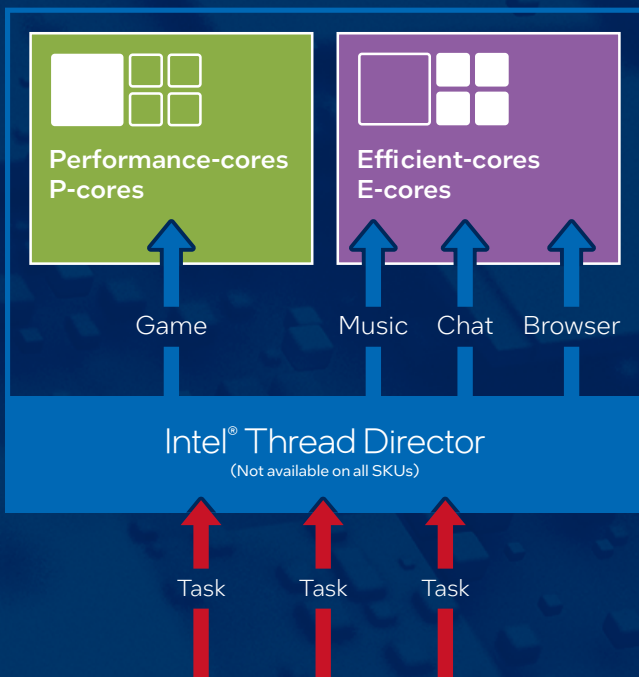
For more than 50 years, the PC has been an essential tool for human expression and connection.

Now, more than ever, people depend on their PCs to learn, work, create, and have fun. It's vital that PCs reflect the real-world, multi-use experiences people do every day to keep up with their busy lives – like real-time editing of multiple documents and presentations, video collaboration, and content creation.

To stay ahead of the growing demand for compute performance, PCs must become not only faster, but more purposeful and adaptive.

## Dynamic—Adaptive—Purpose-Built

Intel's new performance hybrid architecture is a significant shift in x86 architecture, featuring two new microarchitectures supported by intelligence built directly into the hardware. Introduced on 12<sup>th</sup> Gen Intel® Core™ processors, it represents the future of Intel's processor design.



Intel developed Performance-cores and Efficient-cores to optimize workload demands, advance the PC industry, and enable new platform designs. Combined with Intel's deepened co-engineering with our partners, these processors unlock the potential for innovative future use cases.

### Performance-cores (P-cores)

The **highest-performing CPU core ever built by Intel**, designed to handle single-threaded, lightly threaded, or burst workloads like 4K gaming and 3D design.

### Efficient-cores (E-cores)

Designed to handle multi-threaded and background tasks such as minimized browser tabs, IT services, and cloud syncing, leaving P-cores free to deliver incredible performance without interruption.

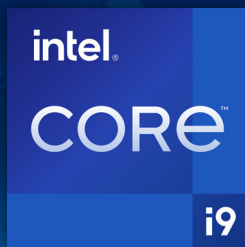


## Intel® Thread Director<sup>1</sup>

Intel® Thread Director sends the right workload to the right core at the right time. It helps prioritize and manage the distribution of workloads, sending tasks to optimized cores. This new feature is on by default and works in tandem with the operating system for intelligent workload distribution. Pair a select 12<sup>th</sup> Gen Intel® Core™ desktop processor with Windows 11 to access the benefits offered by Intel® Thread Director.

Performance hybrid architecture is Intel's revolutionary new approach to x86 architecture—dynamic, adaptive, and purpose built for real-world performance.

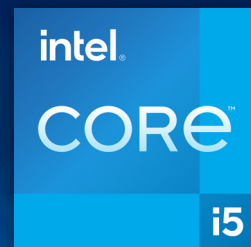
**Performance hybrid architecture is available on the following 12<sup>th</sup> Gen processors:**



**Intel® Core™ i9 desktop processors**  
(including K, F, and KF SKUs)



**Intel® Core™ i7 desktop processors**  
(including K, F, and KF SKUs)



**Intel® Core™ i5 desktop processors**  
(K and KF SKUs only)

<sup>1</sup> Intel® Thread Director is designed into 12<sup>th</sup> Gen Intel® Core™ processors and helps supporting operating systems to more intelligently channel workloads to the right core. No user action required. See [intel.com](https://www.intel.com) for details.

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No product or component can be absolutely secure.  
Your costs and results may vary.

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