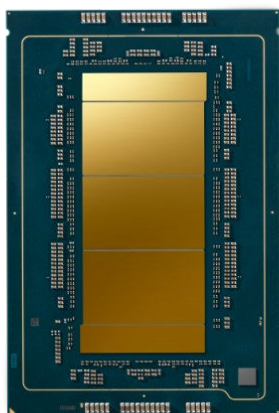




# Leadership performance with Intel Xeon 6900 P-core series

Delivering performance and power efficiency for compute-intensive workloads.



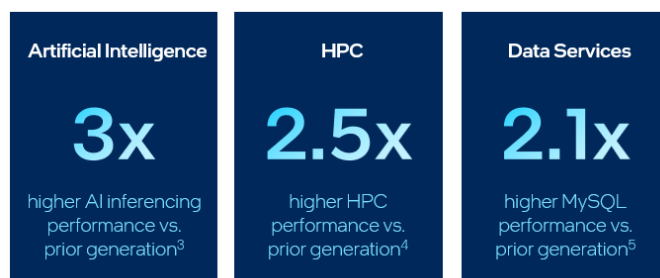
Sept 24, 2024 — Intel Corporation today announced Intel® Xeon® 6 processors with Performance-cores (P-cores), delivering twice the performance for compute-intensive workloads<sup>1</sup>. With more cores, larger cache sizes, increased memory bandwidth with the first server processor supporting Multiplexed Rank DIMM (MRDIMM), and more PCIe 5.0 lanes, Intel Xeon 6 processors with P-cores are uniquely architected to deliver significant performance leaps in key compute-intensive workloads like AI, HPC and database.

Intel Xeon 6 processors also deliver performance per watt gains, lowering power consumption so customers can scale even when impacted by data center power constraints. At a typical 40 percent server utilization, Xeon 6 delivers twice the performance per watt advantage versus the previous generation of Xeon processors<sup>2</sup>.

Intel Xeon 6 maintains, and builds upon, the same hardware-based security features that our customers expect from Intel, like confidential computing and trust services to keep data secure.

## Performance Leadership Across Broad Workloads

Improvements in Intel Xeon 6 results in leadership performance vs alternative CPUs delivering leadership technology that addresses data center customers' pain points including TCO, density, workload performance, and efficiency. Intel Xeon 6 is 5.5x better for AI inferencing<sup>6</sup> vs. alternative CPUs and 2.5x better for key HPC workloads versus prior generations<sup>4</sup>.



## The Best CPU for AI just got Better

Intel Xeon 6 excels on AI workloads for inference with up to 128 cores and key features like increased LLC, Intel® Advanced Matrix Extensions (Intel® AMX) and Intel® AI software. But Intel Xeon is also a key component in end-to-end AI workflows, including vector databases, and as a host CPU for AI accelerated



systems. Key features including higher I/O bandwidth, high single threaded performance, higher memory bandwidth, and improved reliability, scalability and serviceability (RAS) are designed to deliver the data preprocessing, data transmission, and other functions required to maximize the performance of AI accelerated systems.

## Intel Xeon 6 P-core SKU Map

Roadmap SKUs with customization options

| PERFORMANCE SKUs |       |            |                      |                 |               |             |             |                 |                   |              |                        |                          |                 |            |
|------------------|-------|------------|----------------------|-----------------|---------------|-------------|-------------|-----------------|-------------------|--------------|------------------------|--------------------------|-----------------|------------|
| SKU              | CORES | BASE (GHz) | ALL CORE TURBO (GHz) | Max TURBO (GHz) | L3 CACHE (MB) | TDP (Watts) | Max. Scala. | Memory Channels | DDR5 Memory Speed | MRDIMM Speed | Default Accel. Devices | Intel TDX Keys (Per CPU) | UPI Links Enab. | PCIe Lanes |
| 6980P            | 128   | 2.0        | 3.2                  | 3.9             | 504           | 500         | 2S          | 12              | 6400              | 8800         | 4/4/4/4                | 1024                     | 6               | 96         |
| 6979P            | 120   | 2.1        | 3.2                  | 3.9             | 504           | 500         |             |                 |                   |              |                        |                          |                 |            |
| 6972P            | 96    | 2.4        | 3.5                  | 3.9             | 480           | 500         |             |                 |                   |              |                        |                          |                 |            |
| 6952P            | 96    | 2.1        | 3.2                  | 3.9             | 480           | 400         |             |                 |                   |              |                        |                          |                 |            |
| 6960P            | 72    | 2.7        | 3.8                  | 3.9             | 432           | 500         |             |                 |                   |              |                        |                          |                 |            |

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\*Accelerators List Order: DSA, IAA, QAT, DLB  
Intel® AMX (featured in each core)

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<sup>1</sup> See [9D2] at [intel.com/processorclaims](https://intel.com/processorclaims): Intel® Xeon® 6. Results may vary.

<sup>2</sup> See [9T1] at [intel.com/processorclaims](https://intel.com/processorclaims): Intel® Xeon® 6. Performance/Watt based on CPU TDP. Results may vary.

<sup>3</sup> See [9A2] at [intel.com/processorclaims](https://intel.com/processorclaims): Intel® Xeon® 6. Results may vary.

<sup>4</sup> See [9H9] at [intel.com/processorclaims](https://intel.com/processorclaims): Intel® Xeon® 6. Results may vary.

<sup>5</sup> See [9D1] at [intel.com/processorclaims](https://intel.com/processorclaims): Intel® Xeon® 6. Results may vary.

<sup>6</sup> See [9A3] at [intel.com/processorclaims](https://intel.com/processorclaims): Intel® Xeon® 6. Results may vary.

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Performance results are based on testing as of dates shown in configurations and may not reflect all publicly available updates. See backup for configuration details. No product or component can be absolutely secure.

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