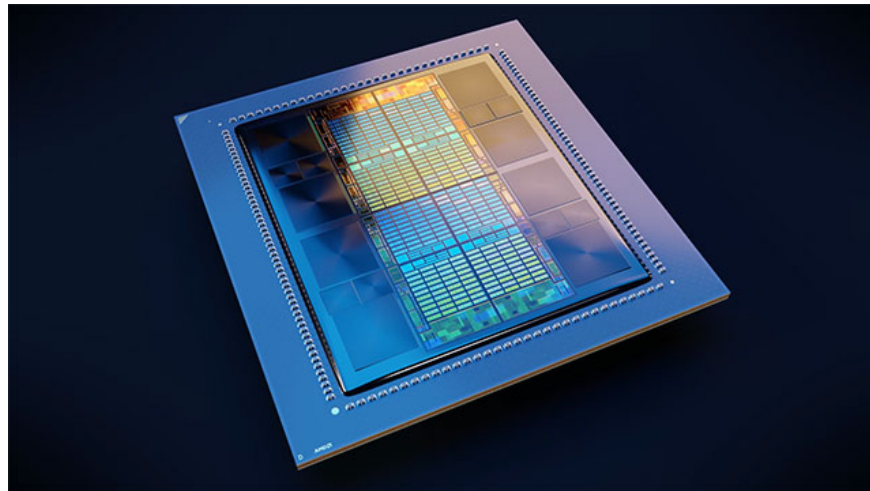


# AMD Instinct MI300X is currently the fastest GPU in the Geekbench OpenCL rankings, 19% more powerful than NVIDIA RTX 4090

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The first performance evaluation results of the AMD Instinct MI300X 192 GB GPU have been published according to the Geekbench OpenCL rating scale, with very impressive numbers. AMD Instinct MI300X is a GPU model oriented primarily by AMD for the data center segment, able to meet a series of strict requirements for today's AI-related workloads. The Instinct MI300X's main competitor is NVIDIA's Hopper AI GPU line. NVIDIA is still the leading name in the dedicated AI GPU market, but the recently revealed Geekbench OpenCL evaluation results of Instinct MI300X show that AMD has a 'trump card' that can change the game. .

Let's talk about the specifications first, AMD Instinct MI300X is developed based on the CDNA 3 architecture, MI300X is an engineering marvel focusing on string form factor design with 153 billion transistors. There are a total of 28 dies on the chip, including 8 HBM3 packages for up to 192GB of memory capacity, the highest among data center GPUs currently on the market.



On the GPU side, the Instinct MI300X has a total of 304 CUs (compute units) with a total of 19,456 cores. This chip has a VRAM bandwidth of 5.3TB/s and a fast Infinity Fabric connection speed of 896GB/s. In terms of power consumption, MI300X has a rated TDP of 750W, nearly double the 450W figure of NVIDIA RTX 4090.

So in terms of performance, AMD Instinct MI300X scored a very impressive score of 379,660 in the Geekbench 6.3.0 OpenCL test. The chip is running on an AMD EPYC setup consisting of two 9754 CPUs with 128 cores each. The system itself has 3TB of memory. If you compare this result with today's gaming graphics card

products, the fastest GPU on the planet, RTX 4090, reached 319,697 points, while AMD's top model, 7900 XTX, only reached 207,354 points.

379660	
OpenCL Score	
Geekbench 6.3.0 for Linux AVX2	
<b>Result Information</b>	
User	<a href="#">neggles</a>
Upload Date	June 14 2024 10:54 AM
Views	4
<b>System Information</b>	
<b>System Information</b>	
Operating System	Ubuntu 22.04.4 LTS
Model	Supermicro AS -8125GS-TNMR2
Motherboard	Supermicro H13DSG-OM
<b>CPU Information</b>	
Name	<a href="#">AMD EPYC 9754</a>
Topology	2 Processors, 256 Cores, 512 Threads
Identifier	AuthenticAMD Family 25 Model 160 Stepping 2
Base Frequency	3.10 GHz
Cluster 1	0 Cores
L1 Instruction Cache	32.0 KB x 128
L1 Data Cache	32.0 KB x 128
L2 Cache	1.00 MB x 128
L3 Cache	8.00 MB x 16
<b>Memory Information</b>	
Size	3023.36 GB
<b>OpenCL Information</b>	
Platform Vendor	Advanced Micro Devices, Inc.
Platform Name	AMD Accelerated Parallel Processing
Device Vendor	Advanced Micro Devices, Inc.
Device Name	gfx942.sramecc+xnack-
Board Name	AMD Instinct MI300X
Compute Units	304
Maximum Frequency	2100 MHz
Device Memory	192 GB

This shows how fast and powerful modern AI and data center GPUs are today, but due to the high power and cooling requirements and high prices, we won't see them on standard PC platforms. For example, an RTX 4090 sells for around \$1500 to \$2000, while an MI300X chip costs around \$15,000.

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