Welcome To The ISC25 Hyperion Research Market Update

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www.HyperionResearch.com
www.hpcuserforum.com

About Hyperion Research

(www.HyperionResearch.com & www.HPCUserForum.com)

Hyperion Research Mission:

- *Hyperion Research helps organizations make effective decisions and seize growth opportunities*
  - *By providing research and recommendations in high performance computing and emerging technology areas*

HPC User Forum Mission:

- *To improve the health of the HPC/AI/QC industry*
  - *Through open discussions, information sharing and initiatives involving HPC users in industry, government and academia along with HPC vendors and other interested parties*

The Hyperion Research Team

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- Jie Wu, China and Technology Trends
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Example Research Areas

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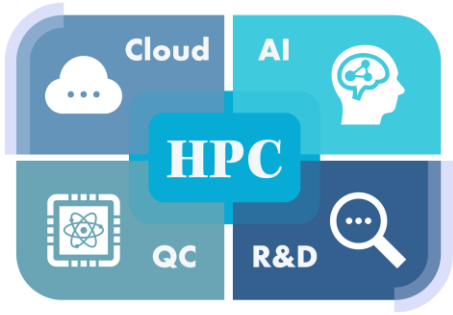

- Traditional HPC
- AI, ML, DL, LLMs, Graph
- Cloud Computing
- Storage & Data
- Interconnects
- Software & Applications
- ROI and Scientific Returns from HPC
- Power & Cooling
- Tracking all Processor Types & Growth rates
- Quantum Computing
- R&D and Engineering -- all types
- Edge Computing
- Supply Chain Issues
- Sustainability

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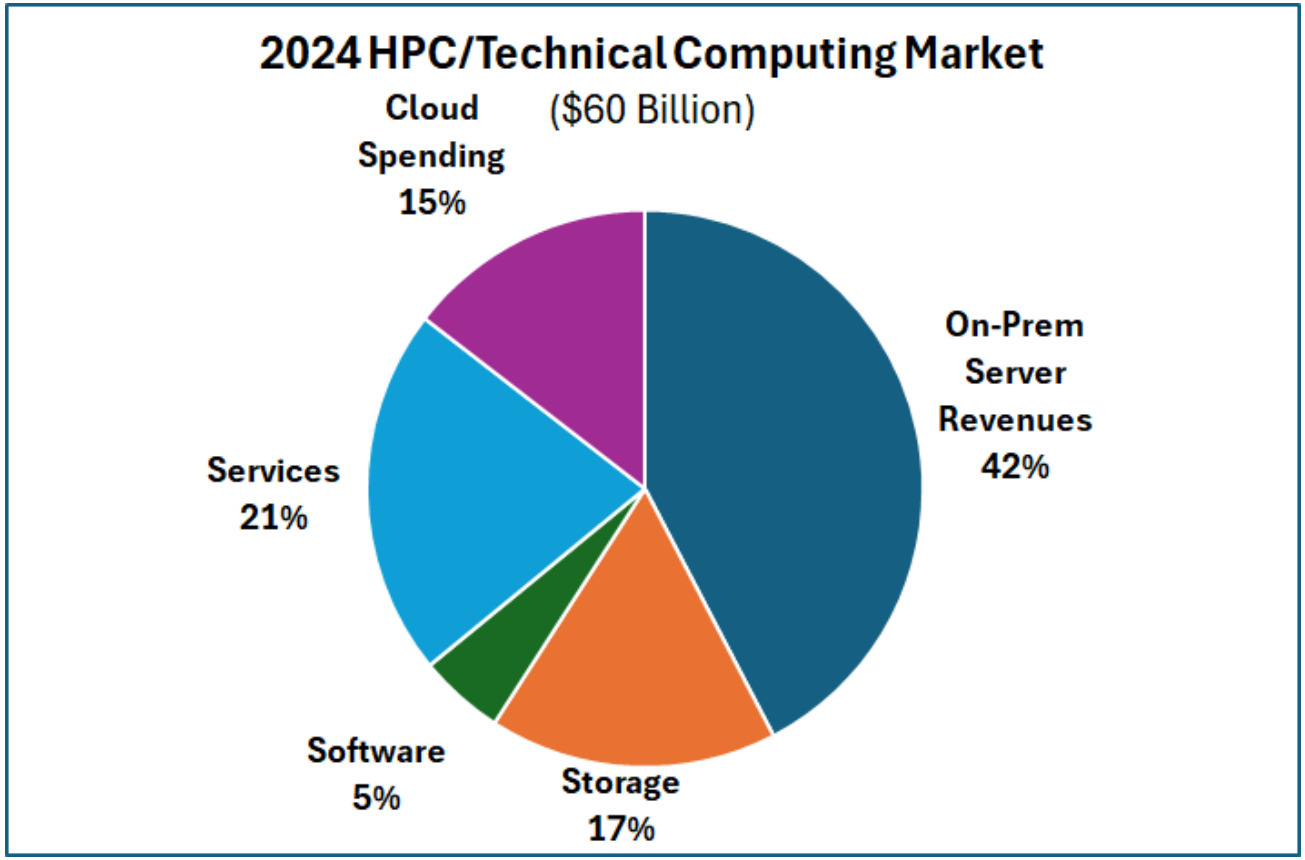
HPC/AI Market Update

2024 Was a Strong Growth Year

The highest growth in over two decades (23.5%)!



- **23.4% growth in on-premises servers**
- **21.3% growth in the use of clouds**
- **Over $60 billion in total spending**

2024 HPC/AI Market By Vendor

The highest growth in over two decades (23.5%)!

2024 HPC/AI Market By Vendor		
Vendor	**2024 Server Revenues**	**2024 Market Shares**
HPE	7,151	28.2%
Dell Technologies	3,916	15.5%
Lenovo	1,450	5.7%
Inspur	1,082	4.3%
Atos	708	2.8%
Sugon	619	2.4%
IBM	332	1.3%
Penguin	356	1.4%
Fujitsu	233	0.9%
NEC	213	0.8%
Other HPC	2,337	9.2%
Non-Traditional Suppliers	6,934	27.4%
Total	**25,332**	**100.0%**
Source: Hyperion Research, 2025		

2024 HPC/AI Market By Segment

The highest growth in over two decades (23.5%)!

2024 HPC/AI Market By Segment		
2024 New Segments	**2024 Server Revenues**	**2024 Market Shares**
Leadership Computers (>$150M)	1,190	4.7%
Supercomputers ($10M-$150M)	6,921	27.3%
Large HPC ($1M-$10M)	7,078	27.9%
Medium HPC ($250K-$1M)	3,985	15.7%
Entry HPC (<$250K)	6,159	24.3%
Total	**25,332**	**100.0%**
Source: Hyperion Research, 2025		

2024 HPC/AI Market By Vertical

The highest growth in over two decades (23.5%)!

WW High-Performance Systems Revenue by Applications			
	2023	2024	2023 to 2024 Growth
Bio-Sciences	$1,883	$2,279	21.0%
CAE	$2,319	$2,729	17.7%
Chemical Engineering	$236	$301	27.5%
DCC & Distribution	$1,143	$1,389	21.5%
Economics/Financial	$1,044	$1,323	26.7%
EDA / IT / ISV	$1,196	$1,480	23.7%
Geosciences	$1,300	$1,543	18.6%
Mechanical Design	$058	$061	4.4%
Defense	$2,151	$2,563	19.2%
Government Lab	$4,446	$6,114	37.5%
University/Academic	$3,482	$4,012	15.2%
Weather	$940	$1,127	20.0%
Other	$350	$412	17.6%
Total Server Revenue	$20,550	$25,333	23.3%

Source: Hyperion Research, 2025

2024 HPC/AI Market By Region

The highest growth in over two decades (23.5%)!

2024 HPC/AI Market By Region		
2024 New Segments	**2024 Server Revenues**	**2024 Market Shares**
North America	13,421	53.0%
EMEA	6,168	24.3%
Asia/Pacific (All)	5,467	21.6%
Rest of World	276	1.1%
Total	**25,332**	**100.0%**
Source: Hyperion Research, 2025		

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Forecasts

The HPC/AI Market Should See Growth in 2025

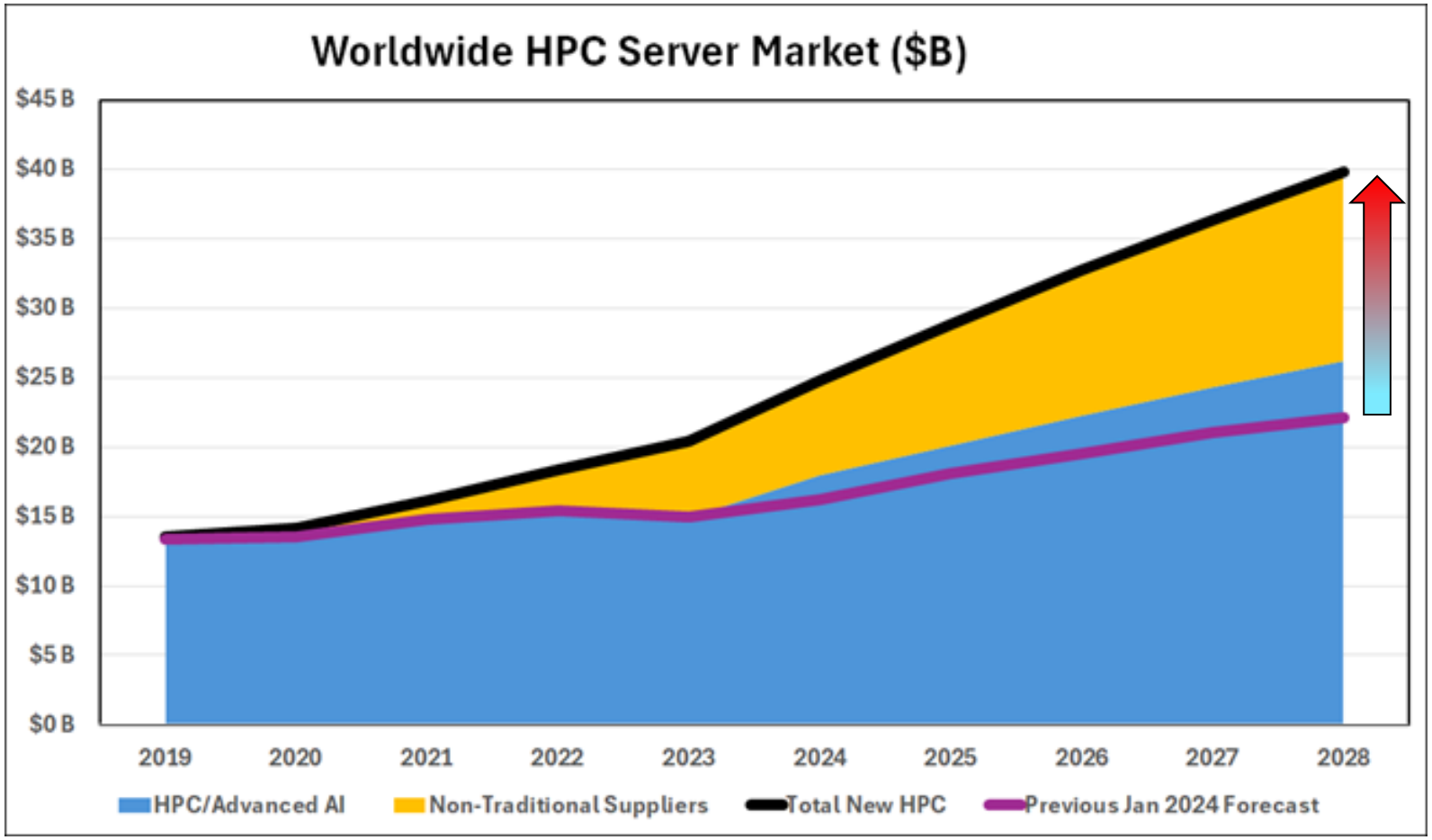
… but there are some major concerns

- **The global economic situation and changing trade rules could have a major impact to IT build outs in 2025**
- **Supply chain issues are still impacting installations (e.g., GPUs)**
- **Exascale system acceptances are seeing delays**
- **The lower end of the on-premises market continues to struggle**

- **Growth drivers include:**
  - New use cases especially in AI/LLMs/Generative AI/Smarter AI are providing new areas for users to advance their research
  - Countries and companies around the world continue to recognize the value of being innovative and investing in R&D to advance society, grow revenues, reduce costs, and become more competitive

Updated View of the On-Prem Server Market

- *Hyperion Research just announced a 36.7% increase in the HPC/AI server market size (now growing at 15% CAGR)*
- *Added tracking of non-traditional AI/HPC suppliers*



Updated View of the HPC/AI Market

On-prem HPC/AI servers are projected to exceed $47 billion in 2029

Worldwide Overall HPC Server Market Forecast ($M)								
	2023	2024	2025	2026	2027	2028	2029	CAGR 24-29
Total HPC	20,550	25,333	29,159	32,713	36,909	41,681	47,115	13.2%
Historic HPC/Advanced AI	14,768	17,875	19,288	21,120	23,295	25,695	28,341	9.7%
Non-Traditional Suppliers	5,782	7,458	9,872	11,593	13,614	15,987	18,774	20.3%
Source: Hyperion Research, 2025								

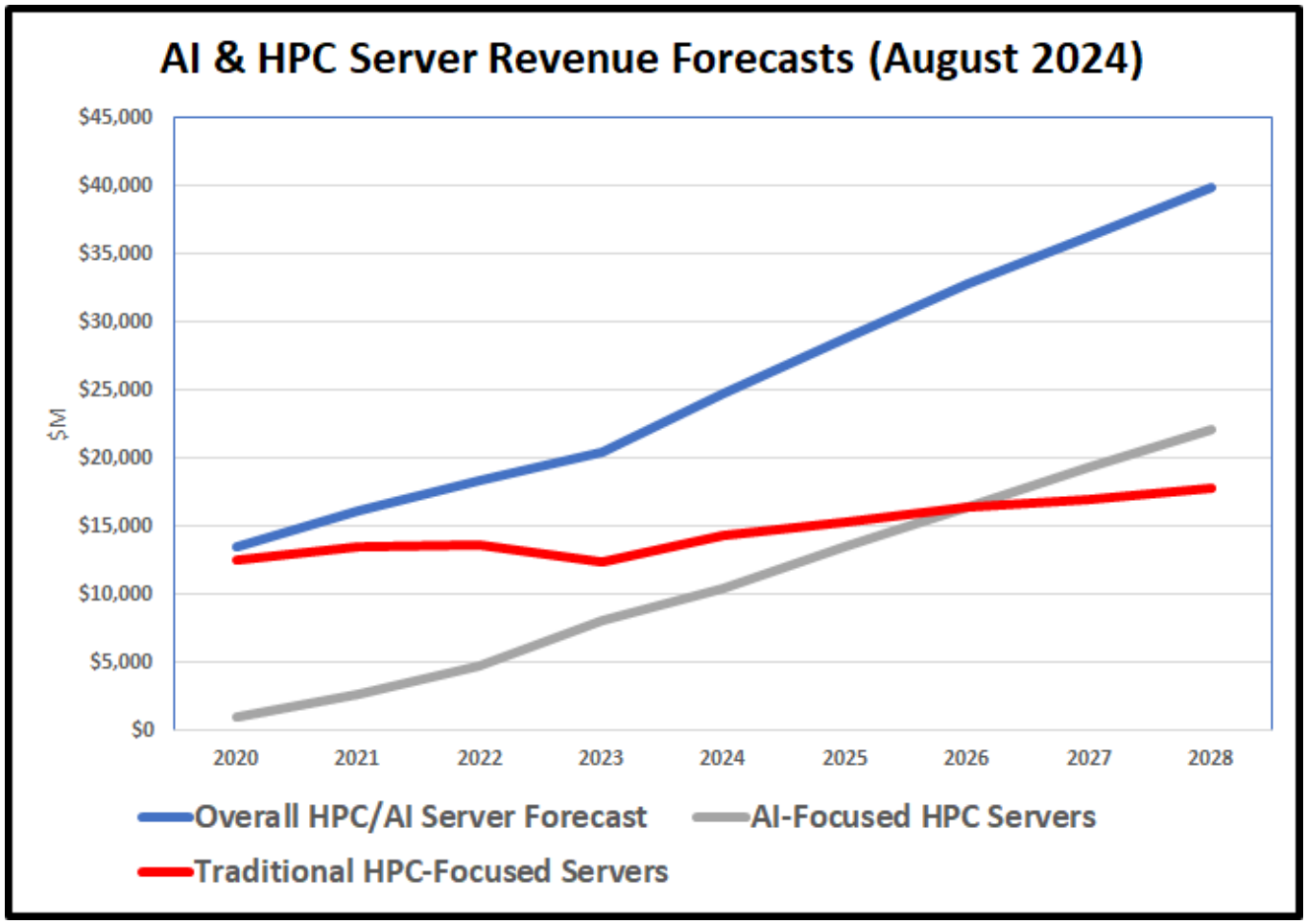
Market Segment Definition: *Non-Traditional Suppliers* *(new revenues added to the previous HPC market sizing)*

These are on-premises AI-centric HPC servers that are provided by non-traditional HPC suppliers like NVIDIA, Cerebras, SambaNova, SuperMicro, etc. These servers are designed primarily to run AI and AI-related workloads

- These servers are a subsegment of the overall HPC market but haven't historically been accounted for within prior HPC market numbers

HPC Compared to AI-centric Servers

Many servers are running both traditional HPC and AI Workloads



Note: AI systems may still run some traditional HPC jobs (<50% of workload).
Likewise, traditional HPC systems often run some AI jobs (<50% of workload).

The Exascale Market (System Acceptances)

Over 45 systems and over $12 billion in value

Year Accepted	China	Europe	Japan	US	Other Countries*	Total Systems	Total Value
2020			1 near-exascale system ~$1.1B			1	$1.1B
2021	2 exascale ~$350M each	1 pre-exascale system ~$180M	--	1 pre-exascale system ~$200M	--	4	$1.1B
2022	1 exascale ~$350M	2 pre-exascale systems ~$390M total	--	1 exascale system ~$600M (2/3 accepted 2022)	--	4	$1.1B
2023	--	2 pre-exascale systems ~$150M each	1 near-exascale system ~$150M	Remaining 1/3 of Frontier system	--	3	~$0.5B
2024	1 exascale system ~$350M	1 pre-exascale ~$150M	--	2 exascale system ~$600M each	--	4	~$1.7B
2025	1 or 2 exascale systems ~$300M each	2 or 3 exascale systems ~$350M each	1 exascale system ~$200M	1 or 2 exascale systems ~$350M each	1 near-exascale system ~$125M	6-9	$1.7B - $2.7B
2026	2 exascale systems ~$300M each	2 or 3 exascale systems ~$325M each	?	1 or 2 exascale systems ~$325M each	1 or 2 exascale systems ~$150M each	6-9	$1.7B - $2.5B
2027	2 exascale systems ~$275M each	2 or 3 exascale systems ~$300M	1 exascale system ~$150M	1 or 2 exascale systems ~$275M each	2 or 3 exascale systems ~$130M each	8-11	$1.8B - $2.5B
2028	2 exascale systems ~$250M each	2 or 3 exascale systems ~$275M	1 or 2 exascale systems ~$150M each	1 or 2 exascale systems ~$275M each	2 or 3 exascale systems ~$125M each	8-12	$1.7B - $2.6B
Total	**11-12**	**14-18**	**5-6**	**8-12**	**6-9**	**44-57**	**$12.4B - $16.8B**

* Includes S. Korea, Singapore, Australia, Russia, Canada, India, Israel, Saudi Arabia, etc.

Note: After 2023, many exascale systems will be 2-10 exascale.

Source: Hyperion Research, March 2025

Conclusions

- **2024 was a strong growth year**
  - GPUs, cloud, AI/ML/DL/LLM were high growth areas
- **There are many high growth areas**
  - Using clouds to run HPC & AI workloads
  - All types of AI workloads
  - QC systems are being installed around the world
  - Storage will see major growth driven by AI, big data and the need for much larger data sets
- **New technologies are showing up large numbers:**
  - Generative AI, smarter AI, LLMs and SLLs are fueling a new level of growth
  - Processors, AI hardware & software, memories, new storage approaches, etc.
  - The cloud has become a viable option for many HPC workloads
- **There are growing concerns around power & talent**

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We Welcome Questions, Comments and Suggestions

Please contact us at:

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