Special Report

Evolving HPC-AI CSP Market Shares

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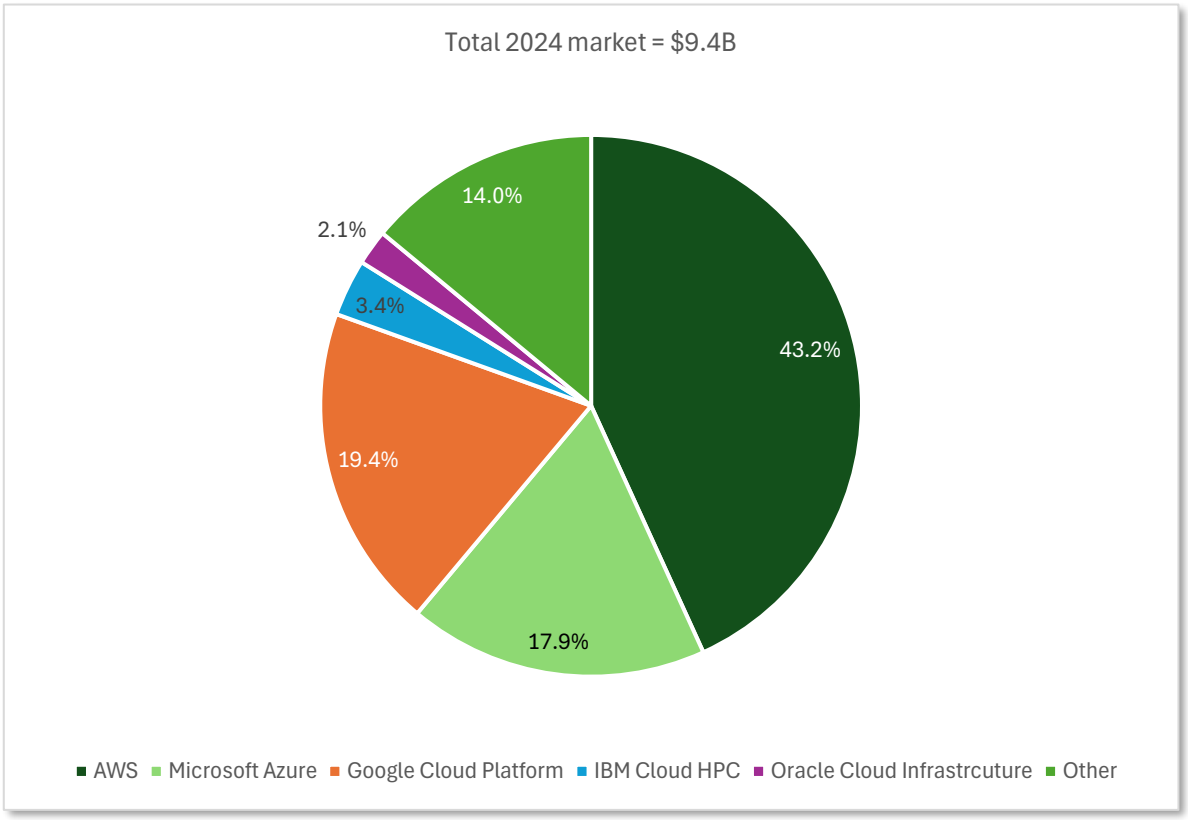
HYPERION RESEARCH OPINION

While there was some shifting of HPC-AI cloud service market share, the order of the providers remained unchanged. AWS maintained leadership with its share of 43.2%. Google Cloud Platform (GCP) has seen the most growth in its share over the last 3 years with a second spot of 19.4%. Microsoft Azure followed closely in third with a 17.9% share. Figure 1 illustrates the 2024 HPC-AI Cloud Service Provider market share.

FIGURE 1

2024 HPC-AI Cloud Service Provider Market Share



Source: Hyperion Research, 2025

ANALYST COMMENTARY

Methodology

Hyperion Research defines the HPC-AI Cloud Service Provider Market as end-users spending across all facets (e.g., compute, storage, networking, software) to run scientific and engineering workloads in the cloud. This contrasts with what CSPs are spending to provision HPC-AI resources to users. The latter is difficult to project as users may run their HPC-AI workloads on what might be considered non-HPC-AI infrastructure, and HPC-AI infrastructure may be used to run non-HPC-AI user applications.

Historical CSP Market Shares

With cloud adoption for HPC and scientific AI workloads continuing to significantly grow, CSPs with slightly lower market share are experiencing healthy revenue growth.

While AWS maintains a sizeable lead in HPC-AI cloud service market share, its share has been trending slightly downward in recent years. Hyperion Research studies indicate users who have adopted AI into their workflows and run a sizeable amount of their AI workloads in the cloud tend towards the major cloud providers. Users appear to be particularly drawn to AWS investments in their AI-focused custom CPU and accelerators (Graviton, Trainium, Inferentia), AI support applications (managed AI services, Sagemaker for ML), and ease of cloud adoption.

GCP gained material market share over the last 3 years and maintained it to remain in the #2 position. New features released this year (e.g., new custom TPU, Cluster Toolkit and Cluster Director enhancements, and Google Cloud Managed Lustre) and new deal announcements (e.g., OpenAI, Meta, and the US government) may enable Google to gain more share in 2025.

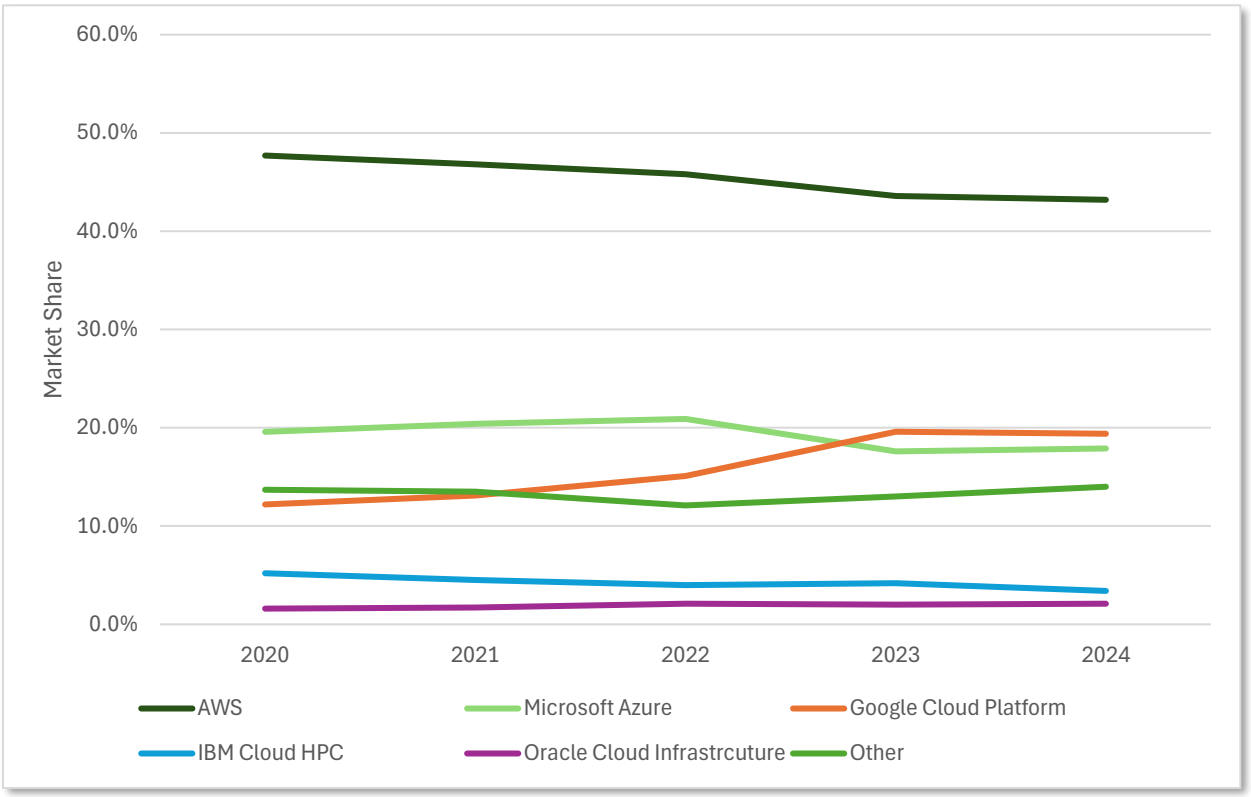
Azure remains a strong #3 as many organizations who utilize Microsoft for their enterprise cloud applications leverage Azure for their HPC-AI applications as well. While Microsoft has their custom AI-oriented silicon (Maia, Cobalt), they support internal AI-related consumption and are not offered to end users as commercial public instances. Additional investments related to security and sovereignty are attractive to users.

Neocloud providers (e.g., Coreweave, NexGen, Crusoe) provide AIaaS and GPUaaS, and contributed to market share growth in the "Other" category. A hallmark of neoclouds is providing AI-focused GPUaaS and bare metal compute nodes. Users who are exploring or only require AI-related services in the cloud are finding neocloud vendors a nice alternative to the full service CSPs variety of workload solutions and broader array of services.

Figure 2 summarizes the historical market share performance of the leading CSPs.

FIGURE 2

2020-2024 Historical HPC-AI Cloud Service Provider Market Share



Source: Hyperion Research, 2025

FUTURE OUTLOOK

The factors that have been driving growth in the adoption of cloud-based HPC-AI resources (e.g., access to latest technologies and software, resource costs, bursting capabilities, running large-scale jobs, evolution of cloud-based tools) are expected to continue. The maturity of HPC/AI user's conversations around continuum computing and "when" to leverage cloud-based resources (as opposed to "if") should compound growth.

Hyperion Research projects users will increase their spending on HPC-AI resources in the cloud by 29.7% in 2025 to reach $12.4 billion in spending. While the rising tide should raise revenue across all of the CSPs, those who can tap into users' AI training requirements while also supporting increased AI for science needs of traditional HPC users may also see corresponding gains in their respective market shares.

About Hyperion Research, LLC

Hyperion Research provides data-driven research, analysis and recommendations for technologies, applications, and markets in high performance computing and emerging technology areas to help organizations worldwide make effective decisions and seize growth opportunities. Research includes market sizing and forecasting, share tracking, segmentation, technology and related trend analysis, and both user & vendor analysis for multi-user technical server technology used for HPC and HPDA (high performance data analysis). Hyperion Research provides thought leadership and practical guidance for users, vendors and other members of the HPC community by focusing on key market and technology trends across government, industry, commerce, and academia.

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