

Data Center Chip Market - Opportunities, Share, Growth and Competitive Analysis and Forecast 2029

The Business Research Company's Data Center Chip Global Market Report 2025 – Market Size, Trends, And Global Forecast 2025-2034

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What Is The Forecast For The Data Center Chip Market From 2024 To 2029?

In recent times, there has been a swift expansion in the [size of the data center chip market](#). The market, which is anticipated to amplify from \$17.23 billion in 2024 to \$19.67 billion in 2025, is predicted to experience a Compound Annual Growth Rate (CAGR) of 14.1%. Driving this growth during this historic period is the escalating adoption of virtualization technologies, augmenting demand for energy-efficient processing, expanding data traffic-storage needs, growing employment of hyperscale data centers, and a hike in the utilization of high-performance computing.

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In the forthcoming years, the data center chip market is

projected to witness substantial growth, with its value predicted to reach \$32.97 billion in 2029, registering a compound annual growth rate (CAGR) of 13.8%. This growth during the forecast period can be credited to various factors such as the burgeoning number of hyperscale data centers, the surge in data traffic triggered by digital transformation, escalating need for high-capacity computing, rising emphasis on energy-efficient processors, and growing demand for virtualization and software-defined networking. The major trends for the predicted period include advancements in heterogeneous chip architectures, enhanced packaging technologies for better performance, innovations in chiplet-based designs, the integration of AI accelerators

into processors, and progress in photonic interconnects for quicker data transfer.

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What Are The Core Growth Drivers Shaping The Future Of The Data Center Chip Market?

The growth of the data center chip market is anticipated to be fueled by a surge in cloud services adoption. The term cloud services describes the use of internet-based computational resources and apps that can be harnessed without needing ownership of physical infrastructure. The escalating use of cloud services is due to its scalability, which lets businesses adapt resources as per the demand without investing heavily in hardware. Data center chips contribute to cloud services by facilitating efficient data processing and high-performance computation, which help servers manage extensive workloads, store colossal data, and offer quick, dependable cloud applications. For instance, AAG IT Services, a non-governmental organization based in the UK, stated in June 2024 that it is projected that about 63% of small and mid-sized business workloads and 62% of data from such businesses are expected to be housed in public clouds in 2023, a notable rise from 57% and 56% respectively in 2022. Consequently, the escalating usage of cloud services propels the expansion of the data center chip market.

Which Companies Are Currently Leading In The Data Center Chip Market?

Major players in the Data Center Chip Global Market Report 2025 include:

- Google LLC
- Samsung Electronics Co. Ltd.
- Huawei Technologies Co. Ltd.
- Intel Corporation
- IBM Corporation
- Cisco Systems Inc.
- Oracle Corporation
- Qualcomm Technologies Inc.
- Sk Hynix Inc.
- Broadcom Inc.

What Are The Main Trends, Positively Impacting The Growth Of Data Center Chip Market?

Significant players in the data center chip market are focusing on technological advancements like custom-designed data center infrastructure chips. These chips are designed to improve server performance, energy efficiency, and handle more complex cloud and AI workloads. Custom-designed infrastructure chips are specifically engineered semiconductor components for data center operations. They are optimized for high-performance computing, data storage, networking, and AI processing, in contrast to general-purpose computing. For example, in November 2024, the US-based Microsoft Corporation launched azure integrated HSM (hardware security module) and azure boost DPU (data processing unit). These innovations are designed to enhance cloud security and speed up data-intensive workloads. Azure integrated HSM provides faster and safer cryptographic operations in the cloud by securing encryption keys inside

dedicated hardware. Azure boost DPU, meanwhile, improves the speed and efficiency of data centers for demanding AI applications by offloading network and storage workloads from CPUs.

Comparative Analysis Of Leading [Data Center Chip Market Segments](#)

The data center chip market covered in this report is segmented

- 1) By Chip Type: Central Processing Units (Cpus), Graphics Processing Units (Gpus), Application-Specific Integrated Circuits (Asics), Field-Programmable Gate Arrays (Fpgas), Neural Processing Units (Npus)
- 2) By Technology: 25 Nanometer (NM) And Below, 26 Nanometer (NM) To 45 Nanometer (NM), 46 Nanometer (NM) To 65 Nanometer (NM), Above 65 Nanometer (NM)
- 3) By Data Center Size: Small And Medium Size, Large Size
- 4) By Application Area: Data Storage, Networking, High-Performance Computing (HPC), Artificial Intelligence (AI) And Machine Learning (ML), Cloud Computing
- 5) By End-Use: Information Technology, Telecom, Healthcare, Banking, Financial Services, And Insurance (BFSI), Retail And E-Commerce, Entertainment And Media, Energy, Other End-Users

Subsegments:

- 1) By Central Processing Units: Server Central Processing Units (CPUs), Desktop Central Processing Units (CPUs), Mobile Central Processing Units (CPUs), High-Performance Central Processing Units (CPUs), Low-Power Central Processing Units (CPUs)
- 2) By Graphics Processing Units: Discrete Graphics Processing Units (Gpus), Integrated Graphics Processing Units (Gpus), Artificial Intelligence Or Machine Learning Accelerators, High-Performance Computing Graphics Processing Units
- 3) By Application-Specific Integrated Circuits: Networking Application-Specific Integrated Circuits (ASICs), Storage Application-Specific Integrated Circuits (ASICs), Security, Application-Specific Integrated Circuits (ASICs), Artificial Intelligence or Machine Learning Application-Specific Integrated Circuits (ASICs), Custom Application-Specific Integrated Circuits (ASICs)
- 4) By Field-Programmable Gate Arrays: High-End Field-Programmable Gate Arrays (Fpgas), Mid-Range Field-Programmable Gate Arrays (Fpgas), Low-End Field-Programmable Gate Arrays (Fpgas), Embedded Field-Programmable Gate Arrays (Fpgas)
- 5) By Neural Processing Units: Edge Neural Processing Units (NPUs), Cloud Neural Processing Units (NPUs), Mobile Neural Processing Units (NPUs), Artificial Intelligence Inference Neural Processing Units (NPUs), Artificial Intelligence Training Neural Processing Units (NPUs)

View the full data center chip market report:

<https://www.thebusinessresearchcompany.com/report/data-center-chip-global-market-report>

Which Regions Are Dominating The Data Center Chip Market Landscape?

In the Data Center Chip Global Market Report 2025, North America was identified as the biggest market in 2024. The region projected to experience the most rapid growth is Asia-Pacific. The report includes data on various regions such as Asia-Pacific, Western Europe, Eastern Europe, North America, South America, Middle East, and Africa.

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