

Global ARM-Based Servers Market Size Study, by Server Type (Virtualized Servers, Bare-Metal Servers, Blade Servers), by Deployment Type (On-Premise, Cloud, Colocation), by Core Count (1-4 Cores, 5-8 Cores, 9-16 Cores, 17+ Cores), by Application (High-Performance Computing (HPC), Artificial Intelligence (AI), Data Analytics, Cloud Computing, Virtualization), by Memory Capacity (16GB-32GB, 64GB-128GB, 256GB-512GB, 1TB+), and Regional Forecasts 2022-2032

<https://marketpublishers.com/r/GC4195C22859EN.html>

Date: February 2025

Pages: 285

Price: US\$ 3,750.00 (Single User License)

ID: GC4195C22859EN

Abstracts

The Global ARM-Based Servers Market was valued at approximately USD 1.3 billion in 2023 and is anticipated to grow at a robust CAGR of 15.14% over the forecast period 2024-2032. With enterprises and cloud service providers seeking higher efficiency, reduced power consumption, and cost-effective server solutions, the adoption of ARM-based servers is rapidly gaining traction across various industries. These servers, designed to optimize energy efficiency without compromising on performance, are reshaping data center architectures and fueling growth in high-performance computing (HPC), AI-driven workloads, and cloud-native applications. The increasing demand for hyperscale data centers, coupled with the rise of edge computing, is further propelling market expansion as organizations strive for scalable, high-efficiency computing infrastructure.

One of the primary drivers of market growth is the continued shift toward cloud computing and virtualization, where ARM-based architectures offer a compelling

alternative to traditional x86 processors. Enterprises are increasingly leveraging these servers to power AI and machine learning (ML) workloads, benefiting from their superior efficiency and cost-effectiveness. Additionally, semiconductor advancements, particularly in multi-core processing and enhanced memory bandwidth, are further driving the adoption of ARM-based servers in critical applications such as data analytics and AI-driven automation. However, compatibility issues with legacy software, limited ecosystem support, and the dominance of established x86 server architectures pose significant challenges that could impede market expansion.

Geographically, North America leads the ARM-based servers market, owing to the strong presence of hyperscale data center providers, cloud service giants, and semiconductor industry leaders. The United States, in particular, remains a hub for innovation in ARM-based server technologies, with companies investing in custom silicon designs tailored for high-efficiency computing. Europe follows closely, driven by increased regulatory emphasis on energy-efficient data centers and rising investments in AI and cloud infrastructure. The Asia Pacific region is projected to experience the fastest growth, supported by rapid digitization, increased deployment of AI and cloud solutions, and significant investments in data center expansion in countries like China, India, and Japan. Meanwhile, Latin America and the Middle East & Africa are emerging as promising markets, fueled by growing IT infrastructure and demand for cost-effective, scalable computing solutions.

Major Market Players Included in This Report Are:

NVIDIA Corporation

Fujitsu Ltd.

Ampere Computing

Marvell Technology, Inc.

Huawei Technologies Co., Ltd.

Broadcom Inc.

Hewlett Packard Enterprise (HPE)

Qualcomm Technologies, Inc.

ARM Holdings Ltd.

Microsoft Corporation

Amazon Web Services (AWS)

Oracle Corporation

Samsung Electronics Co., Ltd.

Lenovo Group Ltd.

IBM Corporation

The Detailed Segments and Sub-Segments of the Market Are Explained Below:

By Server Type:

Virtualized Servers

Bare-Metal Servers

Blade Servers

By Deployment Type:

On-Premise

Cloud

Colocation

By Core Count:

1-4 Cores

5-8 Cores

9-16 Cores

17+ Cores

By Application:

High-Performance Computing (HPC)

Artificial Intelligence (AI)

Data Analytics

Cloud Computing

Virtualization

By Memory Capacity:

16GB-32GB

64GB-128GB

256GB-512GB

1TB+

By Region:

North America:

U.S.

Canada

Europe:

UK

Germany

France

Spain

Italy

Rest of Europe

Asia Pacific:

China

India

Japan

Australia

South Korea

Rest of Asia Pacific

Latin America:

Brazil

Mexico

Rest of Latin America

Middle East & Africa:

Saudi Arabia

South Africa

Rest of Middle East & Africa

Years Considered for the Study Are As Follows:

Historical Year: 2022

Base Year: 2023

Forecast Period: 2024-2032

Key Takeaways:

Market estimates and forecasts for a 10-year period (2022-2032).

Segment-wise and regional revenue analysis.

Insights into competitive strategies and market positioning of key players.

Evaluation of demand and supply chain trends in ARM-based server adoption.

In-depth analysis of technological advancements, ecosystem challenges, and future growth opportunities.

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