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Grid Computing Market Research Report – Forecast to 2032

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Description:

Grid Computing Market Overview

Grid Computing Market Size was valued at USD 3.5 Billion in 2022. The Grid Computing market industry is projected to grow from USD 4.06 Billion in 2023 to USD 13.4 Billion by 2032, exhibiting a compound annual growth rate (CAGR) of 16.14% during the forecast period (2023 - 2032). The increased importance of data security and the rising leaning towards advanced technologies are the key market drivers enhancing market growth.

Grid Computing Market Overview

Source: Secondary Research, Primary Research, MRFR Database, and Analyst Review

Grid Computing Market Trends

Growing demand for data security is driving the market growth

Market CAGR for grid computing is being driven by the rising demand for data security. The cloud-based grid computing is largely in demand as grid computing poses various security issues, like data protection, host accessibility, job starvation, and others; all of which can be resolved by the cloud-based system. This cloud-based grid computing has centralized control over data, easy maintenance, scalability, automatic system, and others offer improved data security and resolve most of the problems that arise in grid computing, thus boosting cloud-based grid computing in various establishments.

Grid computing is the technique where diverse computer resources are merged from various fields to gain a common purpose; it is utilized for calculating computer-related problems which may be connected in parallel in the recent technology-driven world. The rising use of modern technologies like, AI, ML, integrated graphics, and others is boosting the grid computing market. Grid computing provides improved operational flexibility and connects IT resources with end users, suppliers, customers, and other relevant partners. Grid computing with the cloud allows for easy management of large statistical research projects, derivative risk analysis, real-time data collection, candidate drug screening, and other tasks. Consumers are largely leaning towards digitization, which is increasing the investment from the government and private organizations to use advanced technologies in different businesses.

The online and offline activities are captured and shared as data that results in large databases, including unstructured and structured data from different sources. The presence of cloud infrastructure has simplified data access simply, with educational institutions, governments, and businesses storing and accessing large cloud databases, thus fueling the growth of the market. Grid computing also assists in sharing resources, collaboration of resources, and recovery of resources on the distributed network. Grid computing offers the availability of resources continuously on a 24/7 basis; in the future, grid computing will be advantageous for businesses that do not require producing in-house solutions. Thus, driving the Grid Computing market revenue.

Despite the benefits, there are several challenges that are affecting the growth, like architecture-related issues. The issue with the alignment of the cloud strategy of organizations with the IT strategy, the clients of the grid are concerned about the data generated by the grid. Therefore the integrity and security and also the user validation need to be protected. The instances of architecture-level flaws are information security, service level security, and authorization which can destabilize the whole system. The resource and system-level authorizations are required for the grid systems.

Grid Computing Market Segment Insights

Grid Computing Deployment Type Insights

The Grid Computing market segmentation, based on deployment type, includes Private Cloud, Public Cloud, and Hybrid Cloud. The public cloud segment dominates the market, accounting for the largest market revenue as the solutions for the next-generation industry is cloud-based, and therefore, it will require a platform to demonstrate digital business skill. The public cloud services cover all the essentials of processing, storage, and networking power as also AI and natural language processing (NLP) and common office program. The value of computer knowledge like, IoT, real-time analytics enabled by ML and AI, edge computing, and 5G are going to rise, thus altering the business models of firms and operational methods.

Figure 1: Grid Computing Market, by Deployment, 2022 & 2032 (USD Billion)

Source: Secondary Research, Primary Research, MRFR Database, and Analyst Review

Grid Computing Organization Size Insights

The Grid Computing market segmentation, based on organization size, includes Small & Medium enterprises and Large enterprises. Small & medium enterprise dominates the market as cloud computing eliminates the requirement for physical data centers and storage, and fewer IT employees are required to manage; thus, SMEs profit from cloud computing's flexibility and cost-effectiveness by confirming the availability of data and services. This server provides quick delivery and scalable services that are more efficient, enabling growing revenues in improved internal processes like faster decision-making, better organization, and swift customer communications.

Grid Computing Regional Insights

By region, the study provides market insights into North America, Europe, Asia-Pacific, and the Rest of the World. The Asia Pacific Grid Computing market dominates the market due to rise in the adoption of cloud-based services, IoT devices, big data analytic research, and development activities throughout the various end-user verticals. SMEs and large organizations are gradually shifting their workloads to the cloud to enhance the efficiency and productivity of the business.

Further, the major countries studied in the market report are The US, Canada, German, France, the UK, Italy, Spain, China, Japan, India, Australia, South Korea, and Brazil.

Figure 2: GRID COMPUTING MARKET SHARE BY REGION 2022 (USD Billion)

Source: Secondary Research, Primary Research, MRFR Database, and Analyst Review

North American Grid Computing market accounts for the second-largest market share due to the increasing adoption of grid computing among enterprises in different industries, and presence of a large number of data centers, and the rising adoption of advanced technology. Further, the US Grid Computing market held the largest market share, and the Canadian Grid Computing market was the rapid-growing market in the North American region.

The European Grid Computing Market is expected to grow at the fastest CAGR from 2023 to 2032. This is due to rise in the adoption of the advanced technology and the presence of various industries. Moreover, the German Grid Computing market held the largest market share, and the UK Grid Computing market was the rapid-growing market in the European region.

Grid Computing Key Market Players & Competitive Insights

Leading market players are investing heavily in research and development in order to spread their product lines, which will help the Grid Computing market grow even more. Market participants are also undertaking a various strategic activities to expand their footprint, with important market developments including new product launches, contractual agreements, mergers and acquisitions, higher investments, and collaboration with other organizations. To expand and survive in a more competitive and rising market climate, the Grid Computing industry must offer cost-effective items.

Manufacturing locally to minimize operational costs is one of the key business tactics used by manufacturers in the Grid Computing industry to benefit clients and increase the market sector. In recent years, the Grid Computing industry has offered some of the most significant advantages to technology. Major players in the Grid Computing market, including Incredibuild, AvePoint, Microsoft, Google, Temenos, Anyscale, Seal Storage Technology, Oracle Corporation, Kanduo Bus, WebRadar, Sun Microsystems, IBM Corporation, and others, are attempting to increase market demand by investing in the research and development operations.

Seal Storage Technology is a developer of carbon-neutral, decentralized cloud storage developed to provide reliable data access that are secure, sustainable, and secure. The company is headquartered in The Great Lakes, Canada; the platform of the company provides conventional cloud storage and technically advanced expertise in blockchain networks, allowing true ownership, variability of the data, and security. Hence providing the customer's access to a cloud storage platform designed on a decentralized web. In October 2022, Seal Storage Technology and ATLAS announced a collaboration to develop new archival storage for grids. In the coming time, the increase in the requirement for the archival storage capacity for grid infrastructures is anticipated,

outpacing the provided capacity by a sustained budget model. This project will increase the possibilities for spreading the distributed archival storage capacities. ATLAS will be able to integrate cutting-edge, commercial cloud storage resources into its distributed computing infrastructure.

Anyscale, based in San Francisco and founded in 2019, California, is an affiliated computing platform that develops, deploys, and manages scalable AI and Python applications by using Ray. It offers an open-source framework to scale the Python and machine learning workloads as data ingest, hyper-parameter tuning, preprocessing, training, and model serving at scale. In October 2020, the company raised $40 million, and they are planning to use this fund in the continued development of Anyscale, a Ray-based platform that will help Ray to be utilized not only by high-level engineers and computing professionals but also by any technical person who wishes to operate large-scale computing initiatives.

Key Companies in the Grid Computing market include

- Incredibuild
- AvePoint
- Microsoft
- Google
- Temenos
- Anyscale
- Seal Storage Technology
- Oracle Corporation
- Kanduo Bus
- WebRadar
- Sun Microsystems
- IBM Corporation

Grid Computing Industry Developments

March 2021: A developer of grid computing software, Incredibuild, announced securing $140 million of funding from ScaleUp investor Insight Partners. According to the Tel Aviv, Israel-based start-up company, the investment, including primary and secondary components, will assist in spreading the US operations of Incredibuild to achieve its technology demand.

January 2020: AvePoint invested $200 million to expand the Microsoft governance tools market. A bunch of governance and migration services for Microsoft SharePoint, Office 365, Teams, and other Microsoft SaaS products were provided by the company.

December 2019: Temenos, a banking software company, and Google Cloud collaborated to offer financial service assistance to organizations for running banking software and applications on Google Cloud.

Grid Computing Market Segmentation

Grid Computing Deployment Type Outlook

- Private Cloud
- Public Cloud
- Hybrid Cloud

Grid Computing Organization Size Outlook

- Small & Medium Enterprise
- Large Enterprise

Grid Computing Regional Outlook

- North America
- US
- Canada
- Europe
- Germany
- France
- UK
- Italy
- Spain
- Rest of Europe
- Asia-Pacific
    - China
    - Japan

- India
- Australia
- South Korea
- Australia
- Rest of Asia-Pacific

- Rest of the World
  - Middle East
  - Africa
  - Latin America

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