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Data Center Networking Market Forecasts to 2030 – Global Analysis By Component (Hardware, Software and Services), Network Type (Ethernet Networks, InfiniBand and Fiber Channel), Architecture, End User and By Geography

https://marketpublishers.com/r/D2208C4515E9EN.html
Date: February 2025
Pages: 150
Price: US$ 4,150.00 (Single User License)
ID: D2208C4515E9EN

Abstracts

According to Stratistics MRC, the Global Data Center Networking Market is accounted for $38.7 billion in 2024 and is expected to reach $81.9 billion by 2030 growing at a CAGR of 13.3% during the forecast period. The combination of software and hardware technologies that facilitate effective data transfer and communication both inside and between data centers is known as data center networking. In addition to protocols and architectures intended to maximize performance, scalability, and security, it comprises network components like switches, routers, and firewalls. Cloud computing, virtualization, and fast connections are all supported by data center networking, which guarantees the smooth delivery of services and applications that require a lot of data. It is essential for handling the expanding needs of contemporary businesses and projects involving digital transformation.

According to Statista, the US has 5,381 data centers, the most of any country worldwide, as of March 2024.

Market Dynamics:

Driver:

Growing demand for cloud services

The increasing reliance on cloud computing across industries is a key driver of the data

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center networking market. Cloud services require robust and scalable networking solutions to support high-speed data transfer, seamless connectivity, and efficient storage. The proliferation of cloud-based applications, coupled with advancements in broadband infrastructure and the adoption of 100 GB switch ports, has significantly boosted demand. Additionally, the expansion of mega data centers and colocation facilities to accommodate growing data volumes further propels market growth by enhancing operational efficiency and reducing latency.

Restraint:

High initial investment

Building state-of-the-art networking facilities requires substantial capital for hardware components like switches, routers, and servers, as well as for energy-efficient technologies to meet environmental regulations. These costs pose challenges, particularly for small and medium enterprises, limiting their ability to adopt advanced data center networking solutions. Moreover, ongoing maintenance expenses add to the financial burden, creating barriers for new entrants in the market.

Opportunity:

Expansion of IoT and connected devices

IoT generates massive amounts of data that require efficient storage, processing, and real-time analysis. This drives the need for advanced networking solutions capable of handling high-bandwidth traffic with low latency. Additionally, the integration of IoT with technologies like 5G and edge computing further enhances demand for scalable and secure data center networks, enabling businesses to optimize operations and unlock new revenue streams.

Threat:

Cybersecurity risks

The increasing complexity of data center networks exposes them to heightened cybersecurity threats. Organizations rely more on interconnected systems and cloud platforms. Vulnerabilities to cyberattacks such as data breaches, ransomware, and denial-of-service attacks grow. These threats can disrupt operations, compromise sensitive information, and lead to significant financial losses. The need for robust

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security measures adds complexity and cost to network management, posing a challenge to market growth.

Covid-19 Impact:

The COVID-19 pandemic significantly influenced the data center networking market by accelerating digital transformation across industries. With remote work and online education becoming widespread, there was a surge in demand for high-speed internet, cloud services, and storage solutions. Data centers became critical in supporting increased traffic from video conferencing platforms and streaming services. While initial lockdowns disrupted supply chains and construction activities temporarily, the overall market experienced growth due to heightened reliance on digital infrastructure during the pandemic.

The hardware segment is expected to be the largest during the forecast period

The hardware segment is expected to account for the largest market share during the forecast period. This is due to the critical role that physical networking components play in the infrastructure of data centers. As organizations continue to invest in data center expansion and modernization, the demand for advanced hardware solutions, including high-speed switches and routers, is expected to rise. These hardware components are essential for supporting the increasing data traffic and ensuring reliable network performance.

The spine-leaf (two-tier) segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the spine-leaf (two-tier) segment is predicted to witness the highest growth rate. This architecture offers scalability, low latency, and high bandwidth, making it ideal for modern data center requirements. Its design enhances network performance and simplifies management, which is particularly beneficial as data centers handle increasing volumes of data. The growing adoption of spine-leaf architecture reflects its effectiveness in meeting the evolving demands of data center networking.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share due to its advanced technological landscape and robust investments in cloud computing infrastructure. The widespread deployment of 5G networks, coupled

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with increasing adoption of AI-driven applications across industries, drives demand for efficient networking solutions. Additionally, major players like Amazon Web Services (AWS) and Microsoft Azure continue expanding their regional capacities to meet growing requirements for scalable data centers.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR. Asia Pacific's rapid urbanization and digital transformation across sectors contribute to its fast-paced growth. The regions increasing adoption of smart technologies such as IoT-powered devices, Industry 4.0 initiatives, 5G connectivity, and cloud computing fuels demand for advanced networking solutions. Countries like China, India, and Japan are witnessing substantial investments from global tech giants aiming to capitalize on this burgeoning opportunity.

Key players in the market

Some of the key players in Data Center Networking Market include Cisco Systems, NVIDIA, Dell Technologies, Huawei Technologies, Arista Networks, Hewlett Packard Enterprise (HPE), Juniper Networks, VMware, Broadcom, Intel, Nokia, Extreme Networks, F5 Networks, Alcatel-Lucent Enterprise, IBM Corporation, Microsoft Corporation, A10 Networks and Lenovo.

Key Developments:

In December 2024, Arista Networks, a leading provider of cloud and AI networking solutions, today announced innovations enabling customers to build scalable and resilient campus networks. Arista is introducing the Switch Aggregation Group (SWAG™) capability in Arista EOS® that uses industry-standard Ethernet to group and manage individual switches via a single IP address. In addition, Arista CloudVision® Leaf Spine Stack (LSS™) Management allows operators to collectively manage a logical stack of switches within a single networking closet or across the entire campus. Arista EOS SWAG and CloudVision LSS free customers from proprietary stacking protocols and design limitations while delivering extensive flexibility for network topologies and operations.

In November 2024, Dell Technologies Released new AI networking design services to optimize network performance for AI workloads. Up to 33% of elapsed time in AI/ML tasks is often wasted waiting for network availability, resulting in costly GPU resources

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remaining idle. This addition to our Dell AI Factory services helps you design your AI networking to ensure optimal network performance.

Components Covered:

- Hardware
- Software
- Services

Network Types Covered:

- Ethernet Networks
- InfiniBand
- Fiber Channel

Architectures Covered:

- Traditional Three-Tier
- Spine-Leaf (Two-Tier)
- Other Architectures

End Users Covered:

- Cloud Service Providers
- Enterprises
- Colocation Providers
- Government & Defense

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Regions Covered:

- North America
  - US
  - Canada
  - Mexico
- Europe
  - Germany
  - UK
  - Italy
  - France
  - Spain
  - Rest of Europe
- Asia Pacific
  - Japan
  - China
  - India
  - Australia
  - New Zealand
  - South Korea

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Rest of Asia Pacific

South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:
- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2022, 2023, 2024, 2026, and 2030
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

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All the customers of this report will be entitled to receive one of the following free customization options:

- Company Profiling
  - Comprehensive profiling of additional market players (up to 3)
  - SWOT Analysis of key players (up to 3)
- Regional Segmentation
  - Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)
- Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

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