Data Center Switch Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 165 pages | Mordor Intelligence

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Report description:

The data center switch was valued at USD 14.4 billion in 2021, and it is expected to be worth USD 19.8 billion by 2027, registering a CAGR of 5.4% from 2022 to 2027. The data center switch is an evolving technology with a distinct class of switch and networking infrastructure. The data center switch is a high-performance switch mainly for large enterprises and cloud providers who depend heavily on virtualization. It can be stationed throughout the data center or to attach a two-tier (leaf-spine) or one-tier flat mesh or fabric architecture.

Key Highlights
There is increasing adoption of cloud computing technology, data localization, and new technologies, like 5G and IoT, resulting in a surge in data center investments worldwide. Due to the changing needs of organizations, irrespective of their size, the everlasting development of millions of connected devices, and the rapidly increasing daily volume of data generated over the Internet, data centers are quickly moving into the mainstream.
Moreover, more computational processing and decision-making operations need to be done to unlock the full potential of AI technology. Depending on the performance, capacity, and cost considerations, the placement of AI processing and data may primarily range from the cloud to on-premises data centers to the edge of the network in the coming future. Connected devices, smart industry, and connected cars are expected to create a massive opportunity for edge computing, thereby emerging as a driving factor for new data centers, influencing the market studied.
During the COVID-19 lockdown, data center demand grew as more people started working remotely. Increased data traffic has impacted the market studied due to the expanding use of cloud services. During COVID-19, OTT platforms have seen increased data traffic, leading to the rapid expansion of the market learned. For instance, in 2020, Netflix added 3.6 million members across the Asia-Pacific region. To deal with the high incoming traffic while maintaining the streaming service's quality, Netflix decided to remove the highest bandwidth streams and reduce traffic by 25%.

The COVID-19 epidemic impacted the supply chain of the data center construction. Datacenter site construction was affected due to the lockdown, which caused delays in project completion and a decline in sales from severely hit industries, such as hospitality and entertainment, impacting construction activities.
The rapid adoption of cloud-based business operations has encouraged businesses to acquire data management capacities to handle the vast amount of data generated. The shift in traditional on-premises physical servers to the virtual network-based data center, owing to the advancement in multi-cloud computing, is driving the growth of data centers globally, leading to an increased demand for data center switching equipment.
However, power remains one of data centers' most significant cost drivers today. As per the International Energy Agency, 1% of all global electricity is used by data centers, and they will consume 1/5th of the world's power supply by 2025. Most of this energy demand comes from powering the servers, which in turn produces heat and needs to be cooled. This cooling again consumes a lot of energy.

Data Center Switch Market Trends

Core Switches Holding the Largest Market Share

Core switches must be prioritized more than the other two switches. More significant market share companies like Amazon and Microsoft are currently working on developing new data centers. Since the data centers are growing, the demand for core switches will significantly increase.
Growing traffic management is driving new growth opportunities for core switches. For Instance, the COVID-19 pandemic caused people to stay indoors; instead of going shopping or to the movies, many resorted to OTT services such as Netflix for enjoyment. In the first three months of 2020, Netflix added 3.6 million members across the Asia Pacific region. To deal with the high incoming traffic while maintaining the streaming service's quality, Netflix decided to remove the highest bandwidth streams and reduce traffic by 25%.
The growing traffic must be handled effectively and reliably, with low and predictable latency. However, because vPC (virtual-port-channel) can only supply two active parallel uplinks, bandwidth becomes a constraint in a three-tier data center architecture. Another issue with a three-tier design is that server-to-server latency changes depending on the traffic path used. For Instance, Cisco introduced a new data center design known as the Clos network-based spine-and-leaf architecture to address these restrictions. This design has been demonstrated to provide a high-bandwidth, low-latency, nonblocking server-to-server connection.
There is Increasing adoption of cloud computing technology in North America. For Instance, In February 2022, Meta Platforms Inc. (Facebook Inc.) announced intentions to expand its data center markets by investing USD 800 million in hyper-scale campuses in Idaho, the United States.
By expanding the data center capabilities, the IT infrastructure will be improved because of the complexity and interconnectedness of a high number of IT devices, and demand for data center networking components such as switches and routers will be the critical component of hyper-scale infrastructures. The data center switch market will showcase growth, with hyper-scale IT infrastructure providers adopting high-performance core switches for fast data transfer.

North America Expected to Register Significant Growth

As per real estate specialist CBRE, in 2021, data center leasing in the top seven US markets was 31% higher than in 2019 and 50% higher than in 2020, which went down a little due to the pandemic. Northern Virginia was the largest market, with over 60% of the nation's total new data center space.

Most of the colocation data center demand comes from cloud providers and social media companies. However, adopting new technologies, including autonomous vehicle technology, 5G infrastructure, virtual reality communities, and blockchain technology, is also driving the market.
Atlanta has emerged as another key market for data center development in recent years, seeing new projects from providers targeting the enterprise market. In April 2021, QTS Data Centers submitted plans to build a 1.1 million square foot data center in Atlanta. As per the plans submitted under 'Project Granite,' QTS would develop 2.3 million sq ft of mixed-use development on approximately 36 acres of land, including data center space, office, retail, and residential land uses. Such developments fuel the demand for data center switching products in these regions.
Enterprises in the North American region have started to view hyper-convergence as a viable alternative to the traditional data center, combining storage, computing, and networking into a single system, thereby reducing data center complexity and increasing scalability. An increase in the adoption of a hyper-converged infrastructure platform is driving the data center market.
In February 2022, Corscale, a new data center development platform created by the Patrinely Group and its capital partner, USAA Real Estate, entered the Northern Virginia market. The company's first project is Gainesville Crossing, a 300-megawatt development in Prince William County that will feature five data centers optimized for hyper-scale clients.
The region has also experienced a high penetration of the 200GbE and 400GbE switch ports in recent years. For instance, in March 2021, Hewlett Packard Enterprise (HPE) introduced the 32-port 200GbE SN3700M switch, which is purpose-built for the modern data center. Powered by the 50G PAM-4 based Spectrum-2 ASIC, the switch carries a bidirectional switching capacity of up to 12.8Tb/s with a landmark 8.33Bpps packet processing rate.

Data Center Switch Market Competitor Analysis

The Data Centre Switch market is highly competitive and consists of several major players. However, few significant companies currently dominate the market regarding market share. The companies follow several strategies, including expansions, mergers & acquisitions, joint ventures, collaborations, partnerships, and others; these market players have strengthened their position in the business. The major market players interpreted in the report include Cisco, Jupiter Networks, Dell EMC, Arista Networks, ZTE, Hewlett Packard Enterprise, Mellanox, Huawei, Extreme Networks, etc.

October 2021 - Aruba, a Hewlett Packard Enterprise company, introduced a unique Distributed Services Switch, the CX 10000 Series Switch, allowing enterprises to deploy software-defined stateful services where data is created and processed while eliminating the need for legacy appliances and host software to build the hybrid clouds demanded by modern applications and IT organizations. The Aruba CX 10000 Series Switch with Pensandoprovides is an entirely new class of switching solutions to overcome the limitations of legacy architectures.
August 2021 - HPC acquired Zerto Ltd, a prominent cloud data management and protection player, for USD 416 million. This acquisition expands HPE GreenLake and further enables the shift of the Storage segment toward more cloud-native and software-defined data services solutions.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

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