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Telco Cloud Infrastructure Market Forecasts to 2034 – Global Analysis By Component (Solution and Services), Function, Service Model, Deployment Mode, Organization Size, End User and By Geography

https://marketpublishers.com/r/TA7D1524547EEN.html
Date: March 2026
Pages: 200
Price: US$ 4,150.00 (Single User License)
ID: TA7D1524547EEN

Abstracts

According to Stratistics MRC, the Global Telco Cloud Infrastructure Market is accounted for $18.67 billion in 2026 and is expected to reach $32.80 billion by 2034 growing at a CAGR of 7.3% during the forecast period. Telco cloud infrastructure refers to a cloud-based architectural framework that enables telecommunications operators to deliver network services using virtualized and software-defined technologies. It replaces traditional hardware-centric telecom networks with scalable cloud platforms that support Network Functions Virtualization (NFV), Software-Defined Networking (SDN), and containerized applications. This infrastructure allows telecom providers to deploy, manage, and scale network functions such as core networks, edge computing, and data processing more efficiently. By improving flexibility, automation, and service agility, telco cloud infrastructure supports advanced digital services including 5G, IoT connectivity, and real-time data applications while optimizing operational costs.

Market Dynamics:

Driver:

Rapid Deployment of 5G Networks

The rapid deployment of 5G networks is a major factor driving the growth of the Telco Cloud Infrastructure market. Telecom operators are increasingly adopting cloud-native architectures to support the high bandwidth, ultra-low latency, and massive connectivity requirements of 5G services. Telco cloud platforms enable efficient virtualization of

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network functions and flexible scaling of resources, allowing service providers to quickly deploy and manage next-generation network capabilities. As global investments in 5G infrastructure continue to rise, demand for advanced Telco cloud solutions is expected to expand significantly.

Restraint:

Security and Data Privacy Concerns

Security and data privacy concerns remain a key restraint for the market. The transition from traditional hardware based networks to cloud-based and virtualized environments increases exposure to cyber threats, unauthorized access, and data breaches. Telecom operators manage vast volumes of sensitive customer and network data, making robust security frameworks essential. Additionally, strict regulatory requirements related to data protection and compliance further complicates cloud adoption. These challenges can increase implementation complexity and slow the widespread deployment of telco cloud infrastructure.

Opportunity:

Growing Data Traffic and IoT Expansion

The growing volume of global data traffic and the rapid expansion of Internet of Things (IoT) devices present significant opportunities for the market. Increasing smartphone penetration, connected devices, and digital services are generating massive amounts of network data that require scalable and flexible infrastructure. Telco cloud solutions allow telecom providers to efficiently manage dynamic workloads, enhance network performance, and support real-time data processing. As IoT ecosystems expand across industries such as manufacturing and smart cities, the need for advanced cloud based telecom infrastructure continues to grow.

Threat:

High Initial Investment and Skill Gap

High initial investment requirements and a shortage of skilled professionals pose notable threats to the growth of the market. Deploying cloud native telecom networks requires significant capital for infrastructure upgrades, virtualization platforms, and advanced software solutions. Additionally, telecom operators need highly skilled

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personnel with expertise in cloud computing and cybersecurity. The limited availability of such specialized talent can delay deployment timelines and increase operational costs, potentially hindering the adoption of telco cloud technologies, particularly among smaller telecom providers.

Covid-19 Impact:

The COVID-19 pandemic had a mixed impact on the market. The sudden shift toward remote work, online education, digital entertainment, and cloud-based communication significantly increased network traffic and accelerated the demand for scalable telecom infrastructure. Telecom operators increasingly relied on cloud technologies to manage network loads and maintain service reliability. However, the pandemic also disrupted global supply chains and delayed infrastructure investments in certain regions. Despite these challenges, the long-term outlook remained positive as digital transformation initiatives gained momentum worldwide.

The software-defined networking (SDN) segment is expected to be the largest during the forecast period

The software-defined networking (SDN) segment is expected to account for the largest market share during the forecast period, due to its ability to enhance network flexibility, automation, and centralized management. SDN separates the control plane from the data plane, enabling telecom operators to dynamically manage network traffic and optimize resource allocation. This architecture simplifies network configuration and accelerates service deployment, which is particularly important for 5G and cloud-native environments. As telecom providers seek greater operational efficiency and agility, SDN adoption continues to expand significantly.

The managed service providers segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the managed service providers segment is predicted to witness the highest growth rate, due to increasing preference among telecom operators to outsource complex cloud infrastructure management. Managed service providers offer expertise in deploying, operating, and maintaining virtualized network environments, helping telecom companies reduce operational complexity and costs. These providers also support continuous monitoring and performance optimization. As telecom networks become more software driven and complex, the demand for specialized managed services is expected to increase rapidly.

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Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share, due to the presence of advanced telecommunications infrastructure, early adoption of cloud technologies, and strong investments in 5G deployment. Major telecom operators and technology providers in the region are actively investing in network virtualization, edge computing, and cloud-native telecom platforms. Additionally, supportive regulatory frameworks and the presence of leading cloud service providers contribute to the rapid adoption of telco cloud infrastructure across the United States and Canada.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR, owing to rapid expansion of telecom networks, increasing smartphone penetration, and significant investments in 5G infrastructure across countries such as China, India, Japan, and South Korea. Governments and telecom operators in the region are focusing on digital transformation initiatives and smart city projects, which require scalable cloud-based telecom platforms. The growing demand for high speed connectivity and IoT applications is expected to further accelerate telco cloud infrastructure adoption across Asia Pacific.

Key players in the market

Some of the key players in Telco Cloud Infrastructure Market include Ericsson, Nokia, Cisco Systems, Huawei Technologies, VMware, IBM, Microsoft, Amazon Web Services (AWS), Google Cloud, Oracle, Hewlett Packard Enterprise (HPE), Amdocs, Netcracker Technology, Samsung Electronics and Mavenir.

Key Developments:

In February 2026, IBM introduced the next-generation autonomous storage portfolio featuring IBM FlashSystem 5600, 7600, and 9600, powered by agentic AI. The systems automate storage management, improve cyber-resilience, and optimize enterprise data operations, helping organizations manage AI workloads more efficiently. This launch strengthens IBM’s hybrid cloud and AI infrastructure ecosystem by reducing manual IT operations and enabling autonomous data storage environments.

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In January 2026, IBM partnered with telecom group e& to deploy enterprise-grade agentic AI solutions for governance and regulatory compliance. The collaboration focuses on implementing advanced AI agents capable of automating compliance monitoring, operational decision-making, and enterprise analytics. Announced at the World Economic Forum in Davos, the initiative demonstrates IBM's growing focus on enterprise AI ecosystems.

Components Covered:

- Solution
- Services

Functions Covered:

- Network Functions Virtualization (NFV)
- Cloud Orchestration & Automation
- Software-Defined Networking (SDN)
- Edge & CDN Services
- Other Functions

Service Models Covered:

- Infrastructure as a Service
- Platform as a Service
- Software as a Service

Deployment Modes Covered:

- Public Cloud

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- Private Cloud
- Hybrid Cloud

Organization Sizes Covered:

- Large Enterprises
- Small & Medium Enterprises (SMEs)

End Users Covered:

- Telecom Service Providers
- Enterprises
- Managed Service Providers
- Other End Users

Regions Covered:

- North America
  - United States
  - Canada
  - Mexico
- Europe
  - United Kingdom
  - Germany

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- France
- Italy
- Spain
- Netherlands
- Belgium
- Sweden
- Switzerland
- Poland
- Rest of Europe

Asia Pacific

- China
- Japan
- India
- South Korea
- Australia
- Indonesia
- Thailand
- Malaysia
- Singapore

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- Vietnam
- Rest of Asia Pacific

South America

- Brazil
- Argentina
- Colombia
- Chile
- Peru
- Rest of South America

Rest of the World (RoW)

- Middle East
  - Saudi Arabia
  - United Arab Emirates
  - Qatar
  - Israel
  - Rest of Middle East
- Africa
  - South Africa
  - Egypt
  - Morocco

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Rest of 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 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034
- 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

Free Customization Offerings:

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 Rest of the World (RoW) are also represented in the same manner as above.

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