

# **United States Virtualized Evolved Packet Core Market Segmented by Component Type (Solution (MME, HSS, S-GW, PDN-GW), Service (Professional Services, Managed Service, Consulting, Integration & Development, and Training & Support)), By Deployment Mode (Cloud, On-Premises), By End User (Telecom Operator, Enterprises), By Region, Competition, Forecast and Opportunities, 2018-2028F**

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## **Abstracts**

United States virtualized evolved packet core market was valued at USD 786.37 million and is anticipated to project robust growth in the forecast period with a CAGR of 20.48% during the forecast period. The United States virtualized evolved packet core (vEPC) market is undergoing a profound transformation, reshaping the telecommunications landscape as we know it. vEPC technology represents a paradigm shift from traditional, hardware-based evolved packet core infrastructure to a virtualized, software-driven approach. This shift has been fueled by the relentless demand for faster, more reliable connectivity, and it has allowed telecom companies in the U.S. to adapt to the rapidly evolving digital landscape. One of the key driving forces behind the expansion of the vEPC market in the United States is the insatiable thirst for connectivity. With the proliferation of smartphones, IoT devices, and emerging technologies like autonomous vehicles and augmented reality, the demand for high-capacity, low-latency networks have reached unprecedented levels. vEPC technology enables service providers to dynamically allocate network resources and optimize traffic routing, ensuring that users enjoy a seamless and responsive online experience. This capability has become essential not just for consumer-oriented services but also for industries like healthcare, manufacturing, and transportation, where real-time data processing and communication

are critical for operational success.

Furthermore, the United States vEPC market is at the forefront of the global race to deploy 5G networks. The promise of 5G, with its ultra-fast speeds and low latency, relies heavily on virtualized infrastructure like vEPC. This technology can efficiently manage the complex traffic patterns and diverse use cases that 5G networks are designed to support. Consequently, telecom giants, innovative startups, and infrastructure vendors are all vying for a piece of this highly competitive market, driving rapid technological advancements, and fueling substantial investments. Another notable trend in the U.S. vEPC market is the increasing emphasis on network automation and orchestration. Managing modern networks, with their complexity and scale, has become a herculean task. Automation tools, powered by artificial intelligence and machine learning, are essential for optimizing network performance, reducing operational costs, and proactively addressing potential issues. They enable service providers to offer highly customizable services tailored to the unique needs of different industries and enterprises, making network management more efficient and responsive than ever before.

In addition to these technological advancements, security and data privacy have become paramount concerns in the United States vEPC market. As network functions become more virtualized and distributed, the attack surface for cyber threats expands exponentially. Service providers are making substantial investments in advanced security solutions that can protect not only the network infrastructure but also the sensitive data traversing it. Compliance with stringent regulations such as the General Data Protection Regulation (GDPR) and the California Consumer Privacy Act (CCPA) is a top priority. Data breaches can have severe legal and financial consequences, making robust security measures an absolute necessity.

Moreover, the United States vEPC market is experiencing a wave of consolidation and strategic partnerships. As the industry evolves, telecom companies are seeking to enhance their capabilities by merging with or acquiring complementary companies. These strategic moves aim to bolster their portfolio of services, expand their geographic reach, and stay ahead in the fiercely competitive market. Such alliances often lead to innovative solutions and more robust offerings for customers. The future of the U.S. vEPC market is undoubtedly promising. With 5G deployment continuing apace, the potential for innovative applications and services is virtually limitless. Industries such as healthcare are set to benefit from the low latency and high bandwidth of 5G networks, enabling remote surgeries and real-time patient monitoring. The manufacturing sector can harness the power of 5G for smart factories, while augmented reality and virtual

reality applications will take a giant leap forward. These advancements will not only improve the quality of life for consumers but also drive economic growth and competitiveness on a national scale.

In conclusion, the United States vEPC market is during a transformative period. The convergence of 5G technology, network automation, stringent security measures, and strategic partnerships is reshaping the industry landscape. As service providers continue to deploy virtualized EPC solutions, consumers and businesses can expect to reap the benefits of enhanced network performance, innovative services, and a more responsive digital experience. The competitive spirit in the market is driving progress at an unprecedented pace, and the U.S. vEPC market is poised to play a pivotal role in shaping the future of telecommunications in the country and beyond.

## Key Market Drivers

### The Advent of 5G Technology

The emergence of 5G technology stands as a paramount driver in the United States virtualized evolved packet core (vEPC) market. 5G networks promise unparalleled speed, ultra-low latency, and massive device connectivity, which necessitates a fundamental shift in network infrastructure. Traditional hardware-based packet core systems struggle to meet the demands of 5G, whereas vEPC offers the agility, scalability, and flexibility required. As the race to deploy 5G accelerates across the United States, service providers are increasingly turning to virtualized EPC solutions to underpin these next-generation networks. The vEPC not only supports the high data rates and low latency required for 5G applications but also allows for efficient network slicing and dynamic resource allocation, enabling service providers to offer differentiated services tailored to various industries and use cases.

### Escalating Data Consumption and IoT Proliferation

The incessant growth in data consumption and the proliferation of Internet of Things (IoT) devices are driving forces in the U.S. vEPC market. Consumers, fueled by the demand for streaming services, video conferencing, and content-rich applications, have been consistently driving up data usage. Simultaneously, the IoT ecosystem is expanding rapidly, encompassing everything from smart homes and cities to industrial automation and healthcare devices. This deluge of data and devices necessitates a network architecture that can efficiently manage the traffic, accommodate varying quality of service requirements, and scale as needed. vEPC is the answer, offering the

ability to handle diverse traffic patterns and support the massive number of IoT devices, all while ensuring the quality and reliability of services.

### Network Automation and Orchestration

Network automation and orchestration are emerging as pivotal drivers in the U.S. vEPC market. Managing the complexities of modern networks, with their dynamic traffic patterns and diverse services, has become a formidable challenge. Automation tools powered by artificial intelligence and machine learning are essential for optimizing network performance, reducing operational costs, and proactively addressing issues. They enable service providers to offer customizable services that cater to specific industry requirements, making network management more efficient and responsive. Moreover, as networks become increasingly virtualized, automation plays a crucial role in resource allocation, scaling, and troubleshooting, ensuring that networks are always optimized for the best possible user experience.

### Security and Data Privacy Imperatives

Security and data privacy have risen to the forefront as critical drivers in the United States vEPC market. The virtualization of network functions, combined with the increased attack surface posed by distributed infrastructure, has made networks more susceptible to cyber threats. Ensuring the security of both the network infrastructure and the sensitive data traversing it has become paramount. Service providers are investing significantly in advanced security solutions to protect against evolving threats and vulnerabilities. Compliance with stringent regulations, such as the General Data Protection Regulation (GDPR) and the California Consumer Privacy Act (CCPA), is a top priority to avoid potential legal and financial consequences. Robust security measures, including encryption, threat detection, and access control, are integral components of vEPC solutions, providing peace of mind to both service providers and their customers.

### Key Market Challenges

#### Integration Complexity and Legacy Infrastructure

One of the significant challenges facing the United States virtualized evolved packet core (vEPC) market is the complexity of integrating virtualized solutions with legacy network infrastructure. Many service providers in the U.S. have substantial investments in traditional hardware-based networks, including physical evolved packet core (EPC)

systems. Transitioning to a virtualized EPC environment while maintaining seamless connectivity and service continuity can be a daunting task. Legacy network elements often lack the flexibility and scalability of vEPC solutions, making integration a complex and resource-intensive process. Ensuring interoperability between old and new components, as well as migrating existing services to the virtualized environment, requires careful planning and execution. This integration complexity can lead to increased costs, project delays, and operational challenges for service providers. Furthermore, service providers must address the challenge of maintaining the performance and reliability of their existing services during the transition. Disruptions or downtime can have a detrimental impact on customer satisfaction and revenue. As a result, service providers need to develop comprehensive migration strategies and invest in the necessary expertise and tools to manage the integration effectively.

### Security and Data Privacy Concerns

Security and data privacy concerns represent another critical challenge in the United States vEPC market. With the virtualization of network functions and the increased distribution of network infrastructure, the attack surface for cyber threats expands significantly. Virtualized environments are susceptible to a wide range of security risks, including unauthorized access, data breaches, and denial-of-service attacks. Ensuring the security of the vEPC infrastructure, as well as protecting the sensitive data transmitted over the network, is of paramount importance. This challenge is amplified by the evolving nature of cyber threats and the need for constant vigilance and adaptation to new attack vectors. Moreover, compliance with stringent regulations, such as the General Data Protection Regulation (GDPR) and the California Consumer Privacy Act (CCPA), adds another layer of complexity. Service providers operating in the U.S. must navigate a complex landscape of data privacy laws and regulations at both the federal and state levels. Non-compliance can result in severe legal and financial consequences, including hefty fines and damage to a provider's reputation.

### Key Market Trends

#### Convergence of Edge Computing and vEPC

One prominent market trend in the United States virtualized evolved packet core (vEPC) market is the convergence of edge computing and vEPC technologies. Edge computing is gaining momentum as it enables low-latency processing and real-time data analytics closer to the data source, reducing the burden on centralized data centers. In this context, vEPC plays a critical role in extending network capabilities to the edge. This



convergence offers several advantages, particularly for applications demanding ultra-low latency, such as autonomous vehicles, augmented reality, and industrial IoT. By deploying vEPC at the edge, service providers can deliver high-performance network services with minimal latency, enhancing user experiences and enabling innovative use cases. This trend is expected to accelerate as businesses and service providers seek to harness the potential of edge computing while ensuring efficient network management through virtualization.

### Network Slicing for Customized Services

Network slicing is emerging as a transformative trend in the U.S. vEPC market. This technology allows service providers to partition a single physical network infrastructure into multiple virtual networks, each tailored to specific use cases or customer segments. Network slicing holds immense potential for delivering customized services with varying quality of service (QoS) requirements. For example, it enables service providers to offer differentiated services to industries like healthcare, gaming, and manufacturing, each with its unique network performance needs. Virtualized EPC solutions are integral to implementing network slicing, as they provide the flexibility to allocate resources dynamically and ensure isolation between network slices. As 5G networks continue to roll out across the United States, network slicing will become a key differentiator, allowing service providers to offer a wide range of services while optimizing resource utilization.

### Open and Standards-Based Architectures

The adoption of open and standards-based architectures is a growing trend in the U.S. vEPC market. Traditionally, proprietary solutions dominated the telecommunications industry, leading to vendor lock-in and limited interoperability. However, the industry is shifting towards open architectures based on standard interfaces and protocols. The adoption of technologies like Open Network Automation Platform (ONAP) and Open Platform for Network Functions Virtualization (OPNFV) is gaining traction, enabling service providers to build more flexible and cost-effective networks. By embracing open standards, service providers can mix and match components from different vendors, fostering innovation, reducing costs, and avoiding vendor dependency. Additionally, open architectures promote collaboration and the development of a vibrant ecosystem of virtualized network functions and services. This trend aligns with the broader industry movement toward open, software-defined networking, further driving the growth of vEPC solutions in the United States.

## Segmental Insights

### Deployment Mode Insights

Based on deployment mode, the cloud segment emerges as the predominant segment in the United States virtualized evolved packet core market, exhibiting unwavering dominance projected throughout the forecast period. The cloud-based deployment of vEPC solutions has gained immense traction due to its inherent advantages. Cloud deployments offer unparalleled scalability, flexibility, and cost-effectiveness, making them the preferred choice for service providers seeking to adapt to the dynamic demands of modern telecommunications. With the cloud, service providers can easily scale their virtualized EPC infrastructure up or down based on evolving network needs, ensuring efficient resource utilization. Furthermore, cloud-based vEPC solutions streamline network management, enabling rapid provisioning and efficient orchestration of network resources. This dominance of the cloud segment reflects the industry's recognition of the cloud's pivotal role in ushering in the next era of network architecture and services, aligning with the evolving requirements of 5G, IoT, and edge computing applications.

### End User Insights

Based on end user, the telecom operator segment emerges as a formidable frontrunner, exerting its dominance and shaping the market's trajectory throughout the forecast period. Telecom operators play a pivotal role in the deployment and management of vEPC solutions, as they are at the forefront of providing network services to consumers, businesses, and industries. The relentless demand for high-speed data, low latency, and seamless connectivity, driven by the advent of 5G technology and the proliferation of IoT devices, places telecom operators in a strategic position to harness the capabilities of vEPC to meet these evolving network demands. By adopting virtualized EPC solutions, telecom operators can enhance network performance, optimize resource allocation, and efficiently manage the surging data traffic, all while ensuring the delivery of innovative and differentiated services to their customers. As such, the dominance of the telecom operator segment underscores its pivotal role in shaping the future of telecommunications in the United States and its commitment to meeting the dynamic needs of the digital age.

### Regional Insights

Northeast United States firmly establishes itself as a commanding presence within the

United States virtualized evolved packet core market, affirming its preeminent position, and highlighting its pivotal role in shaping the industry's course. With major metropolitan hubs like New York City, Boston, and Philadelphia, the Northeast has long been a technological and economic epicenter of the nation. This concentration of urban areas has driven the early and robust adoption of vEPC solutions, as telecom operators and businesses in the region recognize the imperative of staying at the forefront of network technology. The Northeast's dominance is also fueled by its status as a global financial and innovation hub, making it a natural incubator for cutting-edge telecommunications solutions. As 5G networks expand and the demand for high-speed, low-latency connectivity grows, the Northeast United States continues to lead the way in pioneering vEPC adoption, solidifying its position as a key influencer in the evolution of telecommunications nationwide.

### Key Market Players

Cisco Systems, Inc.

Ericsson, Inc.

Huawei Technologies USA Inc.

Nokia Corporation

Affirmed Networks, Inc.

Mavenir Systems, Inc.

Red Hat, Inc.

Samsung Electronics America, Inc.

NEC Corporation of America

Dell Technologies Inc.

### Report Scope:

In this report, the United States virtualized evolved packet core market has been segmented into the following categories, in addition to the industry trends which have



also been detailed below:

#### United States Virtualized Evolved Packet Core Market, By Component Type:

##### Solution

MME

HSS

S-GW

PDN-GW

##### Service

Professional Services

Managed Service

Consulting

Integration & Development

Training & Support

#### United States Virtualized Evolved Packet Core Market, By Deployment Mode:

Cloud

On-Premises

#### United States Virtualized Evolved Packet Core Market, By End User:

Telecom Operator

Enterprises

#### United States Virtualized Evolved Packet Core Market, By Region:

Northeast United States

Southwest United States

West United States

Southeast United States

Midwest United States

## Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the United States Virtualized Evolved Packet Core Market.

## Available Customizations:

United States Virtualized Evolved Packet Core market report with the given market data, Tech Sci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

## Company Information

Detailed analysis and profiling of additional market players (up to five).

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