![PIVOT - Powering the Digital Journey]

Private LTE Solutions

Delivering connectivity that's flexible, cost-efficient and secure to support the most demanding use cases at the edge.

Organizations are pushing applications and data out to the edge of their operations to reduce latency, conserve bandwidth and enhance the user experience. They're investing in technologies such as Internet of Things (IoT) solutions to better manage infrastructure and gain greater insight into their operations. They're looking to improve safety, security and energy efficiency and to deliver advanced services to consumers.

All of these use cases depend upon highly reliable, high-performance wireless connectivity that's flexible, cost-efficient and secure. However, Wi-Fi – the wireless technology of choice in business environments – sometimes lacks the reach, capacity, performance and security for today's most demanding applications. Public cellular networks meet those requirements but come with the tradeoffs of high cost and less control.

Enter Private LTE and Citizen Broadband Radio Service (CBRS). With CBRS-based Private LTE, you can leverage cellular technology to create a high-performance, high-capacity network without the ongoing cost of a per-device subscription to a carrier's public network. What's more, Private LTE allows you to cover large facilities and outdoor spaces with far fewer access points (APs) than Wi-Fi. You also gain visibility and control over the devices that connect to the network and the ability to tailor services that are delivered to each device or user.

Pivot Technology Services Corp. integrates solutions that provide all the benefits of CBRS-based Private LTE, including reduced costs, greater coverage, improved reliability and rock-solid security. Pivot's wireless connectivity specialists will help you architect an edge computing network that delivers the right connectivity services for various users, devices and applications.

The Pivot Solution

At the core of Pivot's architecture is an edge node that leverages Intel's Smart Edge Multi-Access Edge Compute (MEC) software to manage all communication services. Because the edge node uses an embedded Intel x86 processor and runs a Linux operating environment, it also supports use-case-specific applications at the network edge.

MEC technology enables support for virtually any wireless network topology, including Wi-Fi, lower-power WAN (LPWAN) and Bluetooth Low Energy (BLE) as well as LTE cellular. This provides flexible connectivity for a wide range of devices, including smartphones and tablets, digital displays, video cameras, handheld scanners, IoT sensors and many others. It also enables a seamless upgrade path to 5G with nothing more than a software overlay.

What Is Citizens Broadband Radio Service?

Citizens Broadband Radio Service (CBRS) is a 150MHz band established by the FCC for use by incumbent military and fixed satellite services, priority licenses and unlicensed users. Enterprises can use the band to create their own private cellular network as long as they don't interfere with the other two classes of users. CBRS uses a network of sensors and a cloud-based Spectrum Access System to coordinate the allocation of a pool of unused channels.

Pivot provides all of the services to support the complete lifecycle of a scaled edge node deployment, from initial site surveys and solution design to deployment, 24x7 support and nationwide network monitoring. Our Integration Center facilities can handle configuration, staging, inventory management and delivery of the complete Private LTE solution kit.

Use Cases

Private LTE can be valuable in any environment where high performance, high reliability and security are required. It can also be used to offload Wi-Fi traffic and as a backup for traditional wired connectivity. The following use cases illustrate its application in specific vertical markets.

Retail

Wireless connectivity has become essential in retail, with a need to support point-of-sale systems, digital displays and more. Increasingly, retailers are also using video to collect and analyze data on traffic patterns and dwell time, and to authenticate self-checkout. Private LTE also delivers the speed and capacity to enable augmented reality (AR) and virtual reality (VR) solutions.

Public Sector

Private LTE is taking Smart Cities applications to the next level. Its long range supports expanding usage of smart lighting, video surveillance and other technologies with less infrastructure than Wi-Fi. Its performance enables real-time HD video streaming, facial recognition and video analytics. Sensitive information can be isolated on a private network that can be accessed only by law enforcement.

Healthcare

Network-connected health monitoring devices are critical infrastructure that require the consistent network performance delivered by Private LTE. Additionally, Private LTE supports electronic health records and other data management applications by enabling isolation of patient data for compliance with HIPAA and other privacy laws.

Transportation

Private LTE delivers the low latency needed for real-time delivery of data in the transportation sector for autonomous vehicles and IoT analytics. It also covers the broad footprint needed to support IoT applications and video surveillance at a lower infrastructure cost than Wi-Fi.

Energy

By implementing a private cellular network, organizations in the energy sector gain the flexible, extended infrastructure needed for the backhaul of data from sensors and supervisory control and data acquisition (SCADA) systems. Private LTE also supports human-machine interfaces (HMIs), video surveillance, voice communications and mobile devices for field personnel.

What Is Multi-Access Edge Computing?

Applications at the edge require secure, high-bandwidth, high-performance connectivity to move data between endpoint devices and the edge data center. Multi-access edge computing (MEC) gives users the ability to connect using virtually any access point that is one hop away, including cellular, Wi-Fi, and other wireless and fixed access technologies. Primary drivers for MEC adoption include IoT applications, AR and VR solutions, building management and security, connected cars, and omnichannel retail applications.

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