

Baicells

Balancing the Bandwidth: How pLTE Supercharges Wi-Fi Networks



In an age where connectivity is crucial for almost every aspect of daily life, managing network performance has become a top priority for educational institutions. Traditional Wi-Fi networks, while widespread and convenient, often face challenges handling the ever-increasing demand for bandwidth. Enter Private LTE (pLTE): a powerful ally for Wi-Fi. pLTE offers a robust solution to balance the load and enhance the overall performance of your Wi-Fi network seamlessly and efficiently.

The Bandwidth Challenge

Wi-Fi networks are the backbone of our daily interactions, from video streaming and online gaming, to virtual meetings and cloud-based applications; however, as the number of connected devices continues to grow exponentially, Wi-Fi networks often struggle to carry the traffic burden alone.

Network congestion, caused by the density of devices connecting to any given Wi-Fi network, causes slower speeds and ultimately, dropped connections.

Wi-Fi networks are also range-limited, requiring multiple access points to cover any given area. This couples with interference, particularly self interference, which is a major issue for Wi-Fi network. They operate on unlicensed spectrum, and virtually every wireless device produced in the past twenty years operates on that same unlicensed spectrum. This causes interference from devices and other Wi-Fi networks, and sometimes even from access points within the same network.

Public Wi-Fi networks are vulnerable to security breaches, posing a great risk to sensitive data. Because pLTE networks are owned and managed by the organization who deployed them, security is ensured. Additionally, the protocols by which pLTE abides makes it nearly impossible to hack. This safeguards nearly all data passed over the network.

Private LTE to the Rescue

Private LTE offers a complementary solution to traditional Wi-Fi networks, enhancing the capabilities and providing a more balanced and efficient network environment overall. How can pLTE whisk in and save your network?



1. Offloading Traffic:

pLTE can handle a significant portion of the network traffic that would otherwise burden your Wi-Fi network. By offloading high-bandwidth usage such as video streaming, pLTE alleviates the congestion a Wi-Fi network might see. This ensures smoother performance for all connected devices.

2. Extending Coverage:

Traditional Wi-Fi access points are limited to typically 300-600', and are even more limited by the antenna range on the device itself. pLTE's superior range and penetration capabilities allow for the extension of network coverage far beyond the limitations of Wi-Fi. This particularly benefits large campuses that need extensive coverage.



3. Reducing Interference:

Because pLTE operates on licensed spectrum, its susceptibility to interference is far less compared to Wi-Fi, which operates on unlicensed spectrum. That unlicensed spectrum is shared with numerous other devices resulting in network instability and unreliable connections. With pLTE, a dedicated, reliable connection is established, even in densely populated areas with high network activity.

4. Enhancing Security:

LTE offers enhanced security features, including encryption and access controls, which protects sensitive data and prevents unauthorized access. It is nearly impossible to hack. This adds a complementary layer to your Wi-Fi network for your critical applications and data transmissions.

5. Enabling Seamless Handover:

pLTE seamlessly hands off connectivity between cells, providing the enduser with a continuous connection as they move about the network. This allows for full mobility, a particularly advantageous feature for mobile applications and services requiring consistent performance without interruption.



Are you ready to supercharge your Wi-Fi network with the power of private LTE?