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Why private networks are essential to drive enterprise digital transformation



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The technology that businesses rely on has changed dramatically in recent years. Organizations now use feature-rich applications to run their operations and to drive innovation. At the center of making it all run reliably and efficiently is connectivity — and 5G is expected to usher in even more speed and potential.

But how can IT leaders harness the true potential of 5G — or even make the most of current standards like 4G? The answer is: through private cellular networks. Private networks share the simplicity of wi-fi, but deliver much better performance, cost effectiveness, mobility, reliability, and security with cloud automation.

Driving the need for private cellular networks

Businesses are turning to private cellular networks for a variety of use cases, and many of the applications for this transformative technology will be designed and driven by enterprises themselves. Here are some examples of applications for private networks in use today:

- **Real-time surveillance —**

Private networks were designed with wide-area mobility and coverage in mind, so they are well-suited to enhance remote video surveillance capability in large areas, such as stadiums and smart cities.

- **Worker safety monitoring —**

Private 4G and 5G networks support wireless-oriented utility sensors and safety applications that can be used to monitor employee safety on work sites.

- **Operation visibility and optimization —**

Private networks provide greater visibility into resource utilization and traffic prioritization. Because of the greater visibility, with advanced analytics, enterprises can better optimize resource allocation.

- **Remote diagnostics and predictive maintenance —**

Enterprise organizations, such as utility companies, often require remote capabilities to diagnose and repair equipment in the field. The ability to perform preventative repairs before a weather event can avoid power loss during the event, which means little or no downtime and reduced operational costs.

Large-scale wi-fi vs. private cellular networks

Businesses are turning to private cellular networks for many applications that can't be performed as effectively with wi-fi. For example, the wi-fi connection process is prone to errors, and that unreliability can be costly for organizations.

In addition, private 4G and 5G networks offer better wireless coverage than wi-fi over large areas, which solves the typical indoor coverage problem. On top of that, because private networks deliver low latency and rapid processing capabilities, they could connect multiple devices, Industrial Internet of Things (IIOT), to business processes while maintaining performance.

Another shortcoming of wi-fi is its inability to differentiate varying types of traffic. Packets all look the same to wi-fi. But private cellular networks allow for prioritization of traffic based on the application in use.

Wi-fi is also less secure and is susceptible to hackers seeking vulnerabilities. Private networks allow data to be transferred more securely, requiring stronger authentication and authorization steps, such as a subscriber identity module (SIM) card that authorizes a user to securely connect to the network, making it much less open to exploitation.

The benefits of private cellular networks

Reliable connectivity is critical today. And private networks are opening new doors of possibility for many industries previously challenged when it comes to seamless, secure connections.

Private networks can be deployed almost anywhere. Connectivity to remote locations is still an issue for many industries. This is a game changer for certain industries, like oil and gas or mining, that are increasingly reliant on Internet of Things (IoT) to improve productivity and reduce costs for work that takes place in remote areas where high-quality wi-fi connections aren't widely available. Because data is retained onsite, private networks also meet the strict regulatory standards with which many industries must comply.

Private cellular is more cost effective than large scale wi-fi. The infrastructure is significantly less expensive, and enterprises can run a cellular network without incurring any additional data costs. Private networks can be easily deployed on a subscription model with no upfront capital expenditure, and private cellular is more affordable to scale and support long term.

Private LTE offers a better experience for today's high-bandwidth and low-latency applications, such as robotics and video surveillance streaming. Priority can be assigned to specific SIMs and devices, providing a much better quality of service.

Private cellular networks are more secure than wi-fi, which is a hacker's favorite target. With private cellular networks, businesses can

keep traffic local between IoT and machine-to-machine (M2M) devices and on-site servers. These cellular endpoints require SIM cards and PINs, which work as a form of multifactor authentication.

The bottom line

IT leaders who opt for private cellular networks, also known as private 4G and 5G networks, will see enhanced

performance, cost effectiveness, mobility, reliability, and security with cloud automation.

Affirmed Networks and your operator of choice can get your enterprise on the path to enjoying the benefits of a private 4G or 5G network today.

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