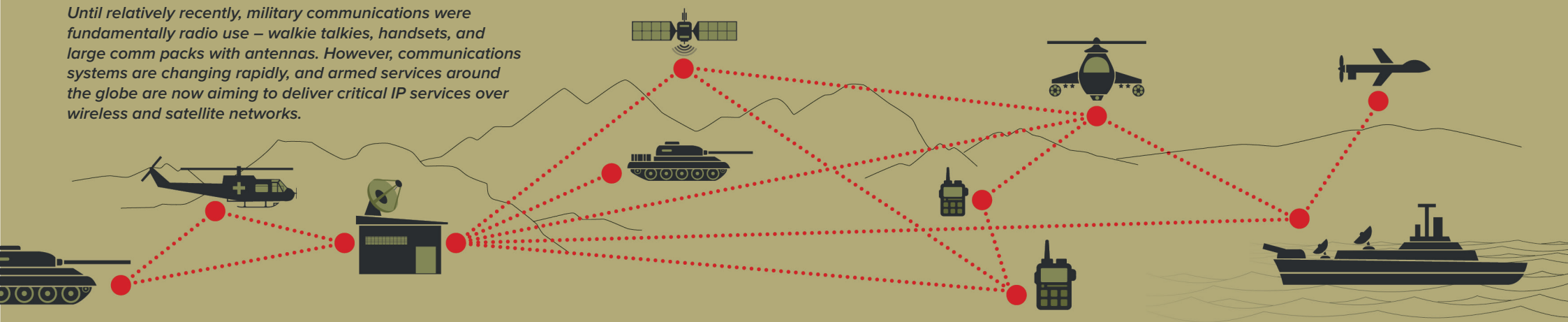







Application Performance Testing for Aerospace and Defence

Until relatively recently, military communications were fundamentally radio use – walkie talkies, handsets, and large comm packs with antennas. However, communications systems are changing rapidly, and armed services around the globe are now aiming to deliver critical IP services over wireless and satellite networks.



Satellite networks can experience long delays and considerable data loss as the signal travels through fluctuating atmospheric conditions to and from orbiting devices. This creates serious implications for the performance of critical, real-time applications such as voice communications, command center operations and logistical support systems. Coupled with the inherent challenges of IP networks, there is also the consideration of hostile intent, for example, how will critical applications handle jamming?

In addition, strategic planning and R&D development teams need to consider a range of issues when identifying and eliminating performance-related risks, including

-  More demanding real-time performance requirements
-  Complex multi-tier networks
-  Inter-regional and global communication spans
-  Intentional interference
-  Greater mobility of staff and equipment

Clearly, these new network systems must be rigorously tested under the exact network conditions they must perform in – but before they are deployed to those who will rely on them. And the best way to be absolutely certain that they deliver to stringent end-to-end service level agreements is to test applications in an emulated network environment.

The Calnex SNE provides a precision testing solution for emulating the full range of wide area networks from the safety and repeatability of a lab testing environment. By introducing network conditions such as latency, bandwidth limitations, jitter, packet loss, and packet fragmentation, network planners can determine the end-user experience under real world military conditions. Further, any issues can be resolved within the test lab environment rather than after deployment, minimizing the costs and time associated with remedial action.

The Calnex SNE can also be used to test the performance of technologies focused around Network Enabled Capability (NEC) or Network Centric Operations (NCO) or any field based TCP/IP

Communication Systems including bespoke defence protocols and applications, VoIP, IP over Wireless, and Radio over IP (RoIP). For example, planners can accurately create the high latency of uplink/downlink transfers, the effects of poor weather and signal decline that can impact on satellite communications. Satellite transmission bands such as Ka-Band and Ku-Band can be emulated, alongside point to multi-point VSAT satellite networks, all under worst or best case satellite conditions, or anywhere in between.

To accurately emulate a wide spectrum of network conditions that can affect military communications, and to ensure the end-to-end performance of applications is precisely measured and potential issues resolved, you couldn't be in safer hands than with the Calnex SNE.

