

Do you really know your network?

Knowing your network inside out can help optimise performance, and deliver the connectivity that meets business and customer needs both now and in the future.



In the always-on world of today, near-constant network uptime is paramount for most businesses. Yet ever increasing strains on networks mean slowdowns and outages are still commonplace.

When network problems are a blight on a business, it is easy to look for a quick fix, and go straight to the WAN service provider to blindly ask for more bandwidth or a new service-level agreement (SLA) that guarantees higher performance and less downtime per year. But these options also guarantee additional – and often unnecessary – expense.

A more measured and proactive approach is to improve the network itself. Network monitoring technologies help IT teams manage bandwidth utilisation, and minimise latency, packet loss, congestion and jitter. The result is more often than not reduced bottlenecks and optimised throughput, improving overall network and application performance.

The importance of optimisation

However, for sprawling, complex networks, there are a huge amount of potential sources of failure or degradation, and a wide variety of different traffic types competing for scarce resources. These vast networks are a challenge to optimise. But doing so has never been more important. For example, widely reported high-street banking outages have recently highlighted how high-capacity, resilient networks are now an absolute necessity – customers will no longer tolerate slow services or downtime.

Elsewhere, high street retailers are experimenting with various technologies that boost customer experience, like digital signage, personalised sales messages and self-service kiosks, while also connecting IoT sensors, e.g. RFID tags, and CCTV systems for security and inventory and supply-chain optimisation. High traffic levels straining bandwidth can lead to slow data transfer rates throughout the network, affecting customer retention and conversion.

And the same can be said for primarily web-based businesses of all kinds. Though IT migration to the cloud – via cloud-based IaaS and SaaS products like AWS and Office 365 – has removed the need for a lot of in-house IT hardware, the network is still a crucial part of a web-based company's performance. Inherent latency, network misconfiguration and network intermediaries can all contribute to issues with network failures, slowness or delayed service provision.

Emulate to enhance the network

As a result of the growing complexity of enterprise networks of all kinds, optimisation through network monitoring may not be enough. When network monitoring fails to fully optimise these complex networks, what these companies need is a safe space in which to experiment with potential solutions without risking the real system.

Network emulators, such as the Calnex SNE, are perfectly suited to this task, allowing teams to simulate their network and emulate real-world conditions in order to build, develop and test creative optimisation solutions before deployment.

Not only does emulating the network mean more ambitious and effective optimisation solutions can be found, but it also helps enterprises make optimal decisions about their network spend. The deeper insights into how the network functions provided by network emulation can, for example, inform decisions concerning what level of SLA and performance that should be demanded from WAN service providers, potentially leading to a less stringent and costly SLA. Most importantly, network emulators – particularly the Calnex SNE which is the only network emulator to deliver fully realistic network simulation – allow IT teams to truly understand their network, and thereby provide the connectivity that meets business and customer needs both now and in the future.

“Resilient networks are now an absolute necessity – customers will no longer tolerate slow services or downtime.”

About Calnex

Founded in 2006, Calnex is the world-leader in test and measurement solutions for synchronization and wide-area network emulation. Headquartered in Linlithgow, Scotland, with sites around the globe, Calnex was named the 2015 winner of the Queen's Award for Enterprise for International Trade, the UK's highest accolade for business success. Calnex's SNE Network Emulator is a multi-port, multi-user test solution. It emulates WAN links, and simulates complex data center and telecom infrastructure. The SNE provides comprehensive testing with higher ports counts to allow users to test with real-world network conditions in the lab, enabling issues to be found and resolved in existing networks, and potential issues in new networks to be fixed prior to the network, service or equipment going live.

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