

A large, high-quality portrait of a middle-aged man with dark hair, wearing glasses, a dark pinstriped suit jacket, a white shirt, and a striped tie. He is looking directly at the camera with a neutral expression. The background is a soft, out-of-focus grey.

ANALYTICS

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for CSPs' data driven transformations?

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SUCCESS

FAIL



Paul Gowans: A properly optimised network delivers significant benefits to the subscriber as well as the CSP



Mark Slinger: CSPs are enabling the prediction of potential issues before they occur

Are you failing to plan or planning to fail?

Customers want fast and reliable services and CSPs want to give those to them but attempts to do so require they tweak the best they can from their existing network infrastructure, hence industry momentum for effective network planning and optimisation, writes Jonny Evans

Expectations are increasing and, as consumers look to big video technologies such as 4k and 8k, it's clear network performance is still a foundational element of the communications service provider (CSP) proposition. However, while they have to support such demands, they are faced with continuing pressure on margins. "Operator margins are being squeezed, yet at the same time customers are demanding a better more connected service, and bandwidth is becoming scarce as more and more go online," says Ravi Kumar Palepu, the global solutions head in the communications business unit at **VirtusaPolaris**.

Research from **Viavi Solutions** has shown that 50% of mobile data is consumed by less than 1% of users and in less than 1% of the network area. Paul Gowans, the marketing manager for Location Intelligence & RAN Solutions at the company, explains: "Planning and optimising is about making sure you deliver the best coverage and capacity to your end subscribers. This includes understanding where cell sites should be

positioned, power levels, cell neighbor relationships... and what happens if a site goes down."

Traditional performance metrics are expanding beyond old school tools such as loads, capacity and quality. They more include customer experience and use of virtualised networks to help handle peak demand. Some CSPs – Vodafone, for example – persuade customers to download apps that capture data about location, connectivity and call quality.

"The complex mix of overlaying network technologies, from small cells to Wi-Fi, to GSM, UMTS and LTE, means that to truly understand how to plan and optimise for superior customer experience, technologies need to be able to ingest any data, regardless of format, size and granularity to enable an end-to-end view of the entire network, across all previously isolated network domains," says Mark Slinger, the head of product at **SysMech**.

The expanding network performance toolkit means CSPs must now monitor many variables, driving them to use ▶



Scott Sumner: Scalable network performance can create a real-time feedback loop that sees the state of each network slice

automation and intelligent network analytics technologies to deliver efficiencies in planning and optimisation.

Neil McKinlay, the head of product management at **Anritsu** Service Assurance says: “The key trend now is to utilise streaming analytics and of course a focus on the actual customer experience – why invest in capacity if no customer experience is impacted?”

Virtualised platforms with scalable network performance and QoE tools enable easy integration into big data, analytics, SDN control and NFV orchestration systems. “This provides a real-time feedback loop that sees the state of each network slice, and can optimise each – and the individual users’ experience against allowed policies – without human interaction,” explains Scott Sumner, the vice president of strategic marketing at **Accedian**.

Such emerging network technologies provide real-time feedback, enabling truly self operating networks that react in real time.

“Prediction is the next step,” adds Slinger. “CSPs are now beginning to introduce prediction scenarios that monitor trends to enable the prediction of potential issues before they occur, for example, when network equipment will need replacing or identifying customers that are a churn risk.”

These analytical tools also enable new efficiencies. “Network optimisation teams can see the user experience from an end-user perspective and tie that into network level parameters from the base stations,” says Mikko Hyvärinen, the director for CEM and platform products at **Anite**.

Network management and analytics tools can help CSPs identify issues such as misconfigured routers, faulty SFPs (small form factor pluggable devices) and routing paths that introduce excessive latency to VoLTE and other key services. They also help identify more opaque challenges, such as the impact of old or duplicate firewall rules that exist on a network.

“With intelligent security management systems, companies can deliver positive customer experiences while ensuring they are maintaining security and compliance effectively,” says Michael Callahan, the vice president at **FireMon**.

5G will bring more opportunity. Not only should it improve data rates by 30% in comparison to 4G, but its capacity to work as a unifying framework with other wireless standards should enable offloading of some traffic. “Which will provide a gateway to much more complex and interesting mobile data solutions,” says Palepu.

Gowans adds: “A properly optimised network delivers significant benefits to the subscriber as well as the CSP. The move towards smart networks will release very significant cost savings and game changing customer experiences ... by delivering levels of network performance unattainable by manual means.”

The opportunity here is for CSPs to gather deep, analytics-driven insight into customer and network behaviour. This information should help them avoid network congestion by providing different treatment actions for each customer, based on specific customer data and company policy.

Big data analysis can deliver insights that can improve the effectiveness of the business and the network. “CSPs can gain insights into each customer in a congested area of the network, including their financial value to the service provider, the services being used, if they have been recently affected by similar congestion problems, their churn risk score, and more,” explains Joe Hogan, the chief technology officer at **Openet**.

On reflection when considering network management, it seems gently ironic that the very tools carriers are embracing to help them meet the demands customers make on their networks are themselves unlocking new opportunities to develop personalised solutions to meet individual customer needs. 



Joe Hogan: Analysis can deliver insights that can improve the effectiveness of the business and the network