

Better Visibility Increases Mobile Network Quality



Major European Mobile Carrier Vodafone Chooses Network Critical to Monitor Quality of Service as Customer Demand for Voice and Data Services Continues to Expand

Summary

Mobile telecommunications carriers have one critical metric when evaluating the strength of their business. That metric is called contract subscriber churn rate. This is a major indicator of customer loyalty showing how many subscribers the company is gaining versus losing each period. Research shows that network quality and call quality are two key drivers of customer satisfaction. Of course, higher customer satisfaction leads to lower churn. Therefore, tools for predictive network planning and constant monitoring are key drivers of mobile network management.

The Challenge

One of the major challenges that mobile operators face is not technical. It is the challenge of managing customer perception. When a subscriber experiences slow response time or a non responsive application, the initial target of blame is usually the network operator. However, our customer manages access to multiple networks, many of which are beyond their own control and their end users also connect to third party applications through our customer's network. Application flaws causing end user disruptions are often the cause of customer complaints about their network. In order to improve customer perception of their mobile network and reduce customer service complaints, Vodafone embarked on a QoS improvement project. The mission is to maintain a high level Quality of Service (QoS) in their network as well as manage external influences whilst keeping their subscribers happy. The end result, of course is to reduce churn.

“Continuous monitoring is absolutely critical to maintaining a high quality network and staying in compliance with European data regulations. Network Critical SmartNA-XL allows us to see and manage traffic without impacting live traffic.”

OSS Tools Manager

Connecting tools to help with this QoS project presents a challenge. Their mobile network has evolved over a period of decades and continues to evolve. Voice, data, video and voice as data (VoIP) all traverse various iterations of the network. This carrier must integrate the latest generation of high speed monitoring tools with four generations of network links. In addition to managing QoS for all these services our customer is required by government edict to provide seamless data services across many borders on the European continent. So this project encompasses multi-



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“Developing and managing Key Performance Indicators is all about accuracy of information. The Network Critical products are providing 100% accurate traffic visibility on the key links, which is vital for us.”

Network Performance Monitoring Engineer

generation tool integration, physical media conversion, 100% accurate data capture, analysis and compliance reporting throughout the continent. Traffic monitoring tools will need to be safely and seamlessly connected to multiple links without adding delay or impacting live traffic.

Network Critical Solution

Connecting tools to diverse links at varying speeds through often incompatible physical media is the challenge we were presented. The access solution must be able to connect to multiple copper links and aggregate the slower links into a single high speed fiber optic connection to monitoring tools. This solution typically requires a TAP to the link and a Packet Broker to manage media and speeds. By connecting Network Critical SmartNA-XL hybrid TAP/Packet Broker, copper TAP modules safely connect to links and a mirror copy of the traffic is aggregated through the system to higher speed optical monitoring tool ports.

Traffic can be monitored at 100% accuracy without any direct impact on the live traffic. Both the failsafe TAP connection and the high level Packet Broker features are combined in a single 1RU solution. Even if power to the SmartNA-XL is lost, live traffic continues to pass through the hybrid TAP to the network. The added benefit of aggregating lower speed link traffic to high speed tools is that fewer tools are required. In large complex networks with multiple links, putting a monitoring tool

on every link can be cost prohibitive. Utilizing an aggregation ratio of 4:1 can cut tool costs by a similar margin.

Network Critical's unique scale out solutions allow our client to seamlessly monitor critical links from 1Gbps to 40Gbps in the same chassis. They start with monitoring critical links and incrementally increase monitoring capabilities throughout the network without changing access systems. As faster speeds come on line to meet data and video demand, the Network Critical SmartNA-PortPlus will meet the visibility challenge up to 100Gbps. There is no need to remove older units as additional ports come on line. Operations, management and port growth continue in one smooth transition.

Solution Benefits

Continuous monitoring of customer traffic provides a high level of service assurance and less customer network frustration resulting in lower churn rates. Combining both TAP and Packet Broker functions in a single unit saves our customer CAPEX on racks, power, cooling, equipment and real estate. Simplified scaling maintains standard operating and management practices reducing OPEX for the network operations group such as continuous new system deployment and training and when old systems are removed and replaced with new generation equipment.

Continuous traffic monitoring allows Vodafone to implement an aggressive customer

satisfaction program without impacting the network or breaking the budget. The Network Critical visibility solution allows our customer to increase network QoS, provide more informed responses to customer network service inquiries and comply with European cross border data regulations.

About Network Critical

Network Critical is an industry leader in network access technology. Our quality 1/10/25/40/100G modular TAP and Packet Broker solutions ensure that our customers have continuous network visibility. Network Critical products eliminate any concerns of downtime and our unique scale-out capabilities enable simple, cost effective expansion, as network and port density requirements grow.

The health of your network is always secure with Network Critical products. Our fully flexible range of TAPs and Packet Brokers are used with IDS, IPS, network traffic monitoring tools, sniffers and many other mission critical appliances, to provide 100% network visibility with zero packet loss.

With over 20 years experience, a number of industry “firsts” and a reputation for excellent customer service, Network Critical's solutions are widely used in global networks across a wide range of sectors including Finance, Telco, Government, Energy and Healthcare.

For more information, visit
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