

Case Study

Realtime Traffic Analytics Solutions for European Tier 1 Communication Service Provider



ROHDE & SCHWARZ
Cybersecurity

Challenges & Solutions

European Tier 1 Communication Service Provider (CSP) Efficiently Operates Networks with Realtime Traffic Analytics Solutions

Challenge

Large Communication Service Provider (CSP) manage complex networks with different types of access technologies, varying subscriber and reseller base. The lack of in depth analysis of the flowing traffic and the difficulty to monitor a hybrid network that combines various technologies and approaches make creating an insightful picture a non-trivial task.

Summary

Area of Business

European Tier 1 Communication Service Provider (CSP) that manage complex networks with varying subscriber and reseller base and also offer their own over-the-top services.

Challenge

Manage a heterogeneous network and gain greater realtime business insights in order to make informed decisions about product development, services and network planning.

Solution

CSP deployed the Traffic Analytics system based on R&S®Net Sensor and the central analytics and storage system R&S®Net Reporter that is powered by the R&S®PACE 2 deep packet inspection (DPI) engine.

Traffic Analysis Benefits

CSP are able to launch an efficient network and service analytics strategy based on real network usage and application performance in order to establish a sustainable operational model.

Solution

By deploying the Traffic Analytics system by Rohde&Schwarz, the European Tier 1 CSP was able to gain insights into the network and subscribers' behavior and got a deeper view and understanding of the dynamics in the monitored network.

High Performance DPI Engine

Using the in-house developed high-performance DPI engine R&S®PACE 2, the R&S®Net Sensor helps the CSP analyze complex traffic that contains multiple layers of tunnels, labels and control protocols (e.g. PPPoE, VLAN, MPLS, LLC, L2TP and GTP). The system reports on the complete protocol stack from L3 (e.g. IPv4 and IPv6) to L7 (e.g. HTTP, DNS and SIP) and even above that (Facebook, YouTube, Google Play, etc.)

Flexible Subscriber Resolving and Anonymization

The R&S®Net Reporter analyzes, stores and presents reports based on the traffic- and subscriber-related information sent by the R&S®Net Sensor IP probes. Personal identification data of subscribers has been anonymized in a way that makes it impossible to identify individuals or their equipment, but still allows very granular and informative an anonymous analysis of subscriber behavior. The R&S®Net Reporter extracts authentication data from both the in-line control plane (e.g. from RADIUS messages) and from third party subscriber management systems. Thus, even in complex setups, full subscriber resolving is provided with anonymization protection.

Versatility of Extracted Data

A tight integration with customer's data processing infrastructure allows the Traffic Analytics solution to seamlessly transfer valuable insights, to enrich the existing information and to provide new dimensions to the overall collected data. The Traffic Analytics solutions provide information such as:

- Bandwidth consumption per application, protocol, type of subscriber, line and access platform
- Existing and emerging online habits per type of contract and defined data rate
- Technical statistics about bandwidth, peaks and overall data consumption for the reseller lines

The large amount and high diversity of collected data makes the Traffic Analytics solution suitable to be used both as an independent reporting platform and as a source of deep traffic knowledge and insight to export for third party processing systems.

Benefits

By deploying the Traffic Analytics solution, CSP are able to:

- Make profitable decisions with regard to monetizing new services
- Gather relevant data for sound strategic decisions about the network and products
- Better plan, validate and optimize new technologies and services in the network
- Utilize live network data for accurate and efficient troubleshooting
- Improve customer loyalty and minimize churn rate

Result

As the Traffic Analytics solution proved its value in delivering vital reports and information, the setup has been extended and now covers reporting interfaces for the following departments: Network Management, Strategic Network Planning, Service Delivery, Product Management and Customer Management. It is planned to roll out the Traffic Analytics system further to add capacity and functionalities, like deep Quality of Service (QoS) analysis.

System setup of Traffic Analytics system

- Network probes: R&S®Net Sensor powered by DPI engine R&S®PACE 2
- Analytics and storage system: R&S®Net Reporter
- Monitoring bandwidth 240 Gbps of traffic
- Tight integration with several third-party analytics systems

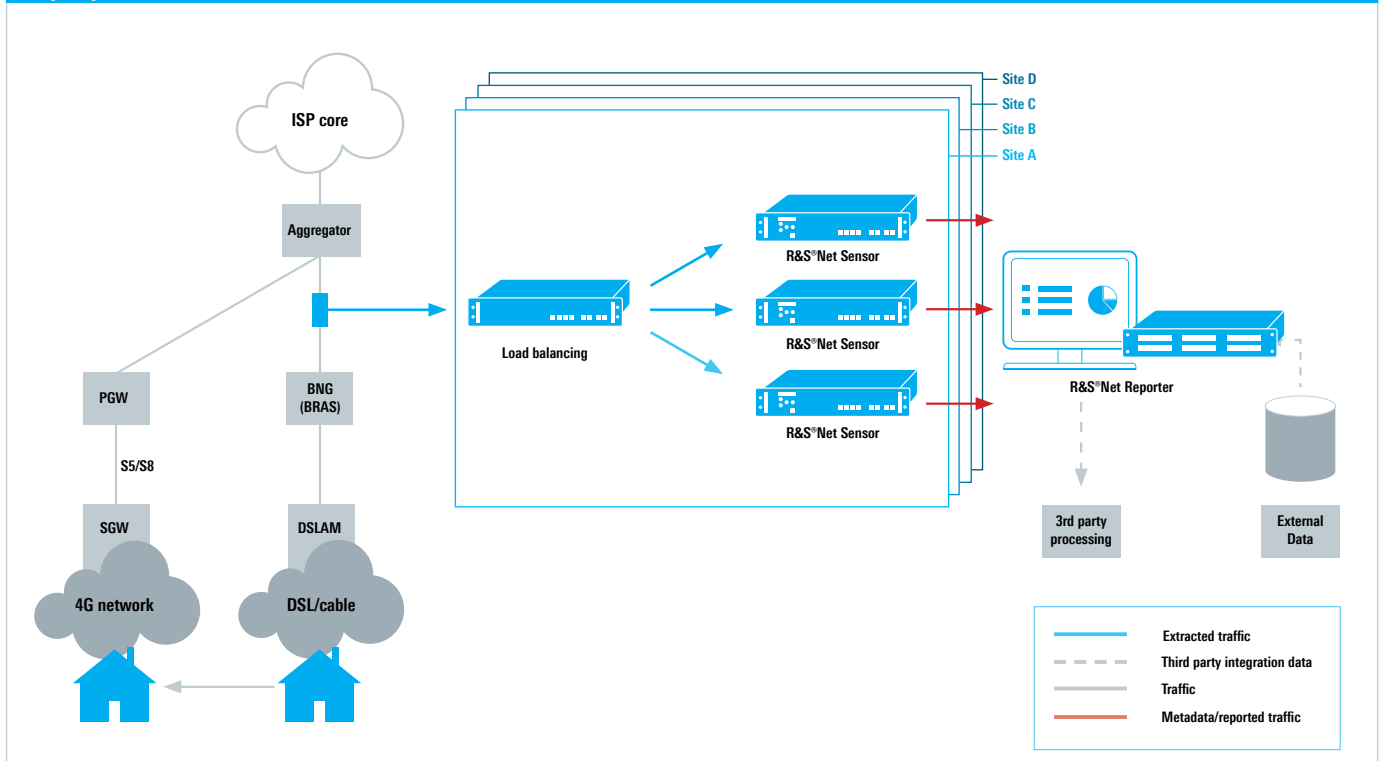
“Using data from the R&S Traffic Analytics solution enables us to identify the increase of subscriber interest towards services like Netflix, YouTube and Twitch.tv in time and helps us create efficient strategies to proactively respond. It also helped us validate and monitor new technologies and services, like various access level LTE/Fixed-Line traffic offloading and over-the-top offers, like our own VoIP and entertainment platforms. We are better prepared to make informed decisions about further capacity and traffic planning and will shortly introduce new dynamic traffic QoS monitoring capabilities.”

Product Manager, European Tier 1 CSP

Added Benefits

- Highly customizable and flexible
- Can be used as a standalone analytics system, as an aggregator for a Big Data system or as both at the same time
- In-house development with technically leading deep packet inspection (DPI) engine and open reporting API to guarantee short response times for customizations and fixes

Deployment



Service that adds value

- | Worldwide
- | Local and personalized
- | Customized and flexible
- | Uncompromising quality
- | Long-term dependability

Rohde & Schwarz Cybersecurity

Rohde & Schwarz Cybersecurity is an IT security company that protects companies and public institutions around the world against espionage and cyberattacks. With around 450 employees, the company develops and produces technologically leading solutions for information and network security. Development of the trusted IT solutions is based on the security-by-design approach for proactively preventing cyberattacks.

Rohde & Schwarz

The Rohde & Schwarz electronics group offers innovative solutions in the following business fields: test and measurement, broadcast and media, secure communications, cybersecurity, radiomonitoring and radiolocation. Founded more than 80 years ago, the independent company which is headquartered in Munich, Germany, has an extensive sales and service network with locations in more than 70 countries.

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