CUBRO
NETWORK VISIBILITY

CUBRO LOWERS MONITORING FOOTPRINT OF A LEADING EUROPEAN OPERATOR

CASE STUDY

Management Summary

- A unique CDR solution that delivers all of the relevant network traffic to the CSP's existing data lake and network monitoring system but with substantially reduced equipment footprint compared to alternative solutions.
- The Cubro solution was delivered with a 60% lower equipment and energy costs and 70%-80% lower data storage costs compared to other approaches – the lowest CAPEX and OPEX solution cost per Gbps in the market today.
- The CSP met its business objectives of reducing customer churn and increasing Average Revenue Per User (ARPU).
- The CSP improved customer service with the ability to proactively manage customer problems while reducing the cost of network U-plane monitoring in an environment of ongoing significant network traffic volume growth and increasing customer expectations.

Challenges due to 5G network deployment

Sometimes mobile operators have to deal with unhappy customers. Operators handle customer complaints to satisfy customers with efficient use of resources.

In this case study, one of the largest mobile operators in Europe was struggling with customer complaints and understanding the root cause of the problems. They were looking for a solution that would help them to understand what was working well and what was not. The operator wanted a solution that would provide an accurate record of what happened during a call or data session.

This is important because it helps them not just solve the customer problem but also improve the overall quality of customer experience by gaining insight into the network activities and acting upon the network issues. Due to the highly competitive market, poor customer satisfaction is one of the main reasons for subscriber churn.

The second biggest challenge for the operator was the high traffic volume and the fast growth in the traffic they wanted to monitor. Lastly, the existing monitoring system did not provide scalability and could not accommodate the 5G analytics needed for managing the network. Cubro's solution provided visibility for 2G, 3G, 4G and 5G.

The main challenges included:

- Massive growth in traffic volume and increasing customer expectations
- The complexity of network architecture
- High cost of monitoring user plane traffic
- Providing excellent customer service and proactively dealing with customer complaints
- 5G monitoring
- High TCO for an existing monitoring solution

Technical Solution from Cubro with SmartNICs

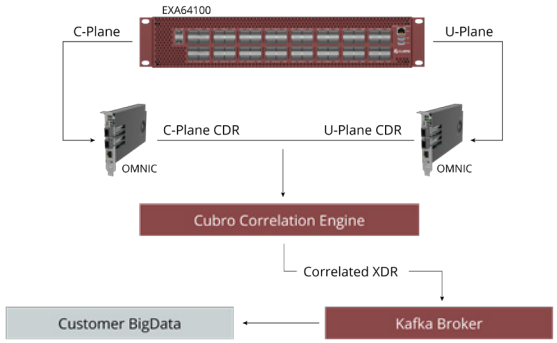
Cubro's user plane monitoring solution includes XDR (External Data Record) extraction using SmartNICs (Omnic) and advanced load balancing with Cubro's high-performance network packet brokers. Cubro's XDR provides an efficient method for optimizing data and helps the operator to monitor data with lower HW and SW resources.

Cubro delivered the solution to a leading European CSP, demonstrating a low footprint and high cost-efficiency compared to any other solution available in the market, allowing the CSP to monitor 5G.

The Solution Description

The outcome is a drastic reduction in the amount of storage and processing resources needed for analytics and monitoring applications while retaining most important network metadata and adding critical information, such as application identification and usage. The solution output is flexible, supporting a number of open standards such as Google Protocol Buffers and JSON making it vendor agnostic and simplifying integration.

Cubro Smart NICs **analyses and processes user plane (U-plane) and signalling traffic (C-plane) in real time**. The solution correlates the U- and C-plane information and generates XDRs, which are sent to monitoring systems where the data is used for monitoring, data analytics, and business intelligence. As a result, the operator can harness the explosive growth of data and utilize it for business intelligence applications such as analyzing subscriber behavior.



To make all this happen, the solution needs to perform several actions:

- Traffic filtering on user IP address
- Traffic filtering on subscriber's IMSI and MSISDN
- GTP Inner IP load balancing
- Application detection
- Generation of XDRs and CDRs (Call Detail Records), which are sent to the Big Data

Cubro's key differentiators

As a reliable and trusted partner offering technical support from design to acceptance, Cubro's solution enables the CSP to manage high data volumes while greatly minimizing footprint, cost, and power consumption.

Our solutions:

- Deliver improved network quality and increased customer satisfaction
- Tackle the increasing data volumes and reduce the TCO for monitoring
- Offer smaller footprint, lower power consumption, less cooling requirements and less rack space
- Provide 5G monitoring

"With the introduction of 5G, we are looking for greater levels of network visibility to help us manage increased complexity, new interfaces, and the separation of control and user plane. Cubro's solution has enabled us to manage high data volumes while significantly minimizing footprint, cost, and power consumption. Cubro's technical engineers are technically proficient and offer reliable and timely support."

Chief Technical Consultant, European CSP