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R&S®GSRM boosts the Open Visibility Platform by Niagara Networks to offer GTP session correlation that optimizes mobile network performance monitoring and quality of service

ROHDE & SCHWARZ

Make ideas real



CHALLENGE

Correlating user plane and data plane traffic flows for deeper traffic visibility

Mobile networks are characterized by a decoupled user plane and control plane, which makes it difficult to attribute a session to a subscriber, especially since each application a user runs creates a new session. To offer optimal insight into user data and guarantee the best quality of experience (QoE), analytics tools need to link control and user plane data to identify subscriber data sessions. Niagara Networks, a pioneer in traffic visibility for mobile network security, has embedded R&S®GSRM by Rohde & Schwarz into their Open Visibility Platform to offer subscriber-aware network intelligence.

SUMMARY

Business area

- ▶ Mobile network operators (MNO), probe and network intelligence vendors

Challenge

- ▶ Correlating user and control plane data to ascribe IP traffic to the respective users

Solution

- ▶ Embedding the OEM software module R&S®GSRM within Niagara Networks' Open Visibility Platform to offer subscriber-aware traffic visibility

Benefits

- ▶ Reduced time to market and tangible ROI allows Niagara Networks to focus on their core competencies and meet end-customer requirements

Mobile networks involve an ever-growing amount of data traffic and large numbers of subscribers, making efficient operation increasingly dependent on varied monitoring tools for application and network performance. Said tools require actual subscriber data in real time to offer reliable analytics. Given that subscriber data is split into user and control plane and that each user generates manifold GRPS tunneling protocol (GTP) sessions for the different services they use, partial data analysis offers inaccurate intelligence.

Additionally, the market is becoming all the more complex as new technologies such as cloud computing and 5G establish themselves as standard. These require more bandwidth and network capacity while also multiplying the types of traffic generated, making it harder to maintain performance levels. Many use cases, such as DPI-based traffic analysis, traffic steering and filtering, can only function if IP packets can be assigned to their respective subscribers. Solutions such as using network probes or management tools to perform GTP session correlation have proved to be costly and insufficiently efficient.

Niagara Networks is a Silicon Valley based company that pioneered the Open Visibility Platform (OVP) to bring agility into mobile network security. With their advanced Open Visibility Platform, Niagara Networks provides a flexible deployment hub that offers highly reliable network visibility solutions for mobile network operators. To incorporate subscriber awareness to their supported use cases, Niagara Networks tapped into the expertise of Rohde & Schwarz and embedded the software module R&S®GSRM into their Packetron acceleration module. R&S®GSRM enables GTP session correlation, providing reliable subscriber-level visibility inside mobile networks.

SOLUTION

Real-time GTP correlation for subscriber-aware traffic visibility

R&S®GSRM is a mature OEM software solution that has established itself on the market with several successful customer projects. Developed as an independent module, R&S®GSRM can be easily integrated into end solutions, allowing network equipment vendors to focus on their core competencies. Predictable costs and flexible SLAs make it possible to maintain the R&D time plan and allow for the most efficient total cost of ownership (TCO).

By licensing leading-edge technology from Rohde&Schwarz, developed with decades of experience in mobile network testing and analytics, Niagara Networks was able to offer a solution that delivers a higher degree of control over mobile networks. R&S®GSRM receives GTP-C input from interfaces in mobile networks, extracts relevant subscriber-identifying information, correlates control and user plane traffic and outputs the extracted data as a continuous update stream. Niagara's Mobile Visibility application (which is part of the OVP offering) uses the subscriber-level traffic identifiers to offer customers robust filtering options including filtering by location and type of service in addition to the primary subscriber identifiers. Moreover, advanced sampling techniques and whitelists provide customers with tools to handle high performance deployments efficiently. An integrated configurable buffer ensures that all subscriber-aware data traffic is visible from the very first packet. Thanks to the GTP session correlation powered by R&S®GSRM, Niagara Networks was able to offer a robust solution with advanced network intelligence capabilities for all mobile network types.

The benefits of licensing R&S®GSRM

- ▶ Stand out in the market by adding a subscriber awareness to your mobile network solutions
- ▶ Faster time to market and reduced R&D cost through quick integration
- ▶ Reliability: leverage decades of mobile network testing and analytics expertise
- ▶ Support – efficiently address any control plane challenges of particular deployments
- ▶ Predictable costs for the most efficient TCO
- ▶ Improved analytics accuracy through reliable correlation of subscriber sessions
- ▶ Expandability: incorporate application awareness by integrating the market-leading DPI engine R&S®PACE 2

RESULT

Optimized mobile traffic analysis for more efficient network operations

Niagara Networks' Open Visibility Platform (OVP) is an advanced network intelligence platform powered by the Packetron acceleration module. Packetron acceleration module gives network operations teams the choice among a wide selection of network intelligence and OVP applications in order to adapt to their particular deployment needs. Thus, Niagara Networks offers their end customers comprehensive and highly flexible mobile traffic visibility intelligence that helps them optimize their network management and improve their quality of service and experience.

Niagara Networks decided on the GTP subscriber resolving module by Rohde&Schwarz based on their leadership and proven expertise and the smooth integration into their platform that avoided unforeseeable development costs and improved time to market without compromising performance levels. R&S®GSRM is not bound to any dependencies except Intel architecture and its multi-core architecture can be scaled with hardware resources to satisfy high-bandwidth requirements.

With Niagara's new subscriber-aware mobile visibility solution, mobile operators and service providers can actively transform the management and monitoring of their networks to stay ahead of continually growing amounts of traffic, new real-time services and complex subscriber behaviors. Thanks to the GTP correlation and subscriber awareness features of R&S®GSRM, Niagara Networks was able to launch a successful solution that ensures better visibility into mobile networks and unlocks new value to mobile operators to grow their networks and provide the best quality of experience to their customers.

„By partnering with Rohde & Schwarz we are able to ensure that our solution will handle the complex call flow scenarios correctly, accurately and in a timely manner. With the Niagara Networks solution, mobile operators' tools will get subscriber-aware traffic intelligence and superior operational efficiencies in the ever-growing mobile networks.“

Yoram Ehrlich, VP products

ipoque

ipoque, a Rohde&Schwarz company, is a global leader in the world of network analytics software. We leverage our deep domain expertise to create customized software solutions that empower our customers to transform data into intelligence. As a subsidiary of Rohde&Schwarz, we take advantage of potential synergies.

Rohde & Schwarz

The Rohde&Schwarz technology group develops, produces and markets innovative information and communications technology products for professional users. Rohde&Schwarz focuses on test and measurement, broadcast and media, cybersecurity, secure communications and monitoring and network testing, areas that address many different industry and government-sector market segments. Founded more than 80 years ago, the independent company has an extensive sales and service network in more than 70 countries.

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