



DEEP PACKET INSPECTION FOR VEPC

A market leader in virtualized mobile networks uses R&S®PACE 2 in their vEPC solution to provide additional value to CSP customers

ROHDE & SCHWARZ

Make ideas real



A leading provider of virtualized network solutions uses the best-in-class deep packet inspection (DPI) engine R&S®PACE 2 by Rohde & Schwarz to provide their communication service provider (CSP) customers with comprehensive network intelligence at a highly granular level.

SUMMARY

Area of business

- ▶ Leader in virtualized mobile networks, providing virtualized network solutions to top-tier CSPs

Challenge

- ▶ Virtualized evolved packet core (vEPC) solutions help CSPs transform their network architecture in order to move to software-defined networking (SDN) and network function virtualization (NFV) technology, reducing overall costs
- ▶ Providers of virtualized network solutions have to create a market differentiator to assert their position successfully in an increasingly competitive market

Solution

- ▶ By embedding the easy-to-implement, high-performing DPI engine R&S®PACE 2 from Rohde & Schwarz, vEPC vendors can focus on their core competencies in NFV and gain a competitive advantage in the rapidly growing NFV market

Benefits

- ▶ The strong partnership between the vEPC vendor and Rohde & Schwarz ensures the high performance of the vEPC solution
- ▶ Sourcing R&S®PACE 2 guarantees a rapid time to market and reduced cost of ownership

CHALLENGE

The move to SDN/NFV is crucial for the survival of CSPs. Although this paradigm shift has not been fully completed yet, there is no doubt as to the direction in which it is heading. CSPs will have to transform their network architectures towards SDN/NFV in order to keep pace with the growing volumes and diversity of traffic, launch new services, plan costs more effectively and reduce the total cost of ownership. With vEPC, CSPs can implement these and other measures.

Application-aware vEPC is the key to SDN/NFV service deployments. DPI IP classification provides granular network data, which lays the foundation for application awareness in mobile networks. This intelligence is key for efficient application routing and NFV/SDN service deployments. Additionally, it can be used in application-based business models, service function chaining, advanced firewall rules and deep analytics. All in all, DPI increases the value and effectiveness of SDN and NFV. DPI embedded in vEPC solutions offers integrated intelligence to optimize network services.

The vEPC market is becoming increasingly competitive. Not only commercial, but also open-source projects such as CORD (Central Office Re-Architected as a Datacenter) are competing for market shares. There is no doubt that proven virtualized solutions are the first choice for CSPs to move away from the traditional approach and implement new business models. The more vEPC vendors can distinguish themselves from the competition, e.g. by offering added value with new services, the higher their chance of gaining new customers. By sourcing DPI from a professional vendor, vEPC providers can focus on its core competencies in NFV while Rohde & Schwarz handles the complex requirements of constantly evolving applications and protocols.

SOLUTION

The provider of virtualized network solutions licenses the best-performing DPI engine on the market for their vEPC solution. The enhanced vEPC combines shallow packet inspection (SPI), DPI and heuristic signature analysis to provide comprehensive network intelligence at a highly granular level. The integrated workflow management handles service orchestration and function chaining. To this end, it is essential to implement service classification through DPI.

Embedding the DPI engine R&S®PACE 2 in the vEPC solution makes it possible to classify mobile over-the-top (OTT) applications up to layer 7. R&S®PACE 2 provides powerful and extremely reliable detection and classification of thousands of applications and their attributes – even if protocols use advanced obfuscation techniques or encryption. This allows CSPs to make intelligent decisions on how to chain network traffic with high awareness on the subscriber, application and flow level. Additionally, CSPs can improve the quality of experience (QoE) of their services to boost customer satisfaction, enabling them to maintain a profitable price level and reduce churn rates. The more precisely the DPI engine classifies protocols and applications, the easier it is to maintain a good QoE level.

Benefits

The result of this win-win partnership is an application-aware, pre-integrated, end-to-end solution that provides added value the vEPC solution provider's customers. R&S®PACE 2 offers the industry's smallest processing footprint along with the most efficient memory and easiest CPU integration. In the clustered approach for VNFs from the vEPC solution provider, R&S®PACE 2 can be hosted as a shared function on standard servers and its results are passed on to all VNFs. The result is a high-performance vEPC for CSPs with service workflows that are unique in the market. The real momentum comes from a dedicated vEPC solution that is fast, saves system resources and yet supports the entire spectrum of mobile network manage-

Added Benefits of R&S®PACE 2

- ▶ Weekly signature updates
- ▶ Highest classification accuracy in the DPI market
- ▶ Optimized for DPDK & VPP
- ▶ Differentiates between user and control plane – a requirement for high-bandwidth, low-latency services.
- ▶ On-demand protocol and application classification development
- ▶ Easy integration of M2M (machine-to-machine)/ IoT (Internet of Things) protocols and signatures
- ▶ Service and technical support are adapted to each customer's individual needs

ment. The CSP customers can rely on a consolidated approach with DPI results available in multiple ways within the vEPC. This way, CSPs gain scalability and flexibility for future upgrades.

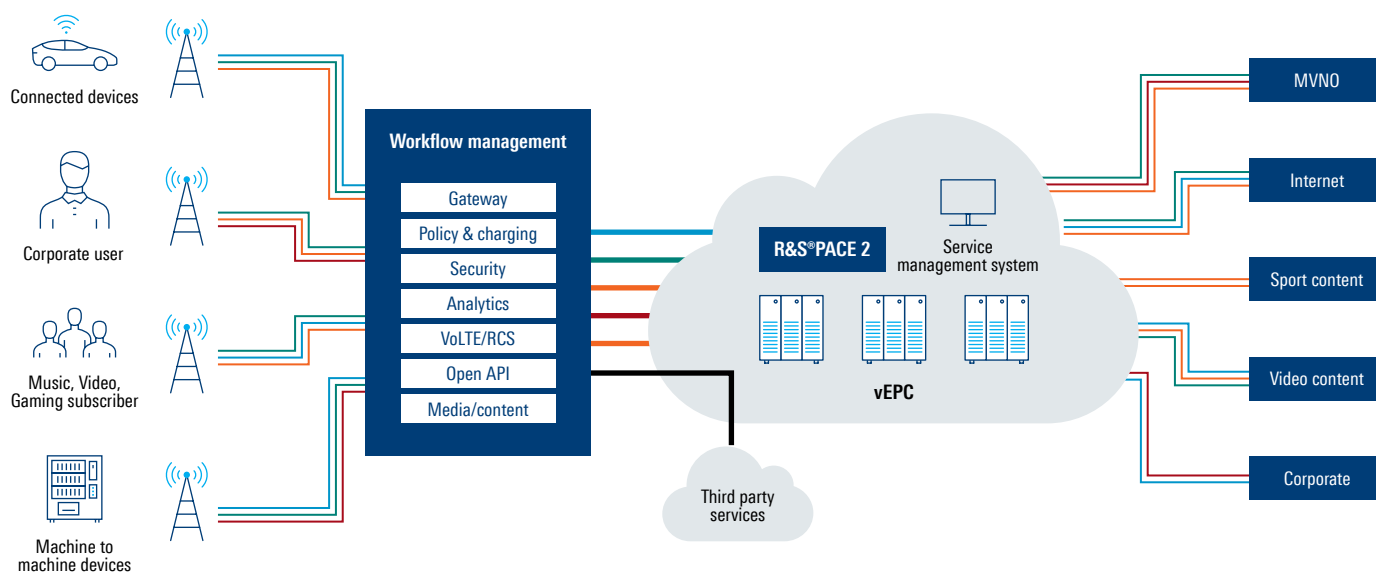
Thanks to the single-vendor strategy, capacity can be increased through targeted scaling. R&S®PACE 2 has no external dependencies, works on all standard servers and operating systems and fits all environments (physical, virtualized or SDN architectures). The strong partnership between the vEPC vendor and Rohde&Schwarz provides CSP customers with unified, efficient support services

RESULT

With R&S®PACE 2, the customer gains multiple competitive advantages as a virtualized network solution provider. The DPI engine by Rohde&Schwarz is easy to implement for developers. This enables vendors in the vEPC market to accelerate development and ease the integration of other components within their solutions. Product cycles are shortened so that telco solution providers can develop new products with additional value for customers faster, keeping pace with competitors' product developments.

Overall, the vEPC customer gets the best performing DPI engine on the market and can focus on its core competencies in NFV to remain on the cutting edge of virtualized mobile network technology.

MANAGING APPLICATION-AWARE VIRTUALIZED MOBILE NETWORKS



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

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