

SDN/NFV and the Smart Mobile Cloud

Coriant and Brocade Partner to Optimize Mobile Backhaul

MOBILE NETWORK EVOLUTION: AGILE, VIRTUALIZED, PROGRAMMABLE

Mobile carriers face the growing challenges of adapting networks to the rapid pace of application development driven by OTT service providers. In this evolution process, mobile carrier deployment models have not proven as agile as application development environments, generating an interest in leveraging methods common to OTT application development for carrier networks. Two leading technologies that can address the challenges of mobile carriers are SDN for network control and VNF-based services. SDN has emerged as a path to accelerate the speed of carrier network deployments while enabling more flexible interaction with distributed applications. VNF brings a more flexible application environment where services that previously required dedicated hardware can be defined on demand as software elements. Merging the advantages of both SDN and VNF delivers an effective solution for mobile carriers.

The Smart Mobile Cloud combines SDN-enabled mobile backhaul by Coriant with the Brocade Virtualized Core for Mobile (VCM) and Brocade vRouter based Gi-LAN policy to deploy end-to-end mobile connectivity on demand for individual carrier applications. Through this progressive network approach, carriers can rapidly deploy customer-specific mobile network slicing to support IoT applications, enterprises, and Mobile Virtual Network Operators (MVNOs).

ACCELERATE TIME TO MARKET. CUSTOMIZE NETWORK PERFORMANCE.

Coriant and Brocade deliver an innovative solution set for mobile carriers. Mobile networks are typically deployed as monolithic regional or national networks where all customers and applications share the same access network, backhaul links, and mobile gateways. The installation of this network takes years, and even small upgrades can require weeks or months for network wide deployment.

Coriant and Brocade propose a mobile network designed for agile adaptation, such that capacity for individual applications may be activated on demand in minutes, with customized backhaul links and flexible vEPC placement. The SDN controlled transport network delivers services as requested through easily programmable software interfaces. The virtual packet core can be located at any site desired to support functions including vEPC and a Gi-LAN interface with advanced IP policy support. This entire solution is then commissioned as needed through common REST APIs from an external configuration system such as WebGUI, OSS, or other platforms.

CORIAN TRANSCEND™ SDN TRANSPORT SOLUTION

The Coriant Transcend™ SDN Solution supports an open, programmable, and automated SDN architecture for the Coriant portfolio of IP/MPLS routing and packet optical transport hardware.

The Coriant Transcend™ SDN Packet Controller enables SDN features including network programmability and virtualization, multi-tenant capabilities, network restoration, network abstraction to hide complexity, and open interfaces for multi-layer and multi-vendor integration.

BROCADE

BROCADE VIRTUAL EPC and 5600 vROUTER

The Brocade vEPC is a full-function virtualized Evolved Packet Core (vEPC) designed from the ground up for a virtualized environment that consists of independent slices of control, data, and session management. This design is free of the redundant functionality and inter-node interfaces that increase costs and reduce performance in hardware-based packet cores. The Brocade vEPC enables an any-size network with linear performance scaling on Intel x86 servers for cost-effective business growth.

The Brocade vRouter is an industry-leading virtual router purpose-built for high performance Network Functions Virtualization (NFV). The vRouter provides advanced routing and security services for physical, virtual, and cloud networking environments and enables service providers to rapidly scale services up and down to meet business objectives.

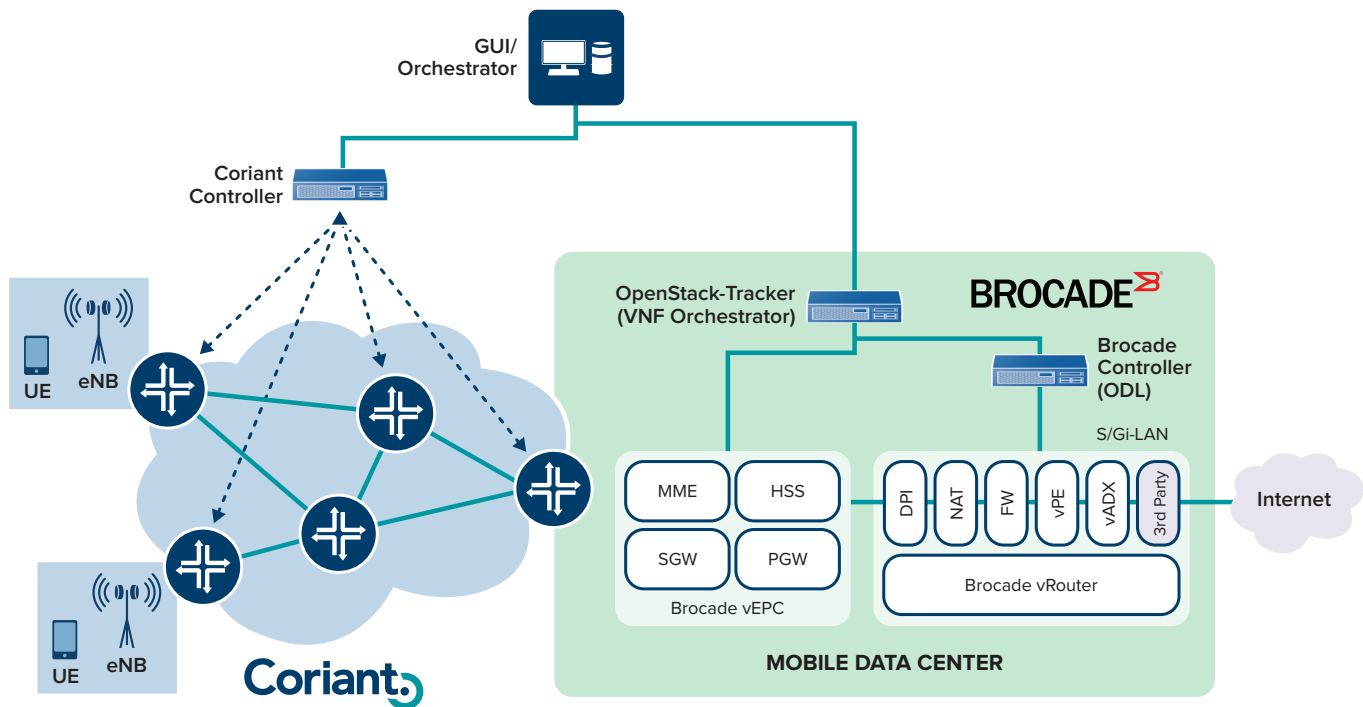


Figure 1: Coriant and Brocade demonstrate a mobile network with SDN/NFV Integration

KEY APPLICATIONS

Through the Smart Mobile Cloud, Coriant and Brocade enable mobile carriers to offer a new suite of services that, while deployed over a common infrastructure, appear as a customized, application specific mobile network from a user standpoint. Common use cases include:

- **IoT** – These services require backhaul to the IoT provider data center, possibly with a selected mobile coverage region, to match the scope of the application. This process is different than the traditional backhaul to carrier mobile core for normal voice and data traffic. For performance sensitive applications, the Coriant Transcend™ SDN Packet Controller PCE can also support routing of low latency or low congestion paths.
- **Enterprise Mobile Network** – This use case involves a dedicated service for physical or virtually distributed campuses where a common infrastructure and security policy may be applied to all users.
- **Mobile Virtual Network Operator (MVNO)** – A common MVNO service delivery model brings all services over the common carrier network and hands off the MVNO traffic at the Gi-LAN interface. With the Smart Mobile Cloud, a dedicated mobile core is created for each customer with the option to support a defined coverage area and carrier selected hand-off point.

KEY BENEFITS OF THE SMART MOBILE CLOUD

- End-to-end network virtualization and slicing
- Application specific mobile infrastructure
- Accelerated velocity of service deployment
- Integrated application and transport Control Plane

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