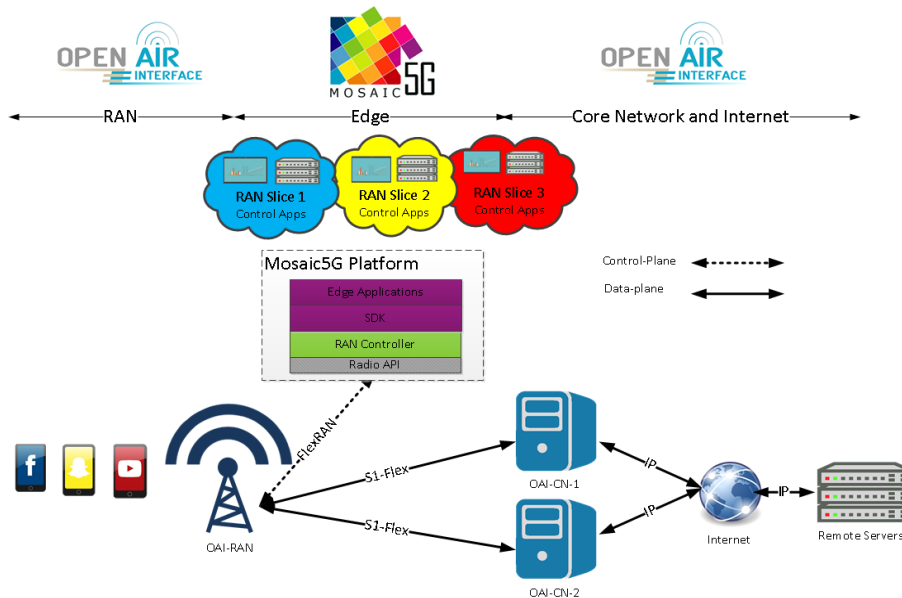


ITU, Geneva, Switzerland, July 2018

Network Slicing with QoS support in 5G

Third Annual IMT-2020/5G Workshop and Demo Day



Demo description

Network slicing is one of the key mobile network segment to provide the required flexibility with different level of resource isolation and sharing for accommodating the needs of mobile network operators and verticals in an end-to-end (E2E) service. The demonstration shows a prototype of a RAN and CN slicing runtime system with novel plug and play network application chaining framework empowered by a runtime software development kit (SDK) to show multi-service programmability on per slice basis. Through the demonstration, it is shown how the network slicing runtime system enables the dynamic creation of slices with service-level agreement (SLA) support and provides an efficient and flexible resource allocation among the different slices based on per slice quality-of-service (QoS). In addition, a novel plug & play E2E execution environment is offered to customize and control RAN/CN slices as per service requirements. The prototype implementation is based on the OpenAirInterface and Mosaic-5G platform. Specifically, the slicing

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system runtime communicates through an OpenFlow-enabled OpenVirtual Switch (OVS) to the multi-access edge computing (MEC) node, where the slice network control application chains of three RAN slices is deployed. Each slice-specific chain is set up in the form of virtual network functions (VNFs) on the top of MEC platform, running in isolation from each other.

Demo highlights

- Separation of Control and data plane in RAN
- Hierarchical Real-time controller
- RAN agent, APIs, and data models
- Network application SDK
- Network applications
 - Status Monitoring APP
 - Radio resource management app to enforce RAN slicing policy with QoS

Additional Info

PoC Partners: Eurecom

Location: ITU Headquarter, Geneva, Switzerland

Supporting Project: 5GPPP Slicenet Project (<https://slicenet.eu/>)

Platforms:

- Mosaic5G FlexRAN, Store
- OpenAirInterface RAN and CN

Useful links

- <https://www.itu.int/en/ITU-T/Workshops-and-Seminars/201807/Pages/Programme.aspx>
- https://www.itu.int/en/ITU-T/Workshops-and-Seminars/201807/Documents/3_Konstantinos%20Alexandris.pdf
- https://www.itu.int/en/ITU-T/Workshops-and-Seminars/201807/Documents/Abstract_KA.pdf

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