



SCALABLE VIRTUAL EPC DEPLOYED IN SECONDS

To successfully compete and grow their subscriber base in a highly penetrated market, mobile network operators (MNOs) need to be agile and flexible. This means they have to be able to deploy, manage and scale their networks quickly and with precision, and roll out targeted services faster than their competitors - all while coexisting with legacy networking infrastructure. This proof-of-concept (PoC) demonstrates a revolutionary method for rapidly deploying and managing an end-to-end, cloud-based LTE core network.

SDN PROOF OF CONCEPT

CHALLENGE

Metro mobile networks that rely on Evolved Packet Core (EPC) technology are limited by their inflexible architecture and geography, and do not easily accommodate on-demand subscriber growth, new service offering deployments, or sudden changes like natural disasters.




SOLUTION

This proof-of-concept (PoC) demonstrates a revolutionary method for rapidly deploying and managing an end-to-end, cloud-based LTE core network. This will include the dynamic deployment and enablement of hardware, software and associated SDN/NFV elements. For the purpose of the demo, the Virtual Evolved Packet Core (vEPC), Virtual IP Multimedia Subsystem (vIMS) and additional open source software is running at the CENGN Data Centre in Canada, while the small cell (eNodeB) is located at the SDN Conference in Germany.

BENEFITS

- Better than VM: Cloud Containerization
 - Flexibility – Buy only what you need with on premise, hybrid or cloud-based deployments
 - Agility – Micro services architecture using containerization at service object level enables on-demand, granular service object deployment

- Scalable – Real-time deployments of service objects saves on bandwidth with less exposure to system wide network crashes
- MNOs/MVNOs will see the following benefits
 - Deployment of virtual network in minutes, not months
 - Lower CAPEX by building up a virtual EPC environment as needed
 - Less hardware maintenance commitment
 - Additional features such as redundancy, elasticity, on-demand deployment and new services multimedia cloud

Company	Device/Network
 Expeto	EPIC (Evolved Packet Core Integrated Cloud) solution, Web UI 2XeNodeB, UEs
	vEPC hosted in CENGN Data Centre
	eNodeB

CENGN MEMBERS



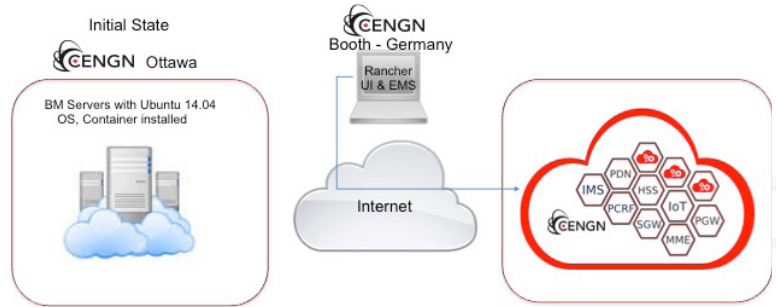
SCENARIOS

The demo will consist of three different use cases:

- Spinning up a complete LTE core network from bare metal in seconds -Initiating a WebRTC session
- Google Hangouts on smartphone, over a small cell connected to the vEPC in the CENGN Data Centre
- Spinning up the LTE core on a laptop to show a disaster recovery / business continuity example, where WebRTC sessions occur locally as the core has been moved to the edge

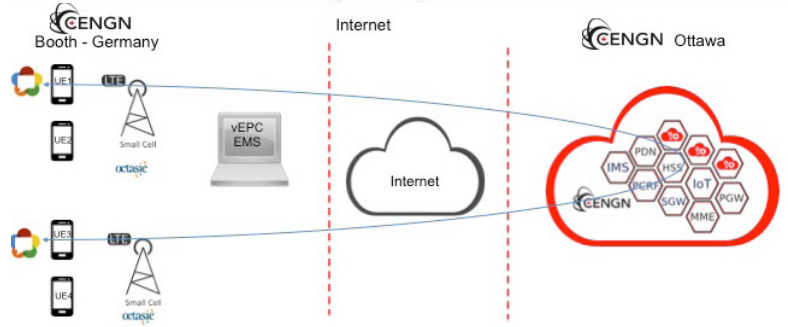
USE CASE 1: CREATION OF vEPC IN SECONDS

- Using Expeto's EPIC Web UI in Germany, a containerized vEPC is spun up on the bare metal servers at CENGN's Data Centre in Canada
- A complete LTE core network deploys in seconds



USE CASE 2: WEBRTC CALL THROUGH vEPC

- A small cell (eNodeB) in Germany connects to the deployed vEPC in the CENGN Data Centre
- 2 smartphone SIMs attach to the vEPC network via the eNodeB
- A WebRTC call is made between the two smartphones, with traffic viewable on Expeto's EPIC Web UI



USE CASE 3: DISASTER RECOVERY

- The internet connection is disconnected, representing a natural disaster in Canada
- The entire LTE core is spun up on the laptop in Germany
- A WebRTC call is placed in closed network, representing a recovery

