



# Preparations & Integration for the M-CORD Demo at MWC 2018

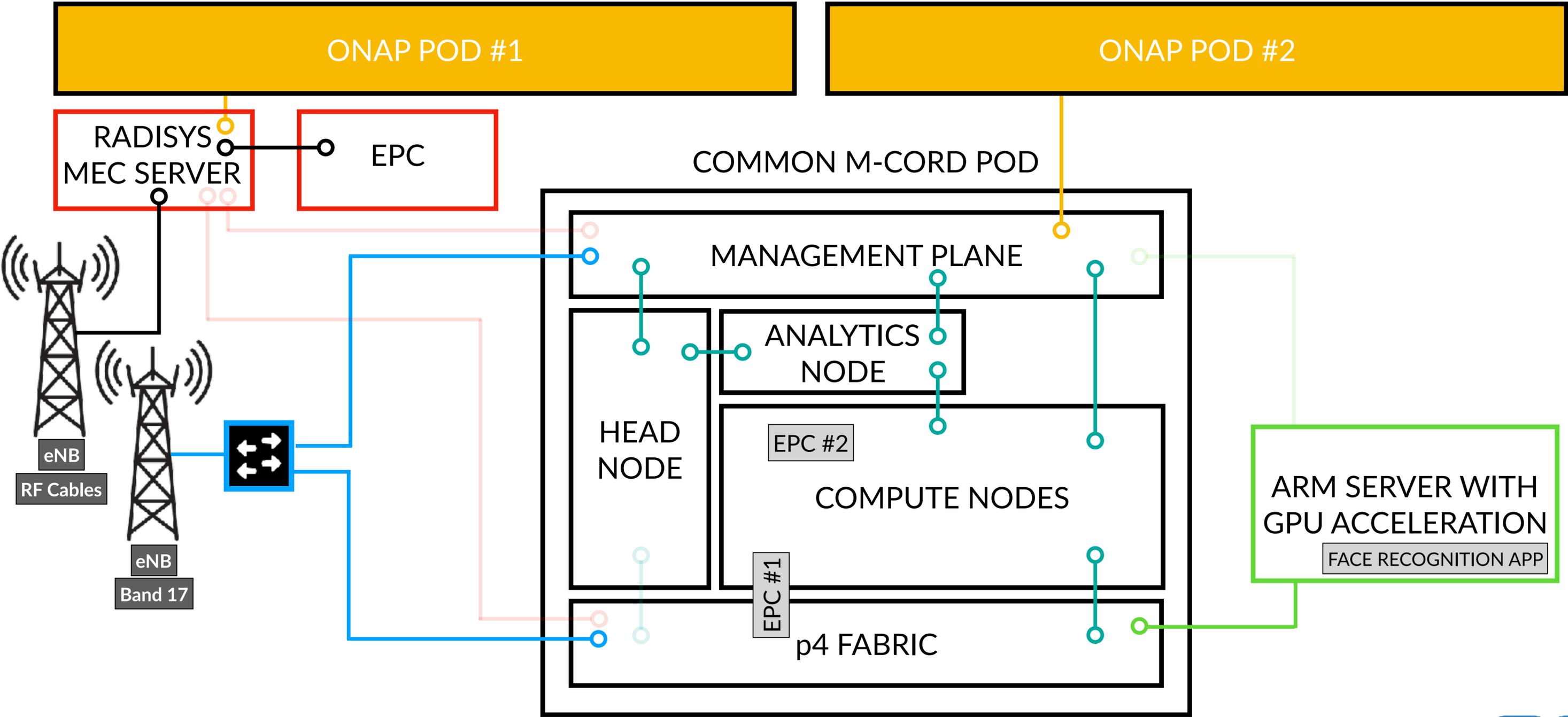
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An Operator Led Consortium



# MWC Demo Architecture



# MWC Demo Overview

We will be demo'ing M-CORD as the “intelligent mobile edge cloud,” where the edge cloud is part of the “distributed telco cloud.”

The intelligent mobile edge cloud will be powered by:

- **ONF**'s CORD 5.0, utilizing multi vendor, multi platform COTS servers from **Intel** and **ARM**,
- All p4 programmable multi-vendor fabric with hardware from **Barefoot, Cavium** and **Mellanox**, executing CORD's fabric control,
- Open Source, Disaggregated, Virtualized EPC functions (Release. 12-14 compliant) by **Intel & Sprint**,
- Programmable eNB that enables RAN slicing, core network slice anchoring, and dynamic configuration with programmability, and slicing capability from **Netsia**, running on hardware from **Cavium**.

# MWC Demo Overview

The demo'ed intelligent edge cloud will have the following capabilities:

- Integration with the service provider's global orchestrator, **ONAP**, to ensure network-wide services design, provisioning and automation, using examples of VNF automation of MEC VoIP functions by **Radisys**, as well as network slicing design by **Netsia**,
- Local "services" automation where services could be virtualized network functions that the service provider wishes to run at the edge, either as VNFs running on COTS server CPUs, such as **Intel**'s open source EPC VNFs or **ARM**'s GPU accelerators, or as SDN Applications running on p4 capable switches such as the capability to run the 3GPP UP on **Barefoot**'s p4 switch using **ONF**'s UPF p4 program and p4 runtime APIs.
- Local telemetry and analytics capabilities, capable of collecting local network state information and analyzing it, using software by **Mariner**. These capabilities will be tied to the global orchestrator, **ONAP**, for closed-loop services automation,
- Integration with a legacy MEC solution to provide seamless interoperability - both locally and globally, with the MEC solution provided by **Radisys**.

# Demo Stories

On common CORD pod, we will have two network slices:

- **Slice #1:**

- RAN Slice parameters will be designed by ONAP,
- EPC Slice will be configured and instantiated locally by XOS,
- The EPC slice will be all Intel VNFs,
- This will be connected to ARM's Face Recognition Application.

- **Slice #2:**

- RAN Slice parameters will be designed by ONAP,
- EPC Slice will be configured and instantiated locally by XOS,
- The EPC slice will have p4 based UPF.
- This will be connected to a Video Streaming Application.
- The network slices will be controlled by **ONOS ProgRAN** App.
- ONOS ProgRAN App will interface with Mariner's Analytics Engine.
- A trigger generated by this engine will be fed back to ONAP to edit the RAN Slice profiles to automatically remedy the QoE-issue.

# Slice #1

- Features:
  - RAN Slice parameters will be designed by ONAP,
  - EPC Slice will be configured and instantiated locally by XOS,
  - The EPC slice will be all Intel VNFs,
  - This will be connected to ARM's Face Recognition Application.
- We are showing
  - ONAP Integration
  - Network Slicing
  - Open Source EPC integrated with real eNB
  - Face Recognition App running on GPU
- STORY:

# Slice #2

- Features:
  - RAN Slice parameters will be designed by ONAP,
  - EPC Slice will be configured and instantiated locally by XOS,
  - The EPC slice will have p4 based UPF.
  - This will be connected to a Video Streaming Application.
  - ONOS ProgRAN App will interface with Mariner's Analytics Engine.
- We are showing:
  - ONAP Integration
  - Network Slicing
  - UPF VNF offloading to p4 switch
  - Local analytics capability and closed loop automation
- STORY:

## Slice #3 (Radisys Slice)

- Features:
  - VoIP service realized at the edge
  - VoIP services will be automated by ONAP,
  - MEC engine selecting packets to process at the edge
- We are showing:
  - MEC capability
  - ONAP Integration
- STORY: