



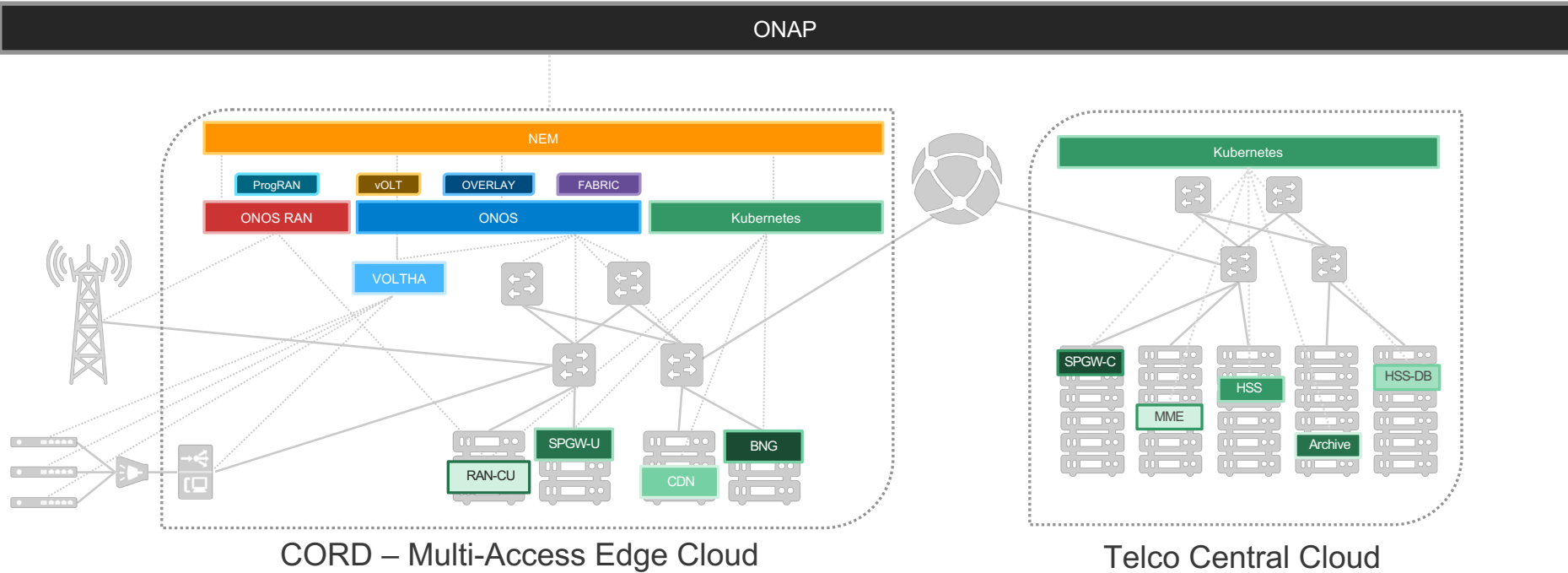
ONF MWC 2019 Demo

Weekly Meeting

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Demo Architecture



Demo Story

Part I: Basic Connectivity in Multi-Cloud Architecture

Leads: DT, ONF, Accelleran, Intel

- RAN is disaggregated into CU and DU(with embedded RU)
- CU is realized via 3 containers that are hosted at the edge
- CU is connected via SR-IOV to local SPGW-U container
- CU is also connected via Calico to remote MME container
- SPGW-U is connected via Calico to remote SPGW-C container
- SPGW-U is connected via SR-IOV to local CDN container
- Local CDN container is connected via Calico to remote Archive container
- We showcase a UE streaming multimedia content
- XOS GUI shows the service graph spanning both clouds
- Grafana GUI shows information related to containers residing on both clouds

Demo Story

Part II: ONAP + RAN Slicing

Leads: Netsia, ONF

- Two slices are designed on ONAP – one for a multimedia service, another for download service
- The slice profiles are pushed down to CORD where they are executed via ONOS ProgRAN App
- We demonstrate what happens on two UEs connected to the cellular service – one streaming content, another downloading.
- Designs profiles are edited on ONAP – we see the consequences in near-real time
- We conduct edits on the ONAP SDC GUI and observe the automatic changes on the XOS ProgRAN GUI

Demo Story

Part III: CDN

Lead: Infosys

- A UE first streams a content that is available at the edge – we observe the pre-roll delay
- Next, remote content is streamed – we observe the difference in the pre-roll delay
- We observe the traffic on both local CDN and remote Archive containers on Grafana

Demo Story

Part IV: Service Mesh for Multi-Tenancy + Automation

Lead: Infosys

- The local CDN container has an Envoy Sidecar
- The total traffic on the local CDN container is monitored via Prometheus
- Once this traffic exceeds a threshold, analytics engine gets Kubernetes to instantiate a new container instance, and uses Istio Controller to steer traffic from the old instance to the new one
- We observe this on Grafana

Demo Story

Part V: Multi-Access Edge Cloud

Lead: ONF

- We show a UE streaming multimedia content
- Simultaneously, we show a residential customer accessing the Internet
- The XOS GUI illustrates service graphs for both