



# ORAN Opportunities & Challenges

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# What did “Traditional RAN” say to “Open RAN”?

Hey, You are making me feel “Exposed”, why are you trying to 'open' up my network? Don't you know it's a 'closed' party?”

"It's time for a 'cell-fie' together, Let's make it “Made in Cloud” together!"

Traditional RAN

Open RAN

Source: Deloitte

**Customer** is at the **Heart** of our universe



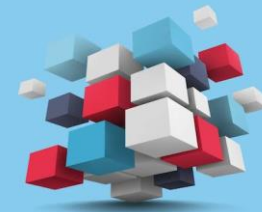




# Promise of **Open RAN**



Vendor Diversity  
with Open  
Interfaces



Disaggregation  
of SW / HW and  
Use of COTS



Programmability  
Intelligence

# ORAN Has Come a Long Way, **Still Needs Catching UP**



## Performance & Price Metric



Need to get Price & Performance Metric right

Need Feature parity with traditional RAN

Differentiator capability are yet to be seen

## Who owns Layered cake



Multiple moving parts of solution

Multiple owner of different layers

Who owns KPI , RCA

## Look-aside or In-line Acc or all in SW



Is Moor's law on computing and Kryder's law on storage valid?

What is right architecture?

What level of HW acceleration?  
Intel/QC/AMD/Marvel/Nvidia

## Will all components last solution Lifecycle



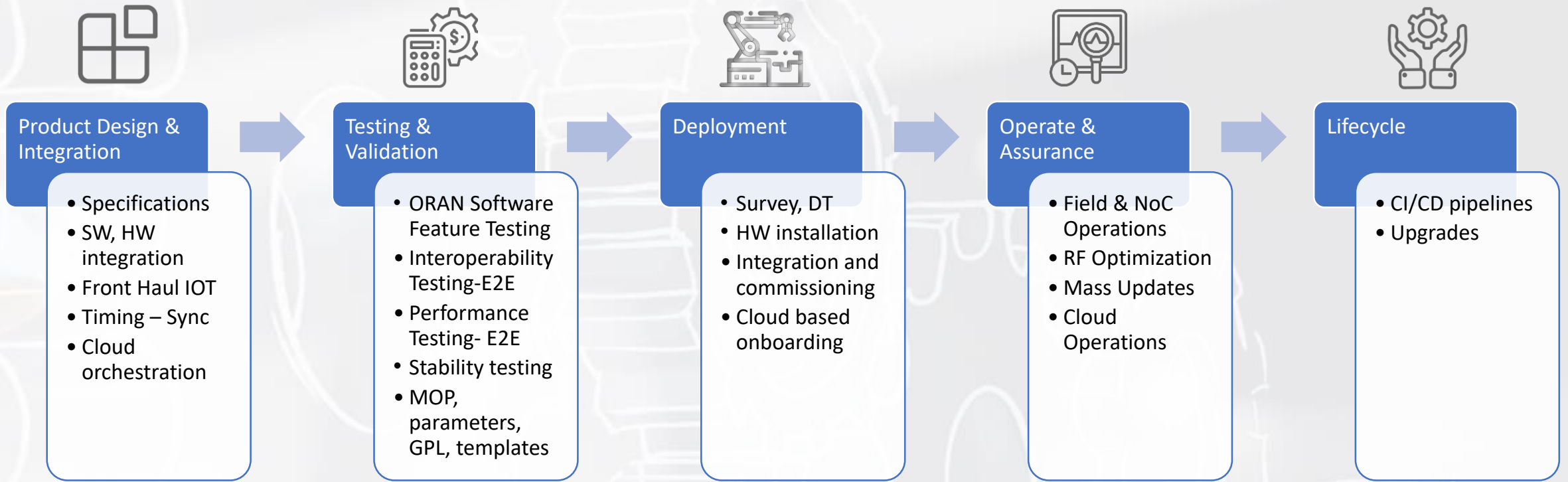
Challenge to synchronize lifecycle of all the components

Who needs to track and validate lifecycle

Is Automation scalable and sustainable across releases



# ORAN System Lifecycle



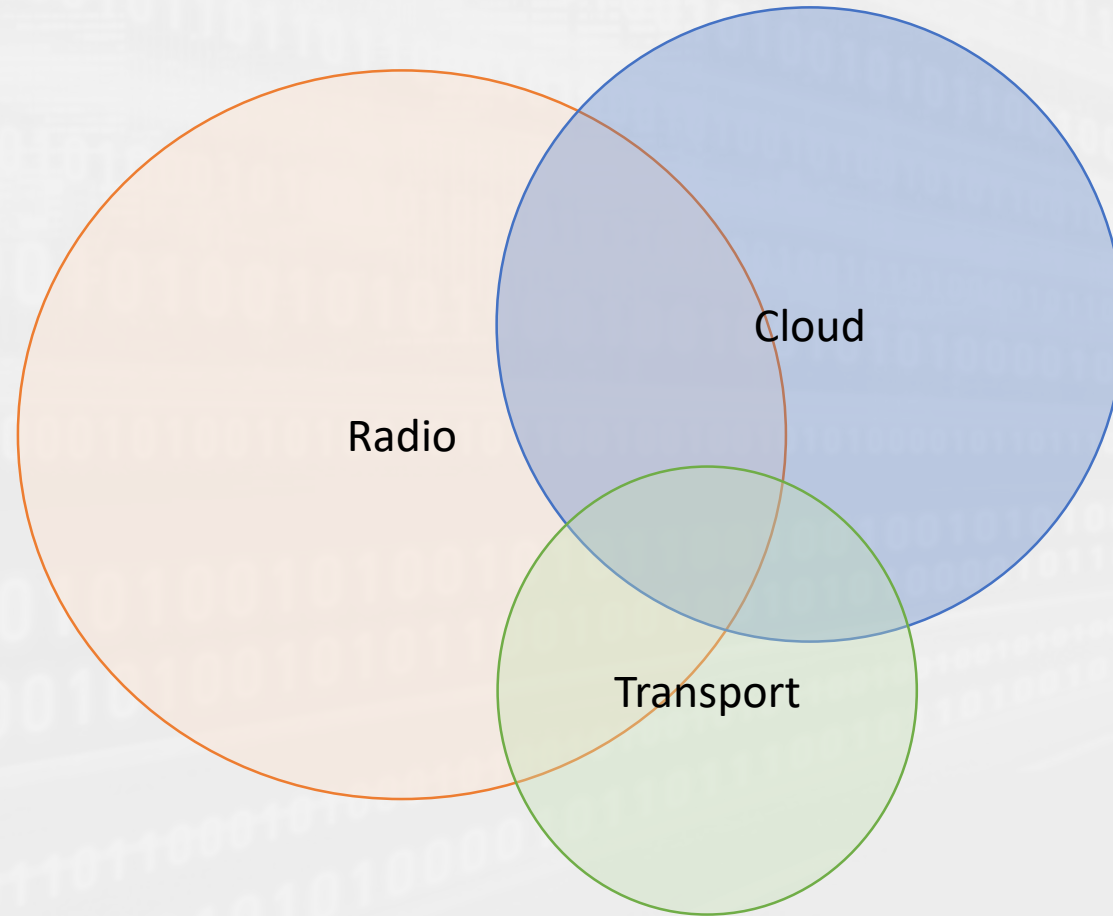
SW , HW partner need to lead,  
Core skills with access to IP

New/ Traditional Services Players  
Requires to operate at scale +  
Automation

Automate



# New **Skill Sets** Needed



# O-RAN 3<sup>rd</sup> Plugfest at Airtel



## O-RAN 3<sup>rd</sup> Global Plugfest Nov, 2021

- Asia:
  - India – Bharti Airtel
  - Japan – NTT DOCOMO, Rakuten, Softbank, KDDI & YRP
  - Korea – LG Uplus
  - Taiwan - Auray OTIC & Chunghwa Telecom (CHT)
- Europe – BT, DT, Orange, Telefónica, TIM, Vodafone, TIP & Skoltech
- North America – AT&T, Verizon, TIP, University of Utah and Rutgers University

VMware & Cpgemini – Traffic Steering

Mavenir – Traffic Steering

TCS & VIAVI – Traffic Steering

AMI & Intel – O-RAN Infra Security

Sercomm & VIAVI - E2E Testing

STL, ASOCS & IP Infusion – M&S Plane O-RU Testing

CISCO, VVDN & Keysight – O-FHGW eCPRI to CPRI Conversion

## India PlugFest 2021

❖ Host Bharti Airtel  
❖ Total participants – 15  
❖ Total Demo's – 7

- ❖ RIC TS xAPP – 3
- ❖ Physical Infra Security – 1
- ❖ O-RU Testing – 1
- ❖ Open FHGW- 1
- ❖ E2E Testing – 1





# Key Learnings



Open Ran is evolving fast, new features to plug performance gap

Significant effort involved to match system level stability with traditional players



Higher involvement in validation of the solution components and E2E scenario

Extensive Handset IODT program required to ensure compatibility with deployment scenario



DU design and Cloud deployment model are evolving significantly in next 12-18 month

Automation, CI/CD pipelines are key to improve deployment and operational efficiency



Work-ahead in stitching the solution with core, transport, NOC, digital tool

# What We Need ORAN to Deliver



**At Par Performance**



**Better TCO**



**Ability to Scale**



**Sustainable Ecosystem**



Thank You