



Cloud-Native Multi-Vendor 5G Open RAN Blueprint In Action

BubbleRAN

Osaka Meeting on 20/06/2023



Why BubbleRAN?

3 Facts

- (1) A vendor-neutral, open, and trustworthy telecom network accessible to All
- (2) Fully software-based 4G/5G networks and its cloud-native delivery as a service
- (3) Emergent open ecosystem, where everyone can join, innovate and make benefits

We believe in Open RAN/O-RAN

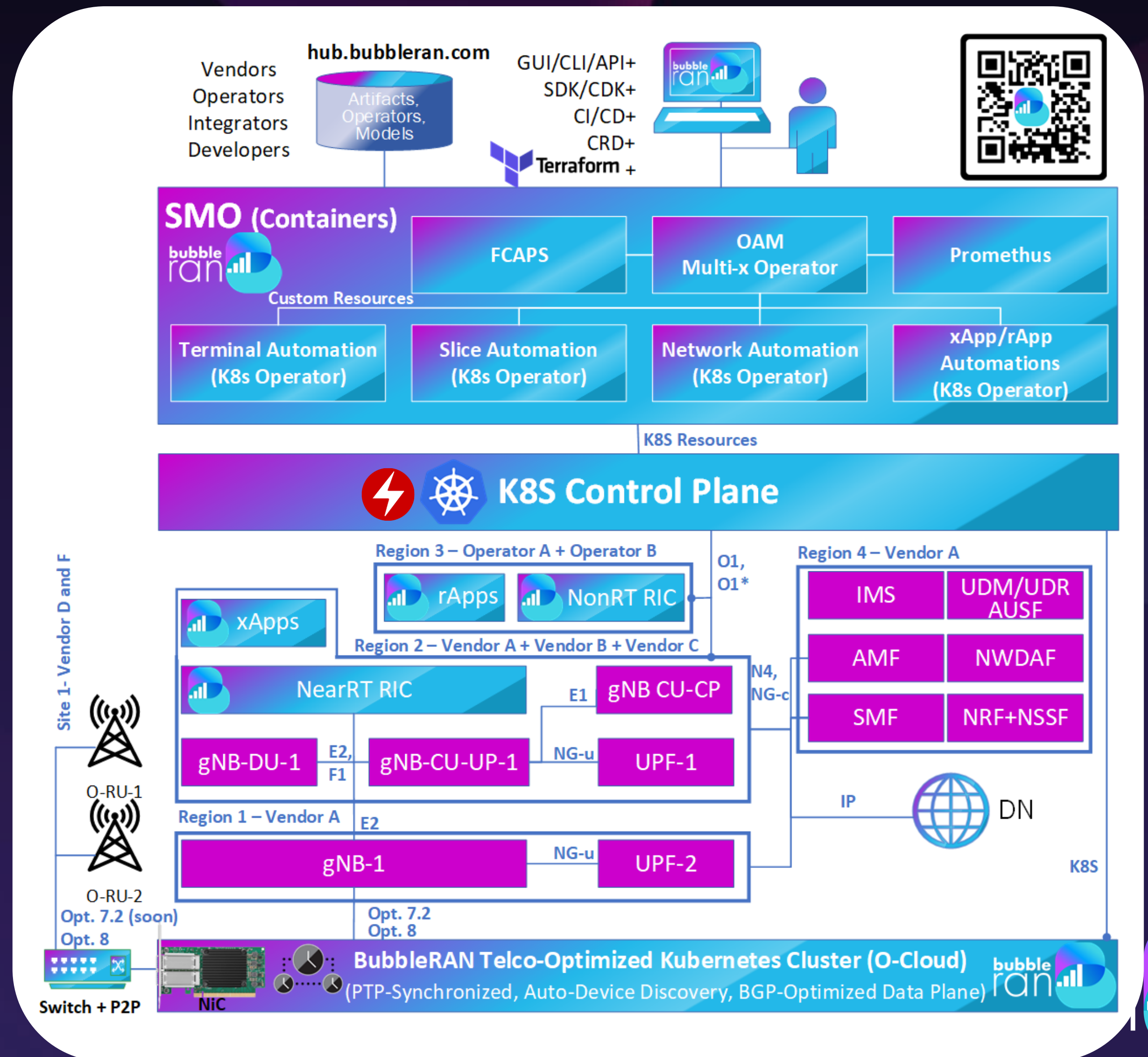
(A **collective action** in building an open telecom network that complies to 3GPP)



Cloud-Native Multi-Vendor 5G Open RAN Blueprint

Feature set

- Cloud-Native Automation: Infra & WL
 - Day 0 to Day 2 Operations
- Multi-x Support: Vendor, version, RAT, RU
- Consistently Reproducible and Repeatable
- No performance loss and Low Overhead
- Agile, Scalable, and Extendable
- Intelligent and Observable
- Declarative Design and Idempotent Operations
- Resilient and Fault Tolerant
- Green and Sustainable
- Secure and Isolated Workloads

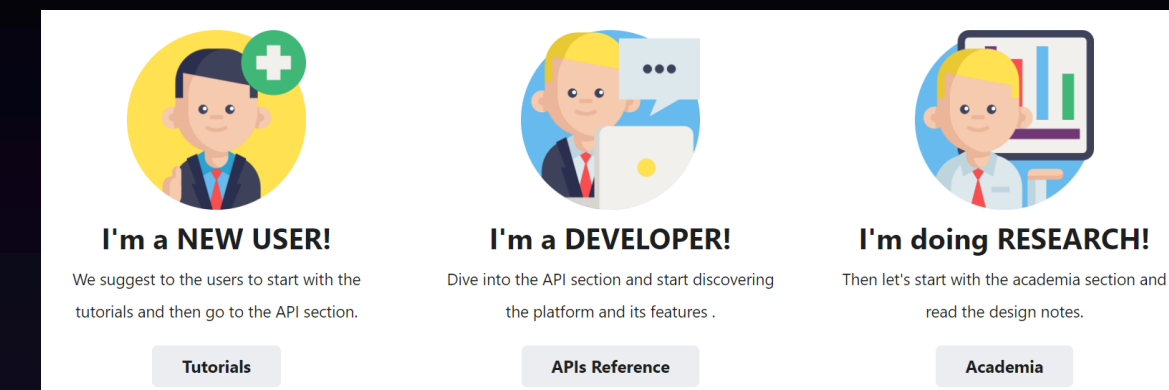


Cloud-Native Multi-Vendor 5G Open RAN Blueprint

MWC 2023 Multi-Vendor Cloud-Native 5G Open RAN Demo



MX-Operator/OAM Ops



Step	Operation	Description	Day
0	infra	Extract provisioned resources in the cluster including RUs	0
1	blueprint	Design/describe an E2E network: slice, access, edge, core	0
2	install	Deploy the network blueprint	1
3	observe	Check the status and readiness of the deployed network	1
4	test	Measure/monitor the E2E performance	2
5	extract	Get information about network: log, config, relation	2
6	Remove	Delete the deployed network	2
7	cic	Embedded workload commands	2
8	upgrade	Roll out any operation: (re-)config, upgrade	2
9	Scale	Replication a service or a workload	2
10	slice	Create a 3GPP slice	2

Video Demo

<https://youtu.be/3pRuP6nldbW>



BubbleRAN MX-Operator (O-RAN OAM) From Level I to Level V



CAPABILITY MODEL



Basic Install

Automated application provisioning and configuration management

Seamless Upgrades

Patch and minor version upgrades supported

Full Lifecycle

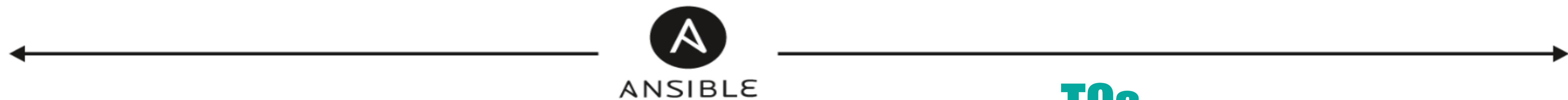
App lifecycle, storage lifecycle (backup, failure recovery)

Deep Insights

Metrics, alerts, log processing and workload analysis

Auto Pilot

Horizontal/vertical scaling, auto config tuning, abnormal detection, scheduling tuning



Source RedHat

Multi-x includes Multi-vendor, Multi-version, Multi-RAT, Multi-Frequency, Multi-RF, Multi-cloud, Multi-OS, Multi-deployment.

Observations

- **Simplicity:** No expertise of cloud is required to Operate the network!
- **Automation:** Automated and agile lifecycle operations and controls
- **Scalability:** Scalable deployments in a distributed and heterogeneous environments
- **Readiness:** Even with the agile deployment process, Network readiness indicates 99% service assurance, verifiable via observability.
- **Auto-resource discovery:** Resources of the infrastructure is automatically discovered and exposed to the user by a simple command.
- **Zero down-time:** Reconfiguration on-the-fly across the whole deployment while retaining service continuity
- **UX:** Adherence to the current user experience by exposing native workload commands



Thank You

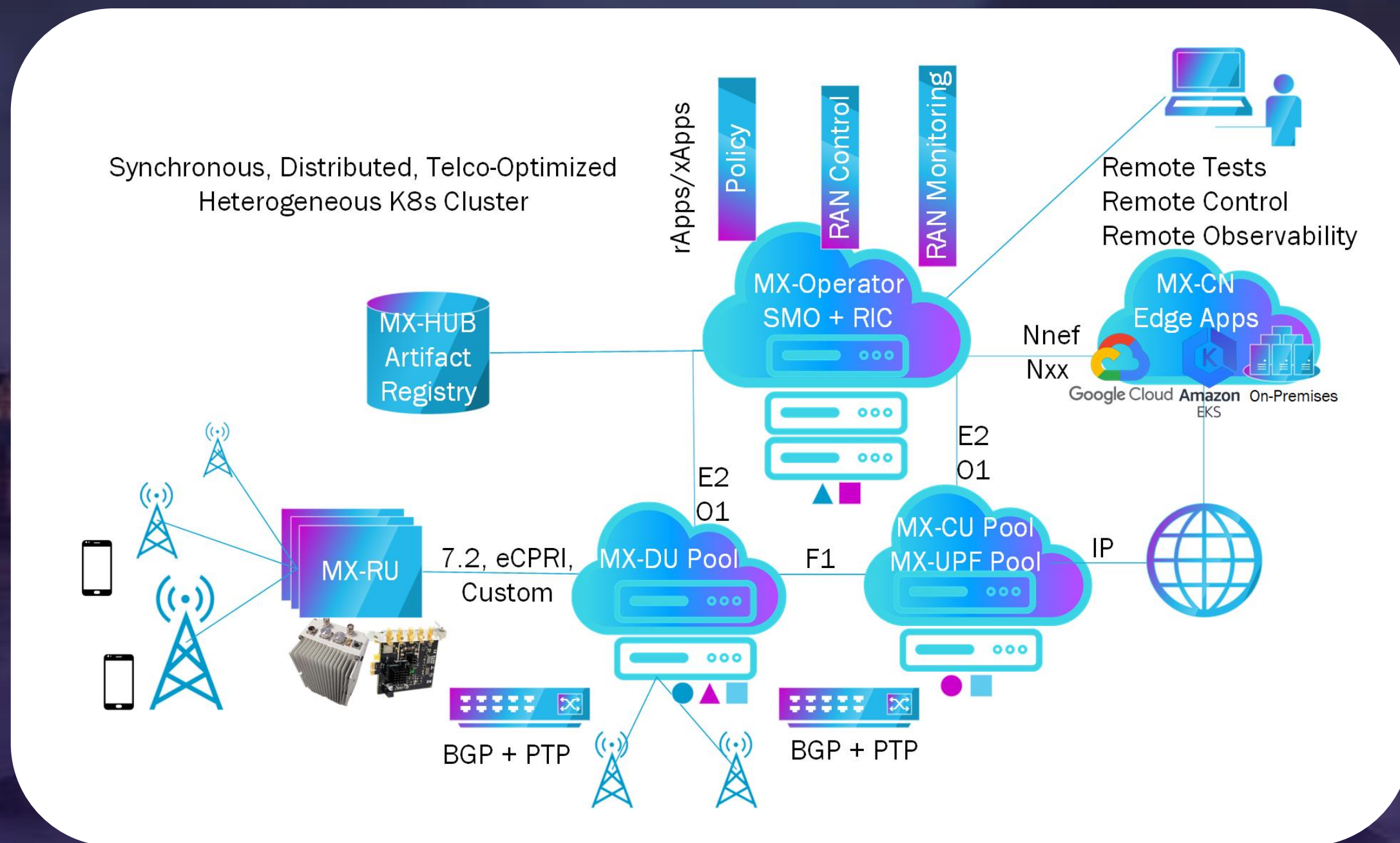
Linkedin:

<https://www.linkedin.com/company/bubbleran>

Open RAN Studio Mini-Series:

<https://bubbleran.com/media/news.8/>

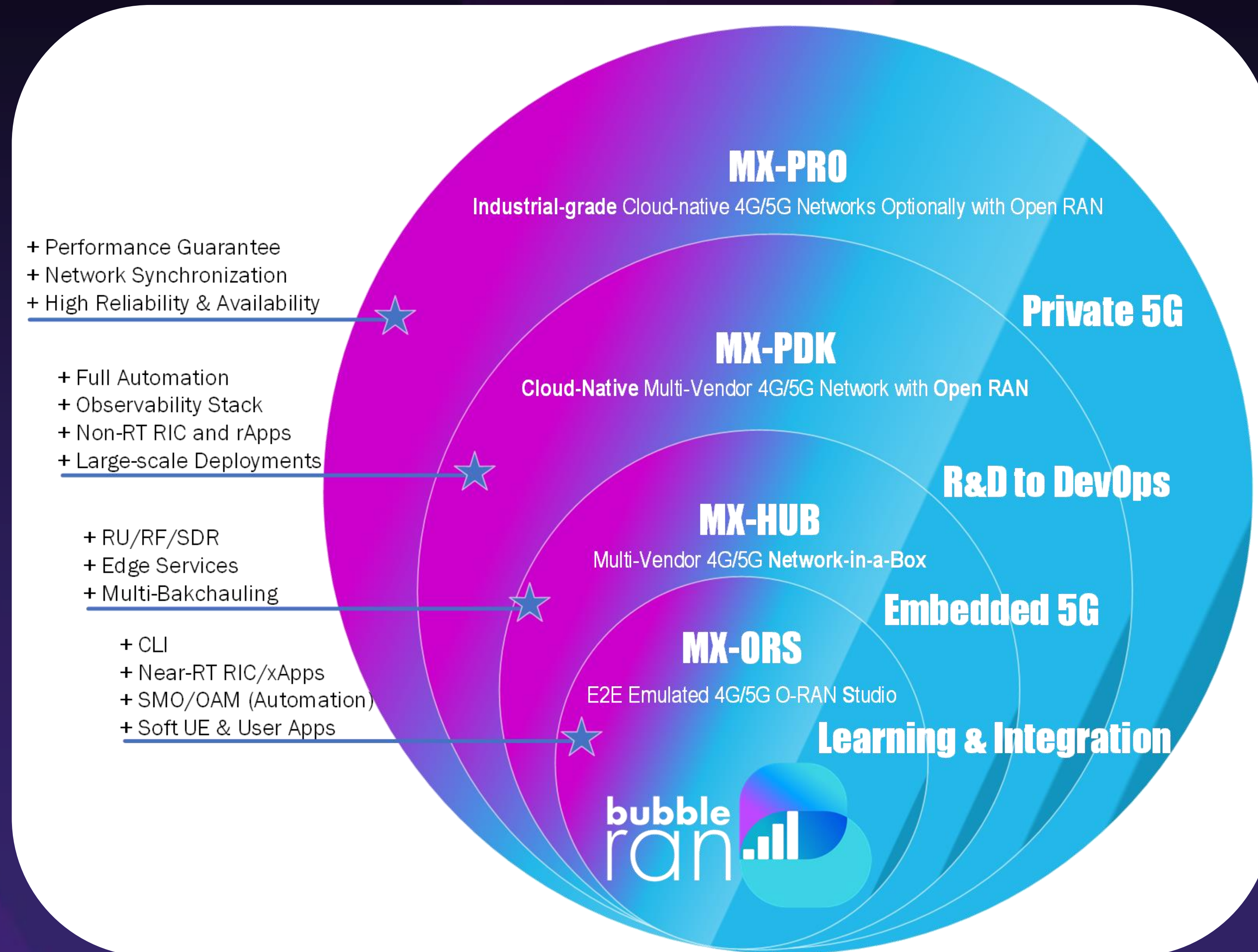
BubbleRAN



We are a software company dedicated to telecom, helping organisations to seamlessly build, operate, and automate their private 4G/5G infrastructure by consolidating open RAN and cloud-native architectures with a green MANO/SMO offering more than **100x** efficiency and delivery cycle with lower carbon footprint for a wide range of R&D and enterprise use-cases from the lab to the production environment.



BubbleRAN Product Family



BubbleRAN Telco DevOps Product

100x Business and Network Agility and Flexibility

