Open RAN Portfolio

~Shifting the Network Paradigm

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STL – A global tech leader of digital networks

STL

A Global Tech Leader Integrating Digital Networks

That enables billions of people to have enriched digital experiences, *transforming their lives*

CAPABILITY

End-to-end solutions tech capability

- **Wireless – Open RAN**
- **Wireline – Open pFTTx**
- **System Integration**

CUSTOMER

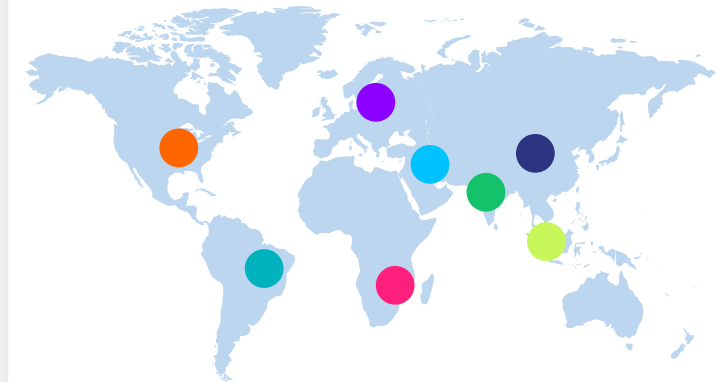**Works with all network creators**

Telecom

Cloud Company

Citizen Networks

Large Enterprises

GLOBAL

Reach across the Globe

HQ in India, with satellite office for Access Solutions in NJ, USA

Open Networking Access Solutions Portfolio

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Open and Virtualized RAN

Open and virtualized RAN solution to enable 4G/5G

RAN Intelligent Controller (RIC)

Near real time monitoring and optimization of RAN

Programmable FTTx (pFTTx)

Cloud virtualized wireline access solution

Wifi 6 Access points

802.11ax enabled dual radio (5 & 2.4G)

TELECOM INFRA PROJECT | O-RAN ALLIANCE | SCF | broadband forum | ONF Open Networking Foundation | ONAP OPEN NETWORK AUTOMATION PLATFORM | THE LINUX FOUNDATION

Open and Virtualized RAN

STL Open RAN suite

5G ORAN compliant split 7.2x and split 2 RU with backward support for 4G LTE*

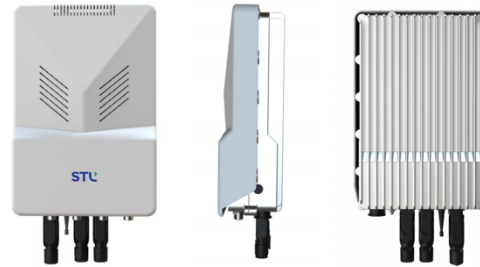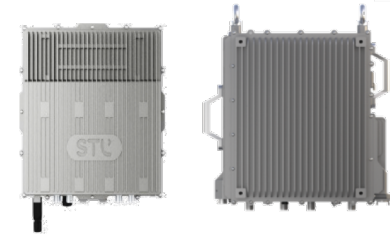### 5G Indoor Small Cell

Split 7.2x   Split 2

- SMD Indoors
- 1W 4x4 MIMO

5G Outdoor Small Cell
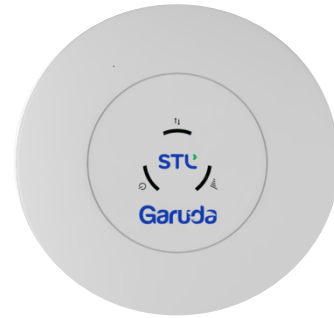

- Attach Outdoor
- 20W 4x4 MIMO

4G/5G Outdoor Multiband Macro Radio
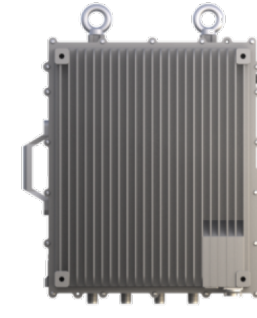

- Multi Band RU
- 160W 4x4 MIMO
- 320W 4x4 MIMO

* For macro O-RUs

5G ready Small cell portfolio (GA by Jan'22)

Key Features	Indoor Split 7.2	Indoor Split 2	Outdoor Split 7.2	Outdoor Split 2
Technology	5G	5G	5G	5G
Frequency Range	FR1	FR1	FR1	FR1
ORAN Compliance	ORAN compliant with Split 7.2 RU	ORAN compliant with Split 2 DU-RU	ORAN compliant with Split 7.2 RU	ORAN compliant with Split 2 DU-RU
Power	4x250mW	4x250mW	4x250mW	4X5 Watt
Power Supply	48V POE++ Type -3 and 12V	48V POE++ Type -3 and 12V	48V	48V
Max Power Consumption	<40W	Approx. 60 Watt	<40W	Approx. 172 Watt
Max. Bandwidth	100 MHz	100 MHz	100 MHz	100 -200 MHz
Radio Config	4X4	4X4	4x4	4X4
Carrier Aggregation	1CC	1CC	1CC	2CC
Spectrum	3.5GHz, C-Band, n78	n77 ,3.5GHz	3.5GHz, C-Band, n78	3.5GHz, C-Band, n78
Fronthaul	Option 7.2,10G-SFP+	Option 2, 10G SFP/ 1G Ethernet	Option 7.2,10G-SFP+	Option 2, 10G SFP/ 1G Ethernet
Weight (with brackets)	1.3 Kg	2.5 Kg	1.8 Kg	4.5 Kg
Volume	1.5 L	3.5 L	2 L	4.5 L
IP Rating	IP 31	IP 31	IP 65	IP 65

*Specifications subject to change basis use-case, all specifications shown here are typical. Radio meets applicable regulatory requirements.

Macro radio portfolio (GA by Jan'22)

Key Features	B1/n1 FDD Macro RU	B41/n41 TDD Macro RU	5G Dual Band Macro RU	5G Tri Band Macro RU
Deployment Type	Macro RU, Split7.2x Category -A	Macro RU, Split7.2x Category -A	Macro RU, Split7.2x Category -A	Macro RU, Split7.2x Category -A
Frequency Band	n1 , FDD DL (2110 – 2170)/UL (1920 – 1980)	n41 , TDD (2496-2690)	As per customer requirement	As per customer requirement
Radio Configuration	2 CC , NR+LTE, 4Tx4R	2 CC , NR+LTE, 4Tx4R	NR, (4T4R)	NR, (4T4R)
IBW/OBW	60 MHz / 40 MHz	100 MHz / 60 MHz	As per customer requirement	As per customer requirement
Channel bandwidth	LTE -5/10/20 MHz, NR – 5/10/15/20/25/30/40 MHz	LTE -5/10/20 MHz, NR – 5/10/15/20/25/30/40/50/100 MHz	NR- 5/10/15/20/30 MHz	NR- 5/10/15/20/30 MHz
Output Power	4x40W	4x40W	4x80W	4x80W
Fronthaul	Option 7-2x, 25G-SFP28	Option 7-2x, 25G-SFP28	Option 7-2x, 10G-SFP28	Option 7-2x, 10G-SFP28
Typical Power Consumption	715W (at 80% loading)	680W (at 80% Loading)	1200W (at 100% Loading)	> 1200W (at 100% Loading)
Weight/Vol	~15Kg / 16L	~15Kg / 16L	<30 kg / 32L	<35 kg / 38L
3GPP Compliance	Rel-15 Software Upgradable to Rel-16	Rel-15 Software Upgradable to Rel-16	Rel- 15, Software Upgradable to Rel 16	Rel- 15, Software Upgradable to Rel 16
Synchronization	GPS & IEEE1588	GPS & IEEE1588	GPS & IEEE1588	GPS & IEEE1588
Power Supply	48 V	48 V	48 V	48 V

RAN Intelligent Controller (RIC)

RIC – High Level Design and Value Proposition

RIC

Open RAN

Diagram labels:
- Service Management Orchestration
- Non-RT RIC
- AI/ML Engine
- Data Lake
- Open interfaces
- RIC xAPP Platform
- RIC Framework
  - Cloud native architecture
  - Extensible RIC core platform components
  - Low latency processing support
  - Near real time network states
- Open interfaces
- DU
- CU
- RAN Node
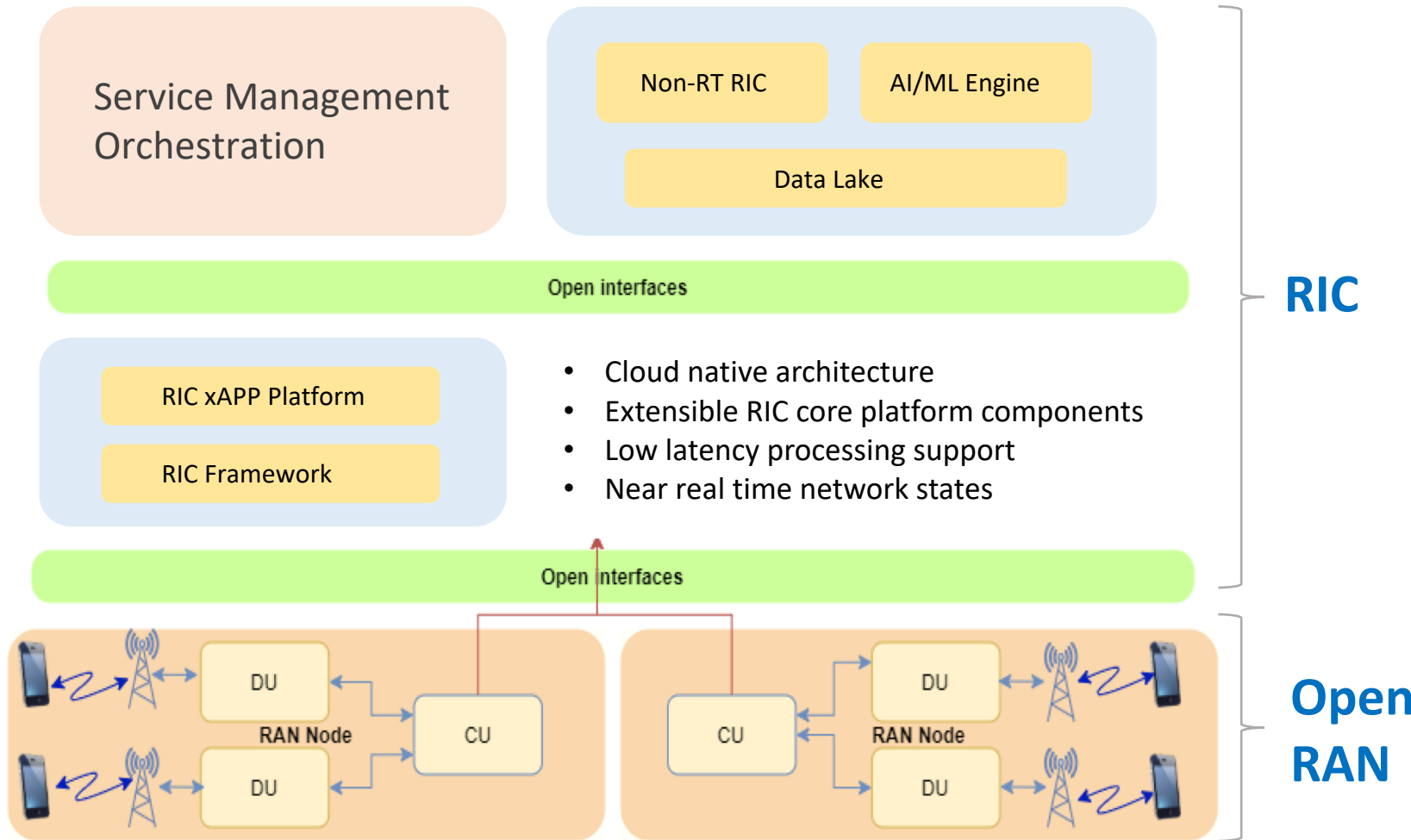
VALUE PROPOSITION:

- Network control back to operators

- Increase operational efficiencies

- Quick enablement of network slicing to serve concurrent use cases

- Efficient radio resource management

- Supports low latency applications

- AI/ML driven network control

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STL RAN Intelligent Controller (RIC) Portfolio

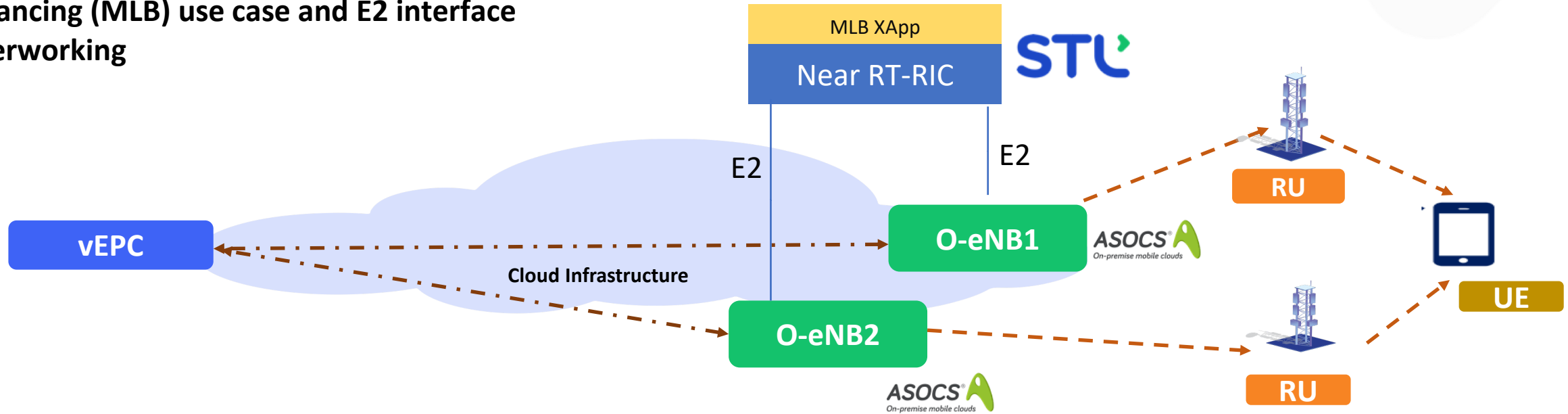Handling E2E automation across all layers
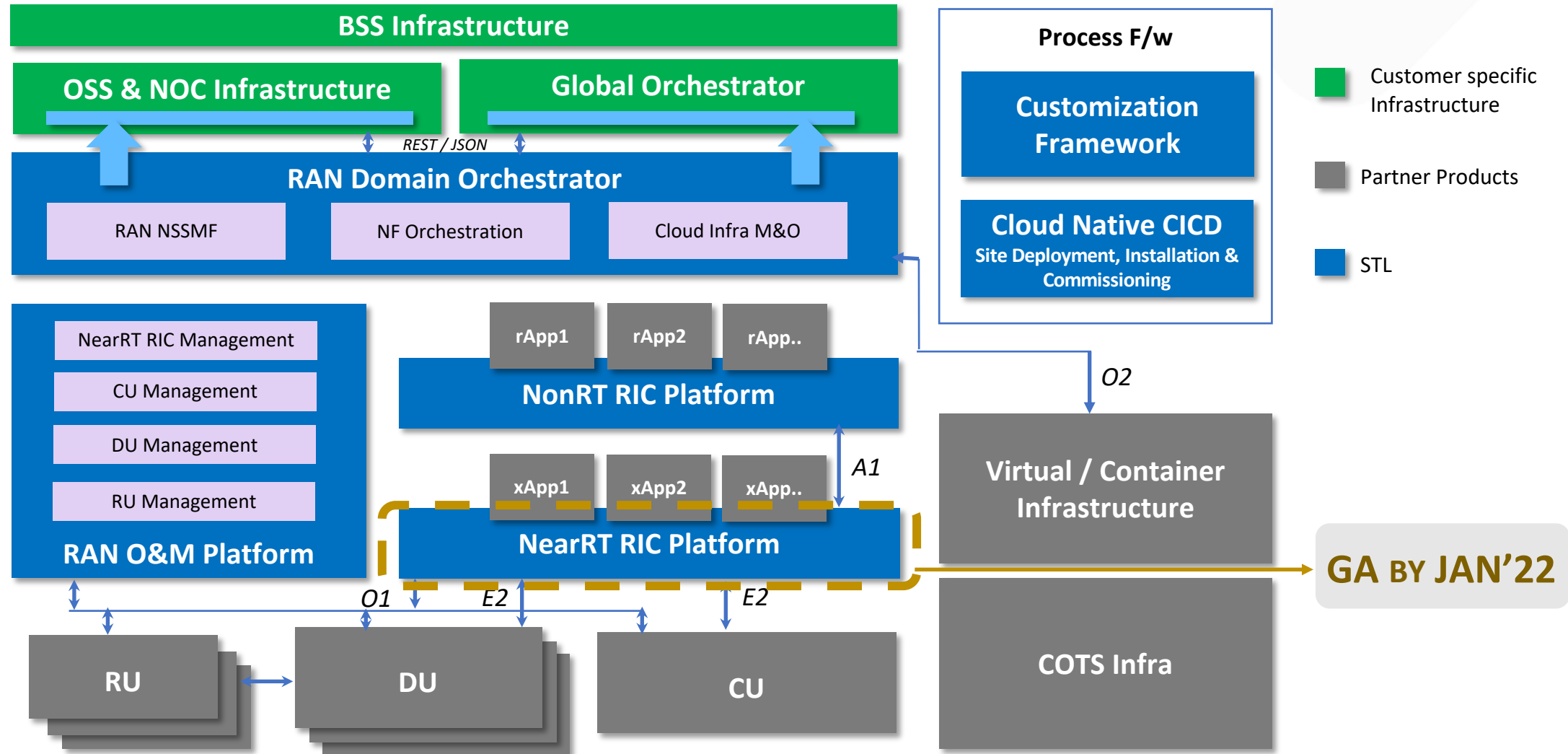
Demonstration of near RT RIC interworking with O-eNB

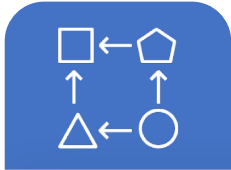*Demo at ORAN Plugfest in **Sept '20,** hosted by Bharti Airtel, India*

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Successful demonstration of Mobile Load Balancing (MLB) use case and E2 interface interworking

MLB and E2 Setup/Subscription

MLB XApp

Near RT-RIC   STL

E2   E2

vEPC

Cloud Infrastructure

RU

O-eNB1   ASOCS
                On-premise mobile clouds

UE

O-eNB2

ASOCS
On-premise mobile clouds

RU

| RIC GUI & Dashboard | Login O- eNB | Activate O-eNB1 and O-eNB2 | E2 Setup | Enable MLB XApp | E2 subscription | Cell Load Balancing between O-eNB-1 to O-eNB-2 |

Our E2E integrated RAN solutions include

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Programmable solutions

Better network control

ORAN compliant RUs

Faster time to market

Cloud native solutions

Easily scalable and agile

Best of breed equipment

Network excellence

Enhanced security

Faster update cycle

COTS deployment

Better inventory management