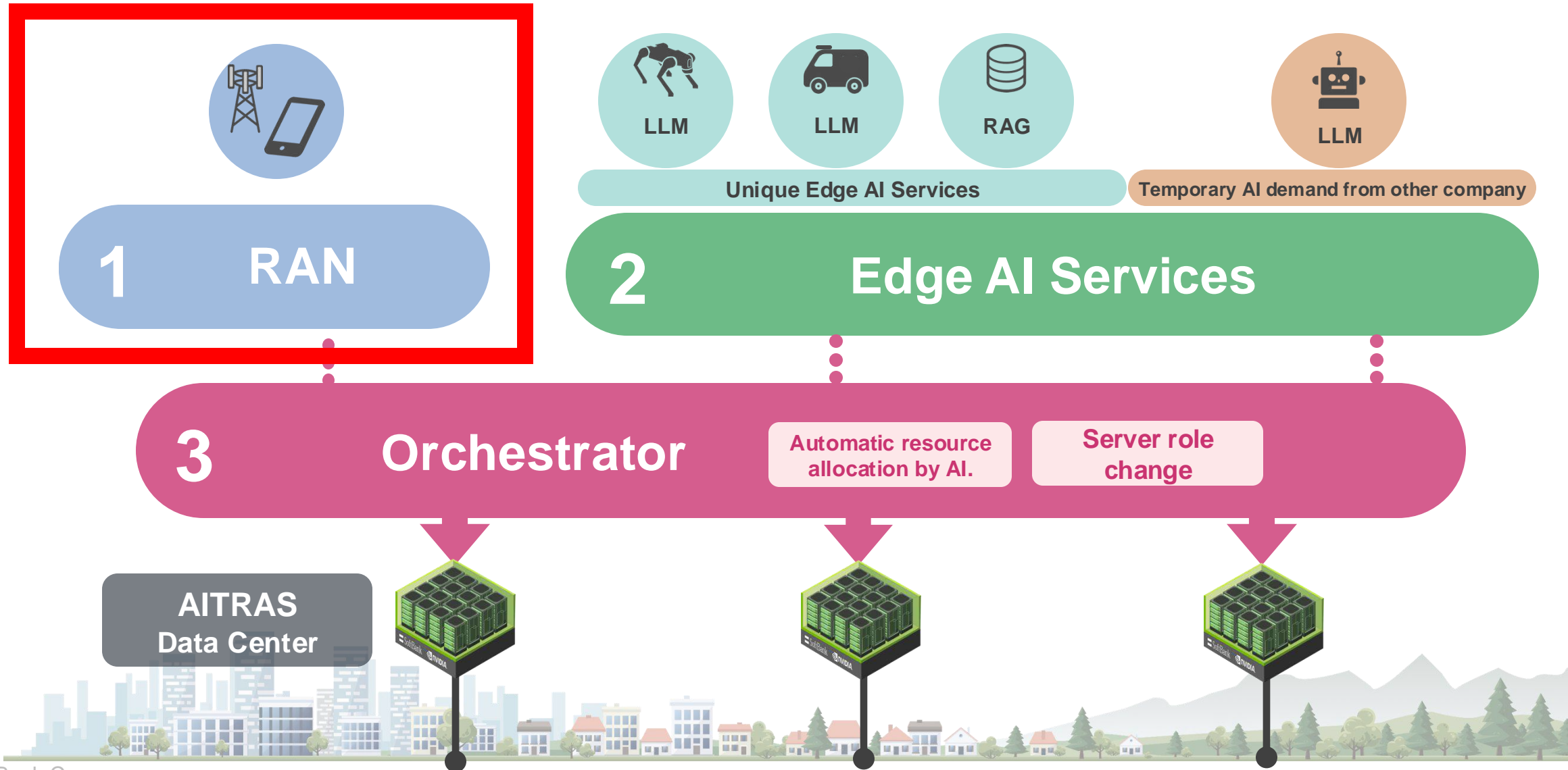


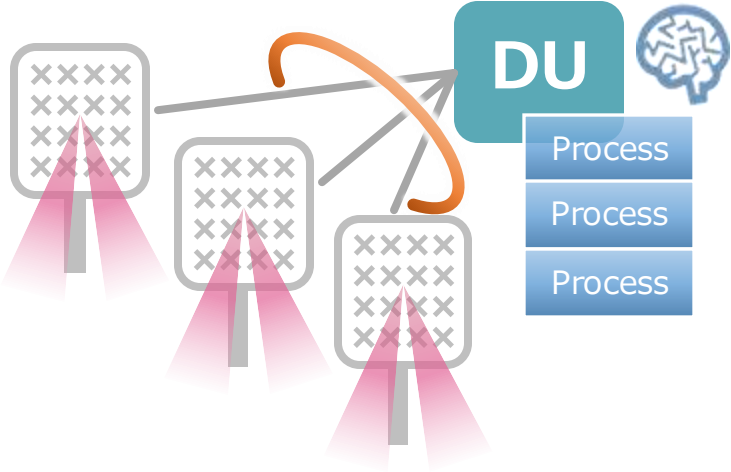
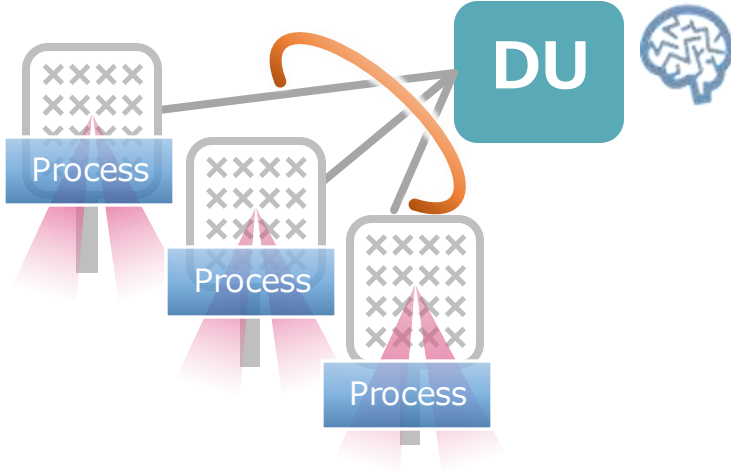


# Technical Explanation and Demonstration of AITRAS



# Technology Elements of AITRAS



# “AITRAS vRAN” and “Other companies’ vRANs”

	AITRAS	Other companies’ vRAN
		
<b>Inter Cell Coordination</b>	<b>“Fewer”</b> limitations (compared to other companies’ vRAN)	<b>“More”</b> limitations (compared to AITRAS)
Processing volume in the DU	High  <b>GPU-based</b>	Low  <b>CPU-based</b>



Interference control is  
challenging in  
high-density areas



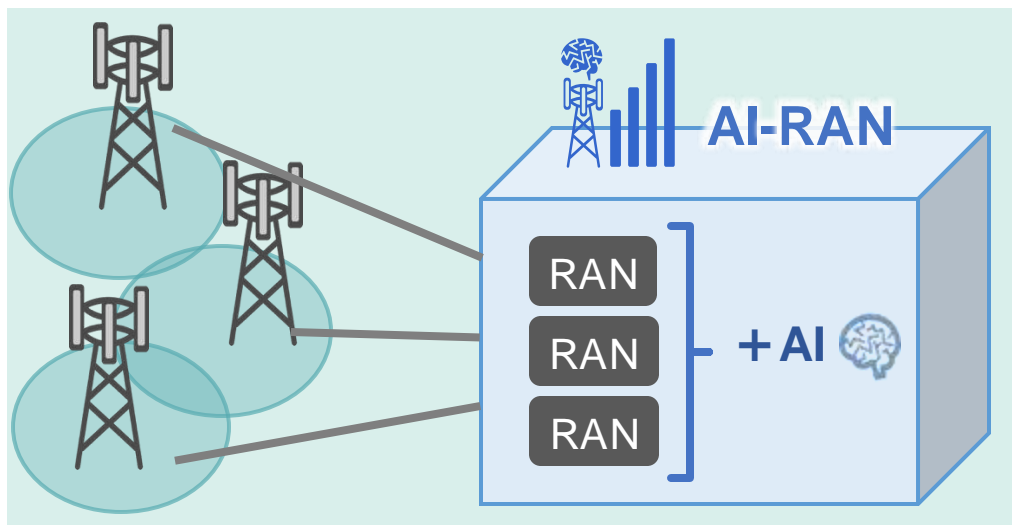
**C-RAN** is implemented  
for Inter Cell Coordination

# AITRAS:

## Applying AI and Implementing Inter Cell Coordination

Considering quality not only at **“individual BS”** but across **“the entire network”**

### Enhancing Grouping Accuracy with AI



### Enhanced Distributed MIMO



### Inter Site CA







**Aug. 28<sup>th</sup> (Wed.)**  
**20 cells have  
been activated**

# Introduction to Key Technology of AITRAS: RAN

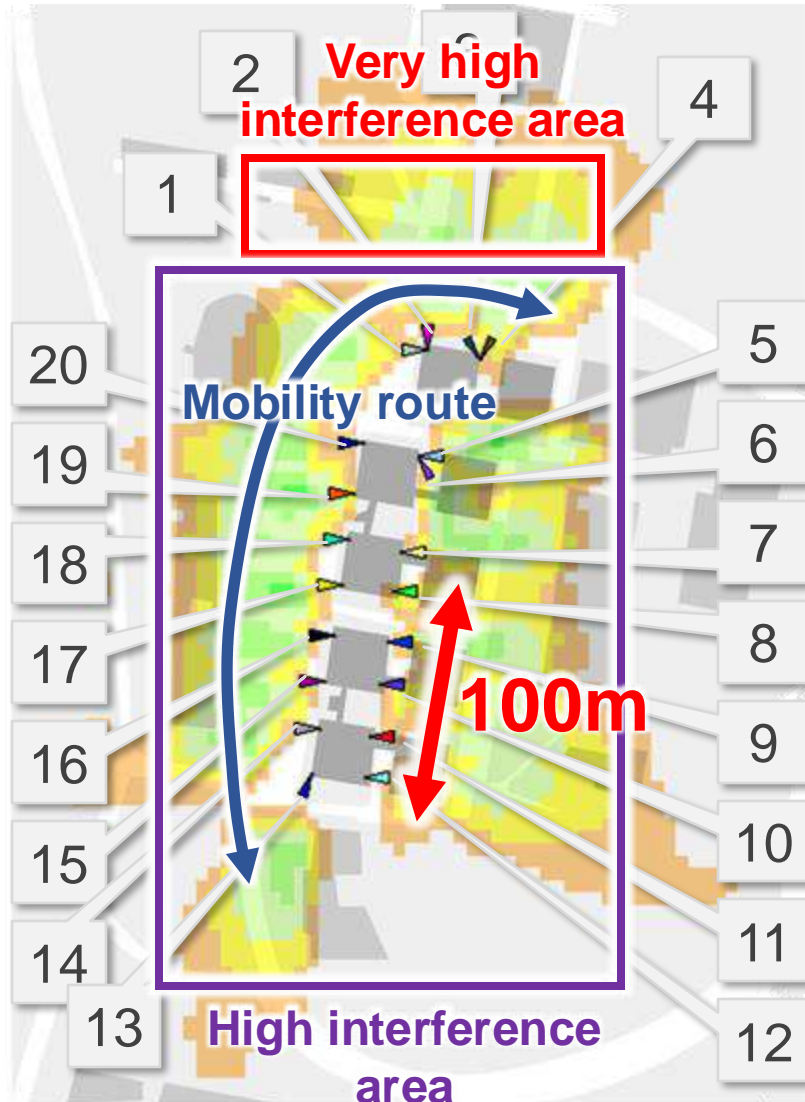


## Key specifications (as of Nov. 2024)

Frequency Band	4.8GHz~4.9GHz (TDD)
Bandwidth	Max. 100MHz
Single User MIMO	Max. 4 layers
Antenna	4T4R
Cell capacity	20cell / NVIDIA GH 200
EIRP	Max. 46.2dBm



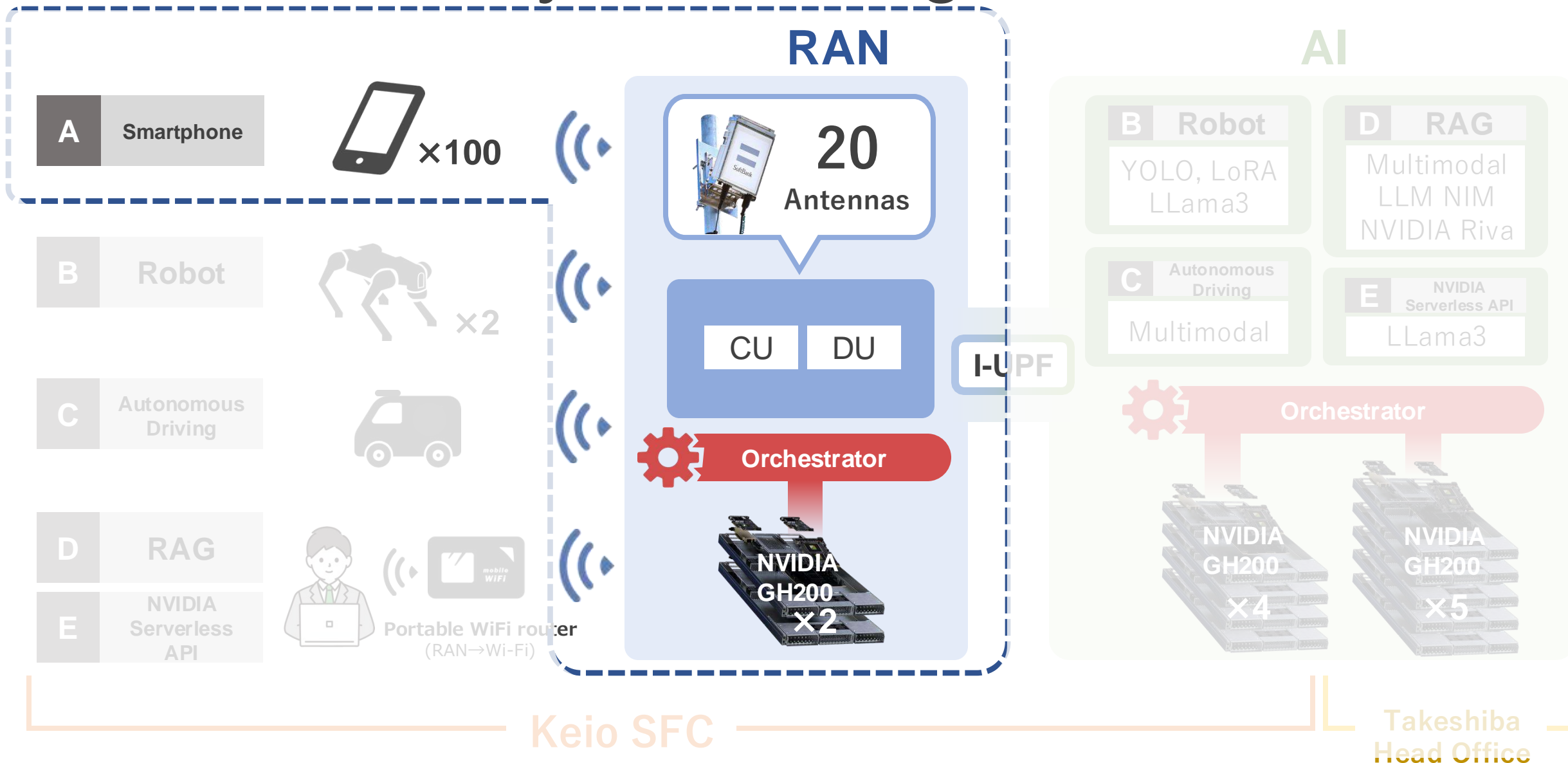
# Evaluation Environment Simulating an Urban Area



- ✓ High-density cells to simulate an urban area
- ✓ Covering roadways for mobility evaluation
- ✓ Intentionally simulating very-high interference areas to evaluate Inter Cell Coordination



# Physical Configuration



# Carrier-grade vRAN of AITRAS

1

**Stability** (Cell does not go down)

2

**High capacity** (network capacity)

3

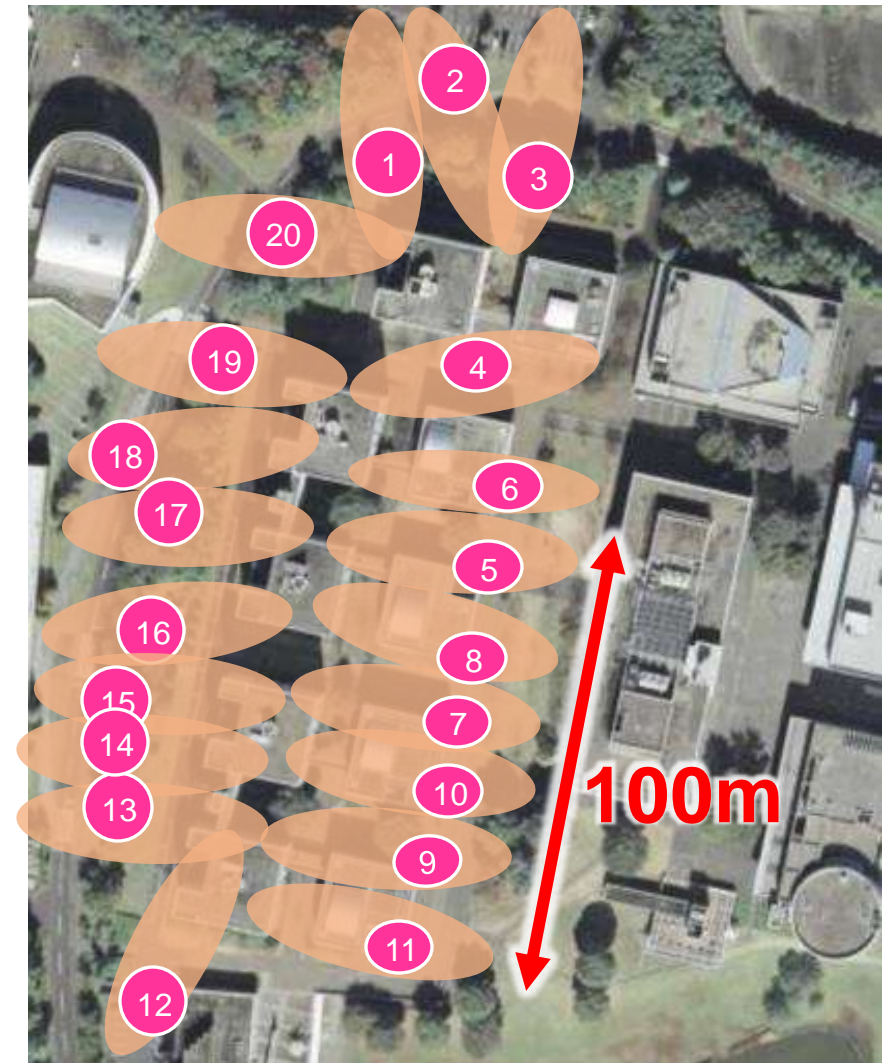
**Cost effectiveness** (Power Consumption)



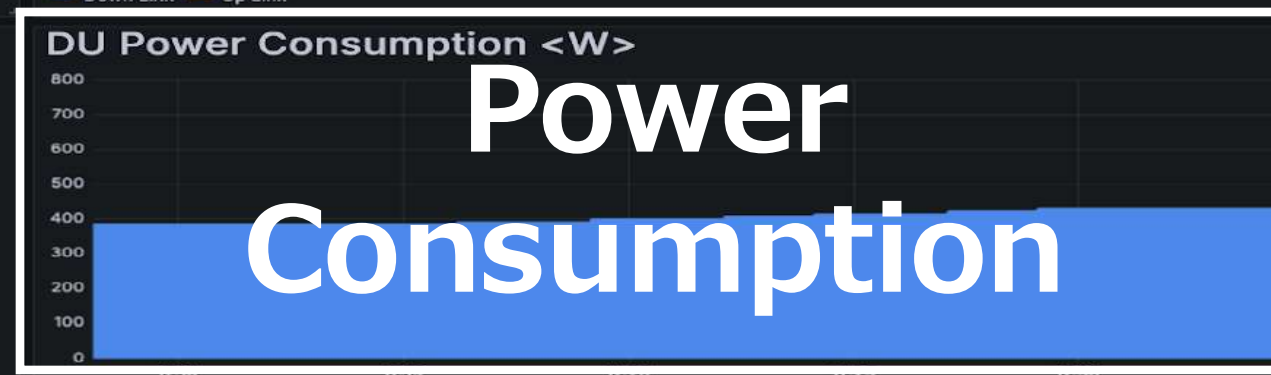
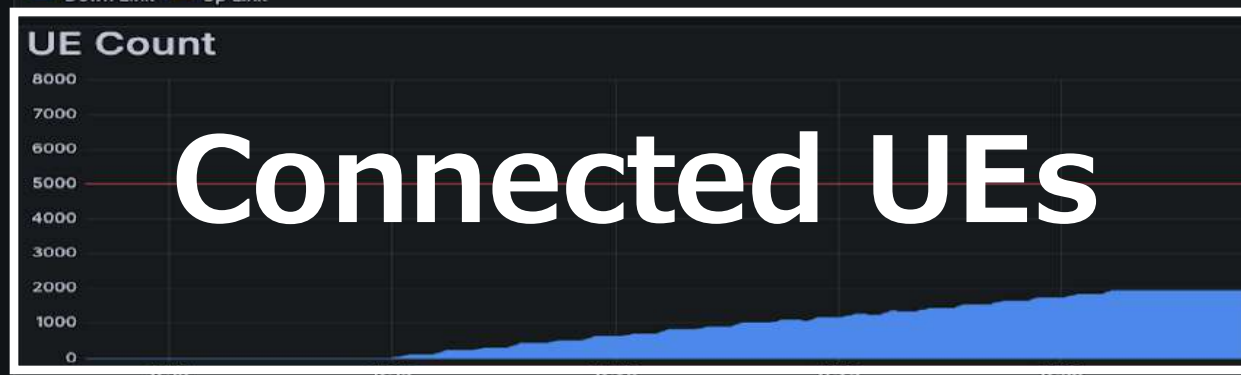
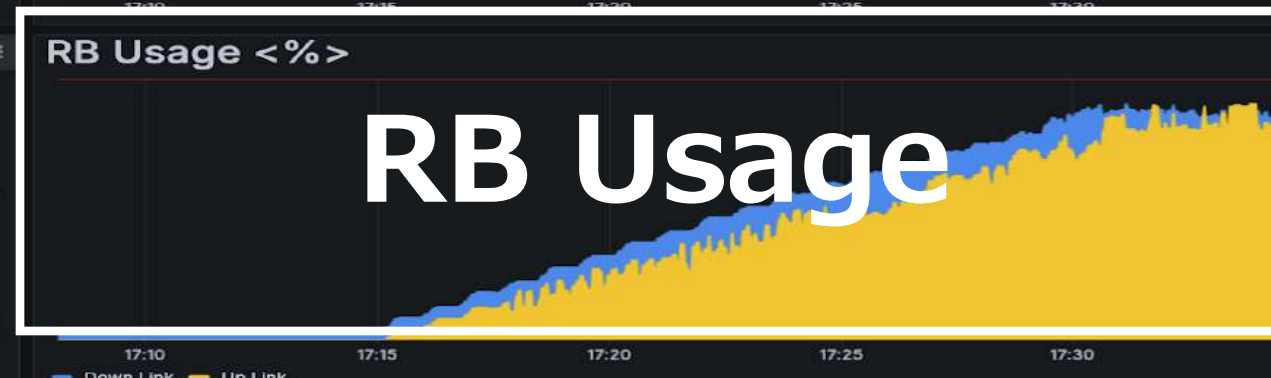
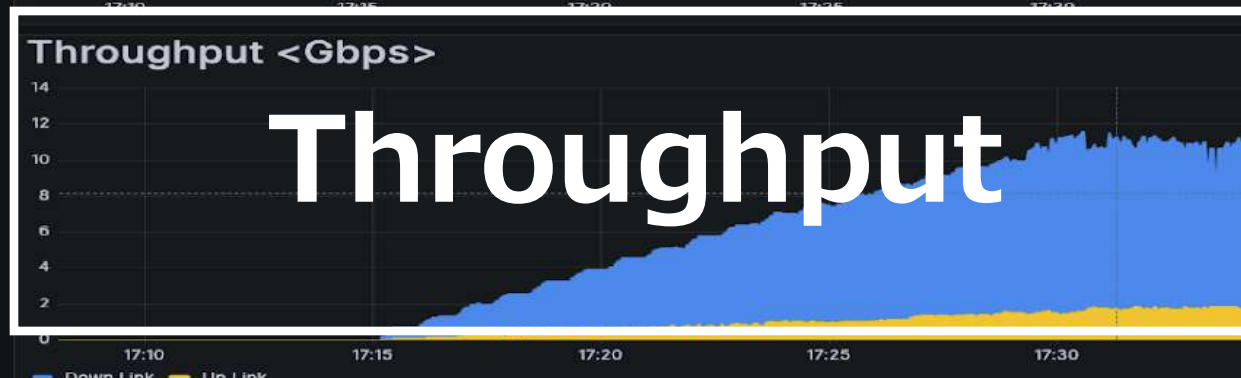
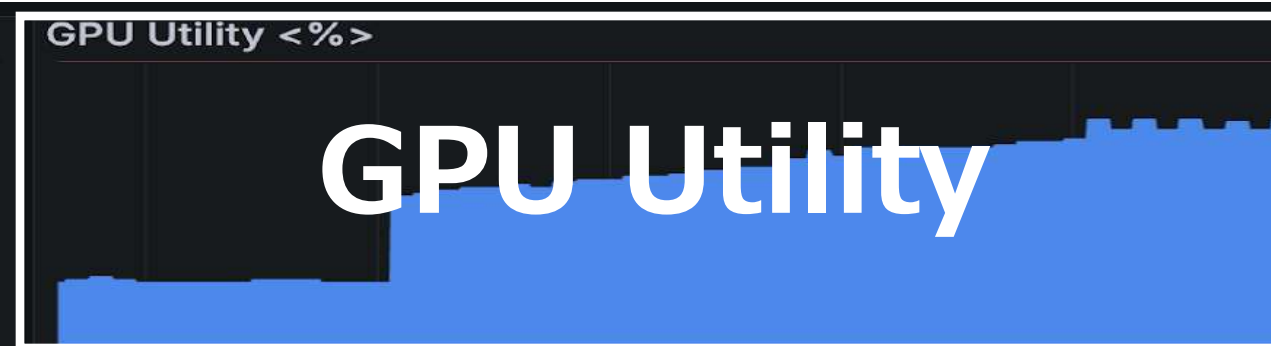
# Live Demo

## Live Demo 100UE Realtime Movie Play

- ✓ Resolution : 1080p
- ✓ Size : about 7GB

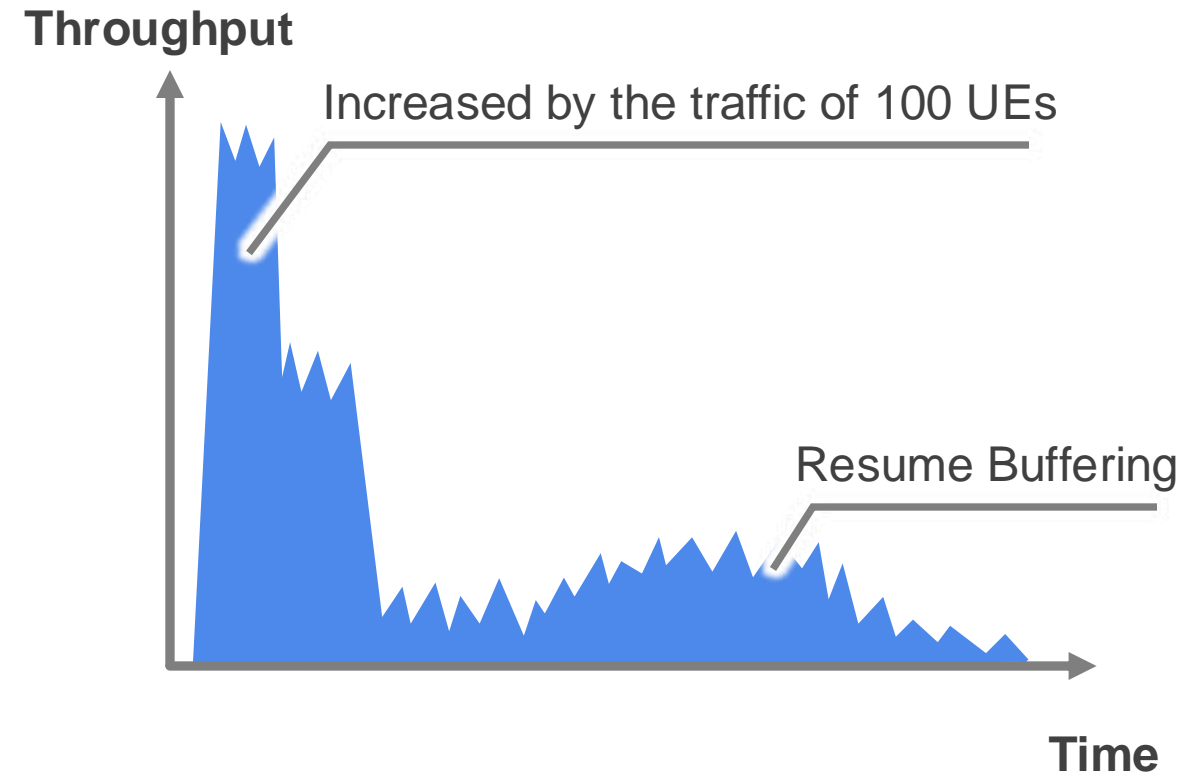
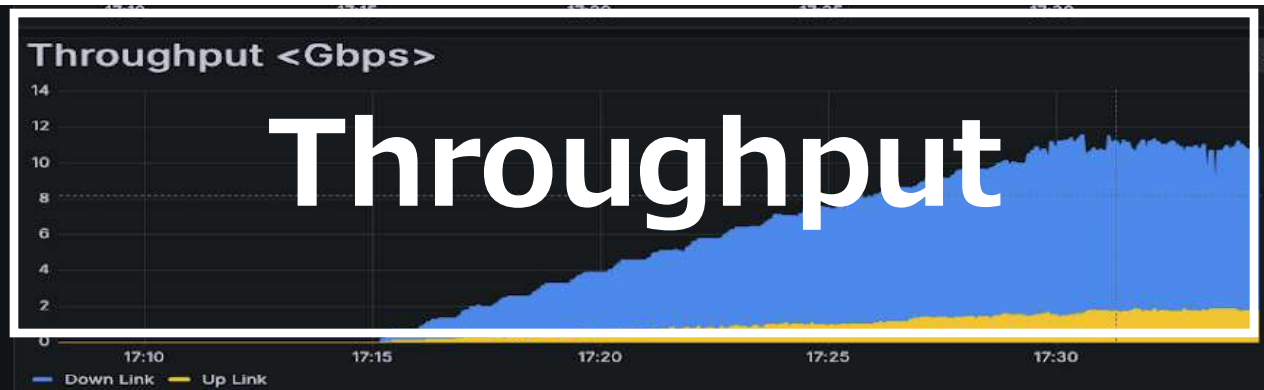


# RAN / Server Performance

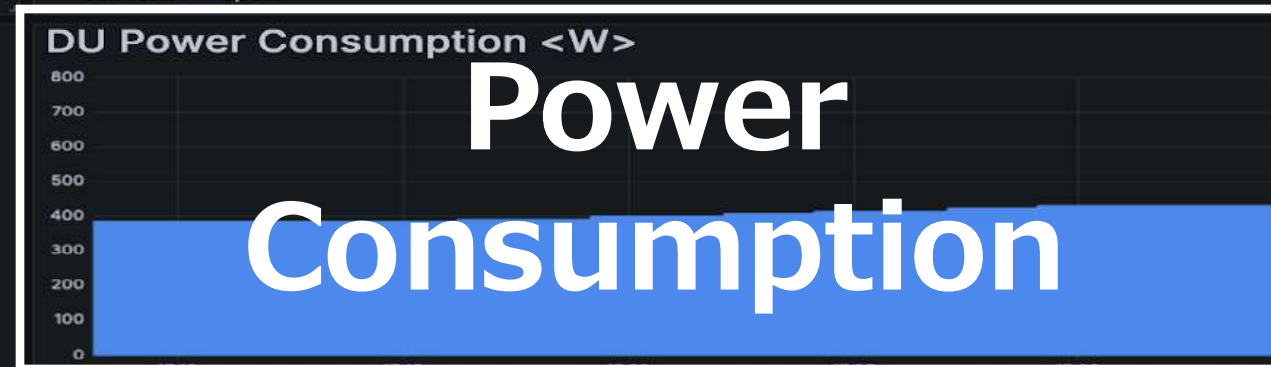
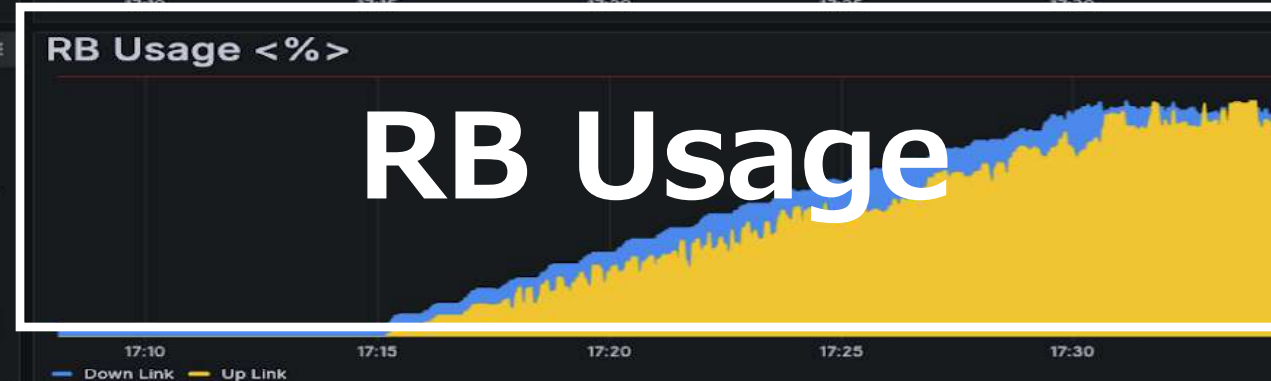
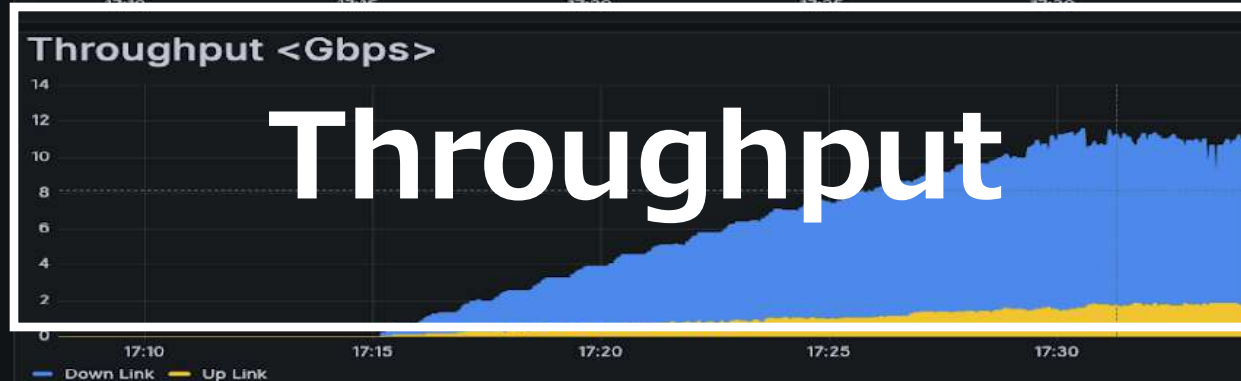




# RAN / Server Performance



# RAN / Server Performance





# AITRAS vRAN Max. Throughput



DL : 1.3Gbps / Cell

UL : 180Mbps / Cell



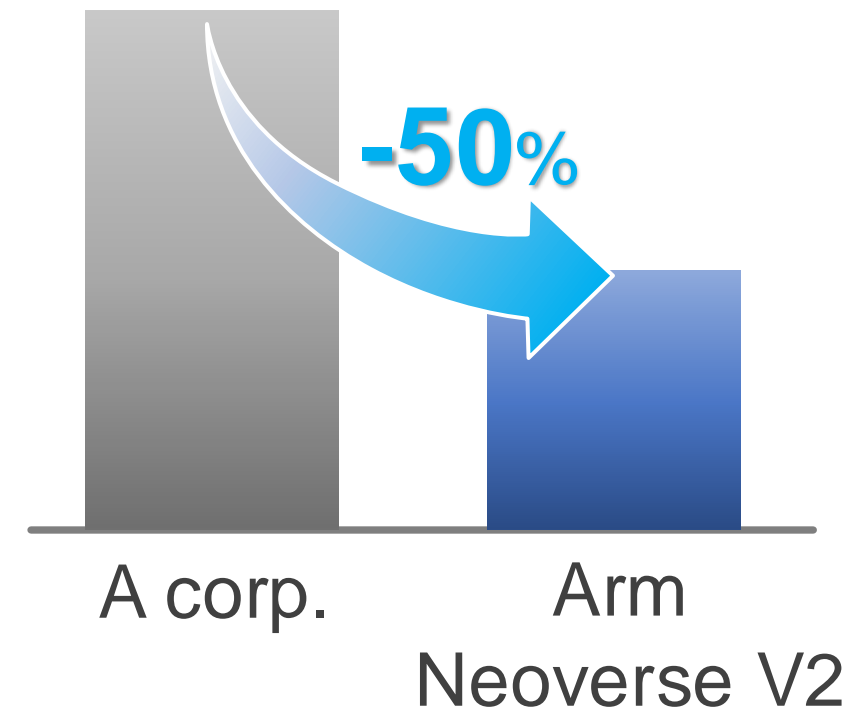
# AITRAS vRAN Power Consumption

Power rating  
1,500W  
(CPU+GPU)



**500W** (25W / cell)

**CPU power consumption※**



※Under the same processing conditions  
SoftBank lab measurement results



# Technology Elements of AITRAS

