

Cloud native enables flexible network architecture in order to meet various 5G use cases requirement. ASTRI has set up a 5G cloud native network in Hong Kong based on the AWS cloud services. The latency between Huawei CPE and AWS server is 5ms.

### Keywords:

- Cloud native, AWS, DU, RU, CU, general purpose hardware, IT infrastructure, O-RAN, Microservice, private network, Industry IoT, Kubernetes, OpenStack VM, Wind River Titanium Server, 5G Orchestrator, docker, containerization, TCO, SaaS

### Problems addressed

- High mobile network Capex
- Ultra-Reliable and Low Latency requirement in 5G vertical applications
- Scalable network capacity
- On-demand service

In compare with traditional commercial off-the-shelf (COTS) mobile product, cloud native mobile network provides a lower total cost of ownership (TCO), faster Time-To-Market (TTM) network deployment, elastic in network capacity and Pay-As-You-Use (PAYU) business model. The PAYU model is important to both private network owners and public network operators. It enables public mobile network operators to provide Software-as-a-Service (SaaS) business model to their customers. With SaaS, private network owner can lower their initial network capital expenditure (CapEx) and enter fast into market. In addition, the cloud native inherent resilience, capacity scalability and microservice that reduce network and operation complexity.

### Innovations

**Innovative features are proposed and architected to enable Cloud native network.**

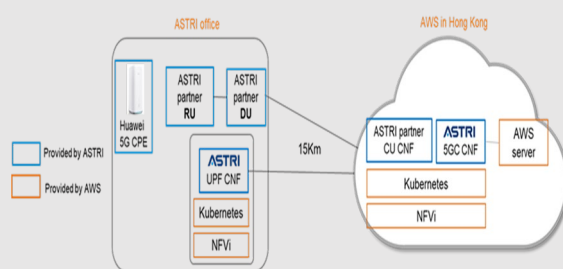
The innovation outline:

- Cloudification of Central Unit (CU) and 5G core network – hosting in AWS
- O-RAN – Standardization of radio access network (RAN) interface, virtualization of RAN software
- Microservice and orchestration of Network Functions

### Key impact

- Support Hong Kong Government Smart City Blueprint for 5G networks
- Enable new business models, PAYU and SaaS, for public network operators
- Lower the entry barrier for private network owner
- Encourage faster and easier RAN innovation

### Innovation snapshot



### Project completed

- Ongoing

### Applications

- Pay-As-You-Use business model
- SaaS network
- Ad-hoc, on-demand and Scalable network
- Network functions orchestration

### Patent(s)

- US App. No. 17/674,401

[ASTRI Patent Search](#)

### Commercialisation opportunities

- IP licensing
- Technology co-development