

# 多工之高效能5G網路平台 開發與應用

Multipurpose High-Performance Appliance  
for 5G Network Applications

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Network and Communication Solutions

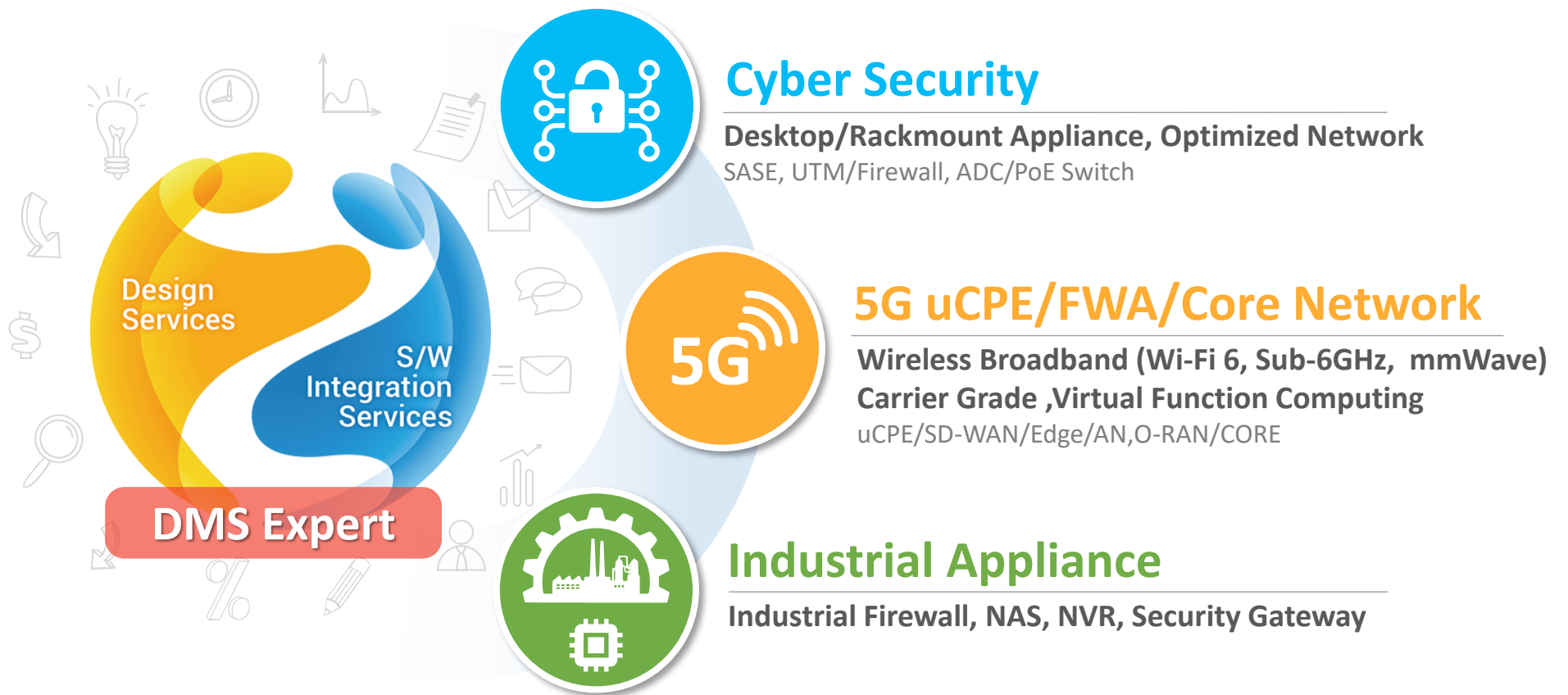
新漢網路通訊事業群 / NEXCOM  
技術長 劉盈村 / Matthew Liu, CTO



# Intel Booth at MWC 2023



# NCS Business Focus



# From Cyber Security to 5G Networking



## 5G uCPE



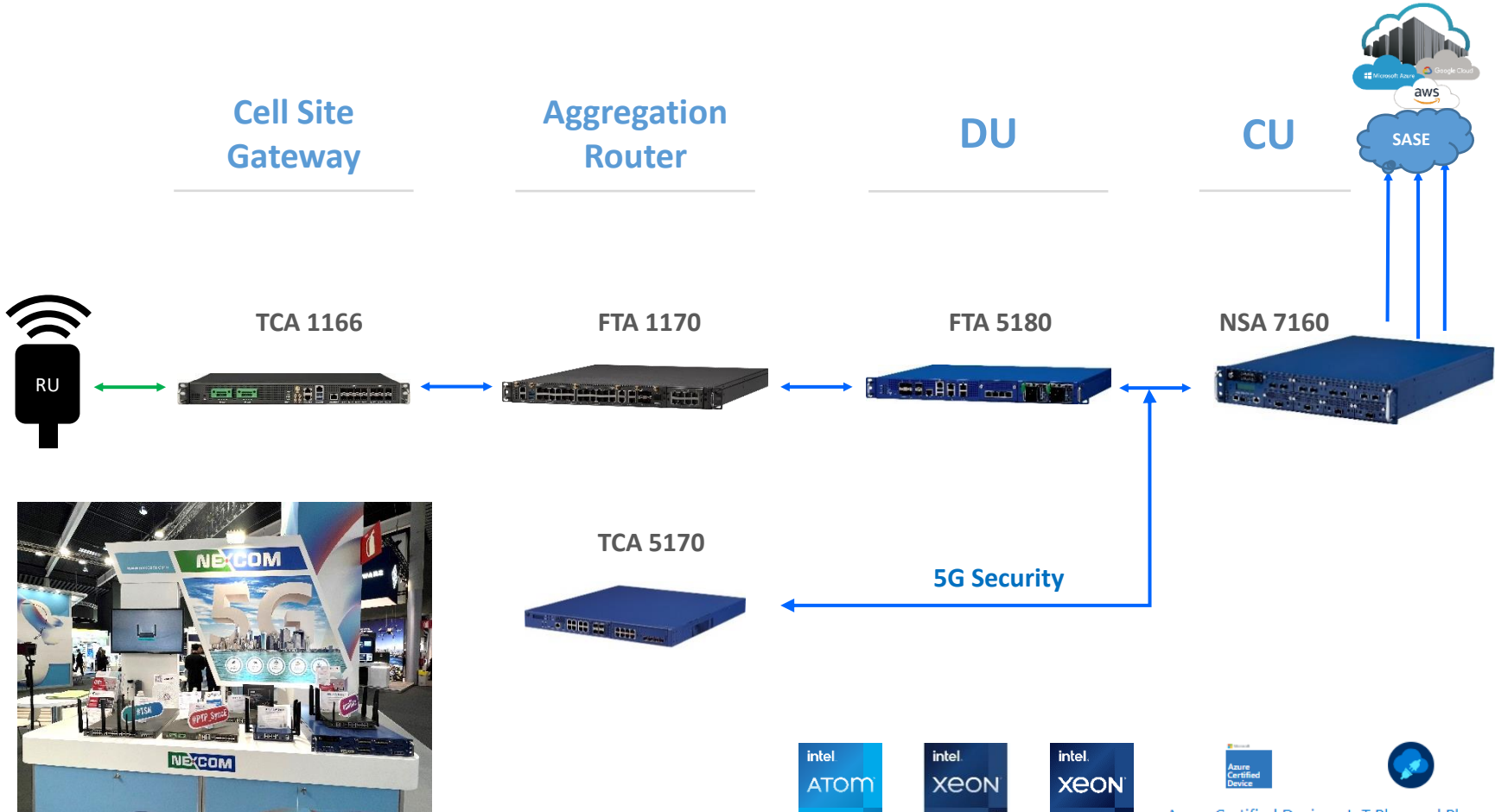
DFA 1163M



DTA 1164W



ISA 140



Azure Certified Device IoT Plug and Play

# NSA 7160 - Flexible High-Performance Appliance



1

## 4th Gen Intel® Xeon® Scalable Processor

- Dual 4th Gen Intel® Xeon® Scalable Processor
- 16 x DDR5 4800 ECC RDIMM
- PCIe5 + CXL
- Intel® QAT
- Intel® SGX
- Intel® AMX

2

## Extensions

- 8 x PCIe5 LAN Slots
- 1 x PCIe4 FHFL Card Slot
- 1 x M.2 2280 (M Key) Slot

3

## Flexible LAN Configuration

- 1G to 10G Copper LAN Module
- 10G to 200G Fiber LAN Module
- 1G to 100G Ethernet Bypass LAN Module
- Storage Module

4

## SW & HW Valued

- IPMI 2.0
- DPDK Ethernet Optimization
- Intelligent Ethernet Bypass Mechanism
- Supports OCP "RunBMC"
- Supports OCP NIC 3.0

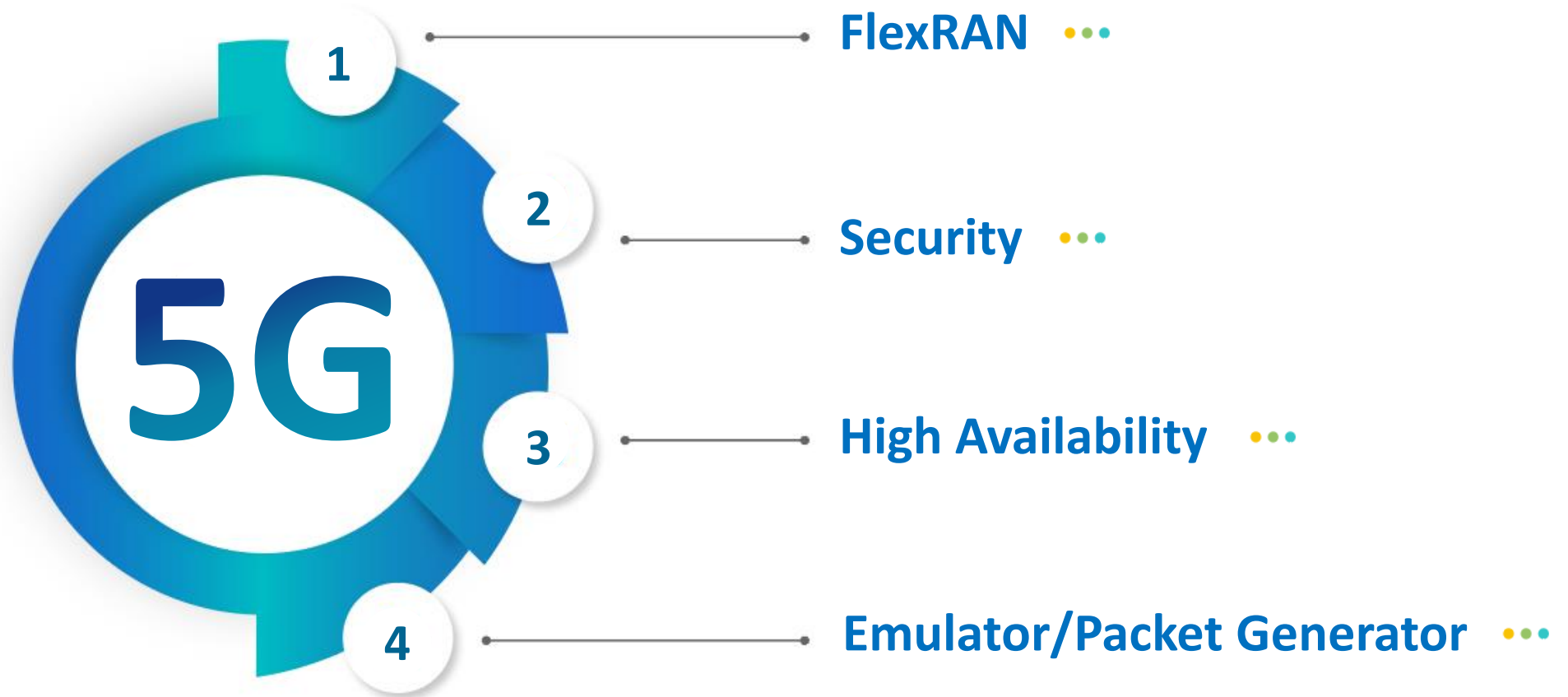
5

## Applications

- 5G Core Network/5G Security
- High Performance 5G Gateway
- 5G Emulation and Validation Equipment
- Cyber Security
- Load Balancing
- SD-WAN/NFVi
- Ethernet Packet Generator



# NSA 7160 - Adaptive System for 5G Applications



# NSA 7160 – 5G FlexRAN



4th Gen Intel® Xeon® Scalable Processor



Layer 1 processing  
Layer 2/3 processing  
MEC

Intel® 5G vRAN Timing Synchronization Card



Intel® FPGA Smart NIC



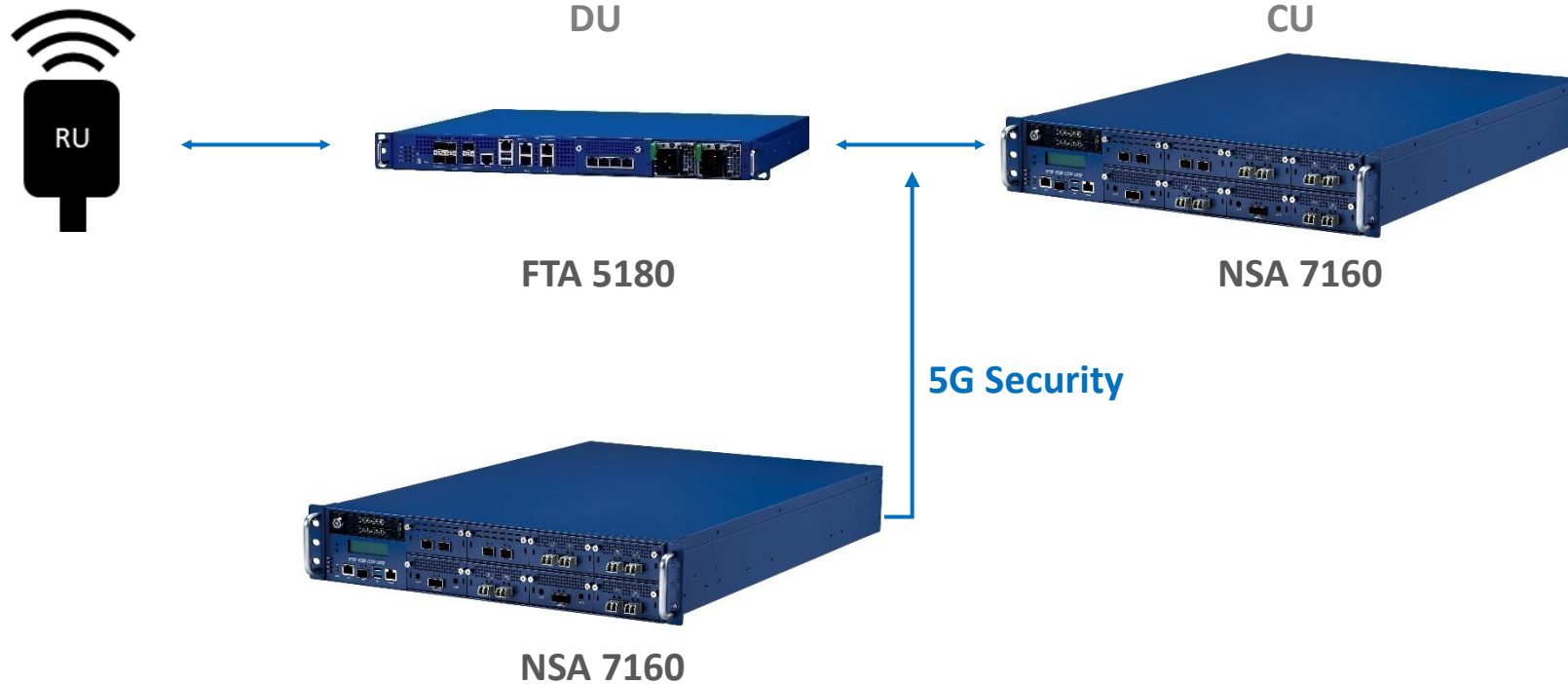
Intel® vRAN Dedicated Accelerator



RoE/eCPRI/CPRI  
Turbo/KDPC/Polar

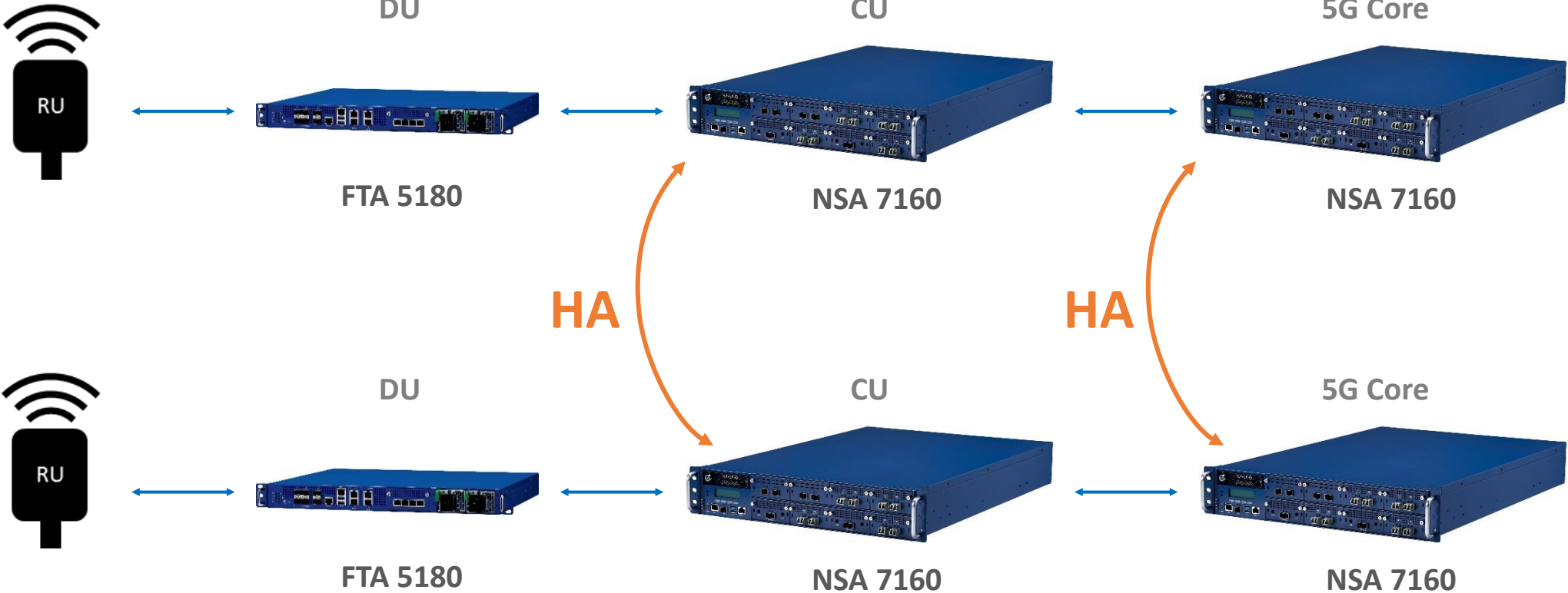


# NSA 7160 – 5G Security





# NSA 7160 – 5G High Availability



# NSA 7160 – 5G Emulator / Packet Generator



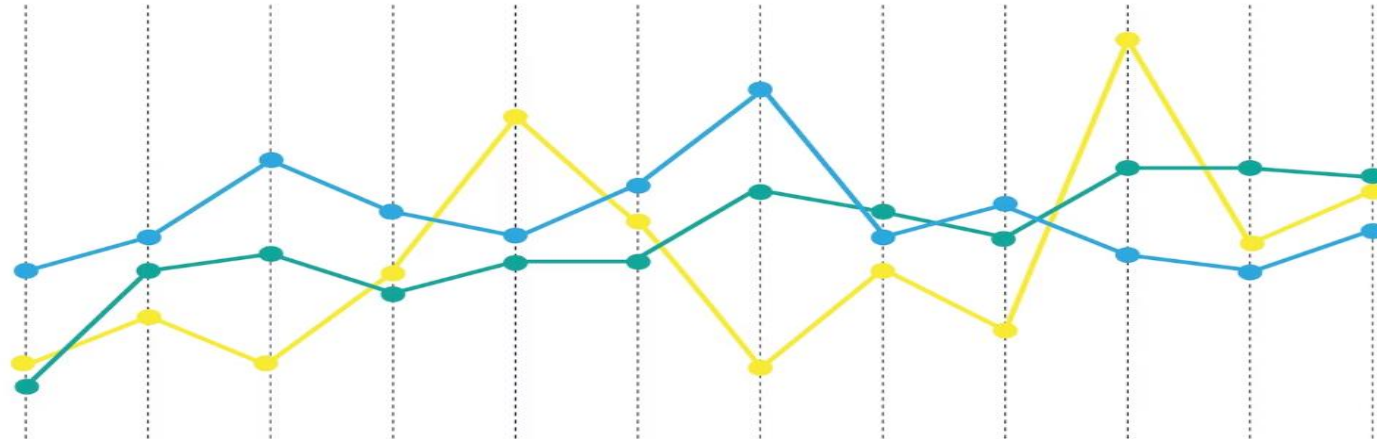
NSA 7160  
(RU + DU + CU)



5G SA  
Core Network



Internet



# 5G CPE Use Cases



## 5G uCPE for Education



## Intelligent Vending Machine



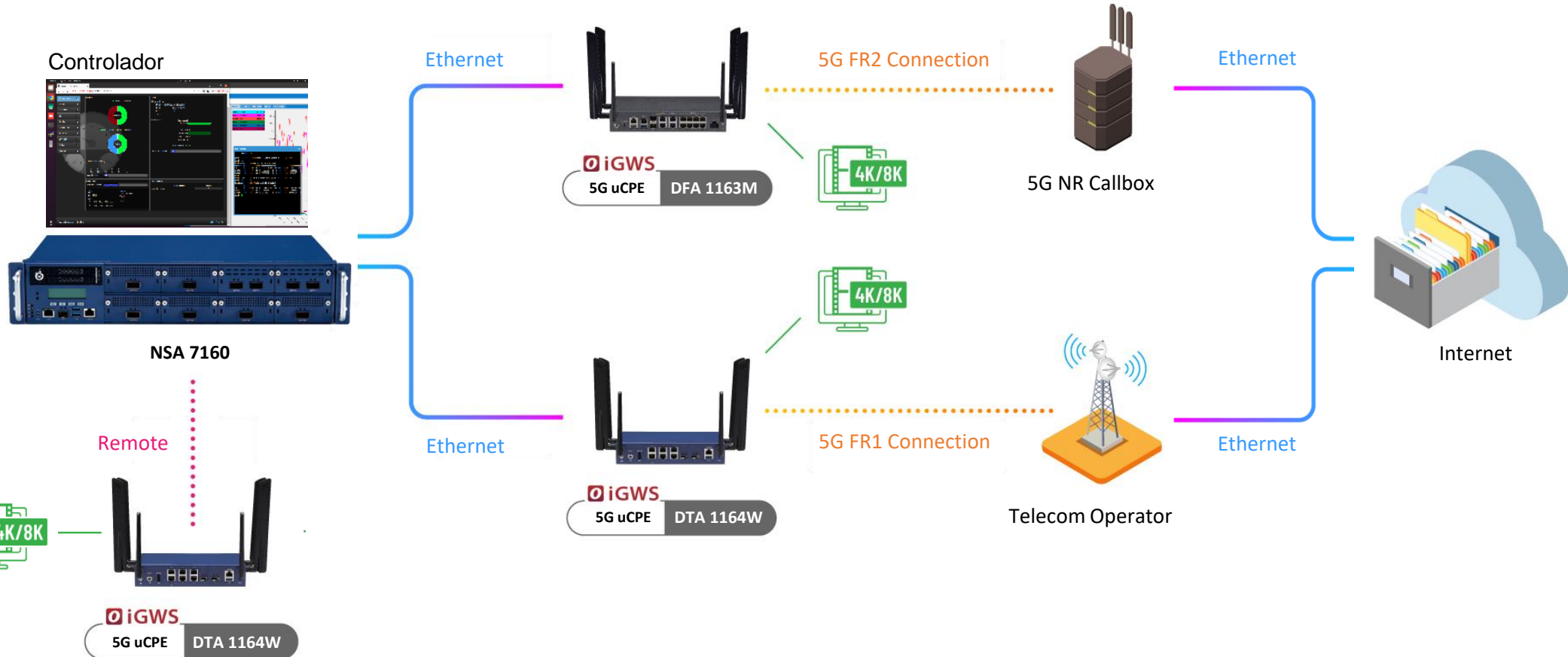
## Autonomous Marine Cleaning Boat



## Smart Pole



# Live Demo – 5G Video Streaming





# Outlook

# 1

## Networking Technology Leadership

- High-Speed (800G/1.6T/3.2T Ethernet)
- High-Frequency (Sub-6GHz, mmWave)
- Ultra-Low Latency (PTP, TSN, SyncE)

# 2

## Innovative Networking Appliance

- Flexible Networking Appliance
- Professional uCPE
- Variety of LAN Modules Adaptation
- Software Valued Features

# 3

## 5G Ecosystem Partners

- State-owned Enterprises
- Academic Institutions
- Independent Software Vendors
- Telco Operators
- Standards Organizations

# THANK YOU

Shaping Future Networks