



# Athonet Private Wireless solutions on AWS

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# AWS Cloud Continuum

Delivering AWS cloud where customers need it

AWS Regions



For most use cases

On-premises – AWS Outposts



Metro centers – Local Zones



5G networks –  
AWS Wavelength



For low latency, local data processing, data residency

AWS IoT Greengrass and  
FreeRTOS



Rugged edge









AWS Snow Family



# Networks cloudified

## Ubiquitous Cloud Programming Model for 5G networks



	 <b>AWS Availability Zones</b>	 <b>AWS Local Zones</b>	 <b>AWS Outpost</b>	 <b>AWS Wavelength</b>	 <b>AWS Snow Family</b>	 <b>AWS EKS Anywhere</b>
Overview	AWS Infrastructure in one or more discrete data centers in an AWS Region	AWS infrastructure and services <b>in large metro centers</b>	AWS infrastructure and services <b>on premises</b>	AWS infrastructure and services in <b>CSP 5G networks</b>	AWS Infrastructure and services in <b>CSP edge locations</b>	AWS container management services for <b>self-managed infrastructure</b>
Use cases	Most general workload. Scalable, fault-tolerant, high-availability deployments for DR	Migration, low latency, local data processing	Migration, local critical apps, data residency	Ultra-low latency, local data processing	Edge computing, data migration, and edge storage in ruggedized environments	Consistent AWS management experience in brownfield deployments
Service model	Scalable capacity in AWS managed & operated facility	Scalable capacity in AWS managed & operated facility	Dedicated capacity in customer's DC, colo, on-prem location	Scalable capacity in CSP DC managed & supported by AWS	CSP edge location	AWS supported software package on 3 <sup>rd</sup> party hardware

# AWS Hybrid Edge

## AWS Outposts



## AWS Outposts servers

1U SINGLE SERVER

2U SINGLE SERVER



## AWS Snowball Edge



## AWS Snowcone



# Rugged edge: AWS Snowcone

- Small, portable, rugged, secure edge-computing device



- Security
- 4.5 pounds (2.1 kg)
- Portable computing, anywhere
- Withstands harsh environments
- Offline and online data transfer
- 8 TB (HDD), 14 TB (SSD) of storage
- 2 vCPU, 4 GB memory

## Use cases

Industrial IoT, healthcare IoT, content distribution, content aggregation, logistics, autonomous vehicles, and transportation

# Solution - AWS Snowball Edge

- Bring the cloud and AWS to remote locations with no or low network connectivity



Tamper-resistant  
Tamper-evident

Handles up to **200G impact**

Can be airdropped

MIL-S-901D

Meets FISMA high, FedRAMP ITAR, CJIS, and DoD SRG Impact Level 6 requirements

Has 40 TB of storage

Has up to 200 GiB of memory

Operates on unconditioned power and in harsh environments (0° to 45°C)

Data secured with military-grade encryption

Designed to be operated by non-technical personnel

Weights ~22 kg – can be handled by a single person

~22kg

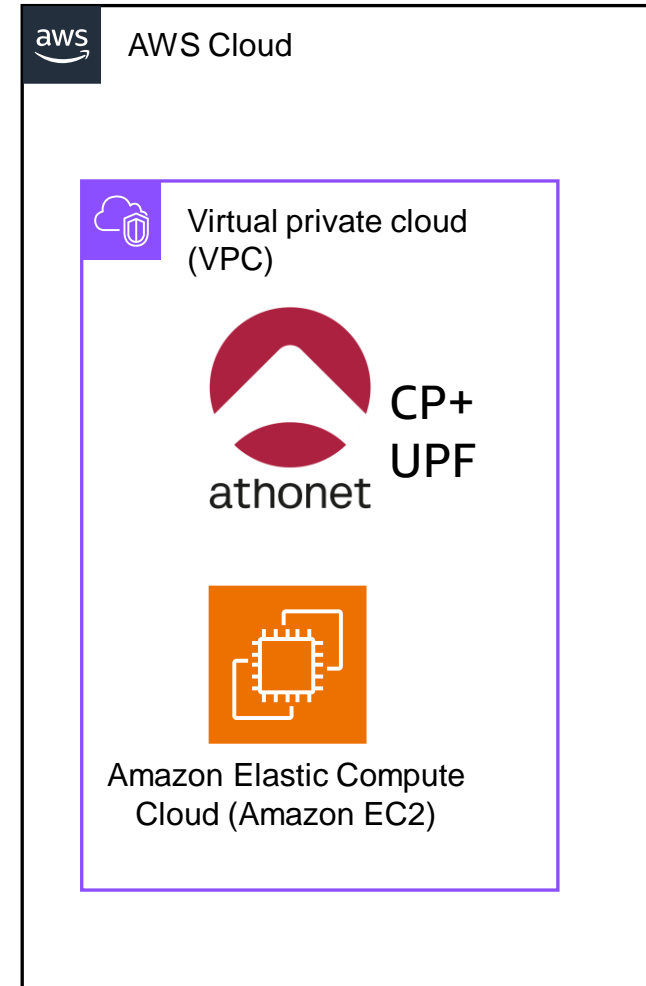
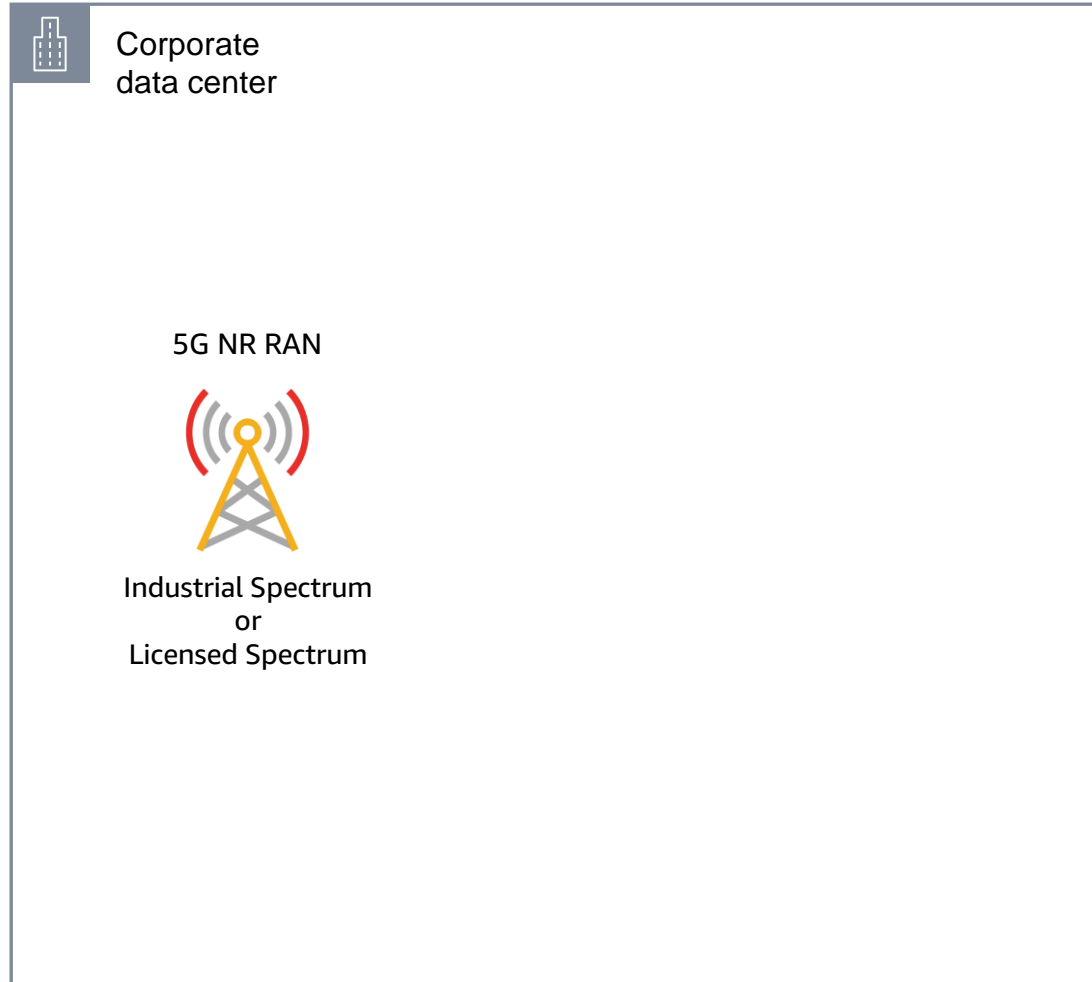
The image shows a grey, ruggedized AWS Snowball Edge device. It is a rectangular box with a handle on top and a latch on the front. Surrounding the device are several circular icons: a padlock for tamper-resistance, a parachute for airdropping, a thermometer for temperature range, a snowflake for harsh environments, a fingerprint for security, and a scale for weight. A vertical bar with a sun at the top and a snowflake at the bottom indicates the temperature range.

# Athonet core on AWS Outposts Connected mode

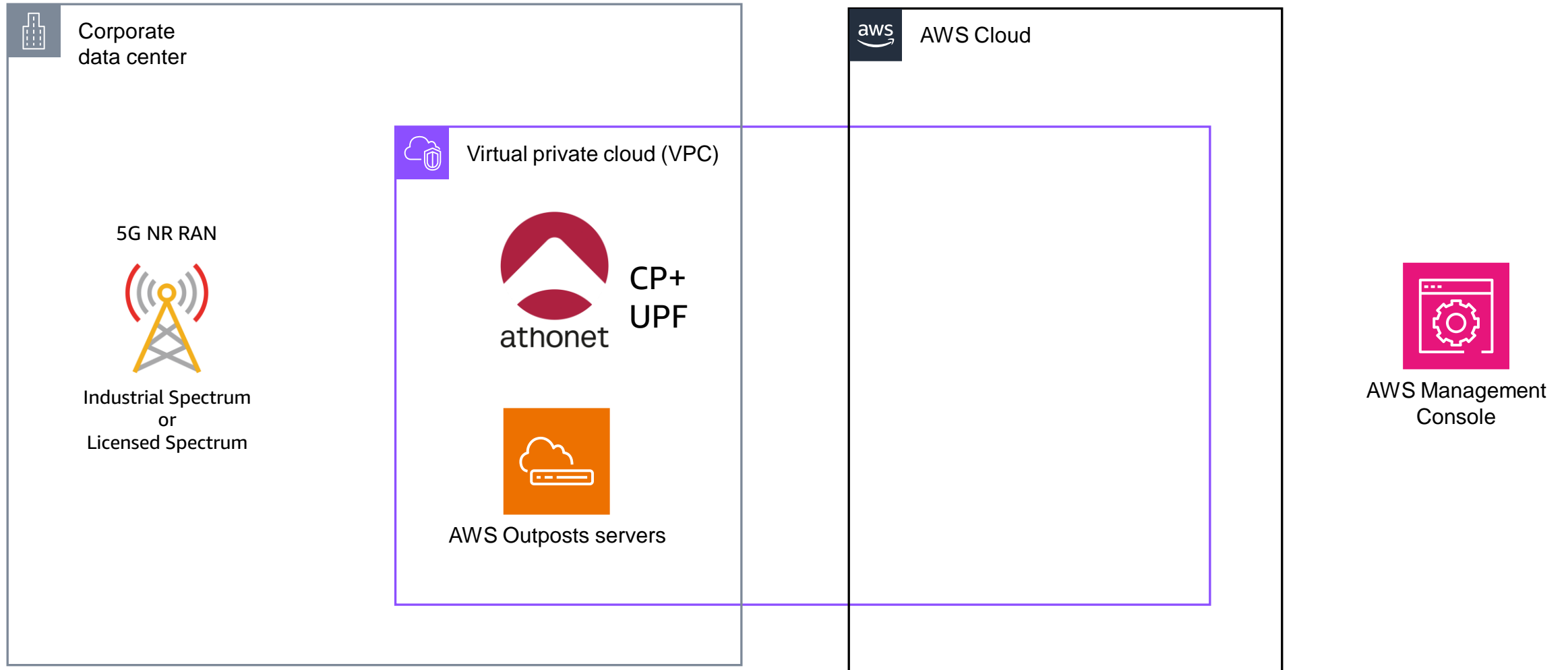




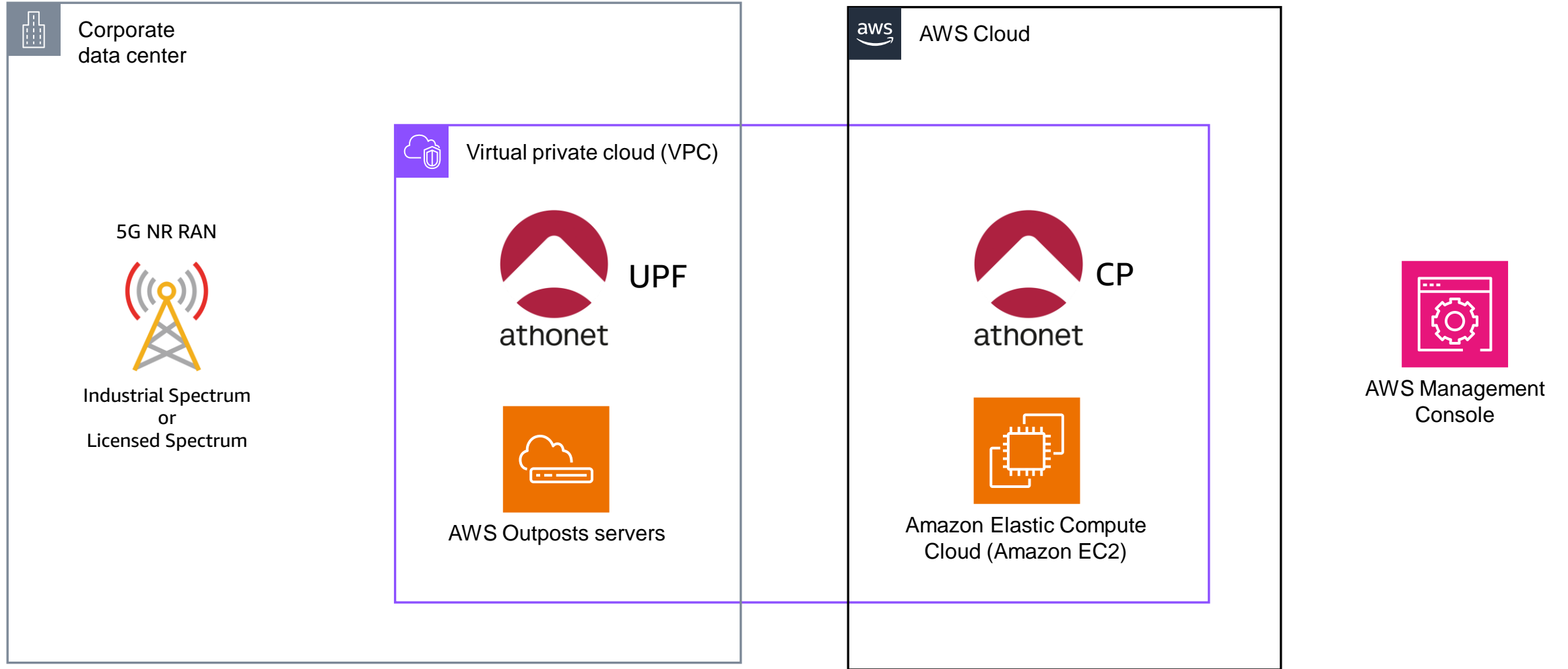
# Full Private Core Control Plane + User plane

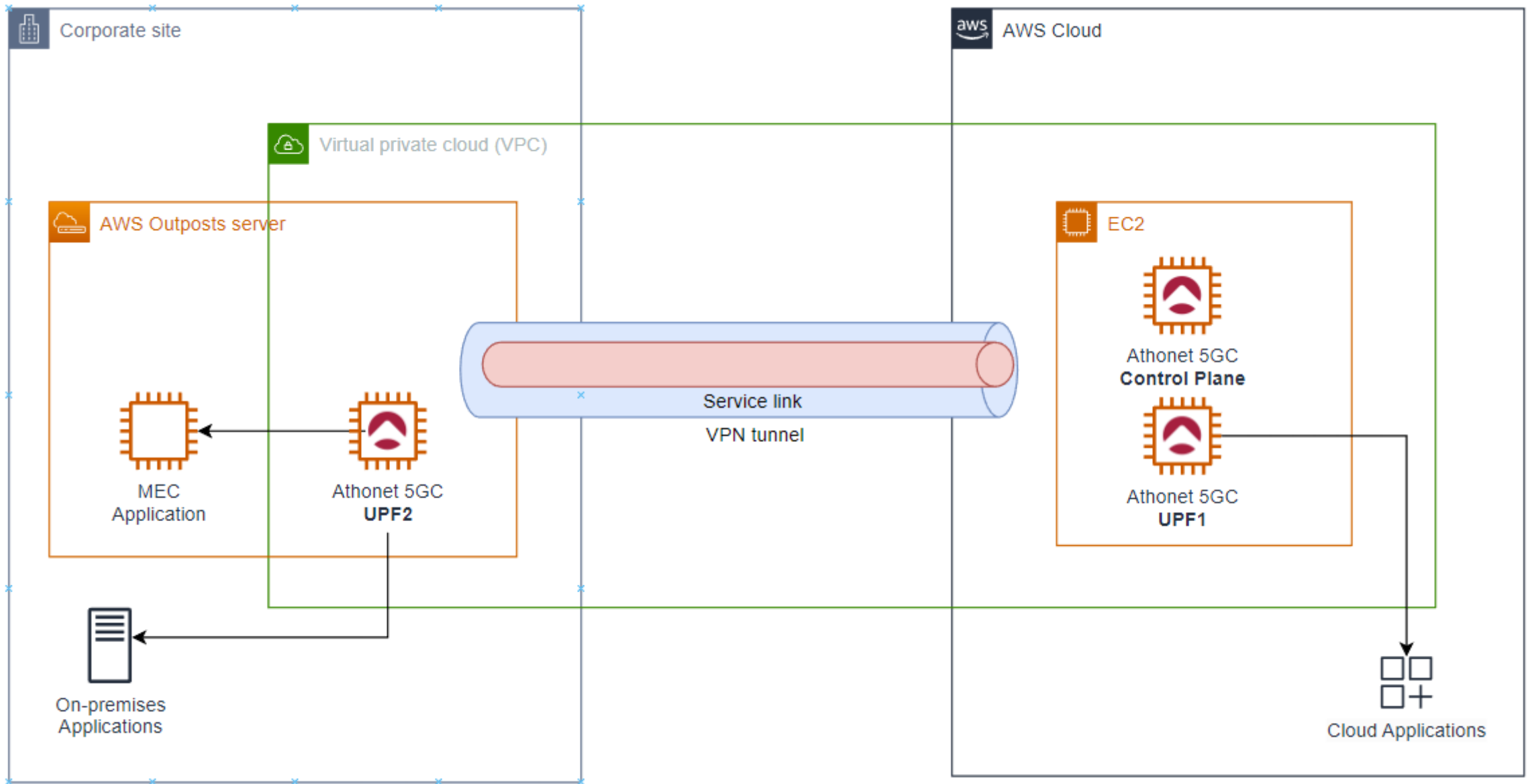


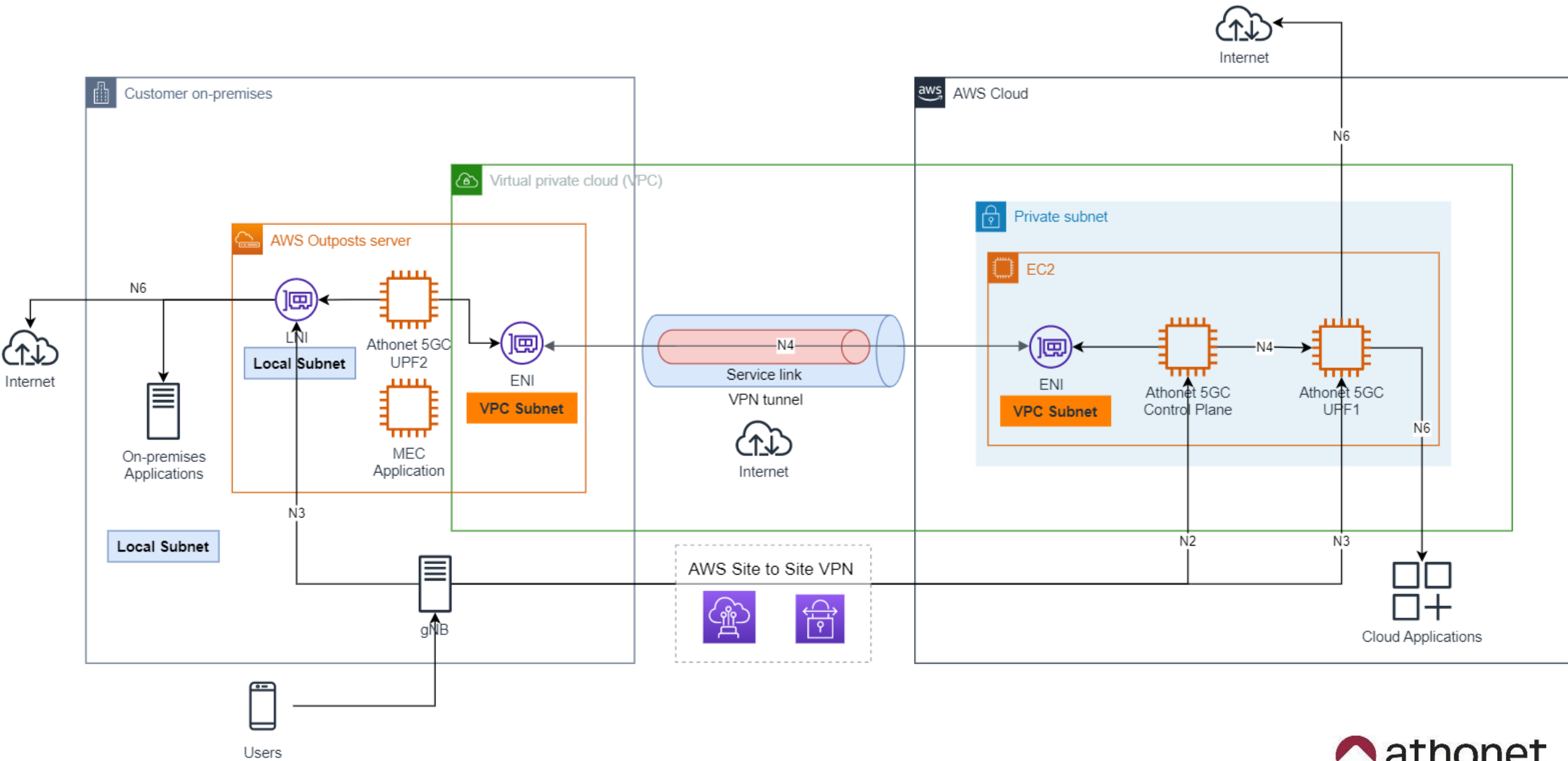
# Full Private Core Control Plane + User plane



# Separated Private Core Control Plane / User plane





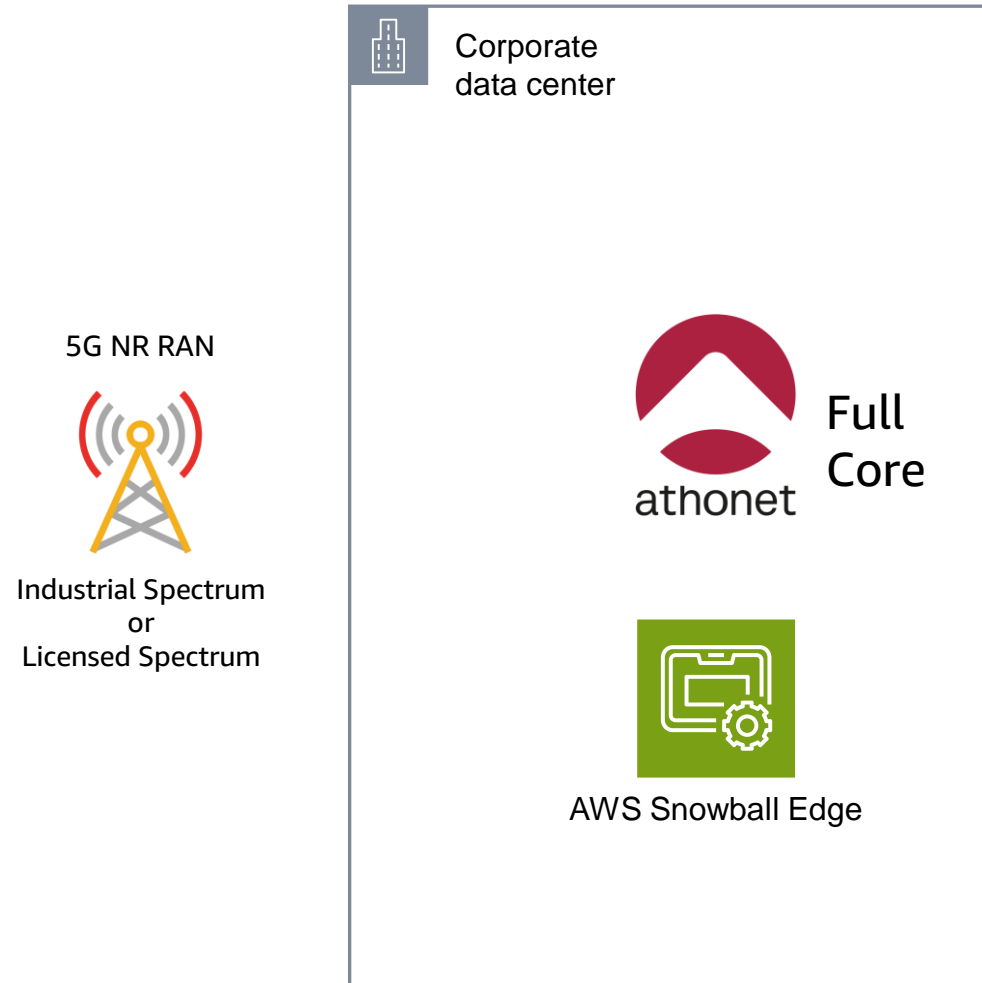


# Athonet on AWS Snowball Edge Disconnected mode




# Full Private Core Control Plane + User plane

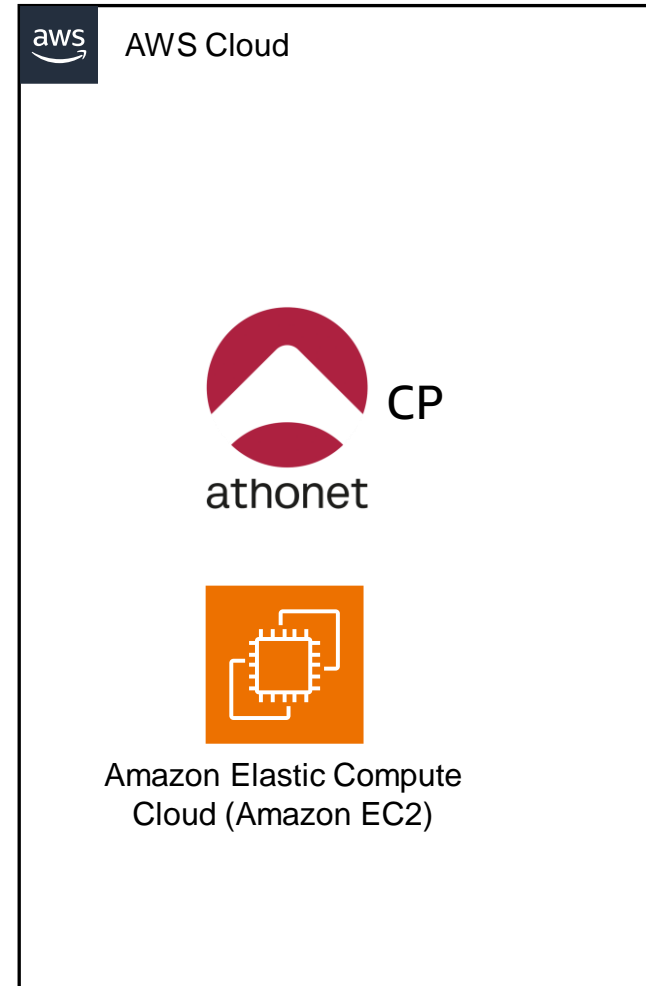
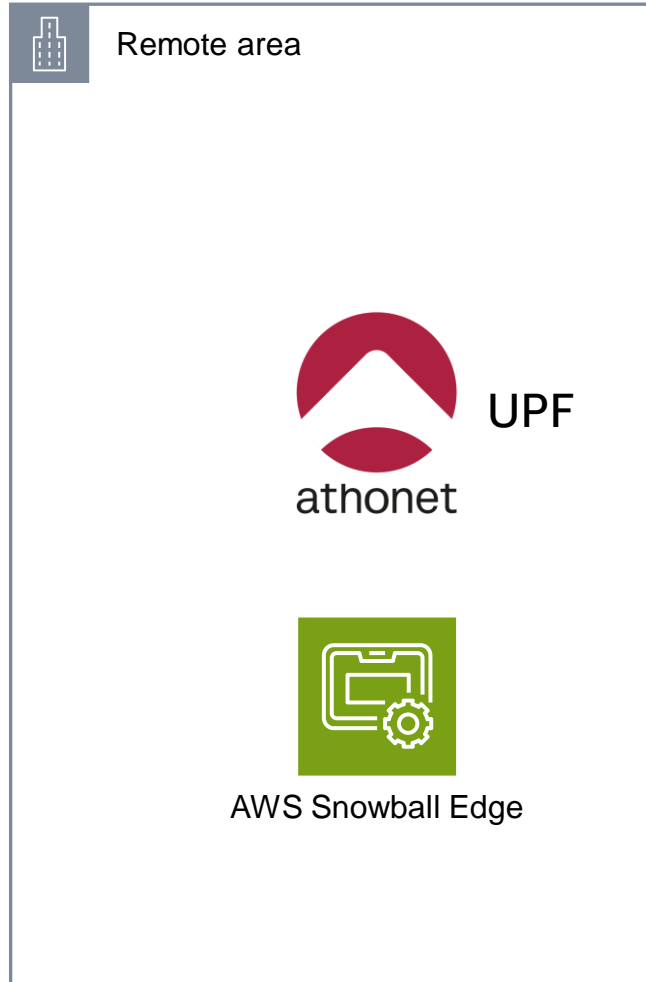
remote areas



# Separated Private Core Control Plane / User plane

# remote areas

5G NR RAN  
  
Industrial Spectrum  
or  
Licensed Spectrum

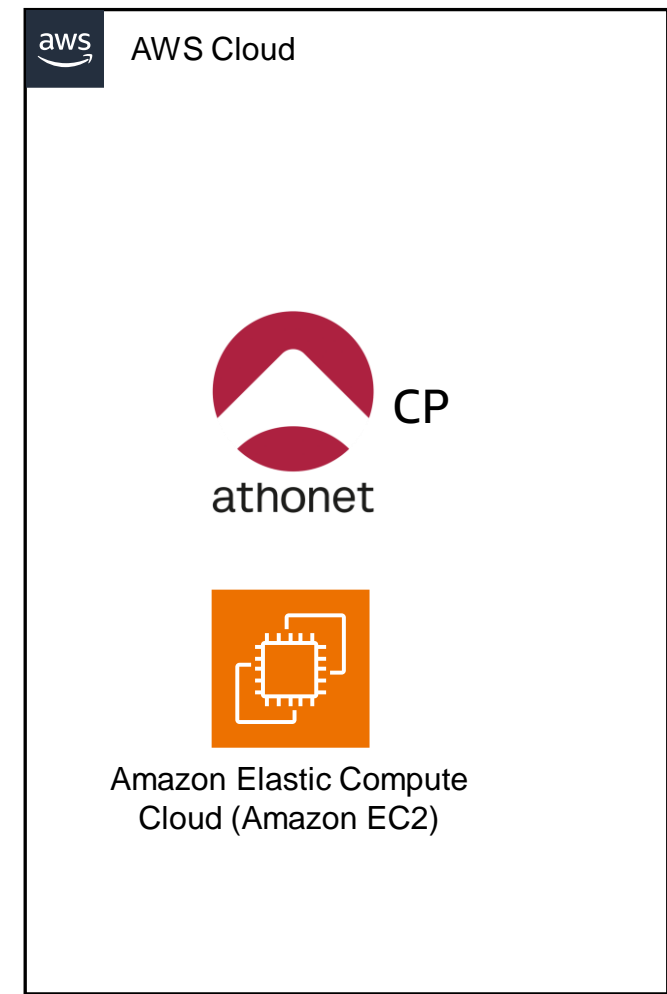
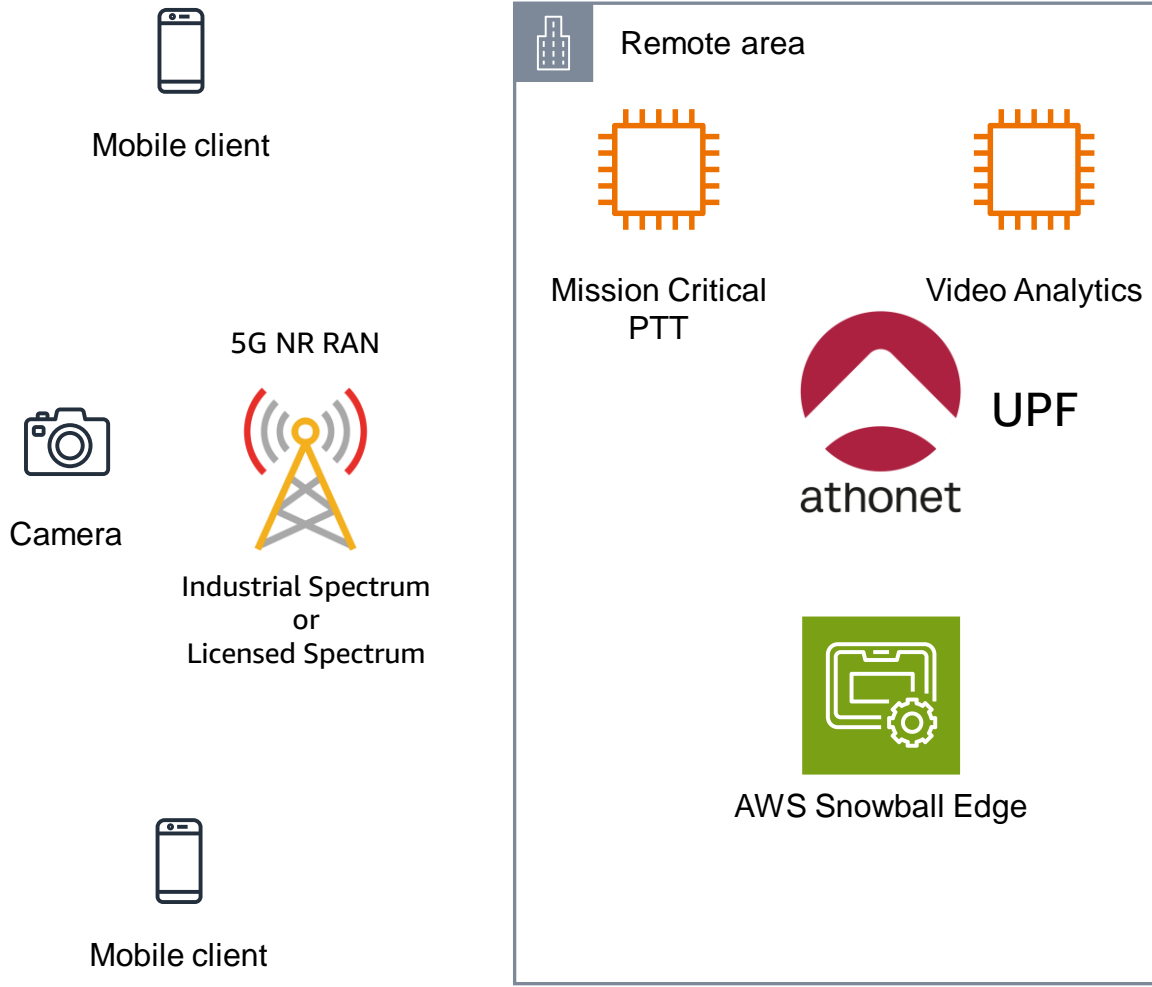


  
AWS Management  
Console



# Separated Private Core use cases

# remote areas



### 5G Devices



VR



UE



CPE



devices



Camera

### Spectrum

Broadcast  
PLMN1  
PLMN2  
PLMN3



MOCN

Private  
5G SA @ 3.6  
GHz only

Public  
5G NSA & SA @  
3.5 GHz

### Access



RU



Bridge



BBU

an example 3-level equipment

### IPBB



Switch



Firewall



Internet



Private network core - Edge deployment



5GC



Video  
Analytics



Tassta  
MCPTT



AWS Wickr



AWS Snowball Edge



# Private network use cases

Watch 4-min video

# Use case 1 video analytics

# Use cases – Video Analytics



**PPE Compliance: Channel 0**



**People Counting: Channel 0**



# Use cases - Video Analytics

**People Tracking: Video Wall**



**Face Mask Detection: Channel 0**



# Use case 1

## mission critical communications



# TASSTA SOLUTION

COMMUNICATION, LOCALIZATION,  
ORGANIZATION AND SECURITY





# INNOVATIVE & RELIABLE COMMUNICATION

- PTT-based radio system
  - For Android, Windows & iOS
  - For mobile and desktop clients
  - User-friendly and intuitive design
- 2G
  - 3G/4G
  - E1
  - DMR
  - BLUETOOTH
  - IP
  - LTE
  - TETRA
  - WIFI
  - NFC



Customize **TASSTA** for your **business and organization**

Emergency & Alarming Solution

Tactical Maps

Command & Control Center

GPS 

Map Tools 

For various industries



Police



Governmental Organization



Oil & Gas



Transport



Emergency



Hospitals

Mission Critical  
**DATA**

Mission Critical  
**VIDEO**

Software company

Based in Germany

Over **50 partners** globally



Cloud Server



On-premise Server



Redundancy & Recording



Task Manager



Messaging



Indoor Localization



**TASSTA**

Mission Critical Solutions

**Lone Worker Protection**

**Guard Tour** 

End-to-end **Encryption**



Any Devices

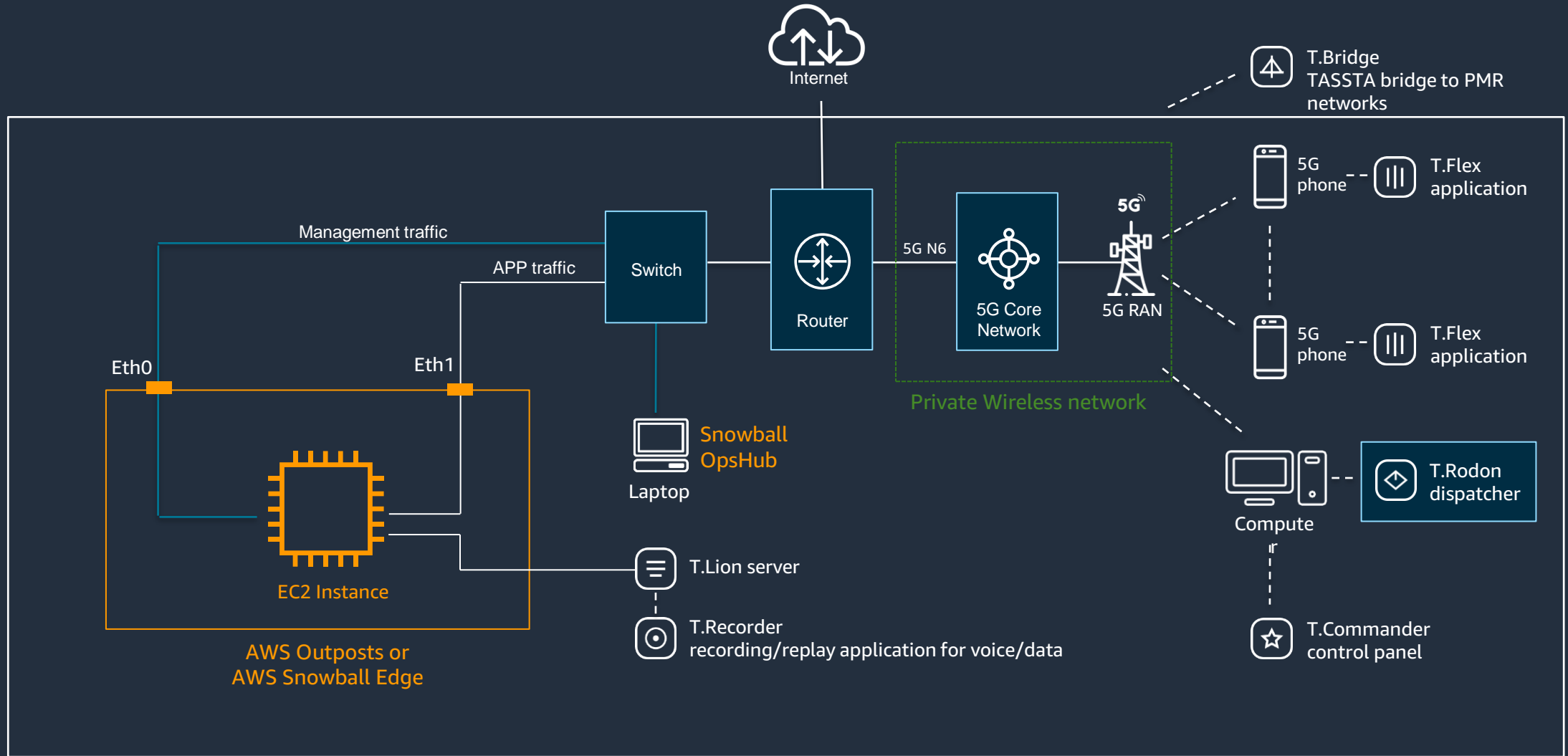
CERTIFIED



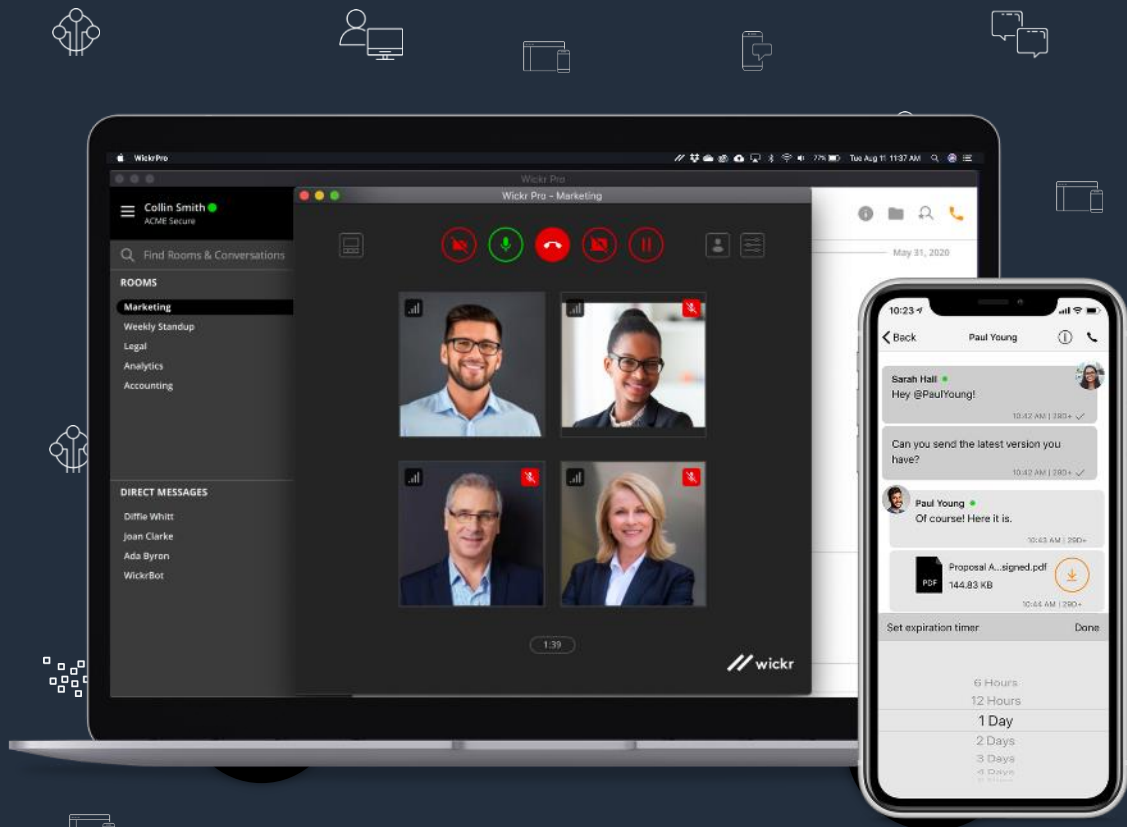
3GPP MCX ETSI Plugtests



# Mission critical communications (Tassta GmbH)



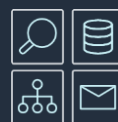




Single product with full suite of **collaboration** capabilities



**Censorship Avoidance** around the world through a series of global proxy servers



Enterprise management **administrative control** and IT integration



**Data retention** service supports records retention and data privacy



Managed, self-hosted, and air-gapped **deployment options**



State of the art **end-to-end encryption (E2EE)**



Operates securely on personal devices **without the need for VPN** or special software

# Who uses AWS Wickr?



**Enterprises**  
use AWS Wickr  
for out-of-band  
communications  
for disaster  
recovery and IR



**Government**  
agencies use  
AWS Wickr to  
insulate high-  
target  
communications  
from threats



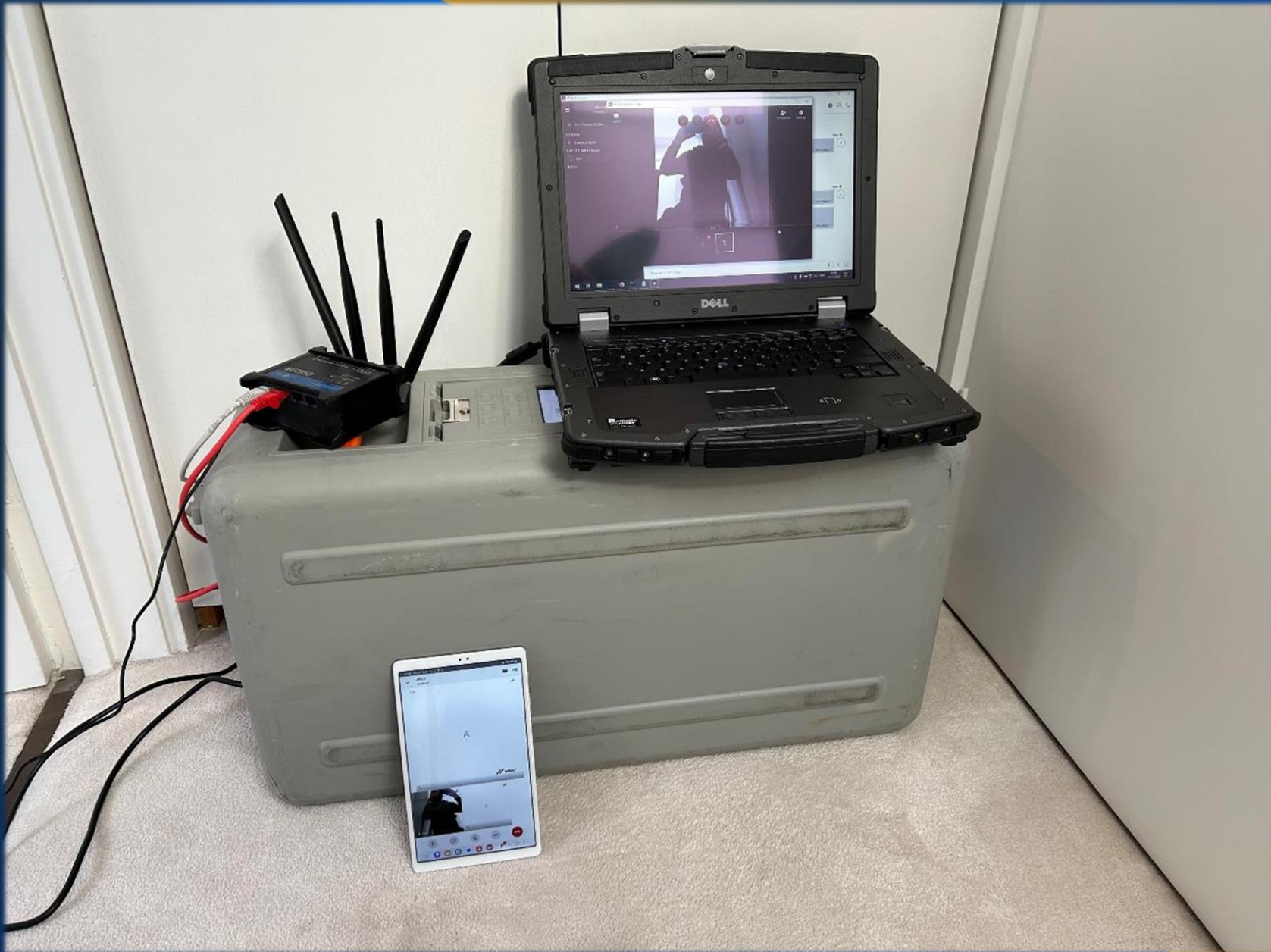
**The military**  
uses AWS Wickr  
to meet DOD  
requirements  
while ensuring  
secure  
collaboration



**Police**  
use AWS Wickr to  
protect  
interactions  
between tactical  
and investigative  
teams



**Healthcare**  
organizations use  
AWS Wickr to  
share sensitive  
information  
including PHI





# Thank you!

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