



# Evolving Enterprise Networks with Private 5G



Cisco Knowledge Network

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# Today's Presenters



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Senior Manager, Mobility  
Product Marketing



# Today's webinar ...

- Introducing a new paper on Private 5G
- Updated look at P5G status in the Enterprise
- Emerging topics of innovation relevant to enterprise
  - Disaggregated RAN
  - Roaming and handoff
  - Security
- Collaborative effort by 5G vendor and provider experts:

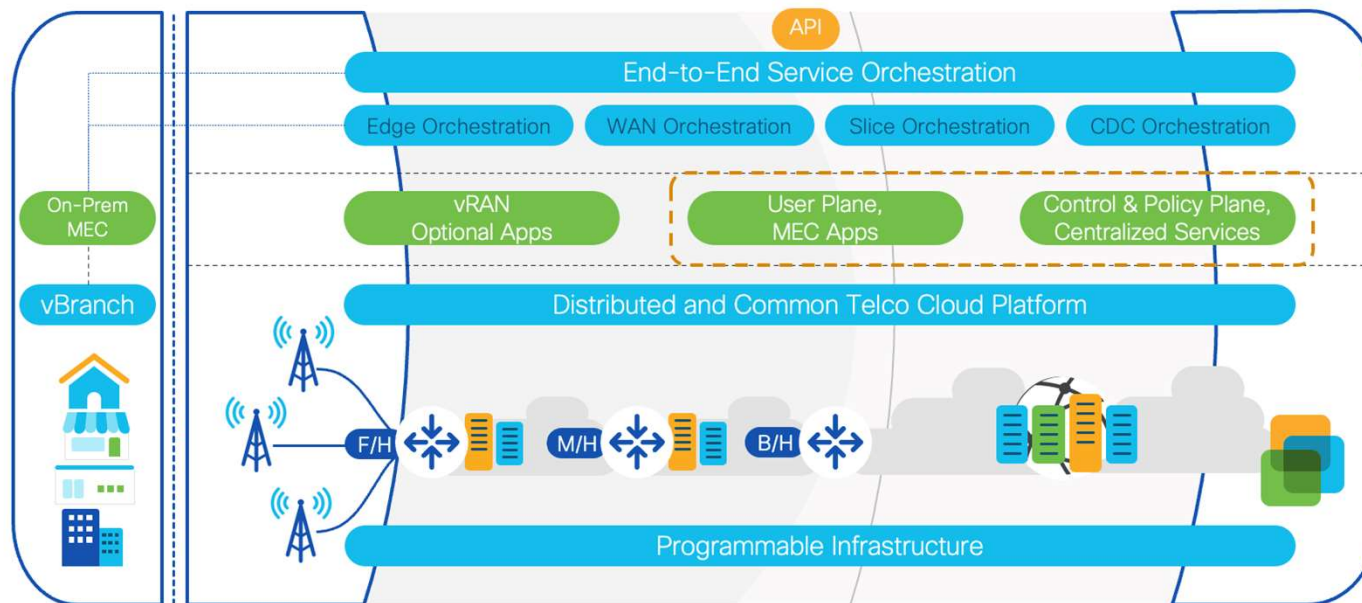
Cisco Systems	T-Mobile
AT&T	Airspan
Ericsson	Samsung
Mavenir	



[Enterprise Evolution with 5G Adoption](#)



# 5G Recap - Towards a new end-to-end architecture



## T-Mobile and Cisco Launch World's Largest Cloud Native Converged Core Gateway

# Private 5G Use Cases

## Industrial/Manufacturing

- Robotics Process Automation and Emergency Control
- AGVs and driverless vehicles
- High speed SW downloads
- Surveillance and measurement



## Distribution/Warehouse

- Autonomous forklifts, AGVs, AMRs for inventory logistics
- Distribution line/workflow automation
- Push to talk
- Location tracking



## Government/Venues

- Building sensors
- Internal critical communication



## Ports/Hubs/Oil & Gas

- Seamless coverage area
- Remote workers – for maintenance, repairs, data collection
- Video surveillance – remote safety
- Unmanned autonomous vehicles



# P5G Deployment Considerations and Challenges



## Applications

Latency, Reliability,  
Scalability, Ease of  
operations, throughput...



## Devices

Local and global  
Eco-system  
  
Handhelds,  
AGV/AMR,  
Dozer, Cranes, Rail



## Logistics

Regional regulations  
spectrum  
Indoor / Outdoor  
Access / backhaul  
Cyber-security



## Integration

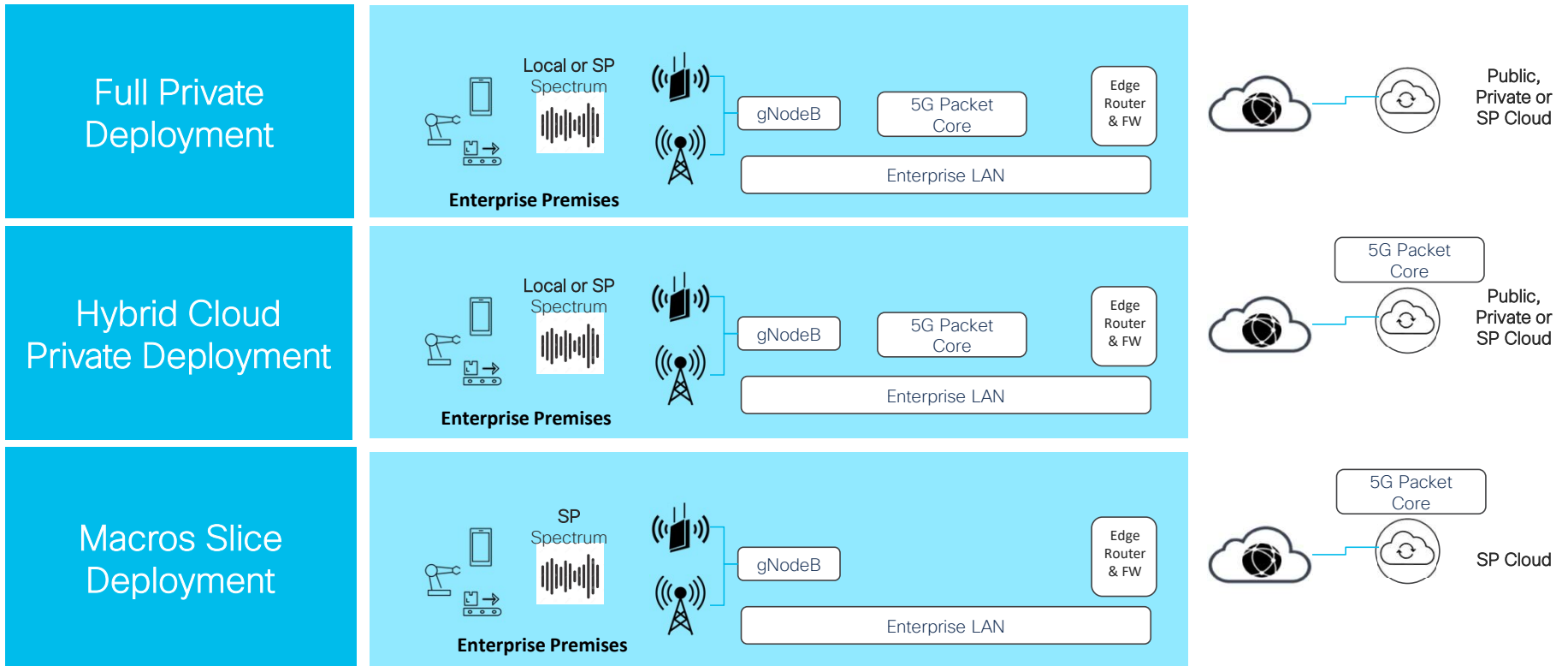
**Wired:** Ethernet, serial,DSL  
**Wireless:** Wi-Fi, Cellular,  
LoRaWAN,...  
**Spectrum:**  
Unlicensed, Licensed: Private,  
Public, Shared



## TCO

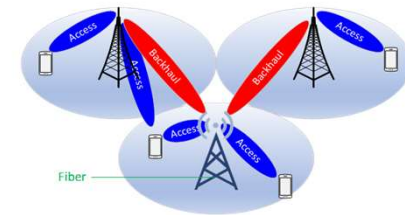
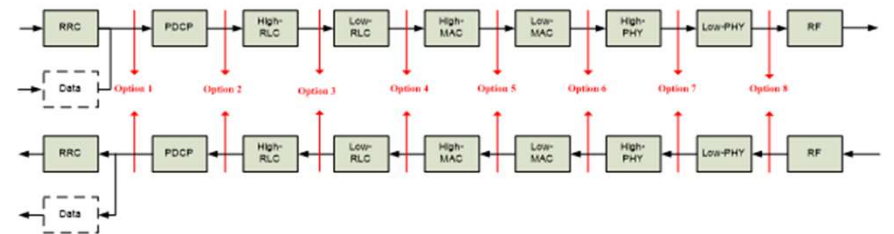
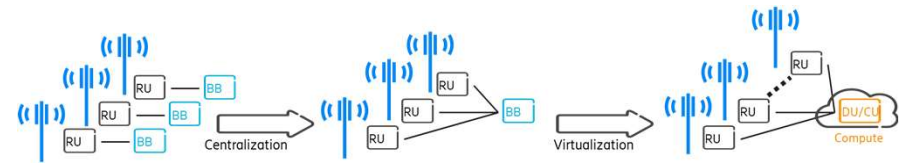
Product costs?  
Operational costs?  
Complexity?  
Training?  
Backward compatibility?

# P5G Dominant Deployment Models



# RAN Disaggregation and P5G for Enterprise

- RAN offers for Enterprise:
  - AIO small cells, Classical RAN, Virtual RAN, Open RAN
- RAN Evolution:
  - Distributed RAN, Centralized RAN, Virtualized RAN
- RAN Split options
- vRAN pros and cons for enterprise
- Shared ORUs and benefits for enterprise
- MOCN, MORAN and ramifications for enterprise
- Transport options
  - Integrated Access and Backhaul, Hybrid Fiber Coaxial Cable, Ethernet, Passive Optical Networks





# Mobility Ramifications for P5G in Enterprise

- Mobility Concepts: Subscriber ID, SIM/eSIM, PLMN, Handoff, Roaming, mobility restrictions
- Mobility Scenarios applied to verticals and use cases
- Cellular Identity onboarding in Enterprise context: PNI-NPN, SNPN
- Application based Mobility vs. Network based Mobility
- Shared Networks: MOCN, MORAN, shared ORU
- Roaming between Public and Private Networks



Case 1  
No Roaming  
between Enterprise  
and MNO



Case 2  
Full Roaming  
between  
Enterprise and MNO



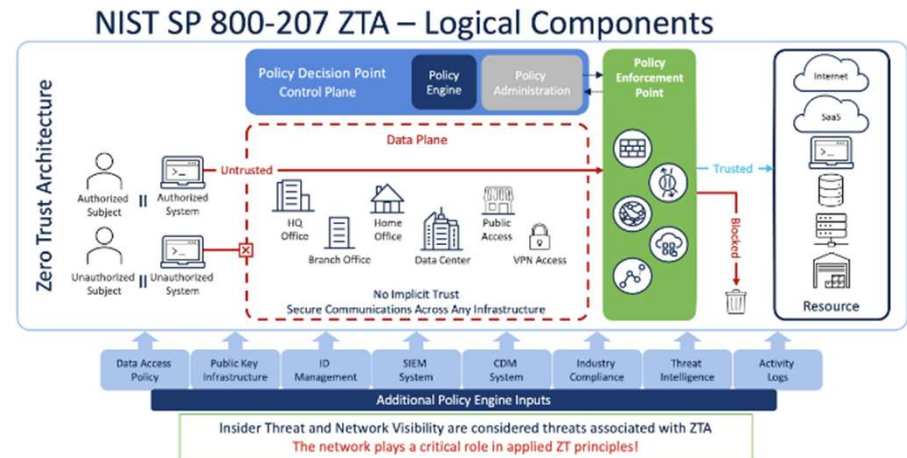
Case 3  
MNO allowed to  
roam into  
Enterprise



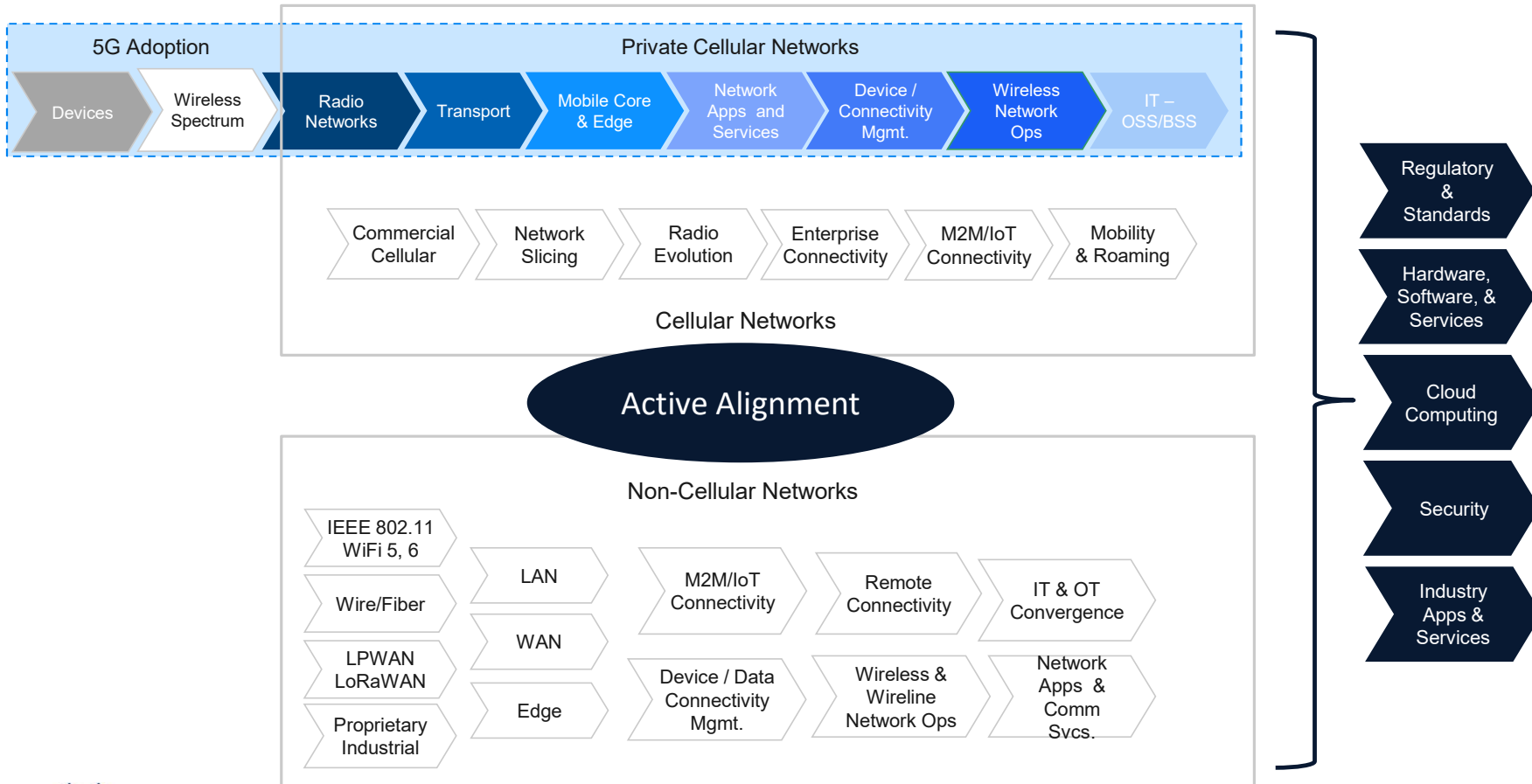
Case 4  
Enterprise allowed  
To roam into  
MNO

# Security Ramifications for P5G in Enterprise

- Enterprise Security requirements: Zero Trust
- 5G Security
- Enterprise Security Policy
- Enterprise Data Protection
- Identity Management and Access Control
- RAN Security



# P5G Topics Under Active Development





# Cisco Private 5G

Simple. Intuitive. Trusted.

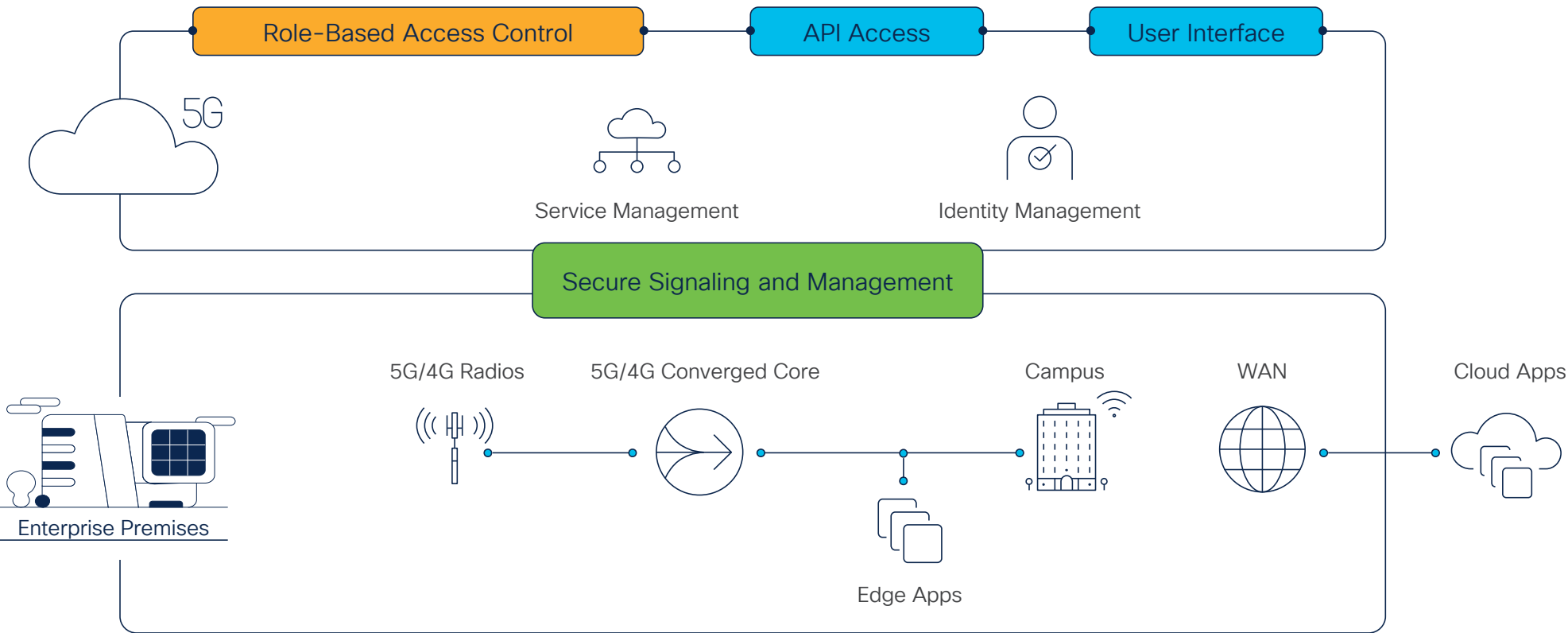
Ben Bleichman, Product

January 2023

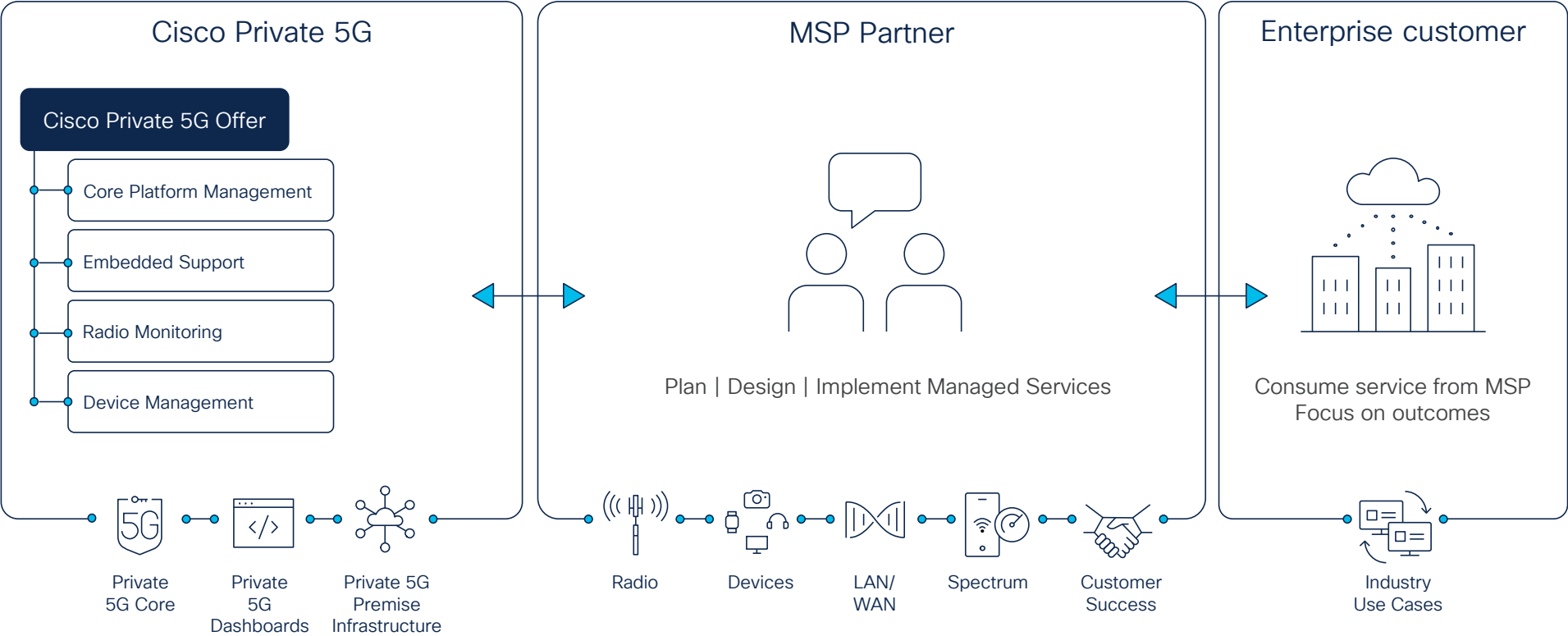
# The Cisco differentiator for Private 5G



# Making Private 5G simple and secure

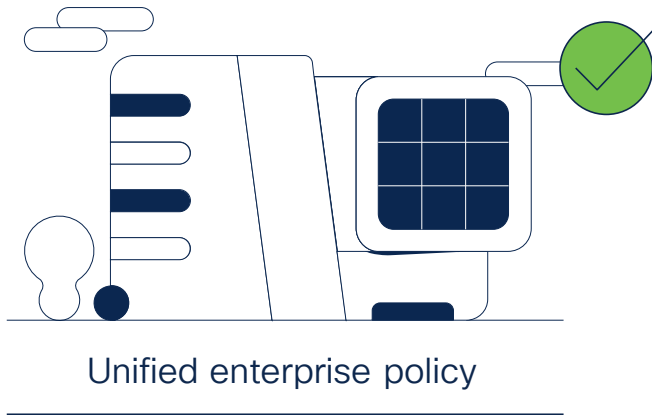


# Partner-led GTM



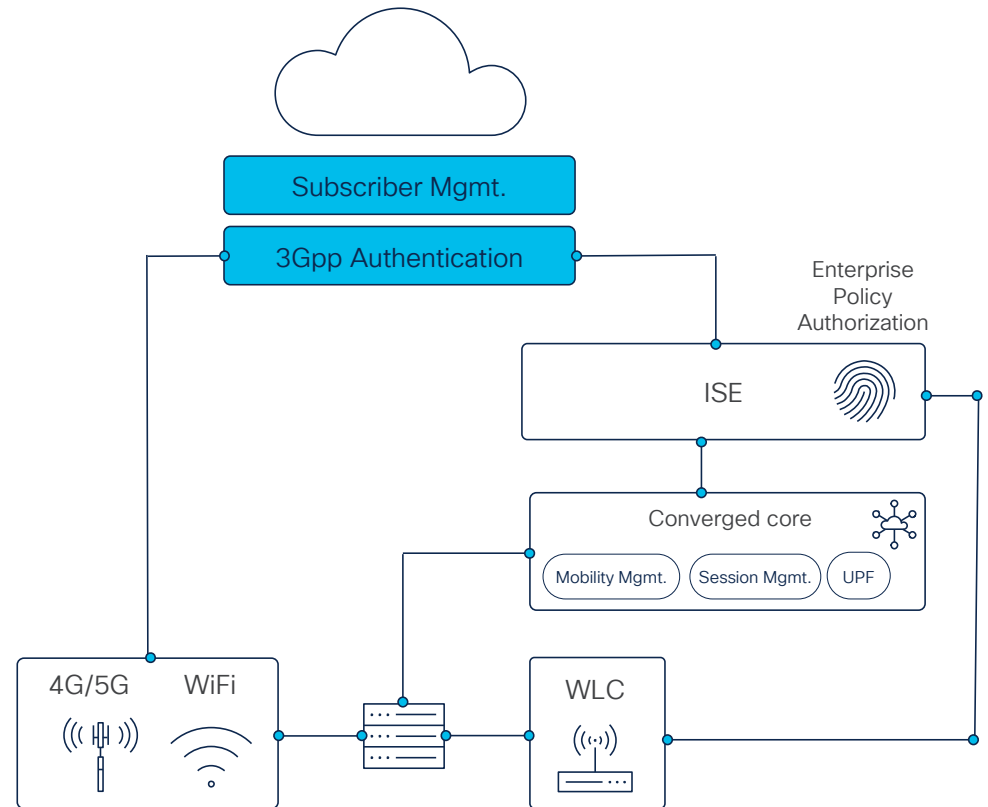
# Designed for the enterprise and ready to integrate

For example: Identity and Policy



## Single point for identity-based enterprise policies

- For Private 5G, Wi-Fi, and Wired Networks





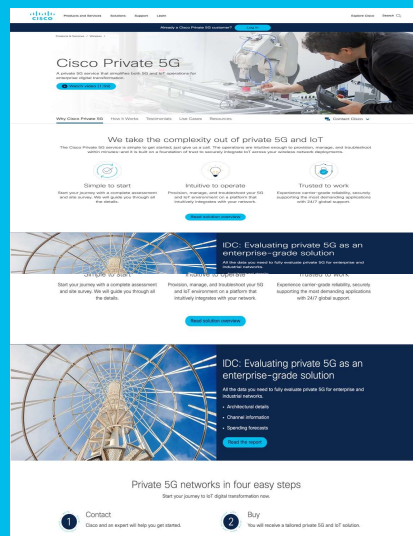


# Cisco Private 5G Demo



For more information visit

[cisco.com/go/private5g](https://cisco.com/go/private5g)



<https://www.5gamericas.org/enterprise-evolution-with-5g-adoption/>



# Questions?





The bridge to possible