

シスコサービスプロバイダー テクノロジーウェビナー

# エンタープライズ5Gを解き放つ

イアン・キャンベル  
シスコモビリティ/ケーブル事業担当CTO

CISCO *Engage*



# Enterprise 5G Use Cases and Global Demand



Industrial IoT



Oil and Gas



Mining



Sporting venues



Healthcare



Entertainment



Coverage

Wide area coverage



Clean spectrum

Eliminate interference



Mobility

Reliable handover for AGVs



Power of 5G

Latency, throughput, scale



Security

Cellular Security



Enterprise led

Freedom of choices

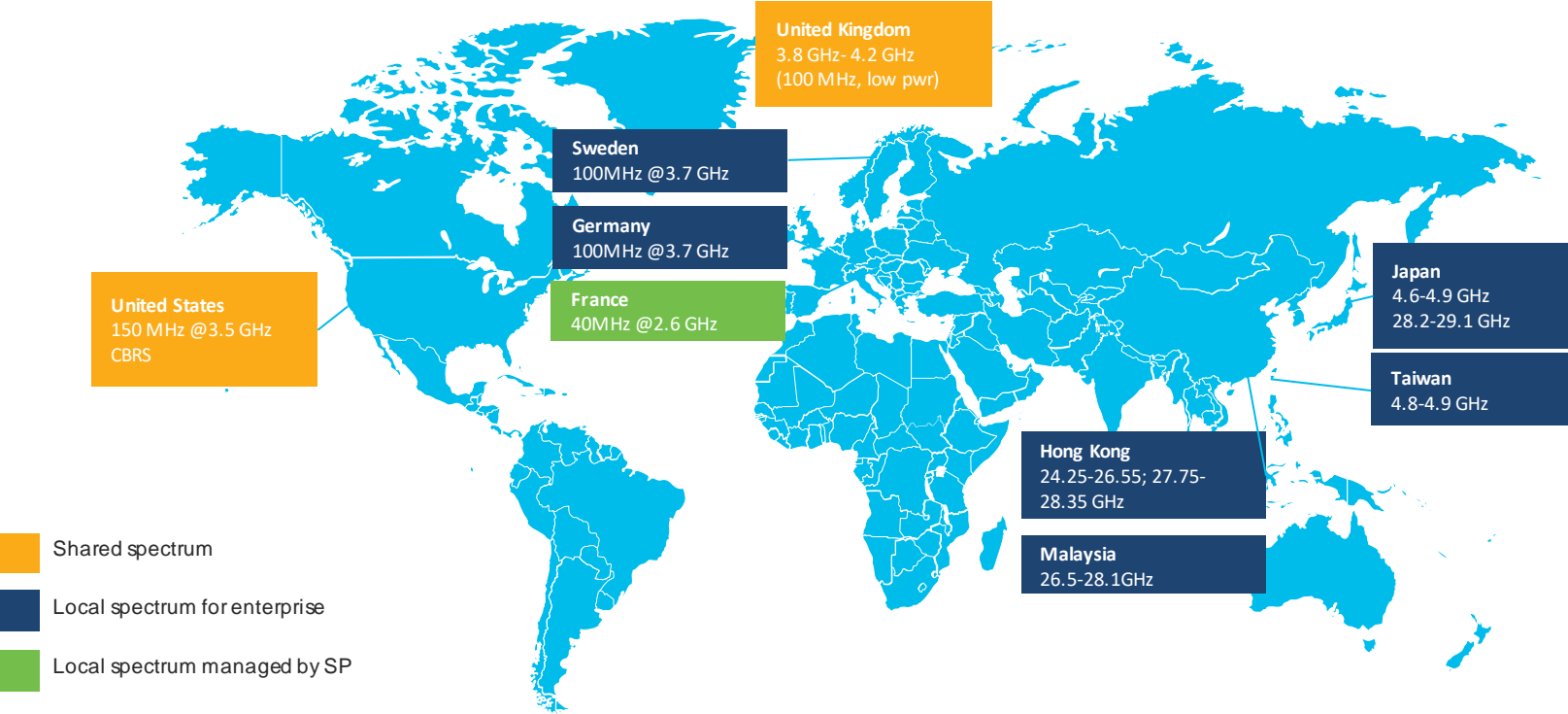
North America

Germany / France / UK

Japan / Hong Kong / Taiwan

Australia

# Global Private Spectrum Landscape



# Enterprise Private 5G Requirements



## Connectivity

- Core assets wirelessly connected over 4G/5G
- Enable carrier owned and/or enterprise procured spectrum



## Control and Flexibility

- Allow enterprises to manage network services, policies and configuration params
- Enterprises onboard/provision new UEs, SIMs, and Edge Radios



## Identity

- Enterprises extend SD-LAN policies for 4G/5G devices
- Enterprises define service parameters for QoS, application usage, and location



## Consumption

- Cloud service for enterprises to launch and deploy services within the enterprise
- Operations and management delivered from the cloud



## Extensibility

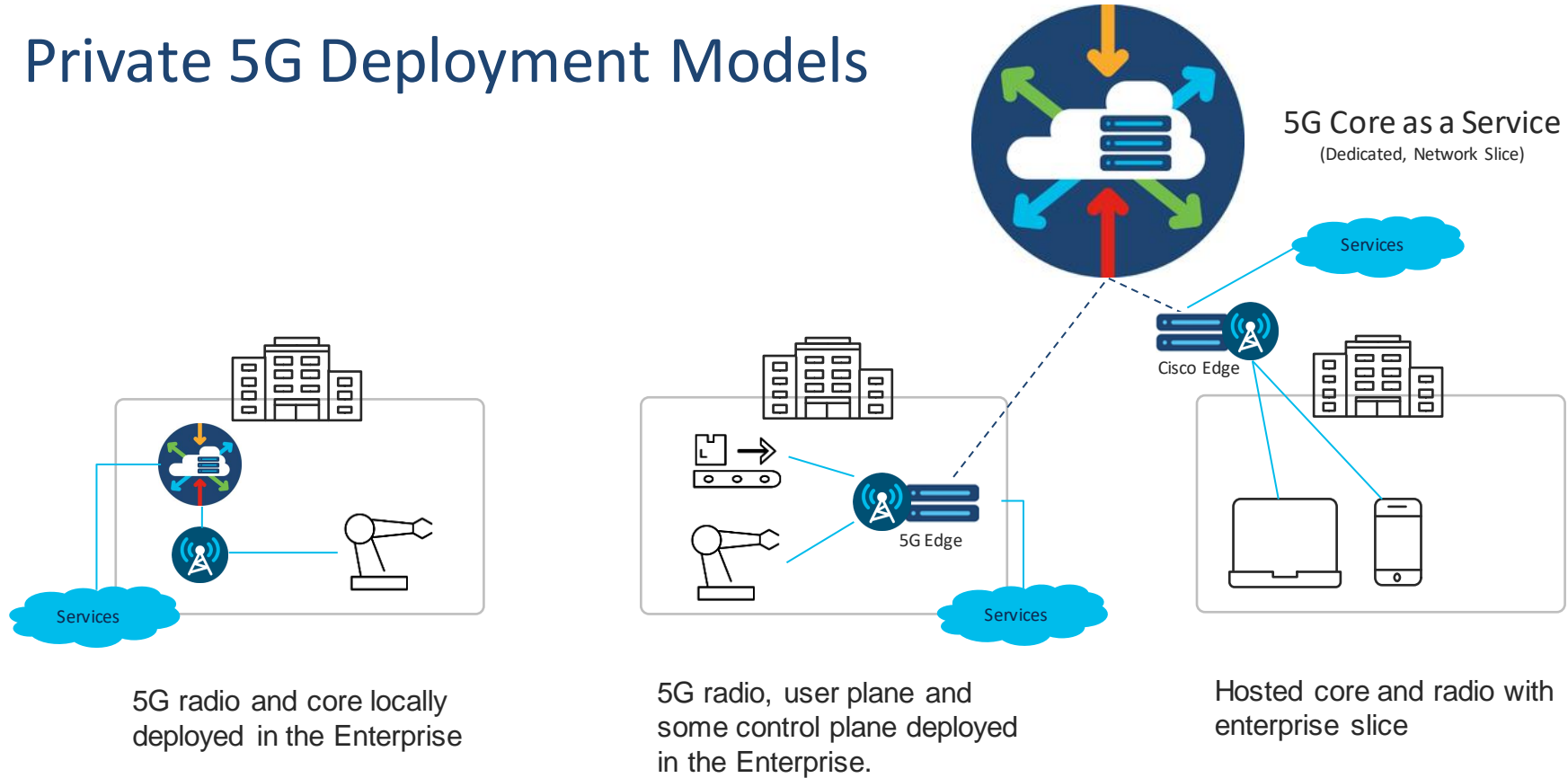
- Secure extension into public network when required, e.g., for expanded coverage
- Enable voice services to extend into the public network when required



## Security

- Keep traffic within the enterprise network for low latency and mission critical services
- Extend enterprise data protection and sovereignty requirements to the cloud

# Private 5G Deployment Models



# Enterprise Private 5G + SD-LAN Integration



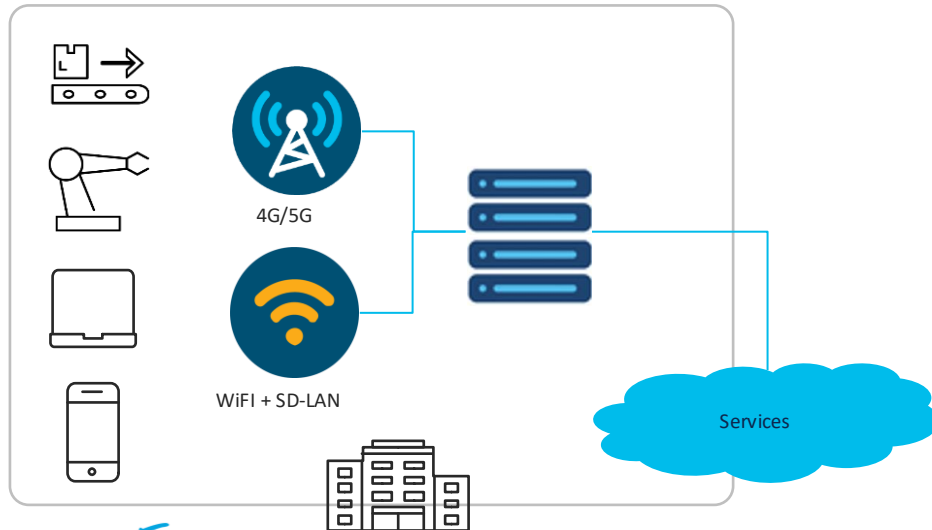
Cisco DNA



APIs

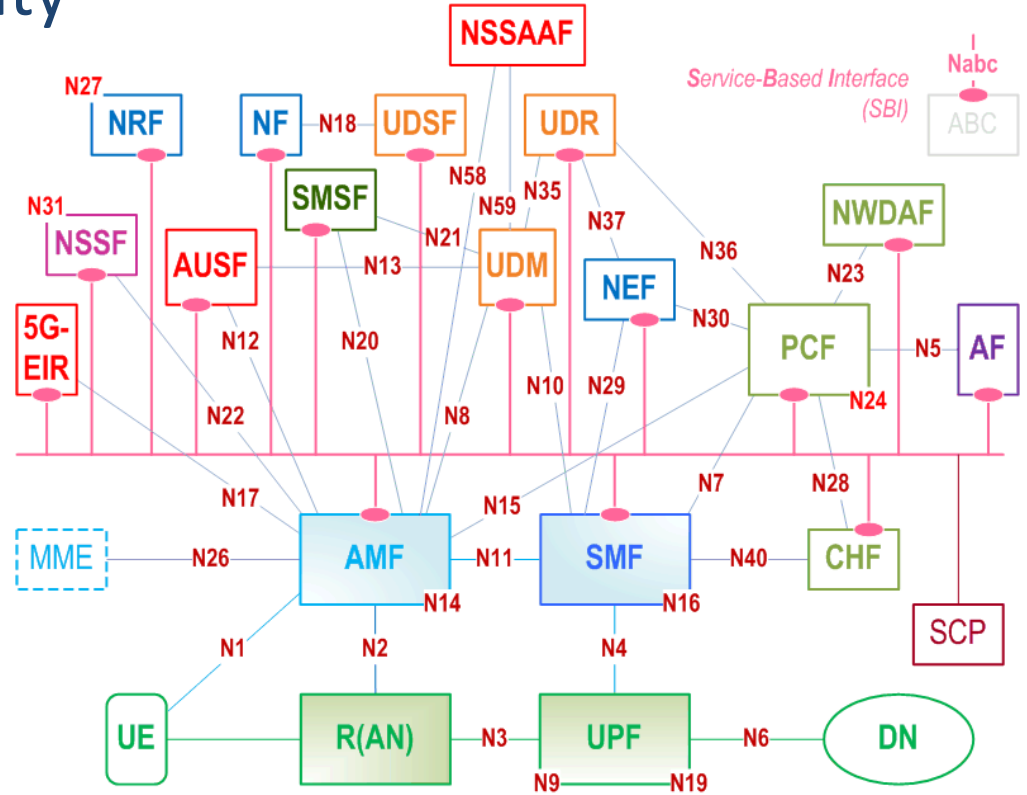


Cisco Control Center



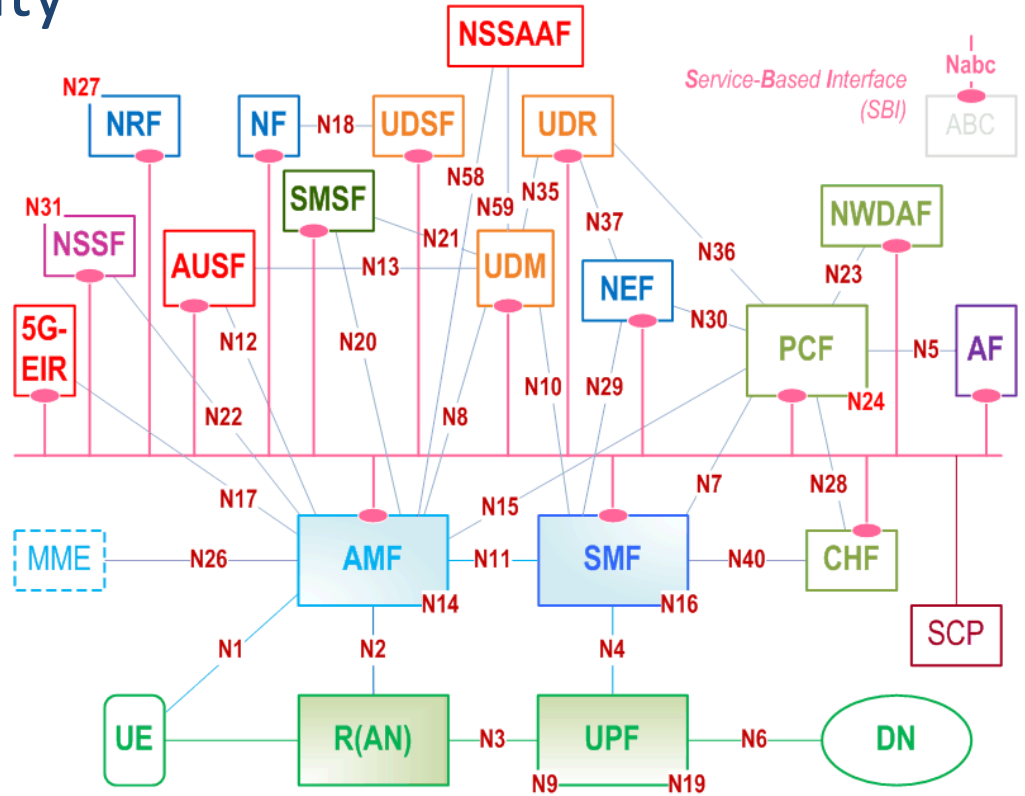
- Private 5G should integrate as another access to existing enterprise SD-LANs
  - Cisco DNA enables enterprises to manage SD-LAN
  - Cisco Control Center provides 4G/5G Enterprise
- Integration examples:
  - Device management and onboarding
  - Identity and Policy
  - Analytics and Machine Learning
  - Radio provisioning and status

# Simplifying 5G Complexity



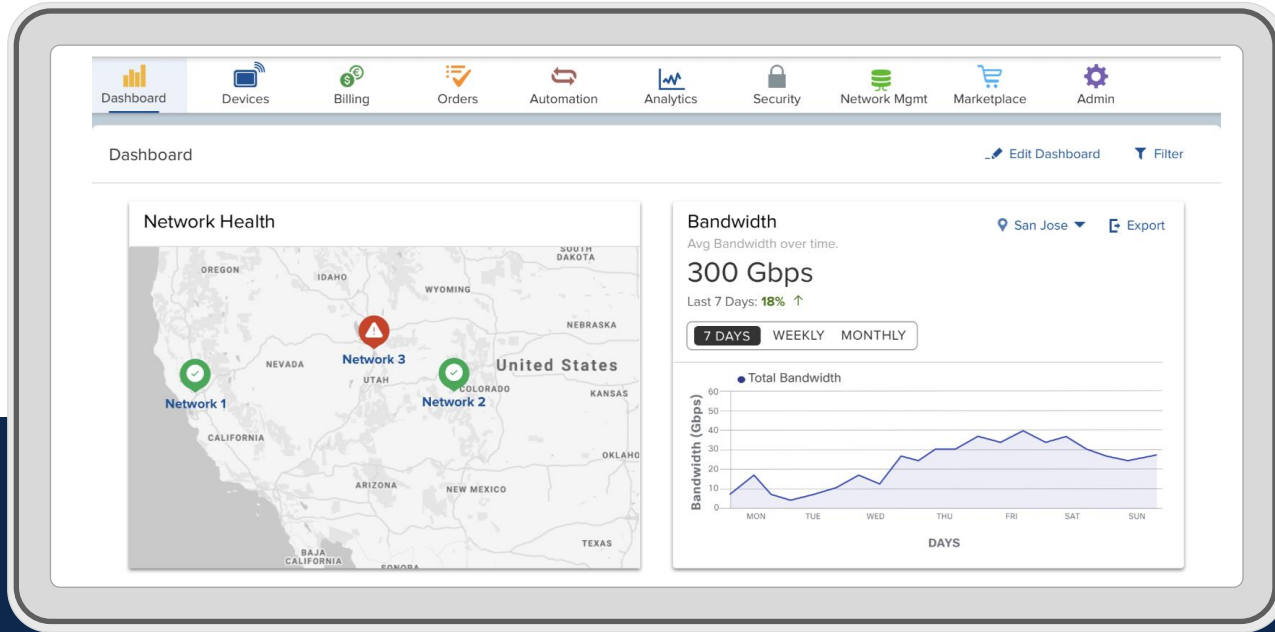
# Simplifying 5G Complexity

- Private 5G must be simplified for enterprise consumption
- 3GPP Network Functions and protocols should be hidden from the Enterprise when possible
- Enterprise user experience (UX) is critical for adoption



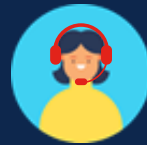


# Cisco 5G Control Center – Simplifying the Enterprise UX



## Enterprises

- Onboard/configure 5G Radio and Edge nodes
- Provision UEs/Devices and assign policies
- Track network consumption, usage and KPIs automate issue resolution



## Service providers

- Enable and configure enterprise accounts for onboarding
- Enable cost/rate plan self service
- Help diagnose issues and proactively detect anomalies for customers

# Proactive Machine Learning



Deep Visibility



Contextual



Actionable



Highly Automated



Deep Visibility



Contextual



Actionable



Highly Automated



## Anomaly Detection

- Uncover contextual and actionable insights across multiple asset dimensions
- Reduce MTTR from weeks to minutes
- Reduce Risk and Total Cost of Ownership



## Predictive Cost Management

- Put cost/rate plan management on auto-pilot
- Help enterprise focus on core business
- Drastically improve Service Cost, CSAT and Customer Loyalty

Ops user receives  
SMS/e-mail notification



Access  
Control Center

Proactively Inform  
Ops on Problems

Anomaly Date	Insight	Trend	Context	Anomaly?
Mar 24, 2020	Highly Abnormal Completed Sessions detected. Sessions(172 Sessions) are above the expected range of 141 to 149 Sessions. View Insight	Daily Trend	Country: JM	<input type="checkbox"/>
Mar 24, 2020	Highly Abnormal Data Usage detected. Usage(110 MB) is above the expected range of 87700 KB to 95708 KB. View Insight	Daily Trend	Zone: default zone Country: BG	<input type="checkbox"/>
Mar 24, 2020 12AM	Slightly Abnormal Data Usage detected. Usage(4.86 KB) is below the expected range of 5.29 KB to 5.32 KB. View Insight	Hourly Trend	Rateplan: -BCoCo - 20MB Plan Zone: default zone Country: JM	<input type="checkbox"/>
Mar 24, 2020 12AM	Slightly Abnormal Data Usage detected. Usage(220.45 MB) is below the expected range of 22312 MB to 22318 MB. View Insight	Hourly Trend	Rateplan: -BCoCo - 220MB Plan Zone: ZZZ Domestic US Country: US	<input type="checkbox"/>
Mar 23, 2020 10PM	Slightly Abnormal Data Usage detected. Usage(197.55 MB) is below the expected range of 21017 MB to 21152 MB. View Insight	Hourly Trend	Rateplan: -BCoCo - 220MB Plan Zone: ZZZ Domestic US Country: US	<input type="checkbox"/>
Mar 23, 2020 10PM	Slightly Abnormal Data Usage detected. Usage(93.18 MB) is above the expected range of 9119 MB to 9131 MB. View Insight	Hourly Trend	Rateplan: -BCoCo - 400MB Plan Zone: ZZZ Domestic Premium Country: US	<input type="checkbox"/>

Anomaly Stream

Drill down on individual anomalies

Completed Sessions

30 Days 24 Hours Show Chart By (Required) Devices and Sessions

Number of Devices

Number of Sessions

Insights

- Mar 24, 2020  
Highly Abnormal Completed Sessions detected. Session(330,788 Sessions) is below the expected range of 488,685 to 574,267 Sessions.
- Mar 23, 2020  
Highly Abnormal Completed Sessions detected. Session(328,105 Sessions) is below the expected range of 499,209 to 583,821 Sessions.
- Mar 22, 2020  
Highly Abnormal Completed Sessions detected. Session(305,255 Sessions) is below the expected range of 553,867 to 630,316 Sessions.
- Mar 21, 2020  
Highly Abnormal Completed Sessions detected. Session(400,214 Sessions) is below the expected range of 527332 to 583,836 Sessions.
- Mar 20, 2020

# Summary

- ✓ Enterprise 5G and private networks extend the benefits of 5G into the Enterprise
- ✓ Enterprises require the ability to manage, configure and secure their 5G network or slice
- ✓ Enterprise 5G networks must be simple to deploy, configure and operate
- ✓ At Cisco we are extending our Control Center IOT and Mobility technology for SPs to offer end-to-end Enterprise 5G public and private solutions

Thank you

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