Cisco Knowledge Network

Private 5G – Delivered as a Service
Simple – Intuitive – Trusted

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Presenters: Arjun Ghatak, Ben Bleichman

Trending Private 5G priorities for executives

Private 5G expected to become the network standard of choice

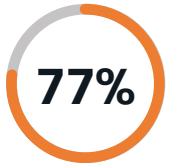
Executives expecting that private 5G will become the standard network choice

Budgets are opening up, fuelled by COVID

COVID-19 has made it easier to secure the budget needed for 5G deployment.

Germany

United States



UK

Japan

Key drivers are leading to near-term opportunities

Companies planning to deploy within the next six to 24 months to improve security, reliability and speed,

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Market Opportunity

New and Growing B2B and Enterprise Opportunity

Enterprise 5G

$65B

PRIVATE 5G NETWORK REVENUE IN 2030

Private 5G network revenue is expected to grow to $65B in 2030, with a CAGR of 60.1%**

**ABI Research, Monetizing 5G Edge Networks: Different Approaches and Scenarios

Digital IOT

5.3B

IOT CONNECTIONS

By 2030, 5.3 billion licensed cellular IoT connections are forecasted*

*GSMA Intelligence, December 2021

Cloud Usage

$2.7B

INVESTMENT IN MOBILE CLOUD INFRASTRUCTURE FOR 5G SA BY 2026

Mobile core will lead the investments of CSPs on network cloud infrastructure, and 5G SA will be a primary focus area***

***Analysys Mason Telecom Software and Services Worldwide Forecast 2021-2026

aaS Adoption

30%

CAGR FOR XaaS IN CSP NETWORKS BY 2026

IaaS/CaaS play an increasingly significant role in the way CSP consumer infrastructure services between 2021 and 2026****

****Analysys Mason Telecom Software and Services Worldwide Forecast 2021-2026

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Building on a strong foundation of cellular networking experience

#1 IP network share

#1 Mobile IoT share

1st US-wide 5G IoT and consumer deployment

For over 20 years Cisco has delivered leadership, expertise, and innovations in cellular mobile wireless infrastructure and services

1.5B Daily subscribers over Cisco Packet Core

World's first 5G network dedicated specifically to aviation (Gogo)

Implemented the world's first and largest nationwide 5G Stand-Alone Core **#1**

More than 50 mobile operators and 30K+ Enterprises managing over 180M SIM-based end points using IoT Control Center

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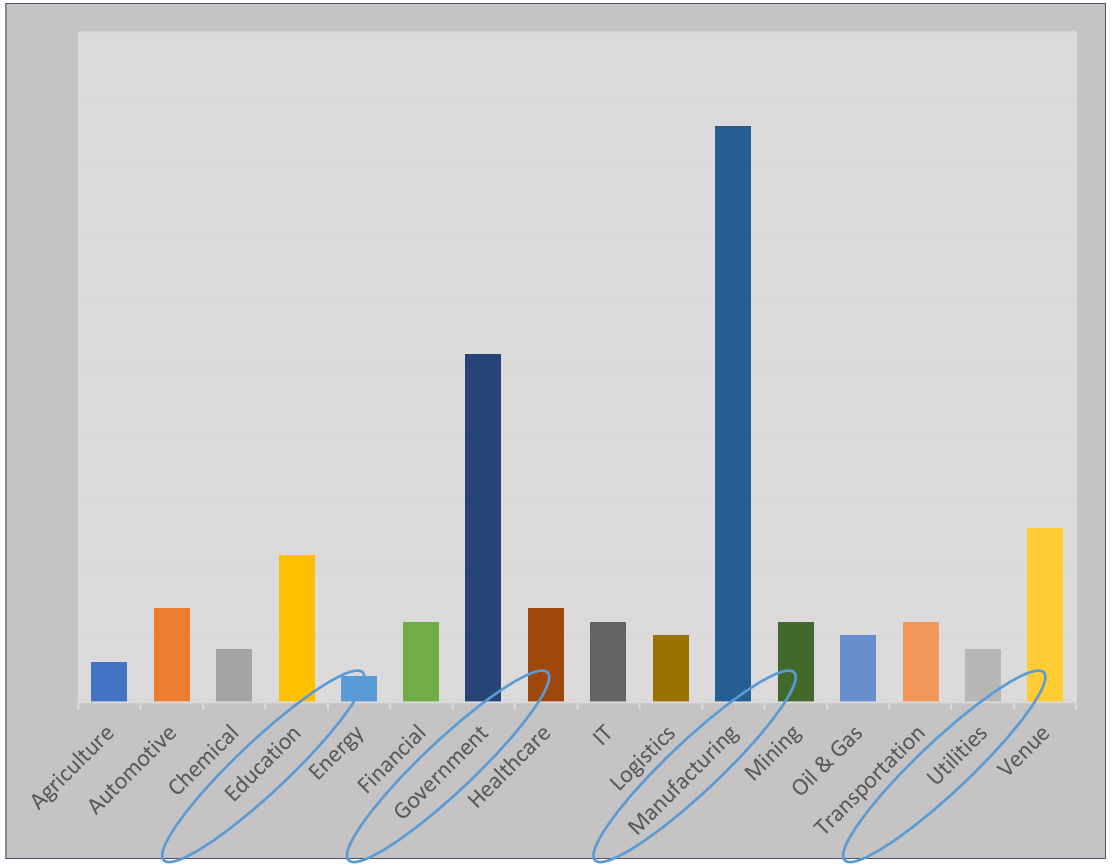
Initial Verticals for Cisco Private 5G

Vertical Industry Opportunities



Source: Cisco customer inquires by vertical

Key Industries

Government

- Rapid asset, inventory, and shipping tracking
- Increase supply chain efficiency
- Improve worker safety
- Automated processes

Manufacturing

- Enhance operational efficiency (AGVs)
- Reduce costs
- Improve safety
- Innovate faster

Venues

- Enhance guest experience
- Grow revenues
- Improve guest safety
- Increase worker retention

Education

- Elevate educational impact
- Enhance safety and security
- Fuel innovative research
- Adjacent coverage for the underserved

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Cisco Private 5G

Full stack subscription for success

Management
Cloud managed

Identity & Policy
Intuitively integrated into existing enterprise systems

Packet Core
Industry leading 4G/5G converged packet core

Radios
Certified and validated Open RAN radios

Simple

Intuitive

Trusted

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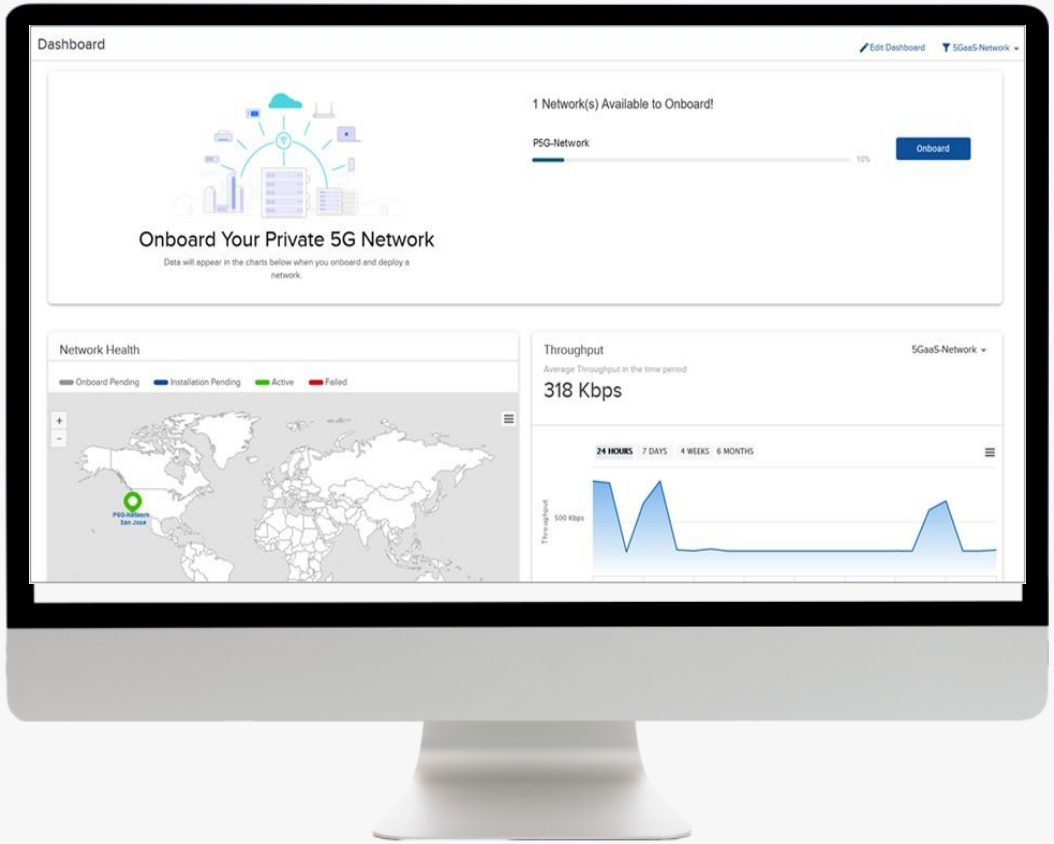
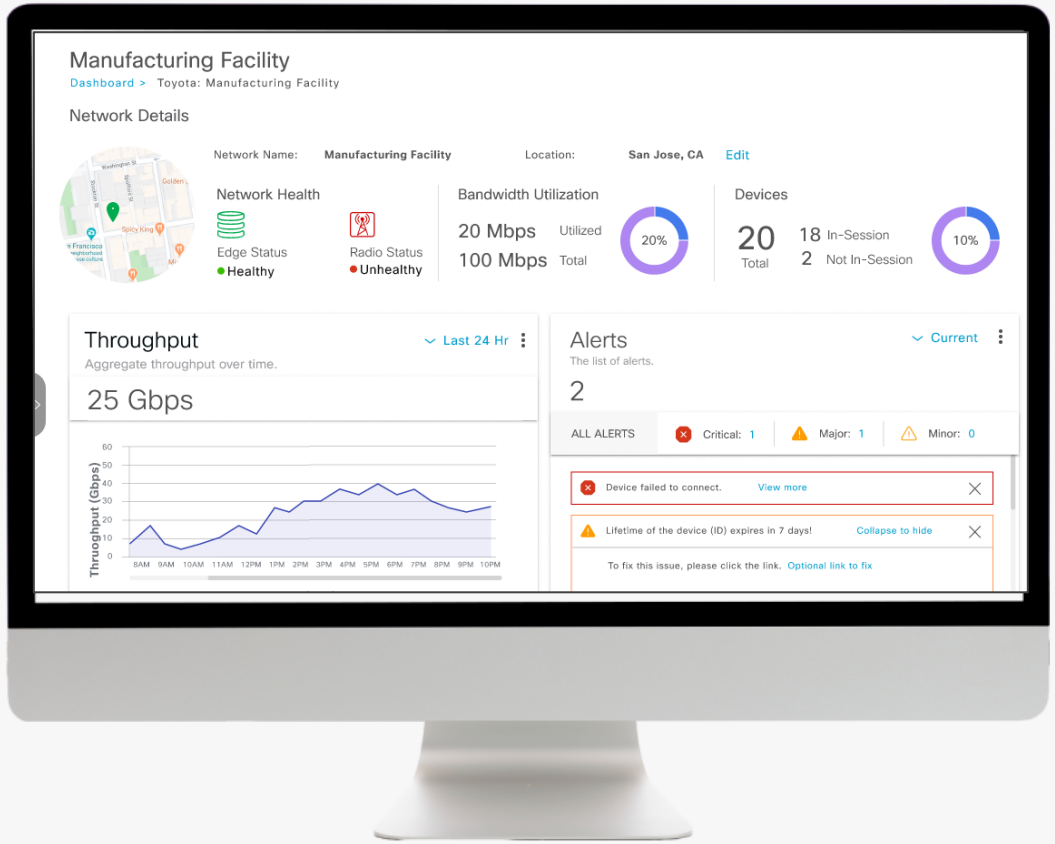
Enterprise Dashboard





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Cisco Private 5G Differentiators

Simple

- Private 5G integrates with enterprise access architecture
- Consistent operations and management

Intuitive

- Full-stack solution is pre-integrated and tested
- Operations and lifecycle management by Cisco and its partners

Trusted

- Cisco IoT Control Center manages millions of devices
- Carrier-grade 5G core right-sized for the enterprise
- Cisco Validated Designs

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Private 5G Solution Overview

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Cisco Private 5G – Partner-led

Full stack subscription is pre-integrated and validated by Cisco

Management
Cloud managed

Identity & Policy
Intuitively integrated into existing enterprise systems

Packet Core
Industry leading 4G/5G converged packet core

Radios
Certified and validated Open RAN radios

Cisco software, delivered as a service

SP/SI Partner provides HW, spectrum and onsite services

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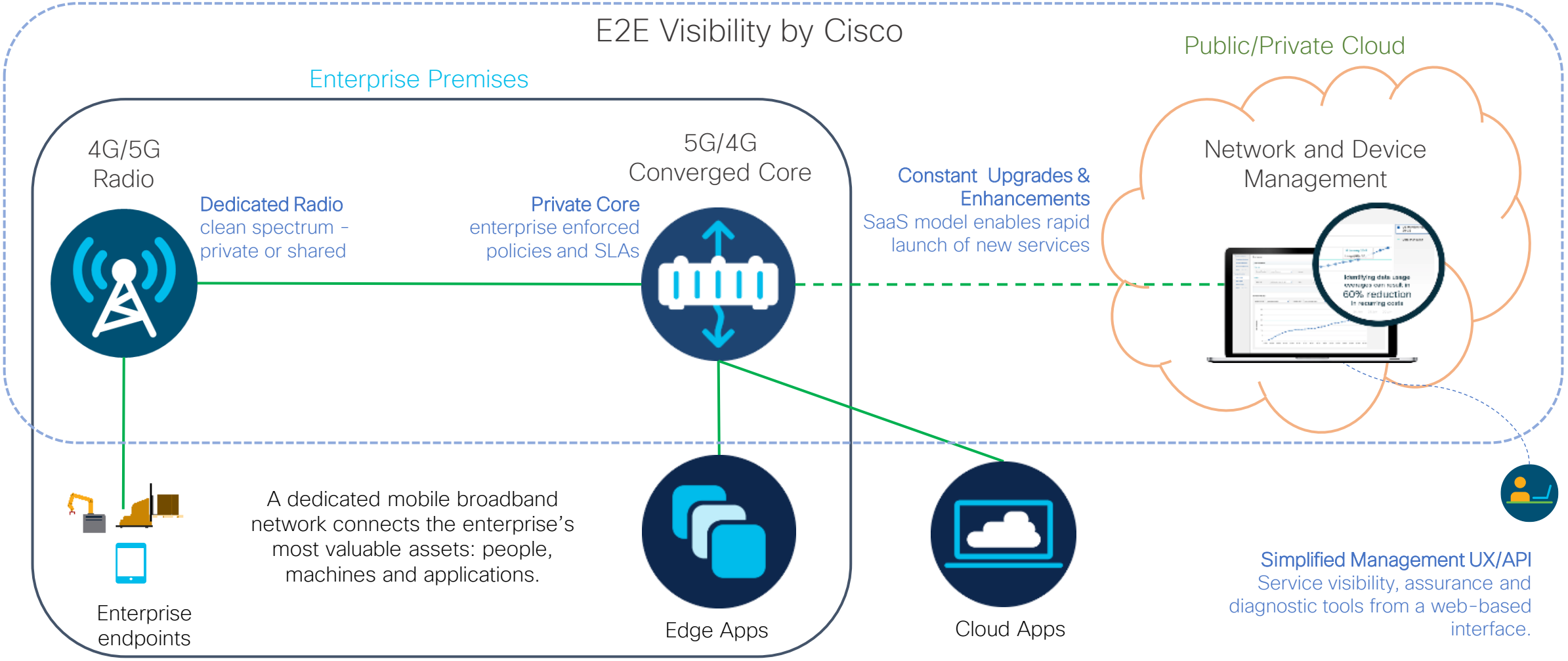
Private 5G Architecture



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Private 5G Demonstration

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Demo Scenario

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Demo Segments

1 Bring up the 5G Core

Name: Lars
Role: Network Installer
Earthcom Wireless

2 Onboard the Devices

Name: Carla
Role: Network Administrator
General Equipment Manufacturing.

3 Monitor and Manage the Service

Name: Edward
Role: Customer Success Manager
Earthcom Wireless

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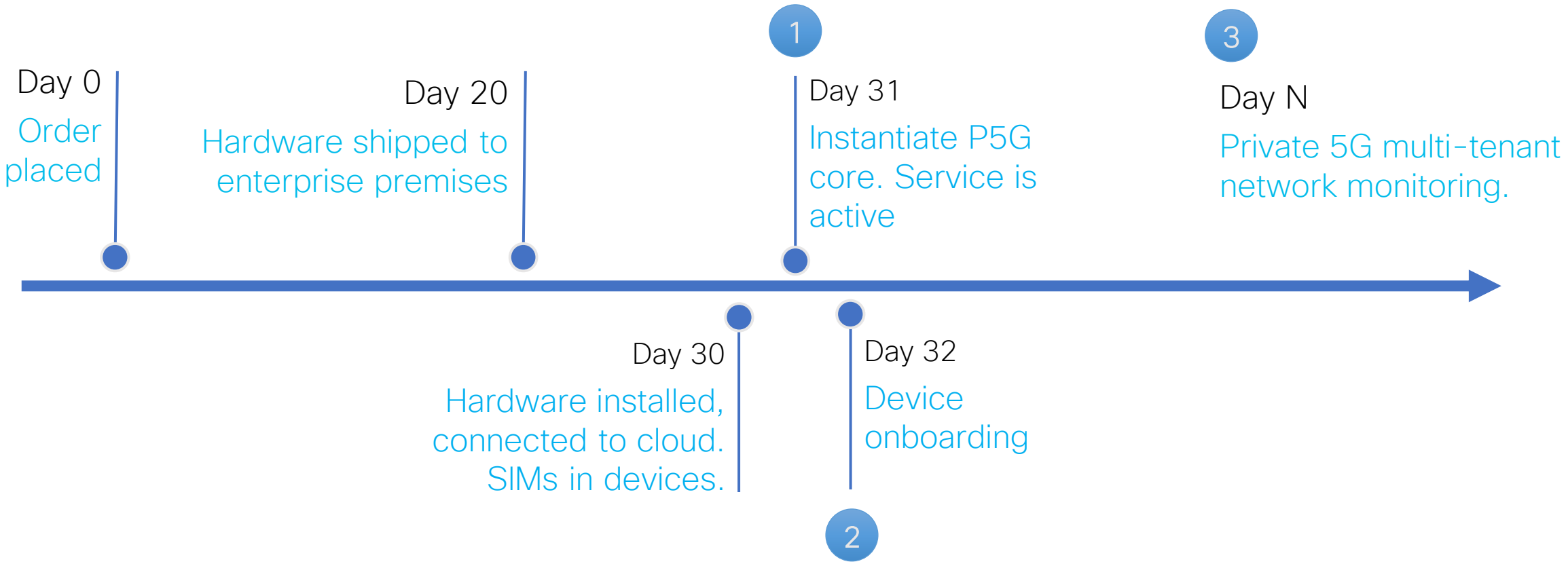
Typical Timeline
From Order to Active Service



Demo Segments

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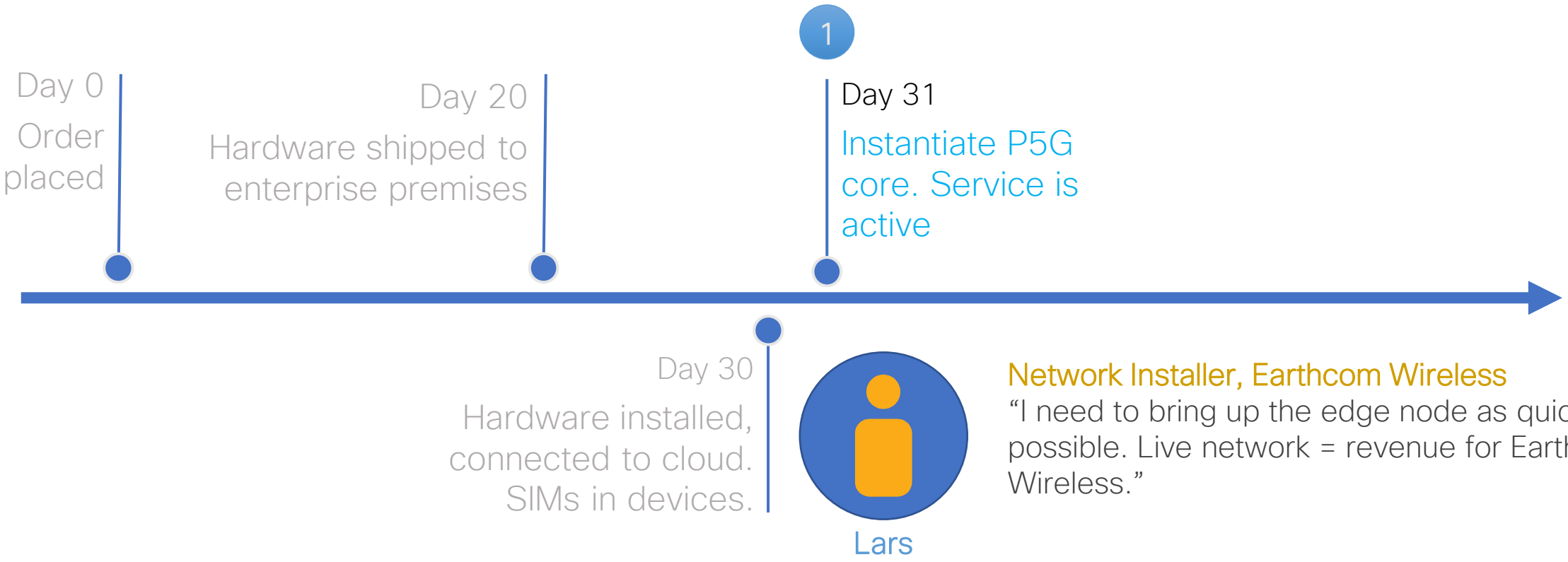
Typical Timeline
From Order to Active Service



Network Installer, Earthcom Wireless

"I need to bring up the edge node as quickly as possible. Live network = revenue for Earthcom Wireless."

Demo Segments

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Typical Timeline
From Order to Active Service

Carla

Network Administrator, General Equipment Manufacturing.

“I need 5G device activation and management to be ‘Wi-Fi simple.’”

SIM cards have already been ordered, auto provisioned, delivered and inserted into devices.

Day 32

Device onboarding

2

Demo Segments

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Typical Timeline
From Order to Active Service

3

Day N

Private 5G multi-tenant network monitoring.

Edward

Customer Success Manager, Enterprise Business Group, Earthcom Wireless

"I need a holistic view of my all my customers' services with the ability to see specific KPIs."

Demo Segments

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Private 5G Service Evolution

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Service Description

Optimized Edge

- 2 servers-based high available edge to run converged core
- Next-gen ORAN deployment running RU/CU/DU

Scale & Performance

- 4G & 5G device support
- 5K sessions (4G + 5G combined)
- 15 Gbps throughput (4G + 5G combined)

Automation & Monitoring

- Automated software deployment and configuration from cloud after initial edge installation
- E2E monitoring of the service
- Continuous enhancements

UX & API

- Web-based onboarding and service management dashboard
- Multi-tenant views
- E2E network status in simplified traffic light view [R, Y, G]
- APIs for external consumption

Operations & Support

- 24x7x365 support
- Seamless software and firmware upgrade for edge appliance
- SIM cards supply, provisioning and configuration
- Partner and customer knowledge base

Enterprise Integration

- Unified identity & policy through ISE integration in private 5G (Secondary authorization)
- Umbrella DNS security integration
- Leverage existing Catalyst portfolio

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Service Evolution

Easy to Deploy & Operate

- Edge automation
- Enterprise onboarding
- Dashboard for N/W visibility (incl. multi-tenant view)

Secure & Scalable

- Unified policy and identity (ISE)
- Security integration with Umbrella DNS & SIG
- High availability
- APIs for monitoring & config
- Private network access security

Private 5G 2.0

- Single-pane-of-management
  - DNA-C, Meraki, CC integration
- Wi-Fi offload
- Public/Private Roaming
- Unified telemetry platform
- FEDRAMP compliance

Industry leading Private 5G Solution with Enterprise Simplicity

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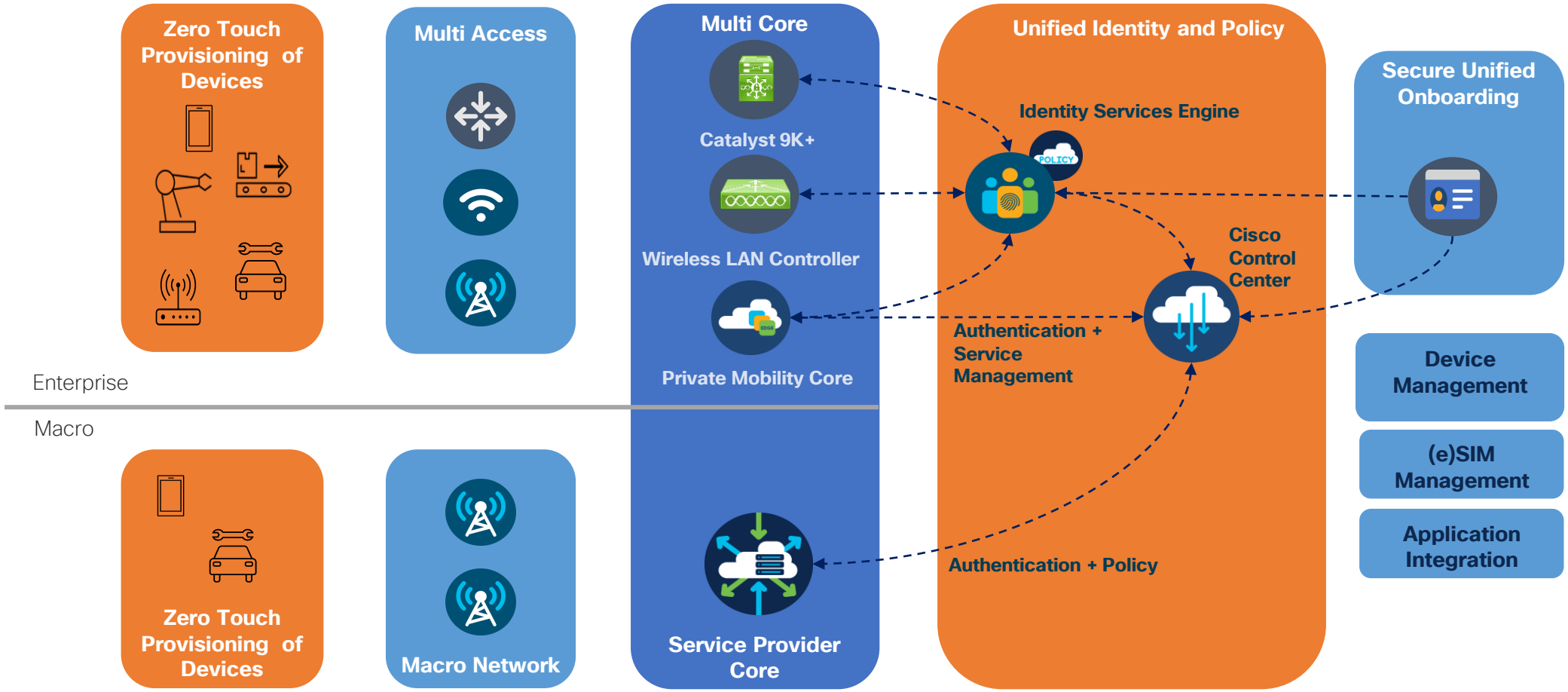
Tighter Integration into Enterprise Services



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Questions and Answers

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