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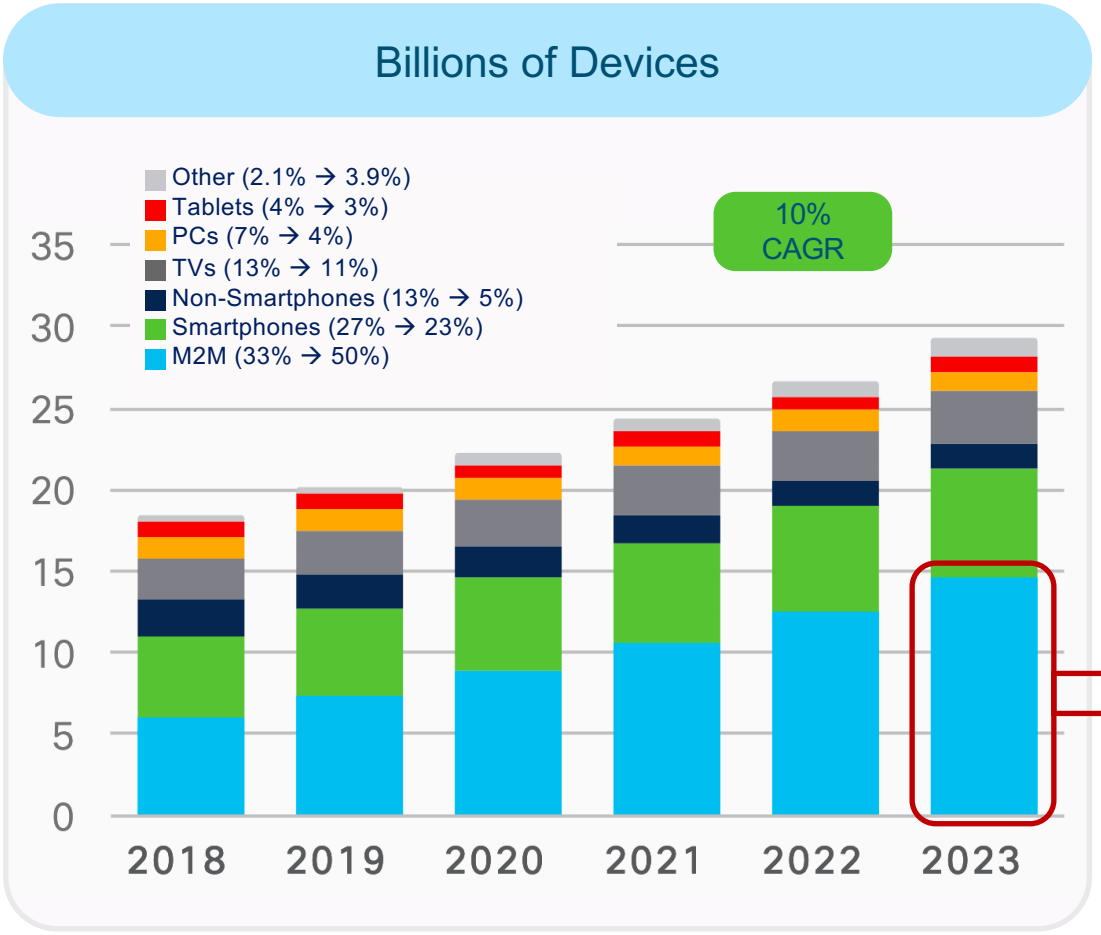
BT-204

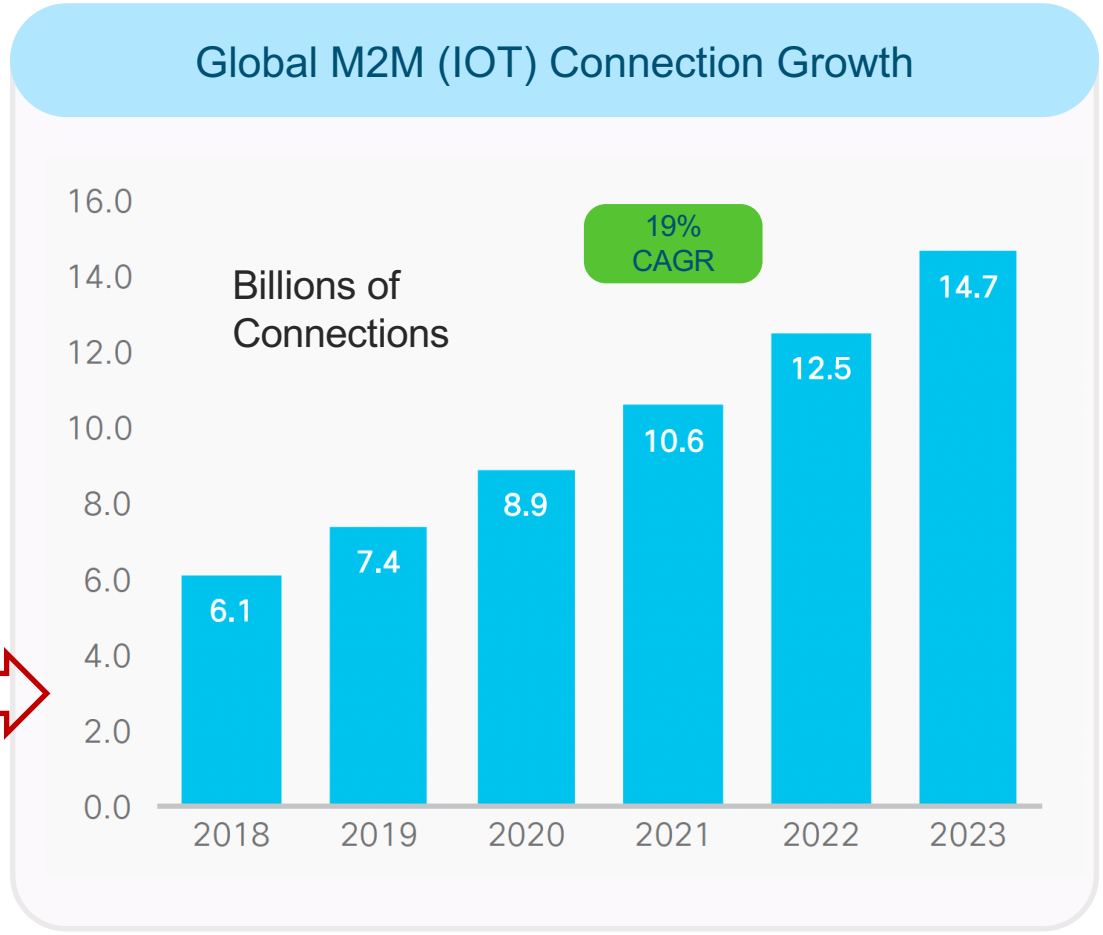
Design IoT-Ready Enterprise Grade Wi-Fi Access Points

Bart Brinckman, Owen Troy | August 2023

IoT in the enterprise

IoT device growth





For the first time **in 2023, more than 50% of connections will be from IoT devices.** IoT devices are the only device type with an increasing share of total connected devices

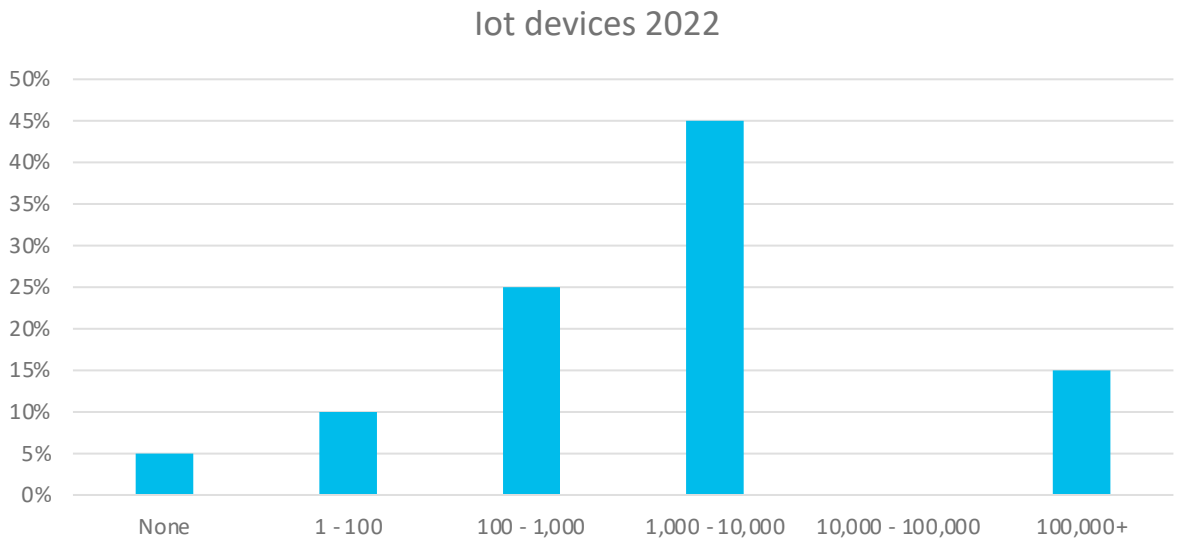
IoT devices are the fastest growing device types in enterprises with 19% CAGR

Source: Cisco Annual Internet Report (2018-2023)

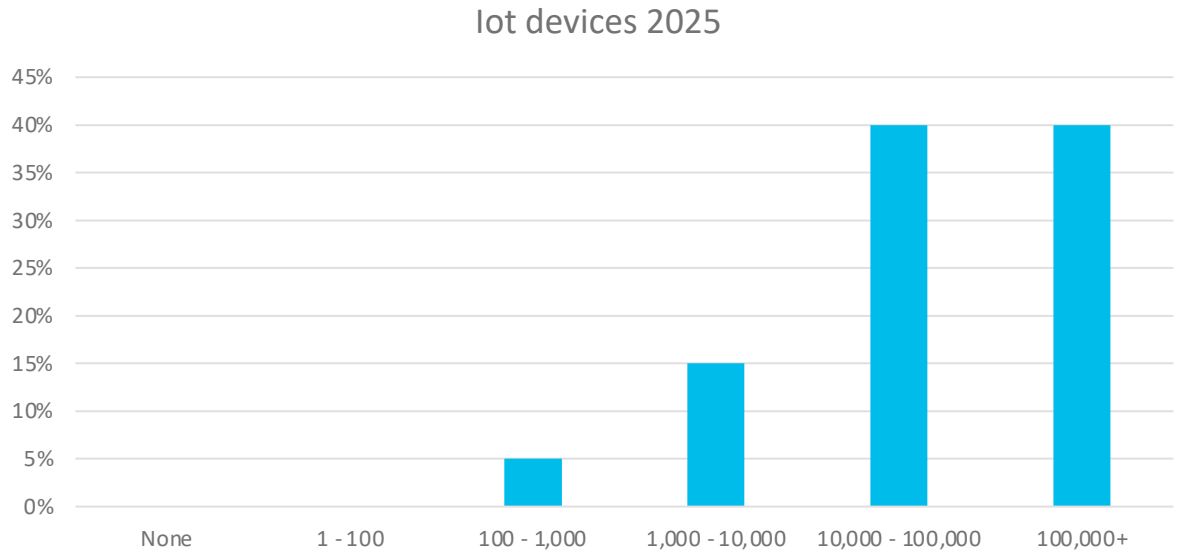
IoT in the enterprise

What our customers tell us

2022



2025



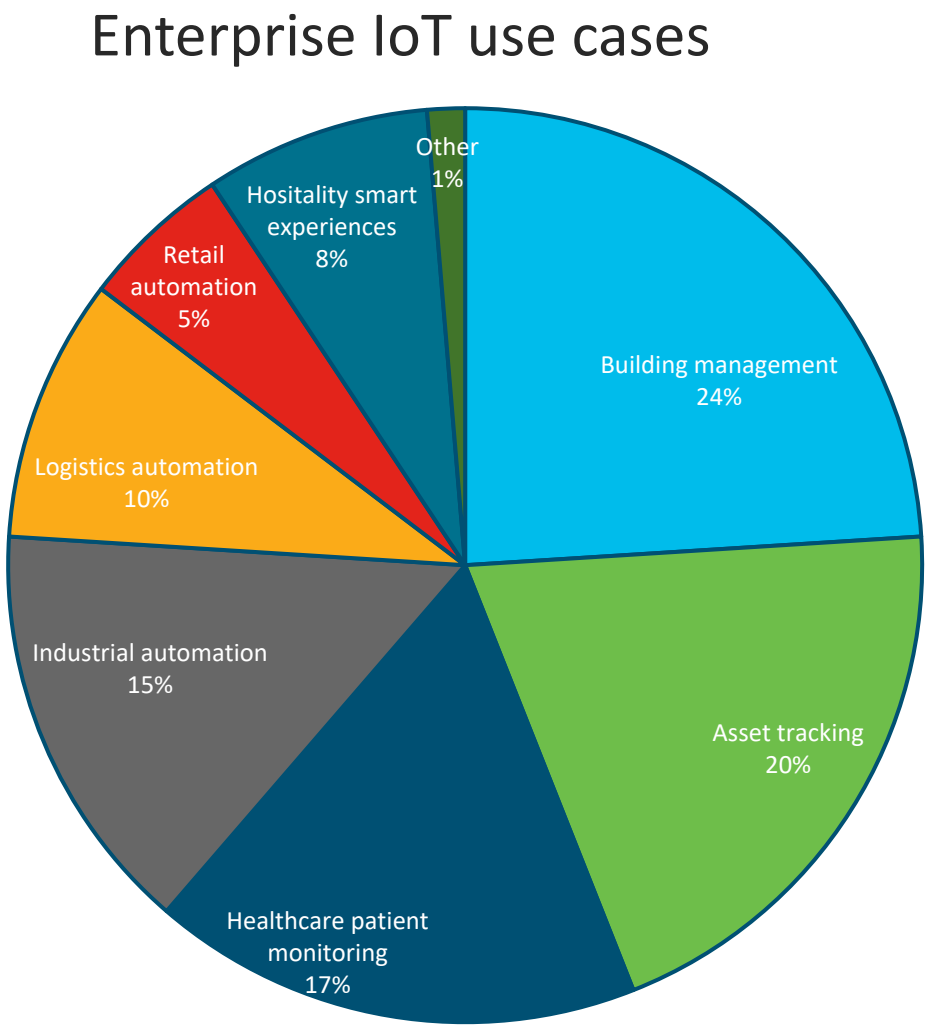
Drivers:

1) **Hybrid work & sustainability**
   - Lower seat occupancy
   - Environmental monitoring & Control

2) **Smart value chains**
   - Healthcare
   - Retail
   - Hospitality

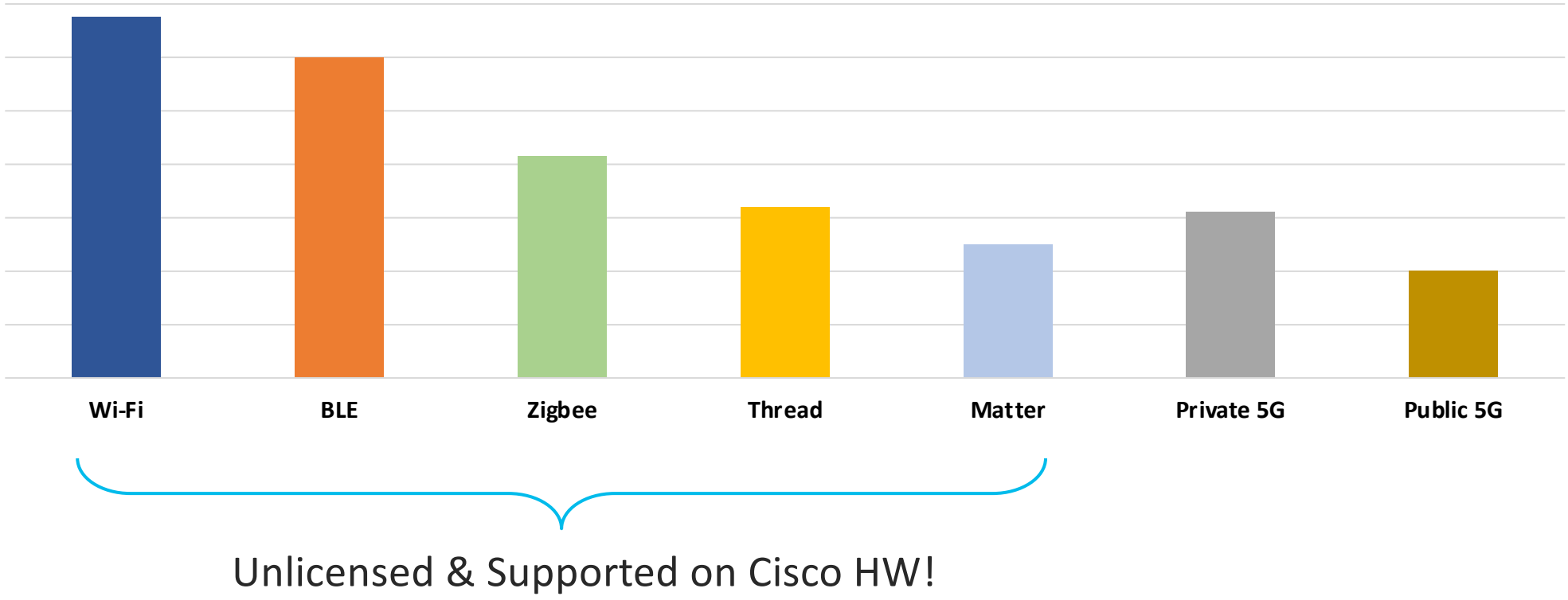
3) **Automation**
   - Manufacturing
   - Supply chain
   - Operations

A diverse set of Enterprise use cases



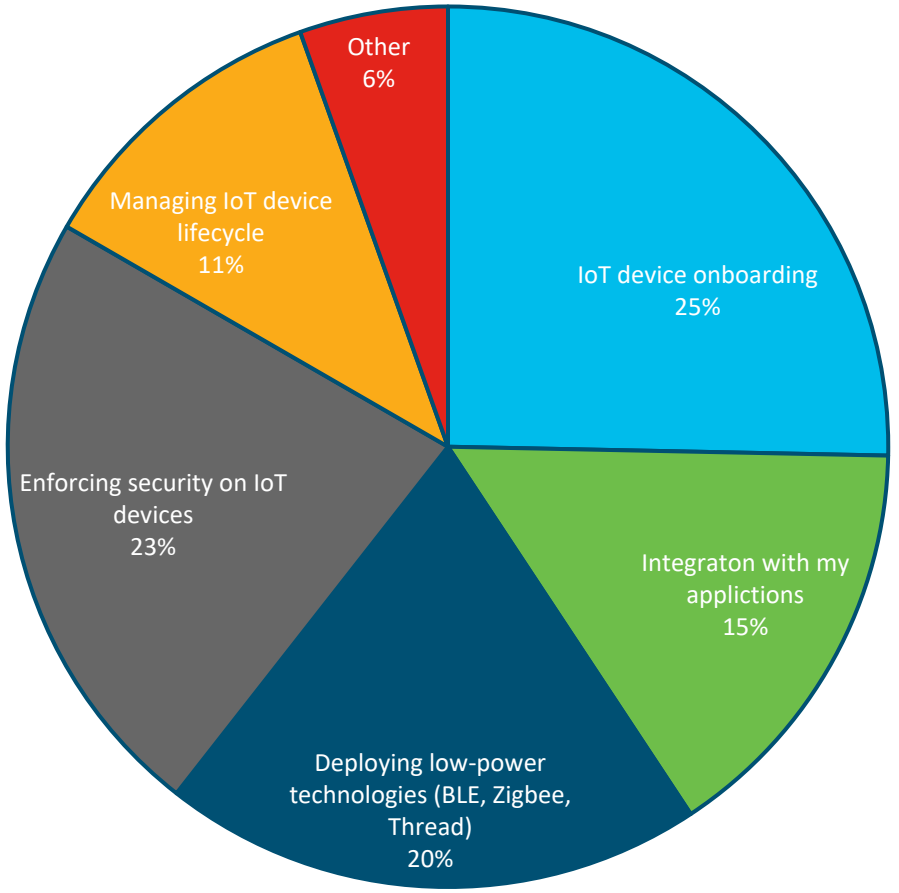
IoT wireless technology ranking

Survey of Cisco customers – what IoT access is most important to you?



The eco-system is not quite ready

Enterprise Top concerns when implementing IoT use cases

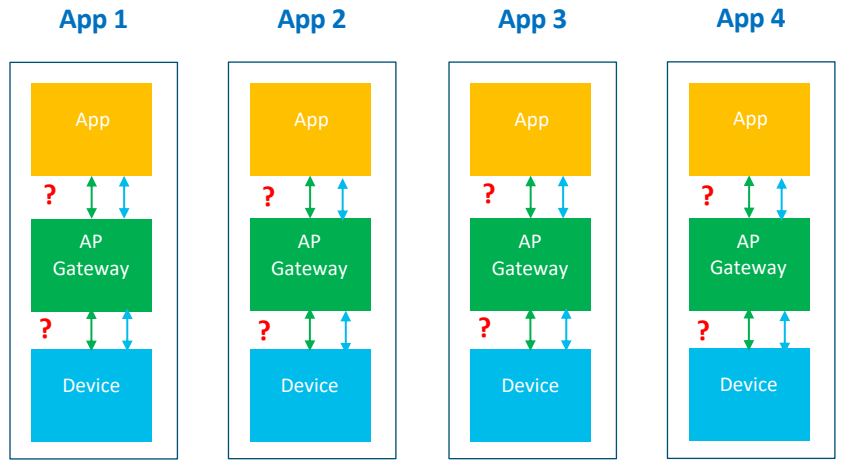


How do we solve these painpoints?

The enterprise eco-system is fragmented

Proprietary stovepipes hold back growth

Propietary stovepipes



Onboarding: *developed for home or personal area networks*

Device Control: *Proprietary per app/device*

Telemetry/data: *Proprietary per app/device*

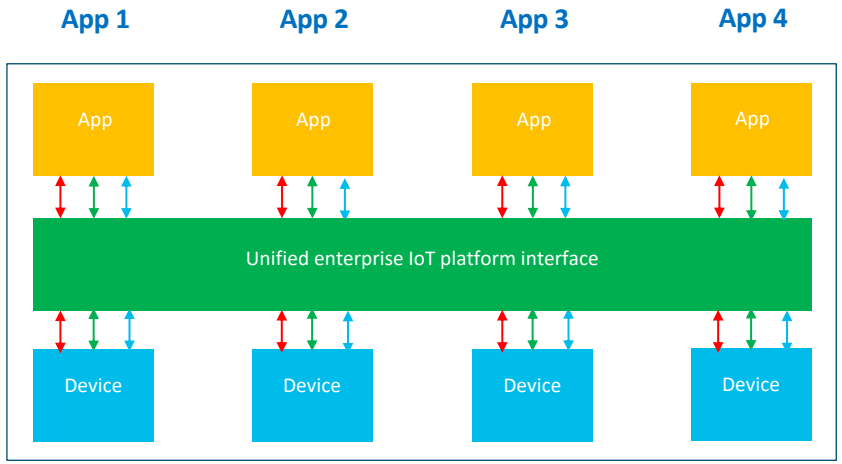
Apps and devices are developed hand in hand with network ‘gateways’, typically 1 app – 1 stack, protocols not suited for enterprise environment

Closed system, does not scale beyond a couple apps.

From

To

The need for a standard



Onboarding: app-based realtime/non-realtime

Device control: *Policy-based (defined in the network)*

Telemetry/data: *Structured API, data + meta-data*

Enterprise IoT needs a standard that will allow the network to act as a platform offering secure automated onboarding of any device to any network connecting to any application

Open system, scales to many apps and devices.

Success Factors

Standards-based approach for partners

Works with what is in the market, & Extensible to new onboarding standards and L2 technologies

Leverage existing customer investment in APs and controllers

Leverage existing IT infrastructure:

Catalyst 9100 Series Access Points have a built-in Silabs IoT radio

Configure as a BLE Gateway → Enable Catalyst 9100 Access Points as a BLE Gateway

Configure as a Beacon or BLE Centra → BLE scanning and connection-based communication, or AP (vitual beacons)

Configure and Talk to devices → Configure the BLE devices from Cisco Spaces or other applications and consume telemetry from devices.

More coming soon…

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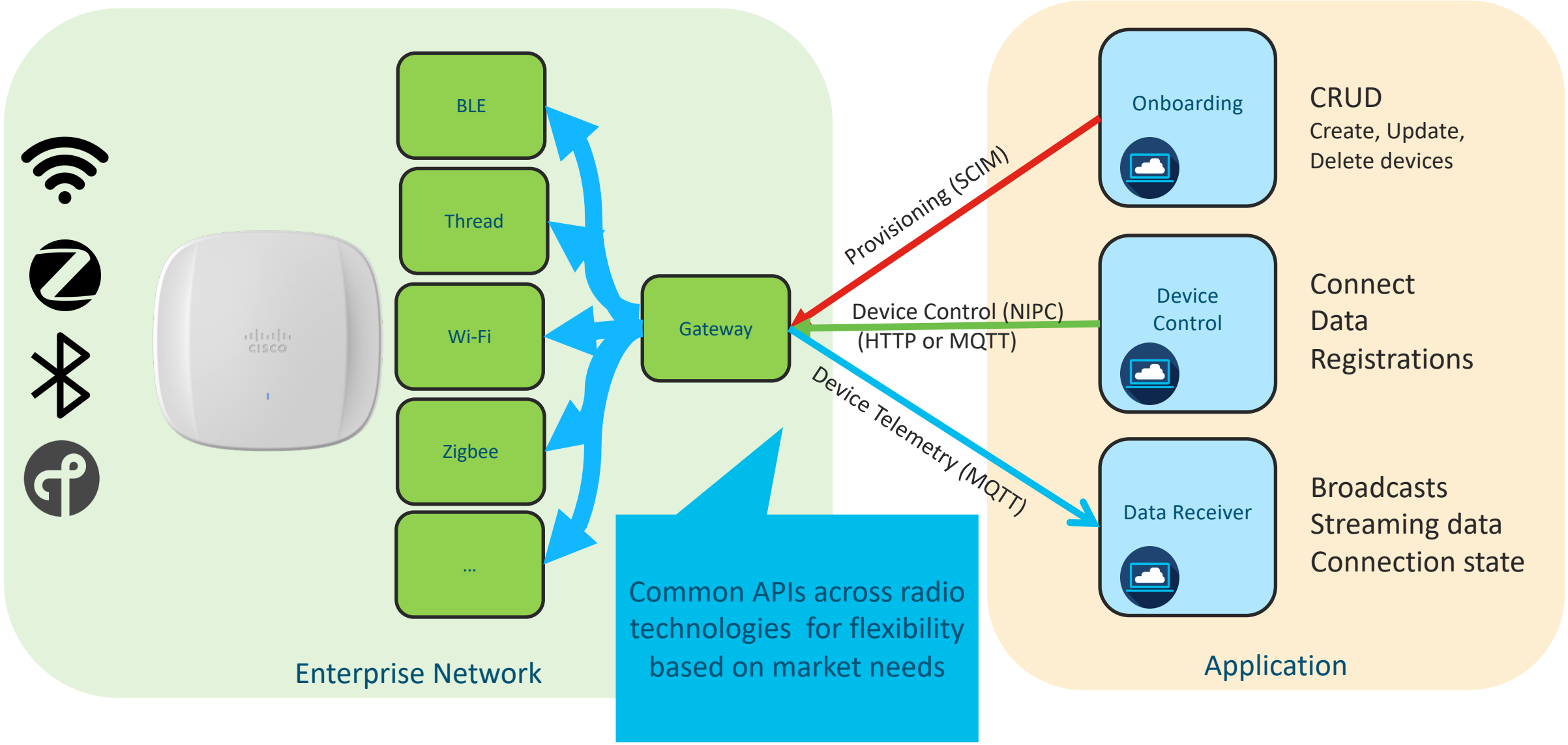
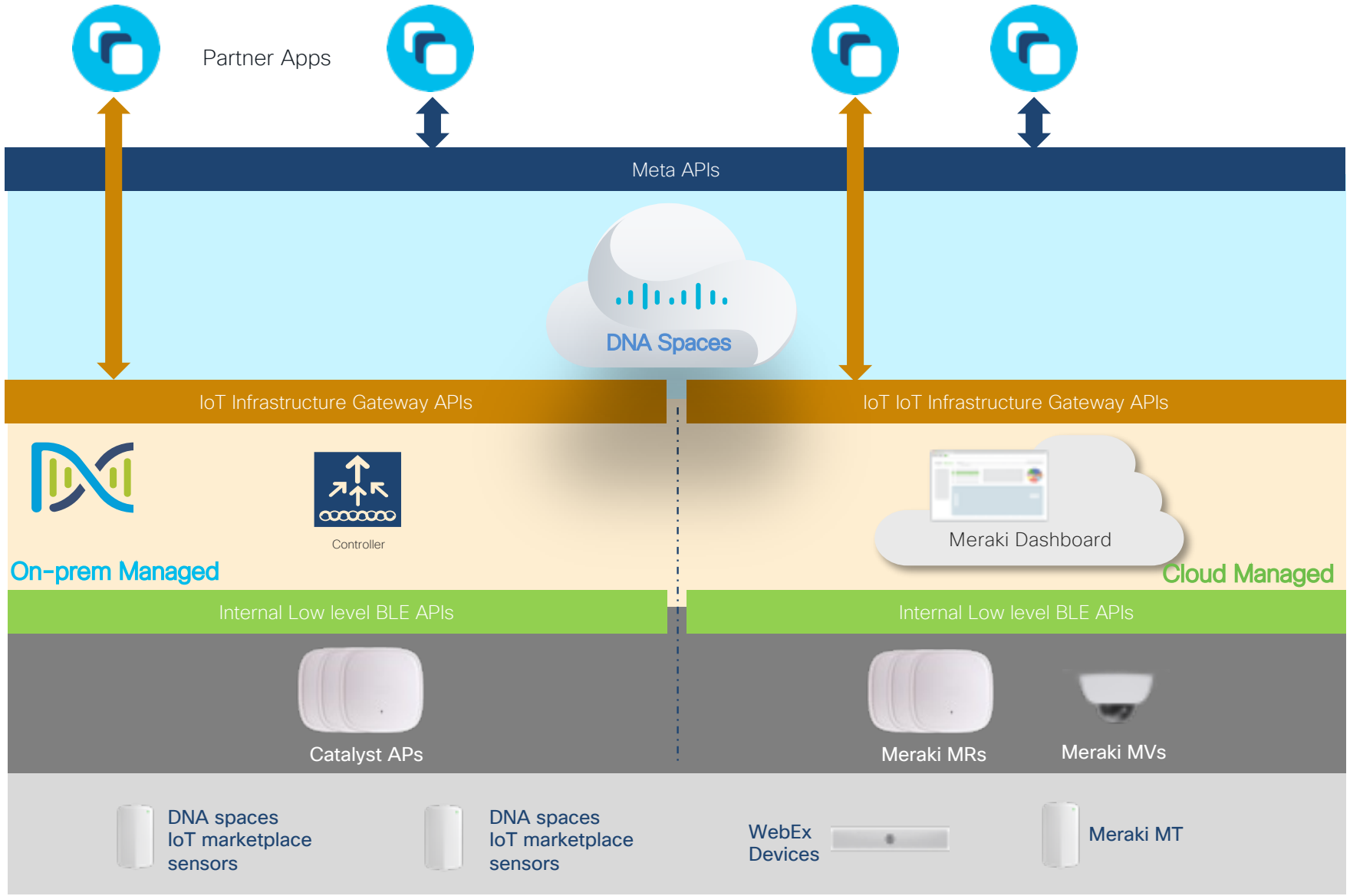
Standardizing APIs:
Accelerating use case deployment

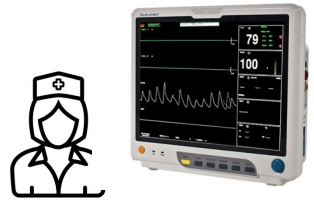


Open Application integration

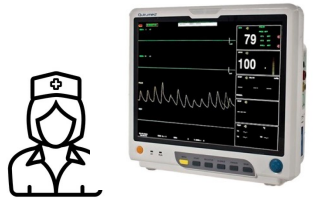


Example use case: Patient monitoring with wearables

Patient Monitoring Tomorrow



Patient Monitoring Today



Level of care

Home

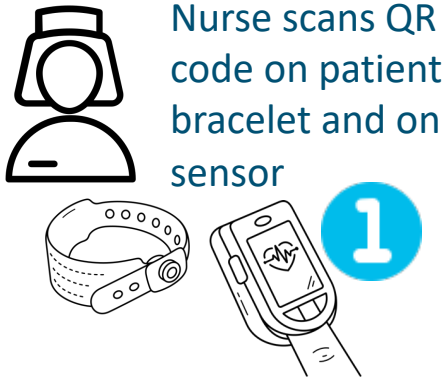
Level 0
Normal Ward

Level 1
Acute Ward

Level 2
Post-op Care

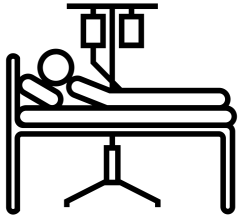
Level 3
Critical Care

Beds



Nurse scans QR code on patient ID bracelet and on sensor

1



Sensor is provisioned on network by Hospital Patient Monitoring Device Mgmt

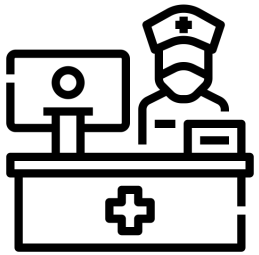
2

EMR Sensor Connected to network

3

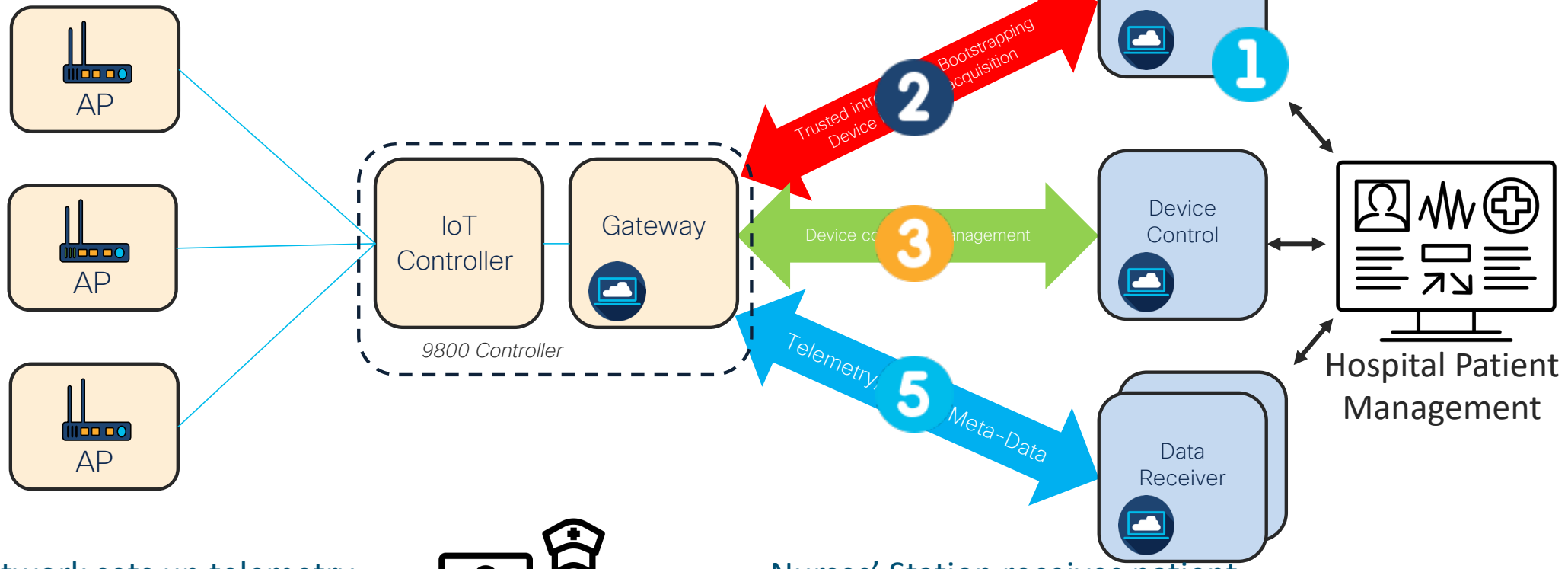
4

Network sets up telemetry data stream from sensor

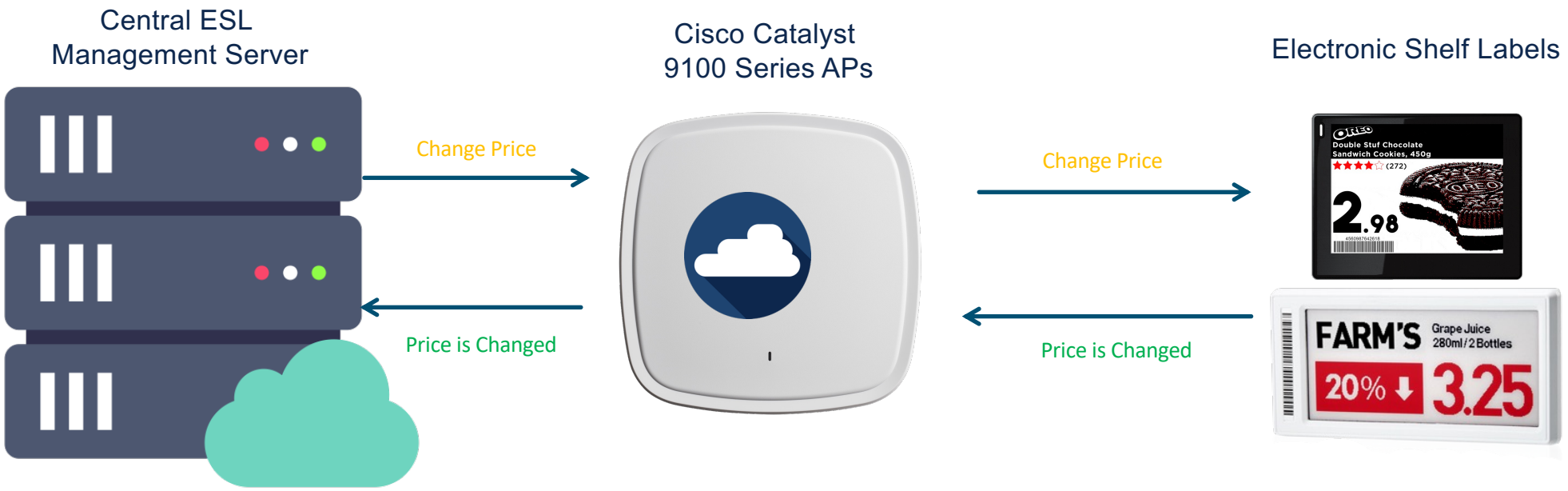


5

Nurses' Station receives patient from through the pub-sub interface



Retail Store IoT Electronic Shelf Labeling



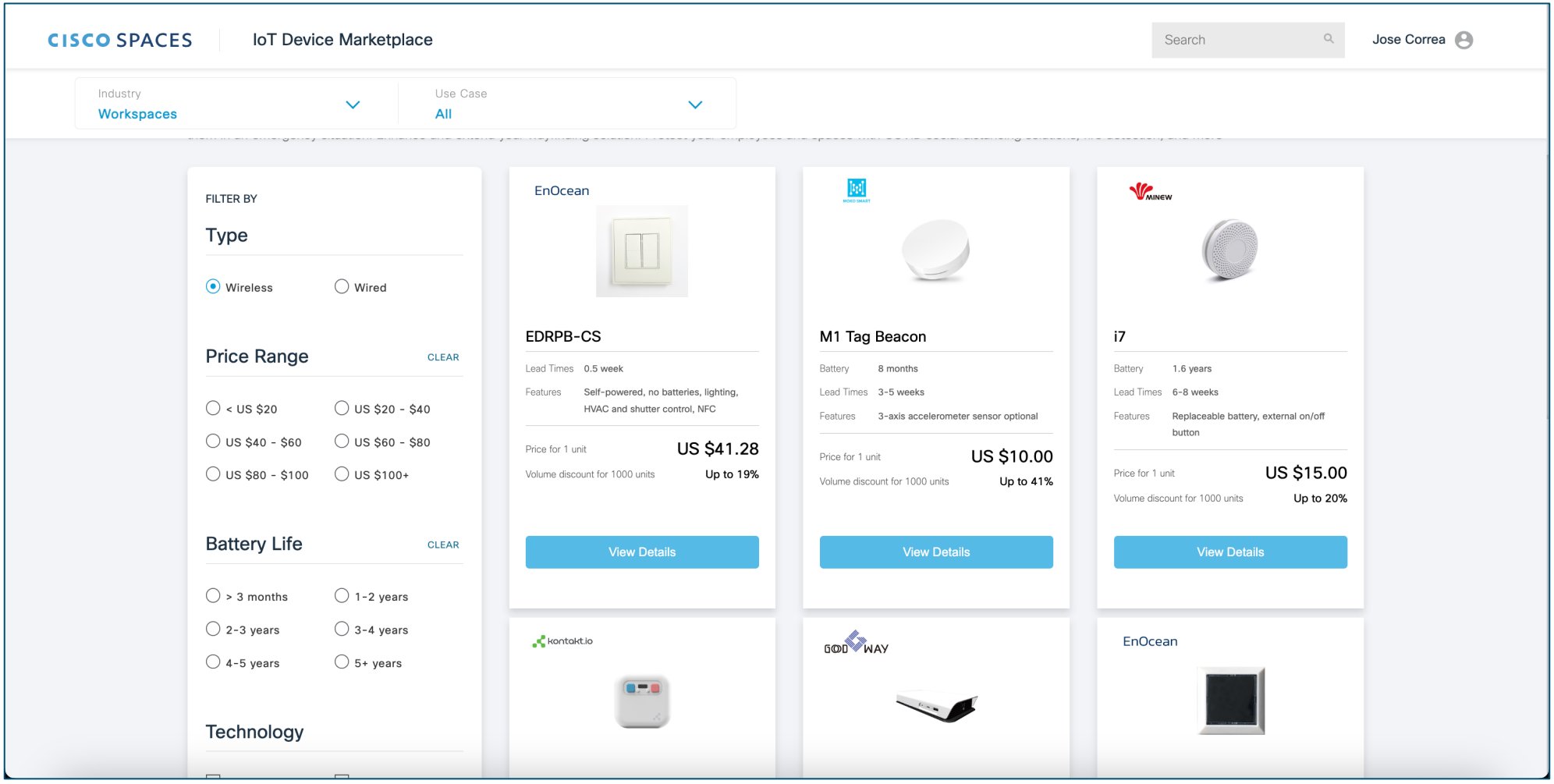
Remote price update

Item location discovery

Immediate Item availability check

Cisco Spaces IoT Device Marketplace

Ecosystem of third-party IoT devices – wired and wireless



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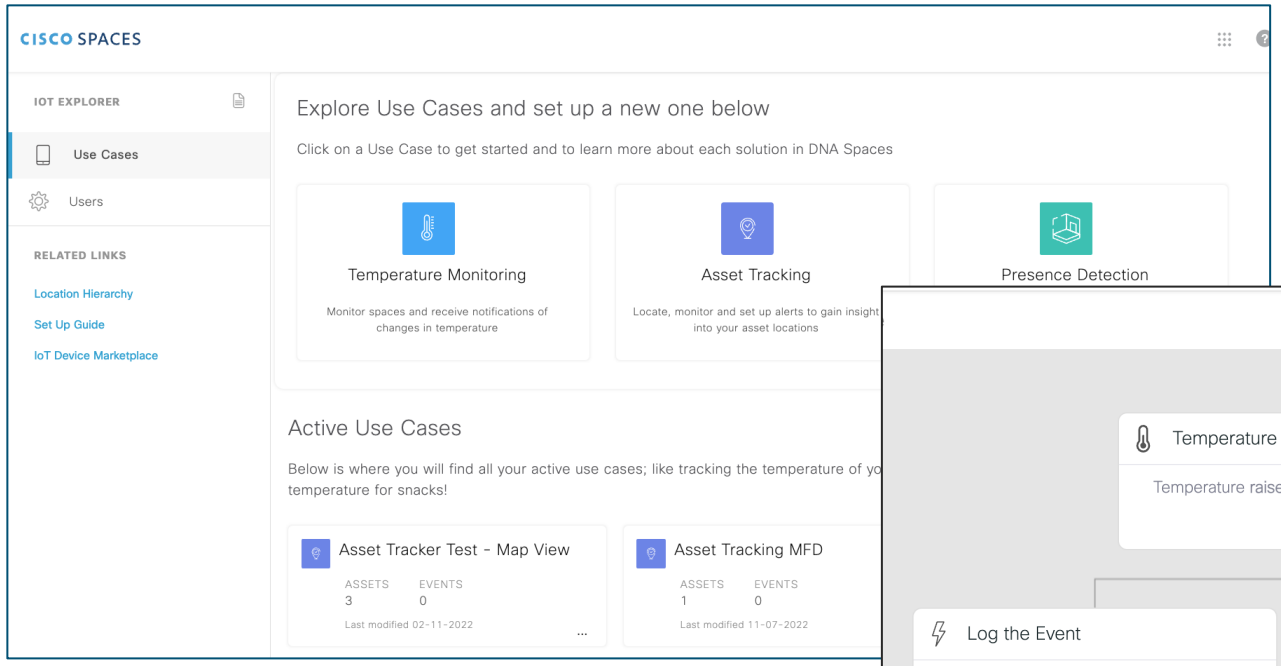
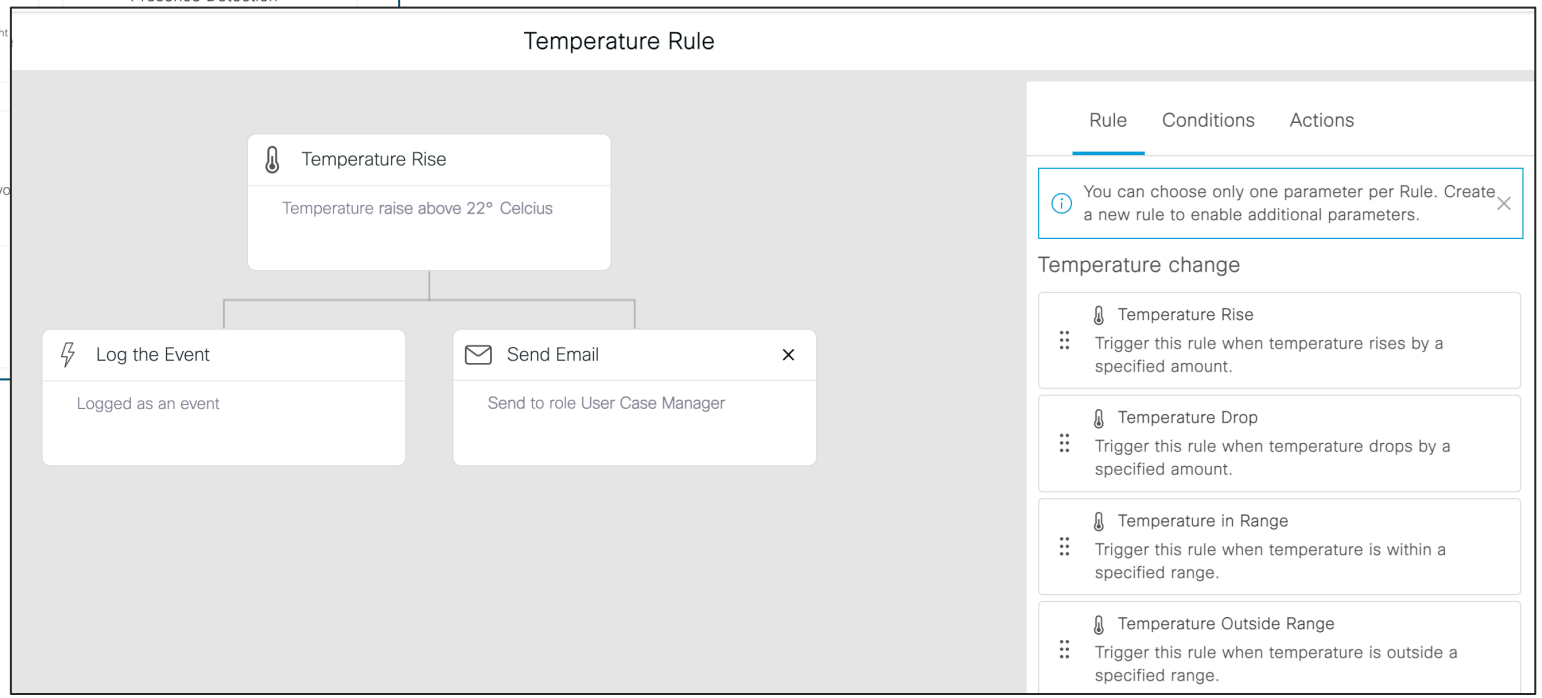
Cisco Spaces IoT Explorer

Monitor, manage, and optimize assets, Internet of Things (IoT) sensors, alerting system, and operational workflows





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Thank you!