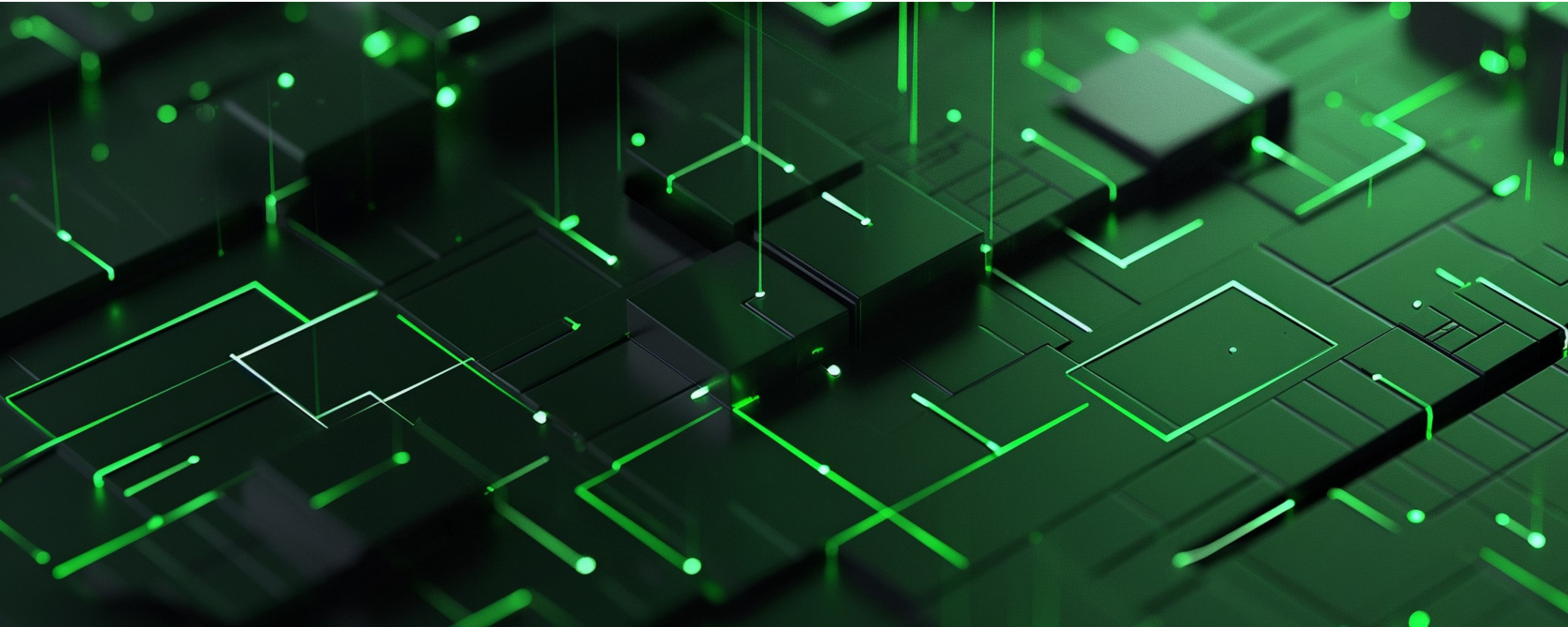
Avnet /IOTCONNECT Solutions Suite

Migrate Azure IoT Edge ⟶ AWS IoT Greengrass

AVNET®

/IOTCONNECT™

Manage | Secure | Deploy



/ Solution Accelerator & Marketplace Index

AVNET

/IOTCONNECT enabled solutions

- Smart Generator Monitoring
- Smart Warehouse Monitoring
- Smart City Noise Detection
- AWS IoT Greengrass
- Smart Asset Monitoring
- AWS Physical AI
- Smart Facility Solutions
- STM32 Amazon Sidewalk
- Smart Factory Solutions
- Security CRA
- Smart Fleet Management

SaaS offering

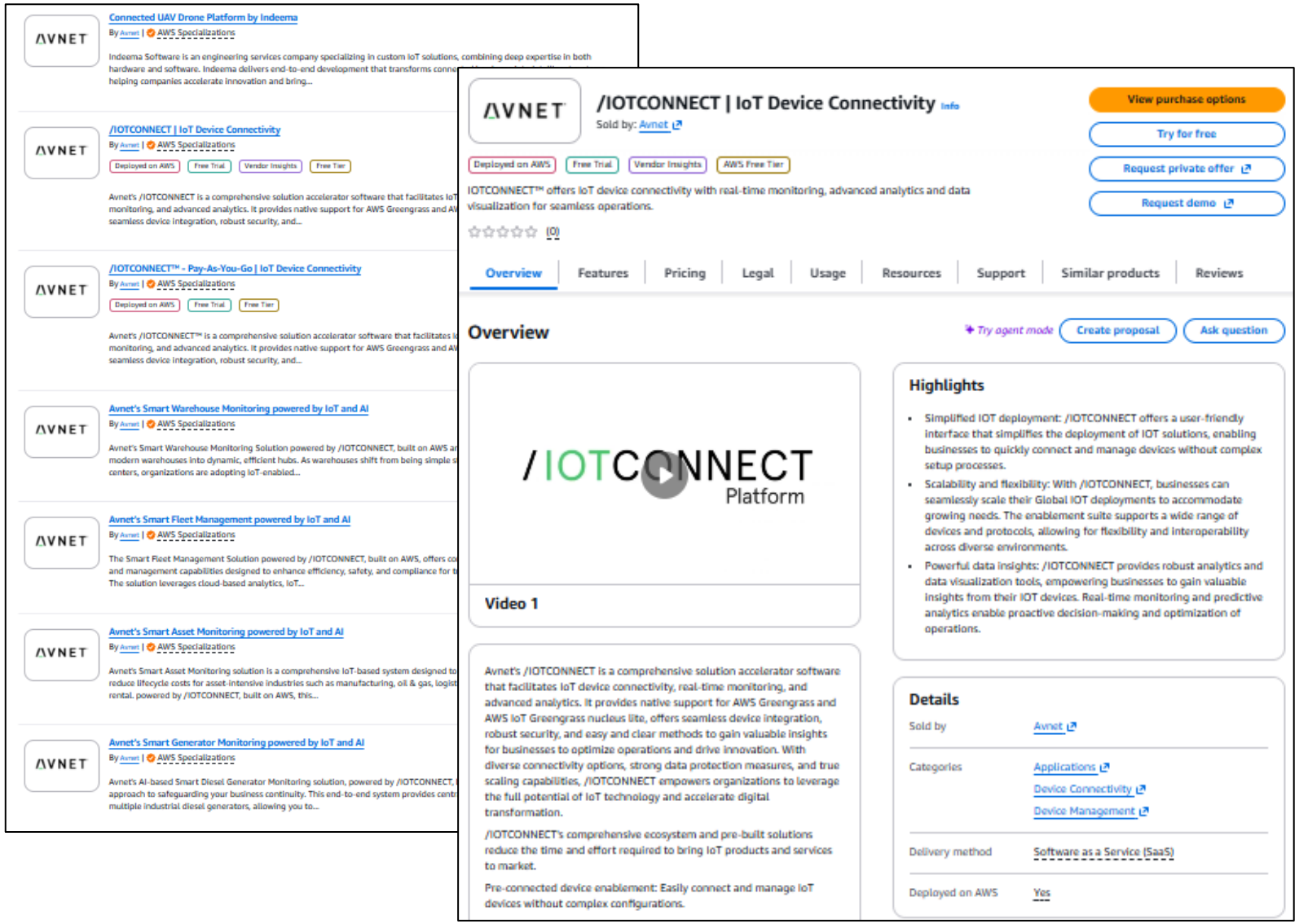
/IOTCONNECT™

Migrate Azure IoT Edge to AWS IoT Greengrass

Avnet's Azure IoT Edge to AWS IoT Greengrass Migration solution simplifies the transition from legacy Azure IoT Edge deployments to a secure, scalable AWS-based edge architecture. Designed for organizations approaching Azure IoT Edge end-of-life, this solution provides end-to-end migration support - from workload mapping and secure device provisioning to phased fleet rollout and cutover. By leveraging AWS IoT Greengrass V2 and AWS native services, teams can modernize their edge infrastructure, reduce operating costs, and continue scaling edge applications with minimal disruption.

aws Qualified Software

Visit Our Marketplace Listings



All Avnet Listings

Migrate Azure IoT Edge to AWS IoT Greengrass

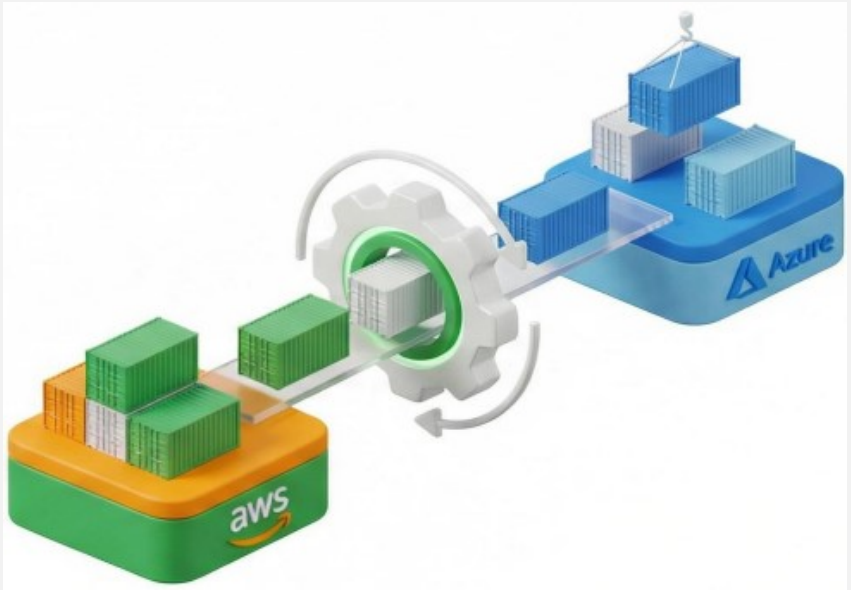
Avnet's Azure IoT Edge to AWS IoT Greengrass Migration solution helps organizations transition from legacy Azure IoT Edge deployments reaching end-of-life support to a modern AWS-based edge environment. Using a phased, low-risk approach, the solution enables customers to adopt AWS IoT Greengrass V2 while maintaining operational continuity. With Avnet expert guidance and /IOTCONNECT providing centralized visibility, customers can modernize their edge infrastructure securely and at lower cost.

Phased, Low-Risk Migration Approach: Moves devices in stages to minimize downtime and risk

Application Continuity: reserves existing workloads with proven migration pattern

Modern Security: Uses open, standards-based mTLS with automated credential management

Lower Operating Costs: Maintains edge processing to reduce cloud and messaging needs



Features

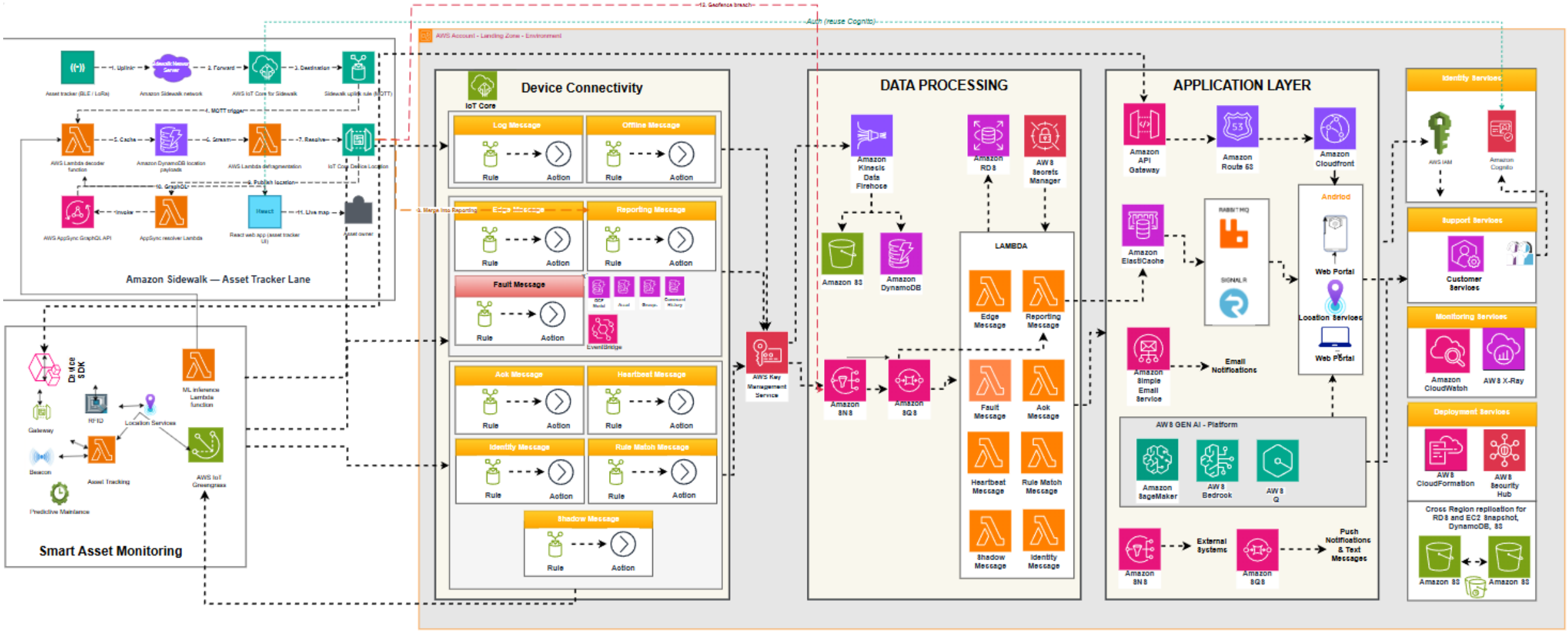
Avnet's Azure IoT Edge to AWS IoT Greengrass Migration solution enables a smooth, low-risk transition to a modern edge platform by preserving existing applications and operating costs while strengthening security. Customers benefit from a phased migration approach that minimizes downtime, utilizing open standards-based security that avoids cloud lock-in, and a scalable AWS foundation—supported by /IOTCONNECT for centralized visibility and device management.

Learn more

Marketplace Listing

AVNET

Solution Architecture – AWS IoT Greengrass

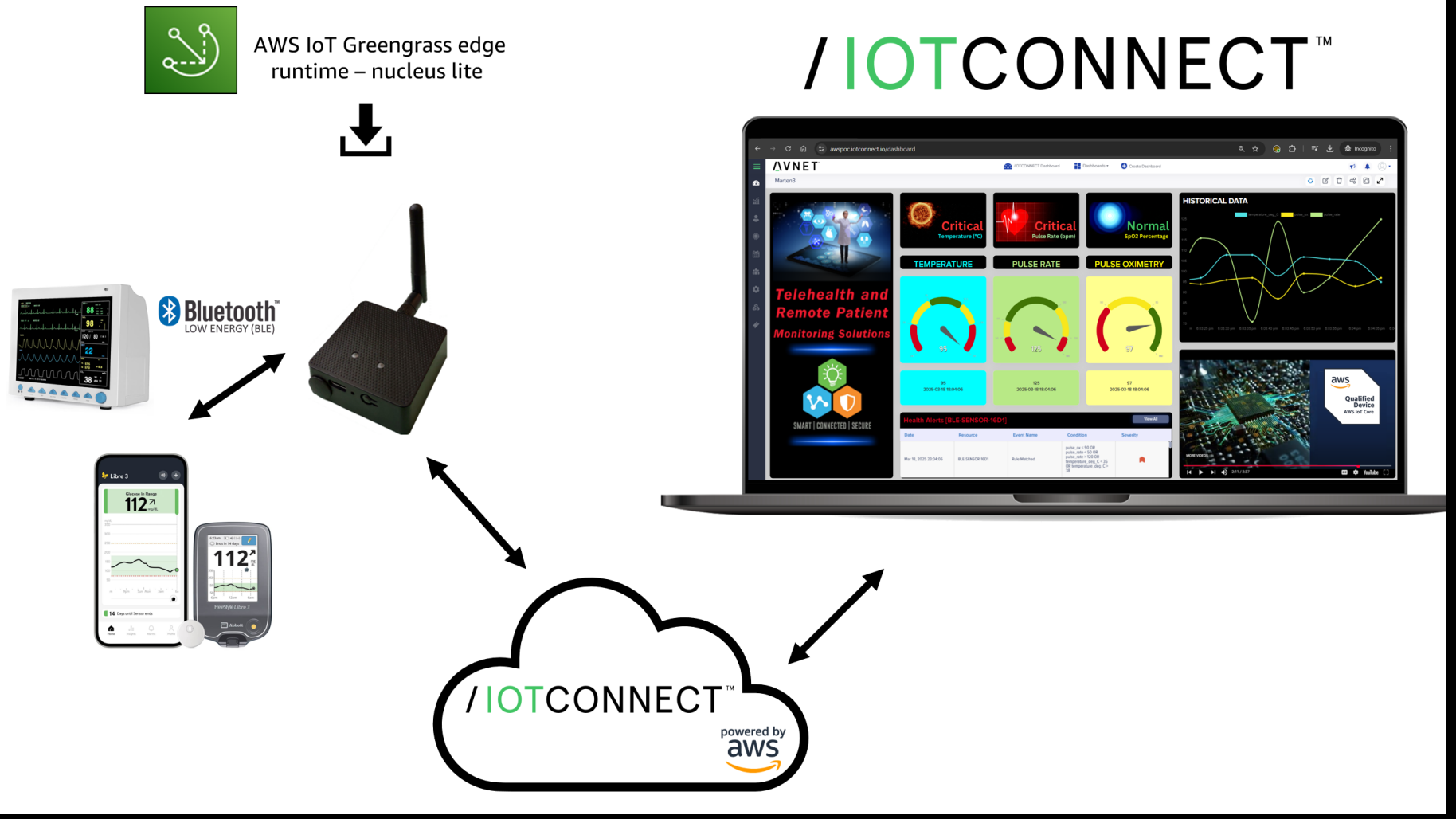


/ Use Cases

Greengrass can be installed on new and existing medical devices enabling asset monitoring and remote configuration capabilities. The lite runtime allows it to operate on a number of legacy HW platforms without requiring costly FDA (re)certification efforts. Device health monitoring and ease of remote control enable large cost savings.

AVNET

- **Health Care**
- Smart Home Energy Management
- Manufacturing Modernization



/ Use Cases

Thanks to the new lite runtime, Greengrass can now be installed on resource-constrained devices where previously the dependency on Java technology prevented its use.

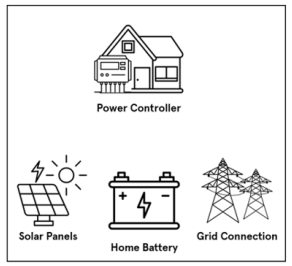
AVNET

Health Care

Smart Home Energy Management

Manufacturing Modernization

AWS IoT Greengrass edge runtime – nucleus lite



/ IOTCONNECT™

/ IOTCONNECT™ powered by aws

/Use Cases

Greengrass can be installed on CPEs *inside containers*, allowing application developers to quickly build applications that connect to AWS IoT Core, sharing an MQTT connection, managing extensions/components, monitoring health and controlling their life cycle on individual devices or large fleets *without requiring TELCOs mediation.*

AVNET

Health Care

Smart Home Energy Management

Manufacturing Modernization

POE Cable

POE Thermal Vision Camera

/IOTCONNECT Dynamic Dashboard

Summary & Next Steps

Benefits

1. **Secure/Flexible:** By using open, industry-standard X.509 mTLS security, AWS enables greater portability and long-term flexibility.
2. **Value:** With AWS IoT Core's low-cost, pay-as-you-go messaging model, customers can scale device connectivity more affordably, achieving up to 5× cost savings compared to Azure IoT Hub.
3. **EOL Risk:** As Azure IoT Edge LTS versions reach end of life, security updates and long-term support are retired, increasing operational risk for existing deployments.

Outcomes

1. **Reduced Risk**: Avoids Azure IoT Edge end-of-life exposure while maintaining continuous edge operations.
2. **Improved Flexibility**: Enables a more open, portable edge architecture without cloud lock-in
3. **Lower Long-Term Costs**: Decreases messaging and operational expenses as device fleets scale.

Next Steps

Let's Modernize Your Edge Without Disrupting Your Business

Contact us: IoT@Avnet.com

More About Avnet /IOTCONNECT & Softweb Solutions (an Avnet company)

About Avnet

Quick facts

- Founded in 1921
- Headquartered in Phoenix, Arizona
- AVT listed on the NYSE since 1960
- AVT listed on NASDAQ since 2018
- #181 on FORTUNE 500 (US) in 2025

14,500+
Employees worldwide

2,000+
Engineers around the world

3.3M+
Engineering community members

450K
Customers in 140 countries

250+
Locations globally

$22.2B
FY25 Revenue

Avnet Capabilities

AVNET

CORE SEMI

/IOTCONNECT™

IOT PLATFORM FOR OEMS

softweb solutions AN AVNET COMPANY

CLOUD APPLICATION DEVELOPMENT

Witekio AN AVNET COMPANY

EMBEDDED SOFTWARE DESIGN SERVICES

TRIA AN AVNET COMPANY

EMBEDDED MODULES & BOARDS

DESIGNED BY AVNET

SOLUTIONS DEVELOPMENT: ADVANCED APPLICATIONS GROUP

Cloud Migration | MAP SPRINTS

Migrate data sets and apps to the cloud securely

AWS AI / ML | Gen AI

Rekognition, SageMaker, Bedrock & more

Mobile Applications

Powerful mobile apps for global audiences

Server Monitoring

Detect cloud computing and network issues

Big Data & Analytics

Scalable and secure big data solutions

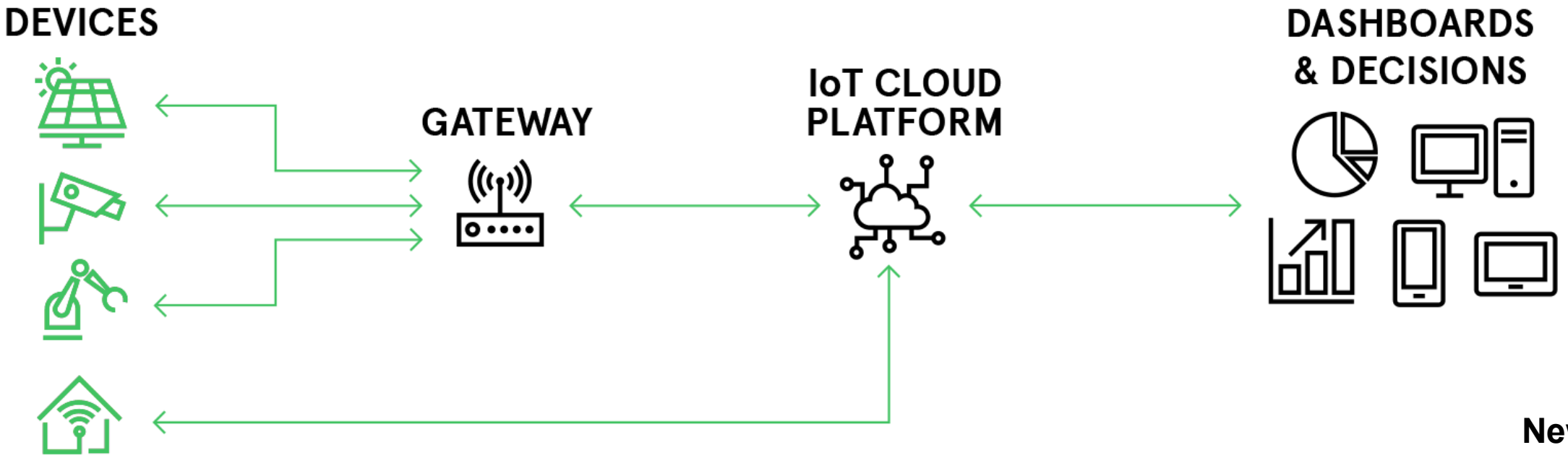
Enterprise Applications

Mission-critical apps running on AWS

Managed Services

Infrastructure management on AWS

Challenge of IoT



Current Generation Product

New Hardware Development

New IoT Platform

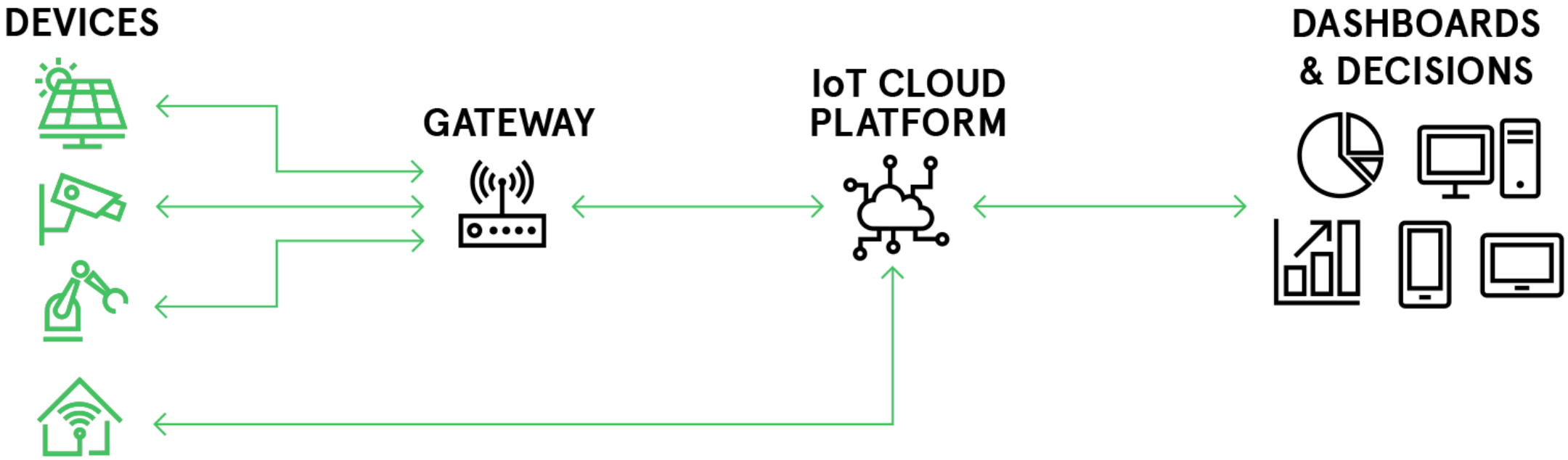
Legacy Infrastructure

New Communication Interfaces

Mobile App Integration

Developing an IoT product is costly, cumbersome, and time consuming.

/ Challenge of IoT

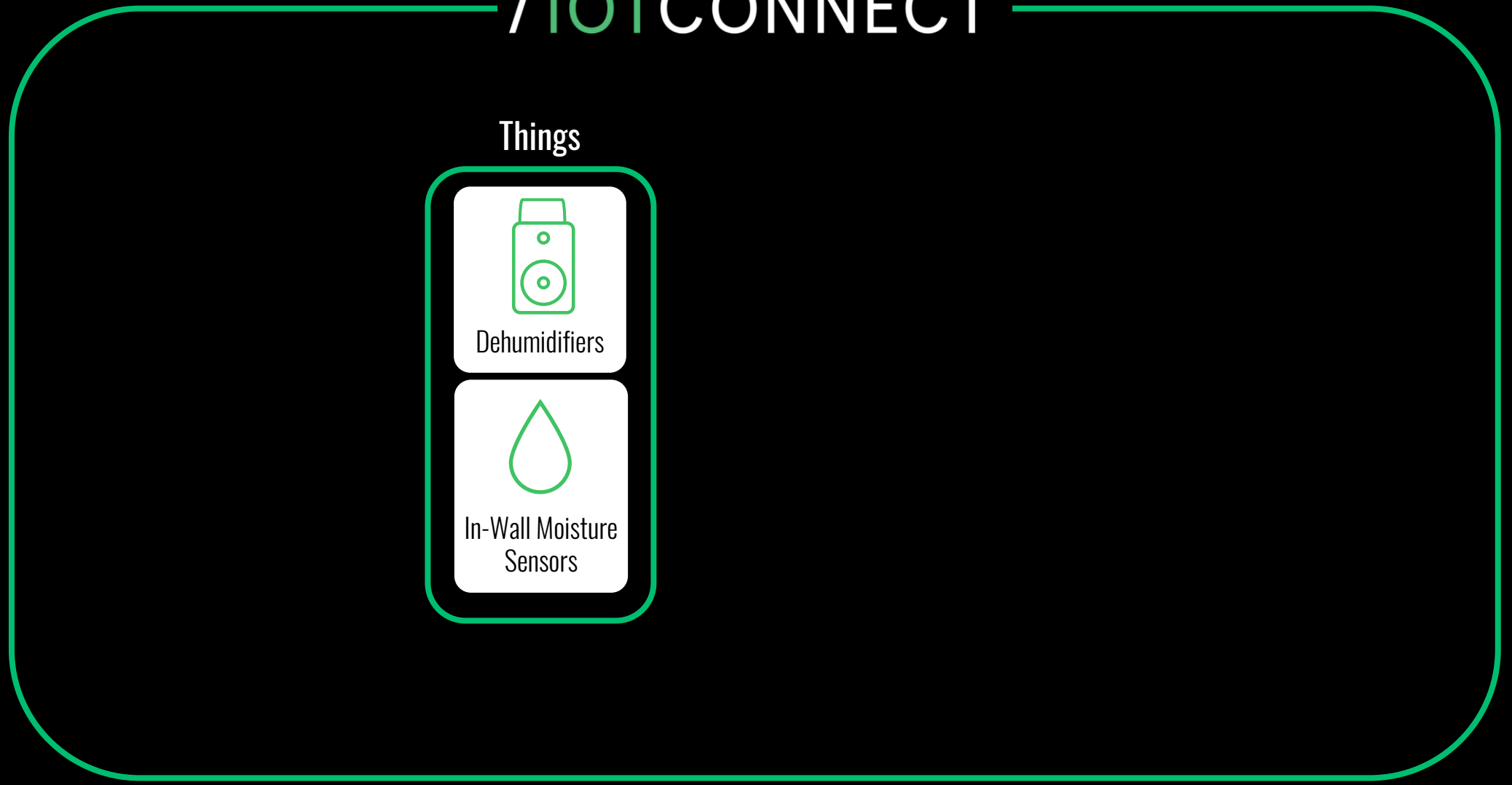


/IOTCONNECT®

With /IOTCONNECT, IoT development becomes simple, secure, and scalable.

/IOTCONNECT®

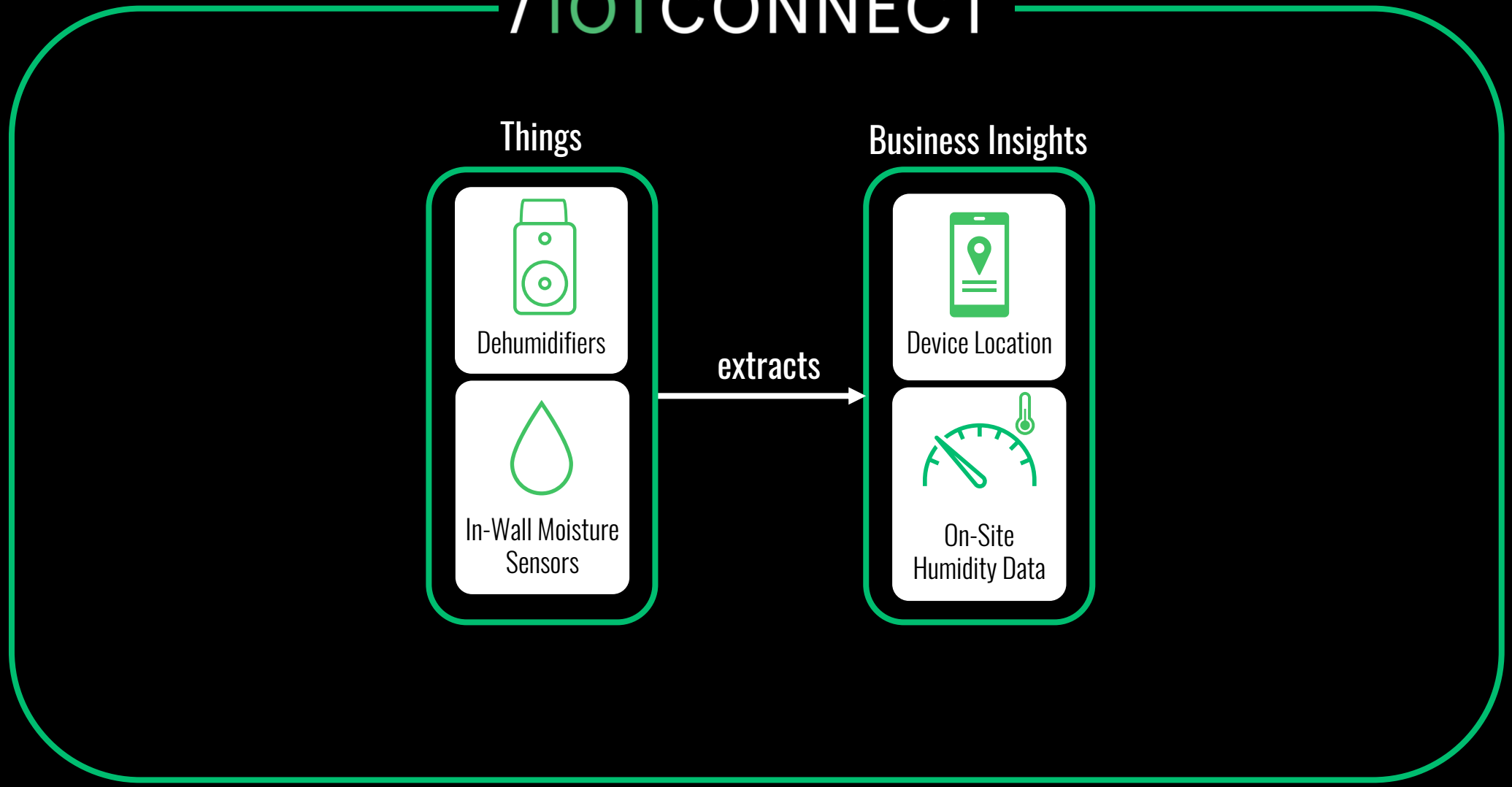
AVNET



It takes **things** like **connected dehumidifiers** and **moisture sensors**

/IOTCONNECT®

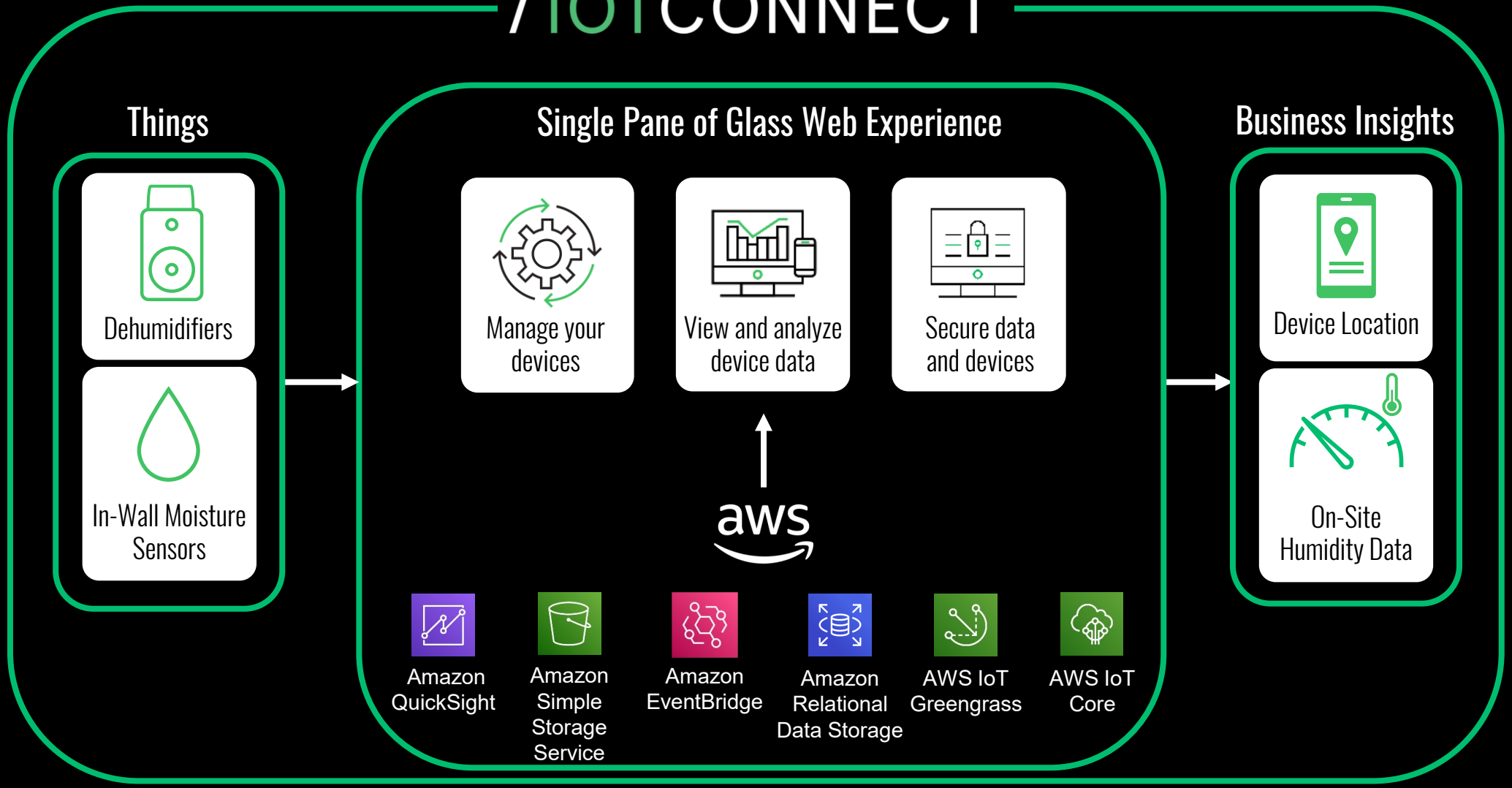
AVNET



and **extracts valuable insights** to improve business intelligence

/IOTCONNECT®

AVNET



to create a **single pane of glass** experience

that's **built on AWS**

Amazon QuickSight

Amazon SageMaker

Amazon Kinesis

Amazon EventBridge

Amazon Managed Grafana

Amazon DynamoDB

Amazon Relational Data Storage

AWS IoT Core

AWS IoT Core for Sidewalk

AWS IoT Core for LoRaWAN

AWS IoT Greengrass

Amazon Simple Storage Service

FreeRTOS

AWS Lambda

We take needed **AWS services** for IoT solution development

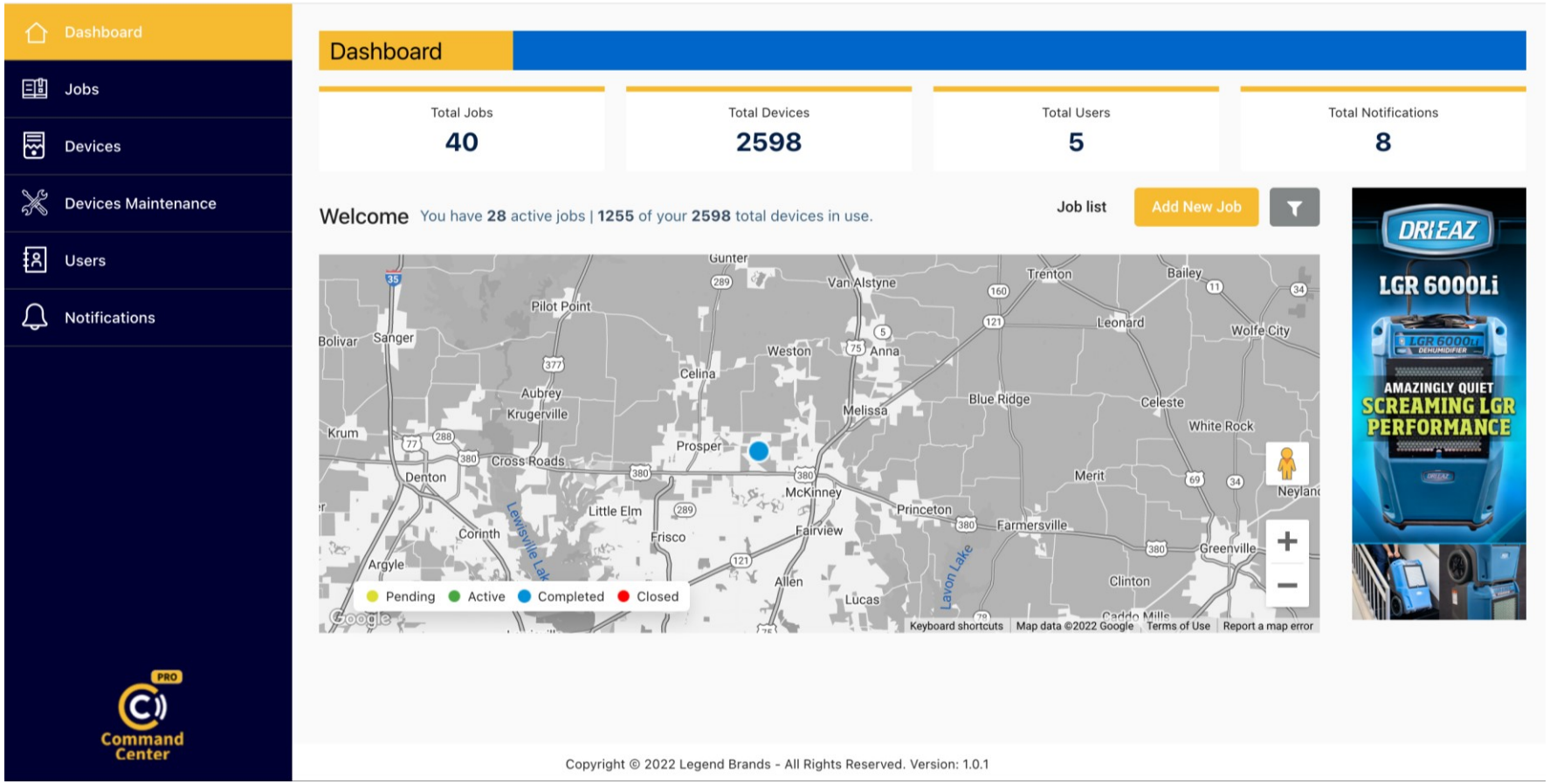
/IOTCONNECT®
Solutions Suite

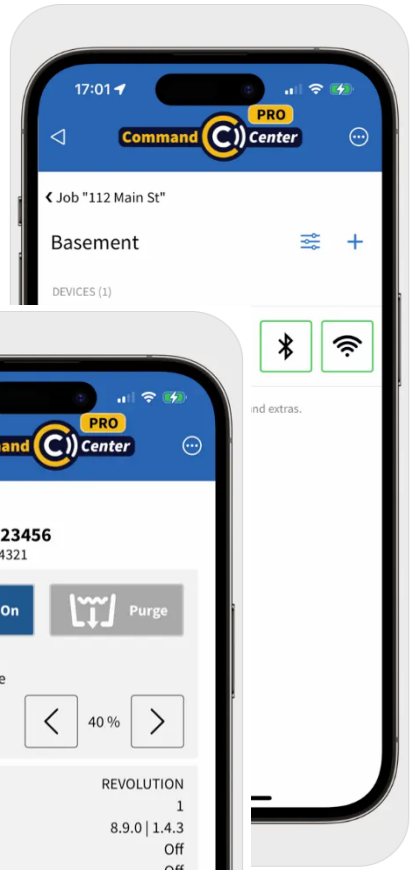
AVNET

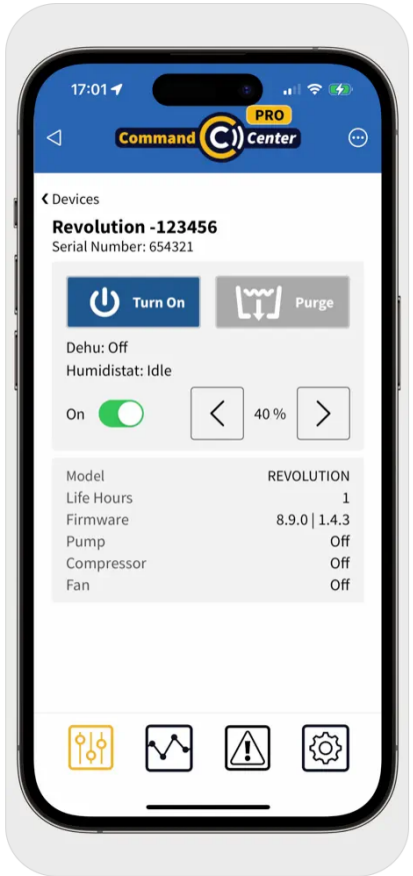
One interface for
AWS services

And aggregate them to create **one ecosystem** for **production ready IoT**

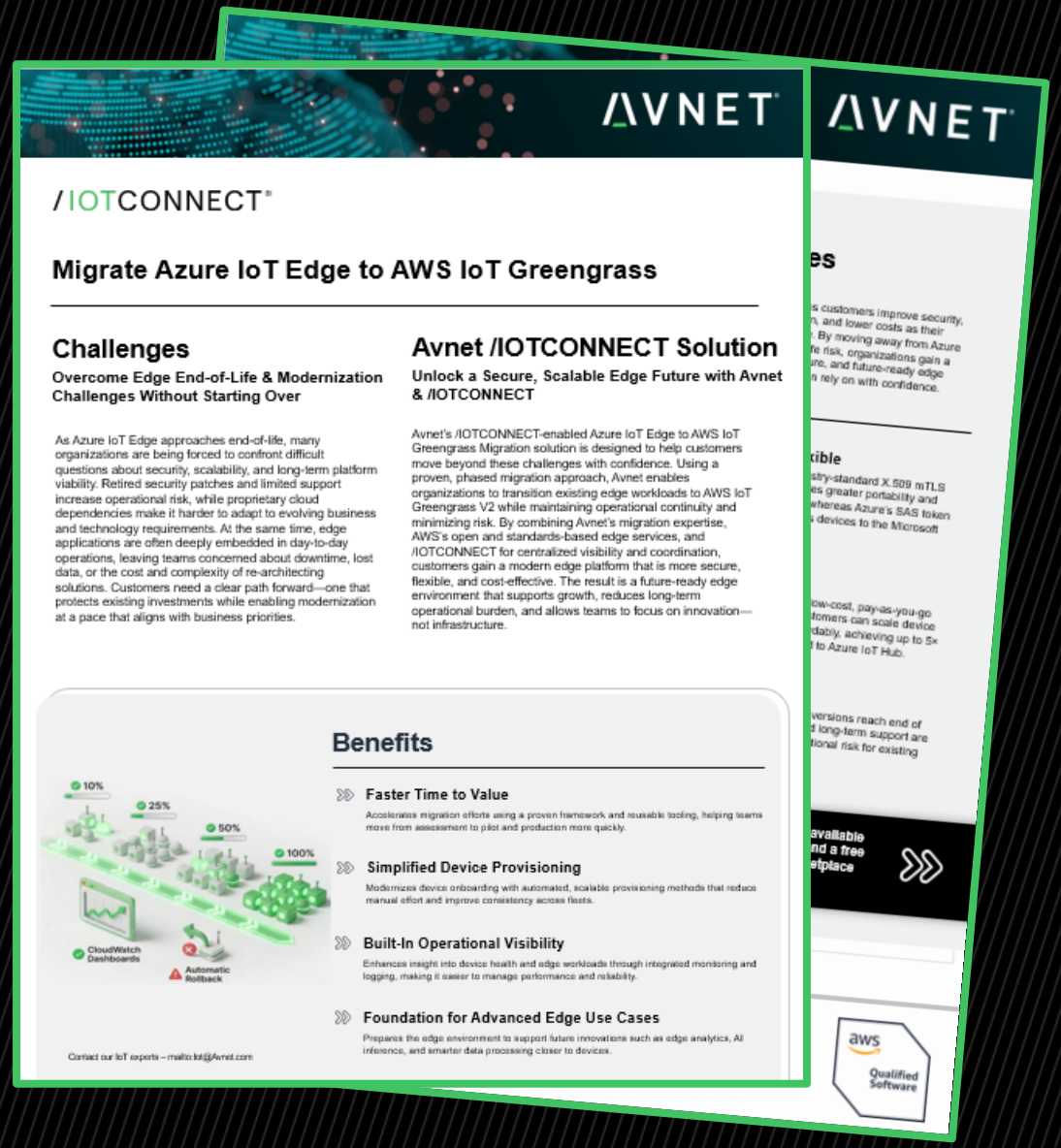
/IOTCONNECT SaaS Application in Action







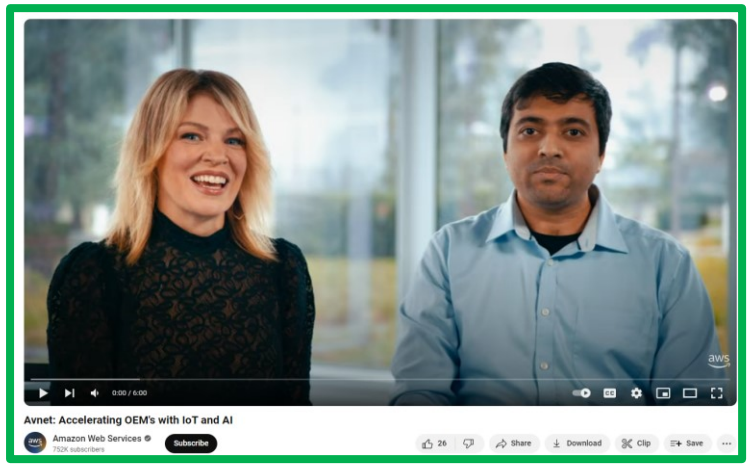
Next Steps



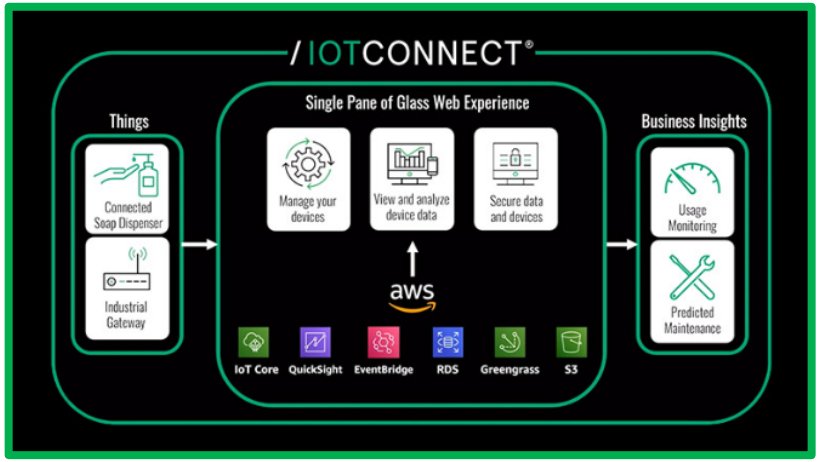
Contact us!

Learn more

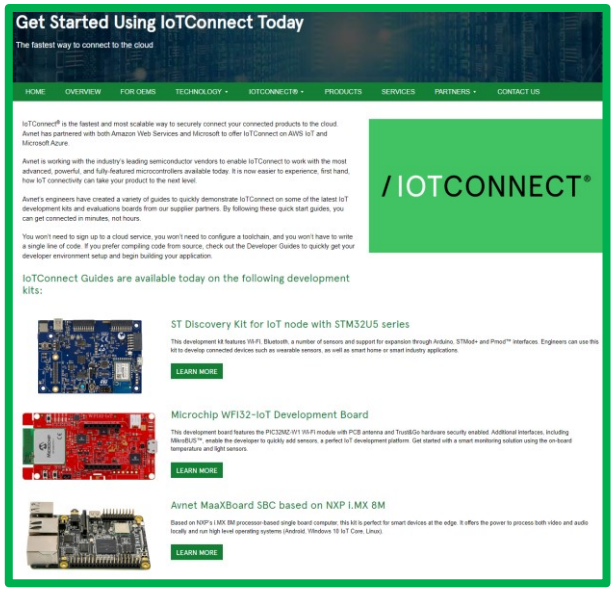
/ Resources



[Avnet and AWS: This is My Architecture]



[Avnet /IOTCONNECT Webinar]



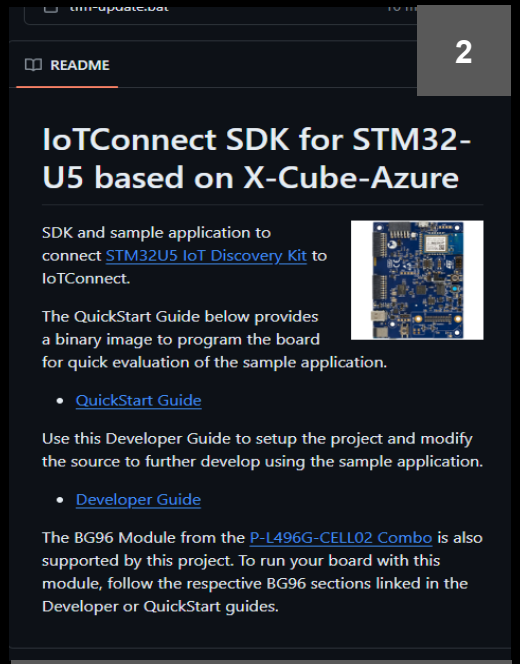
[/IOTCONNECT Quick Start Development Kits]

/IOTCONNECT Quick Start Enablement

AVNET

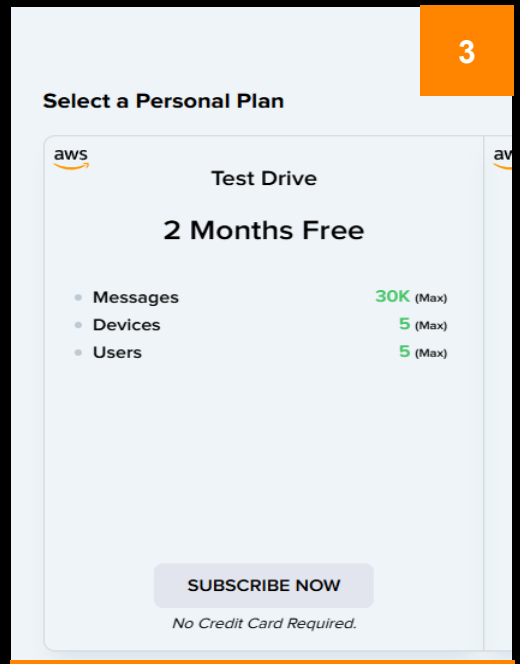
Pick a Board

Access our quick start landing page to look at the variety of developer board options that we have enabled. Select which board fits your need.



Access GitHub

Click the GitHub link to see the sample code we have created for each of these developer kits. These include templates and dashboards.



Sign up for Free Trial

Using the provided link from the quick start guide, sign up for a free /IOTCONNECT account and demo all of the design acceleration features.

Start Developing

With dynamic dashboards and easy onboarding widgets, /IOTCONNECT makes designing for your application simple, secure, and scalable.

Appendix

What is AWS IoT Greengrass?

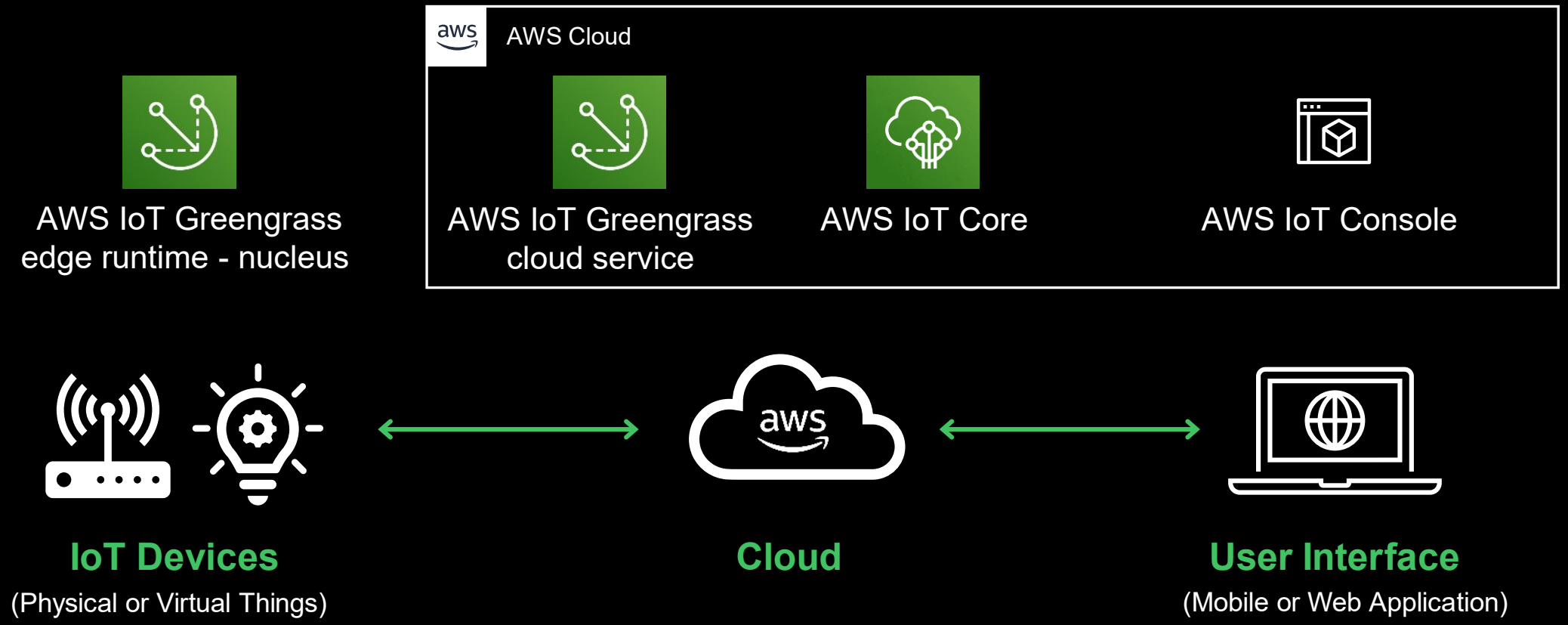
IoT Devices
(Physical or Virtual Things)

Cloud

User Interface
(Mobile or Web Application)

What is AWS IoT Greengrass?

AVNET

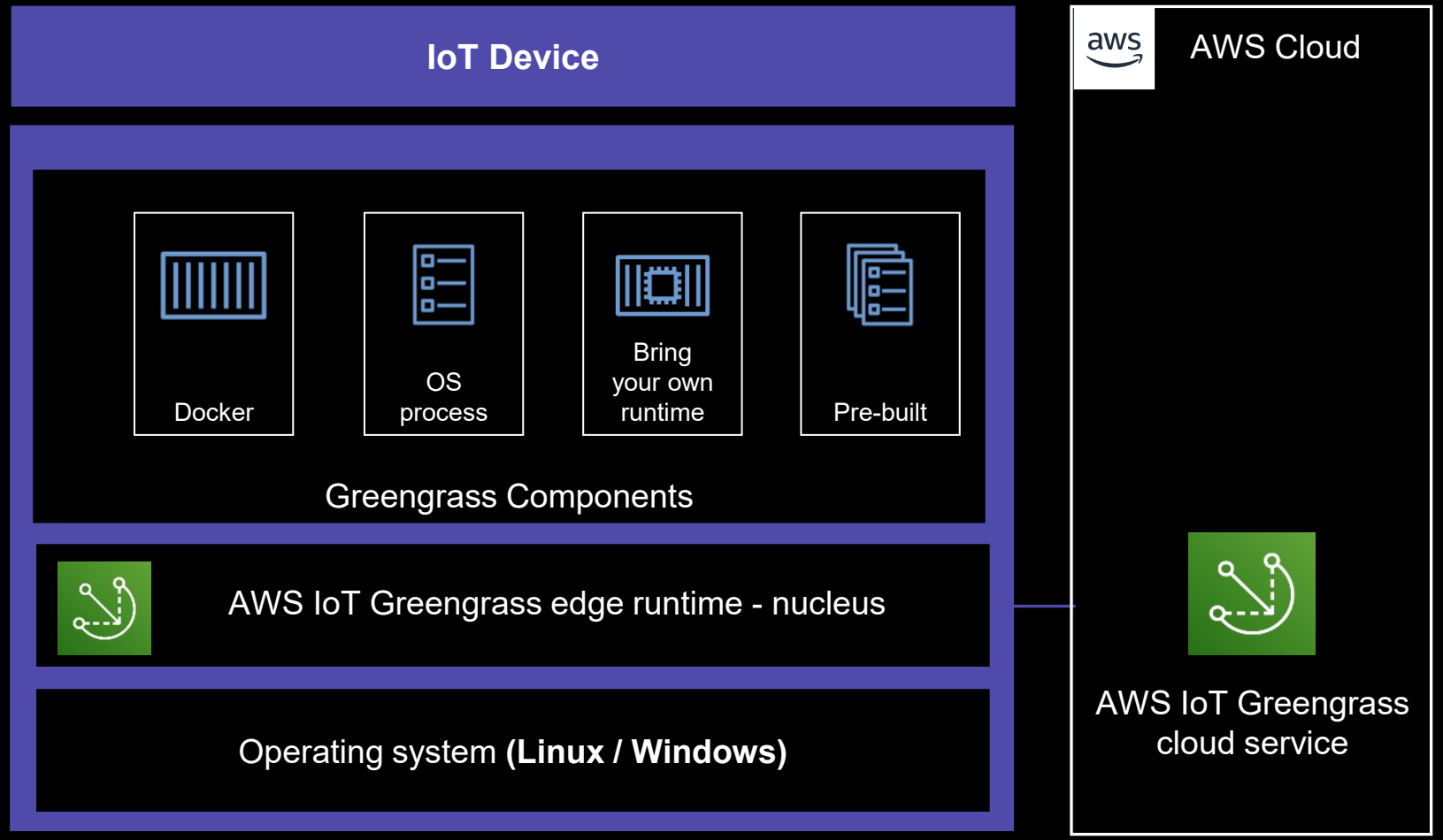


/IOTCONNECT™

AWS IoT Greengrass Breakdown

Key features

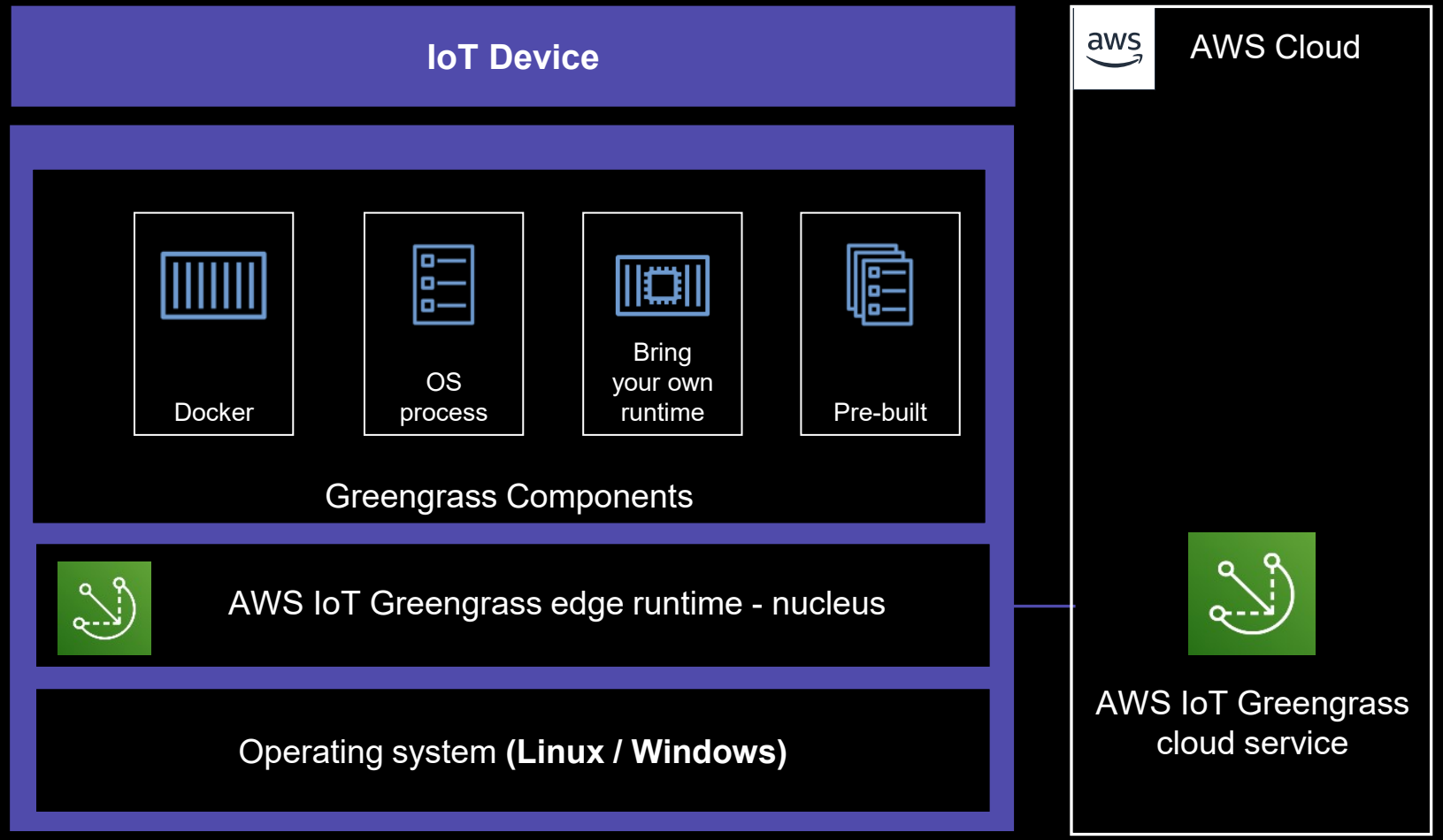
- Open source client software
- Easily share an MQTT connection across multiple applications and components
- Device-side developer tools – iterate quickly with CLI and local console
- Portable across HW (ARM/x86) and languages (C/C++, C#, Java, Python, JS/Node)
- Deploy and orchestrate containerized (and non-) applications
- Pre-built components, such as data streaming to Amazon KVS, Modbus TCP protocol support…



AWS IoT Greengrass Breakdown

Key features

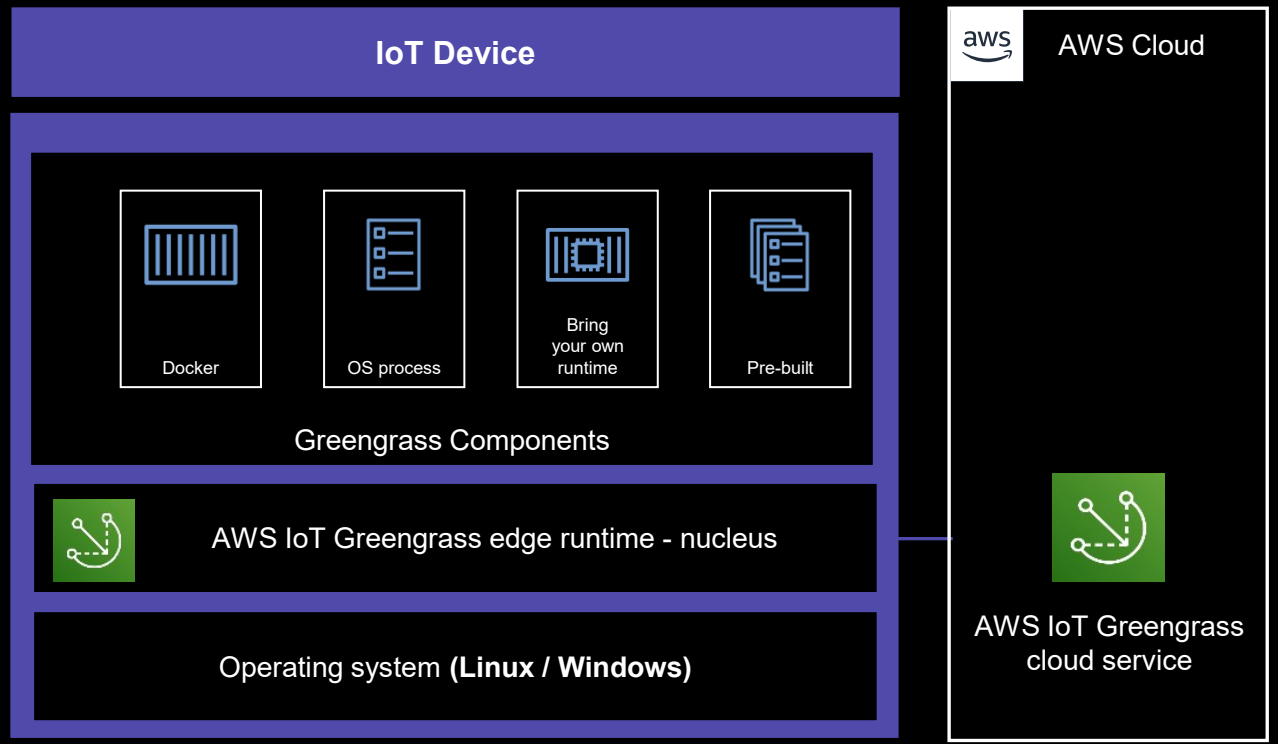
- Open source client software
- Easily share an MQTT connection across multiple applications and components
- Device-side developer tools – iterate quickly with CLI and local console
- Portable across HW (ARM/x86) and languages (C/C++, C#, Java, Python, JS/Node)
- Deploy and orchestrate containerized (and non-) applications
- Pre-built components, such as data streaming to Amazon KVS, Modbus TCP protocol support…



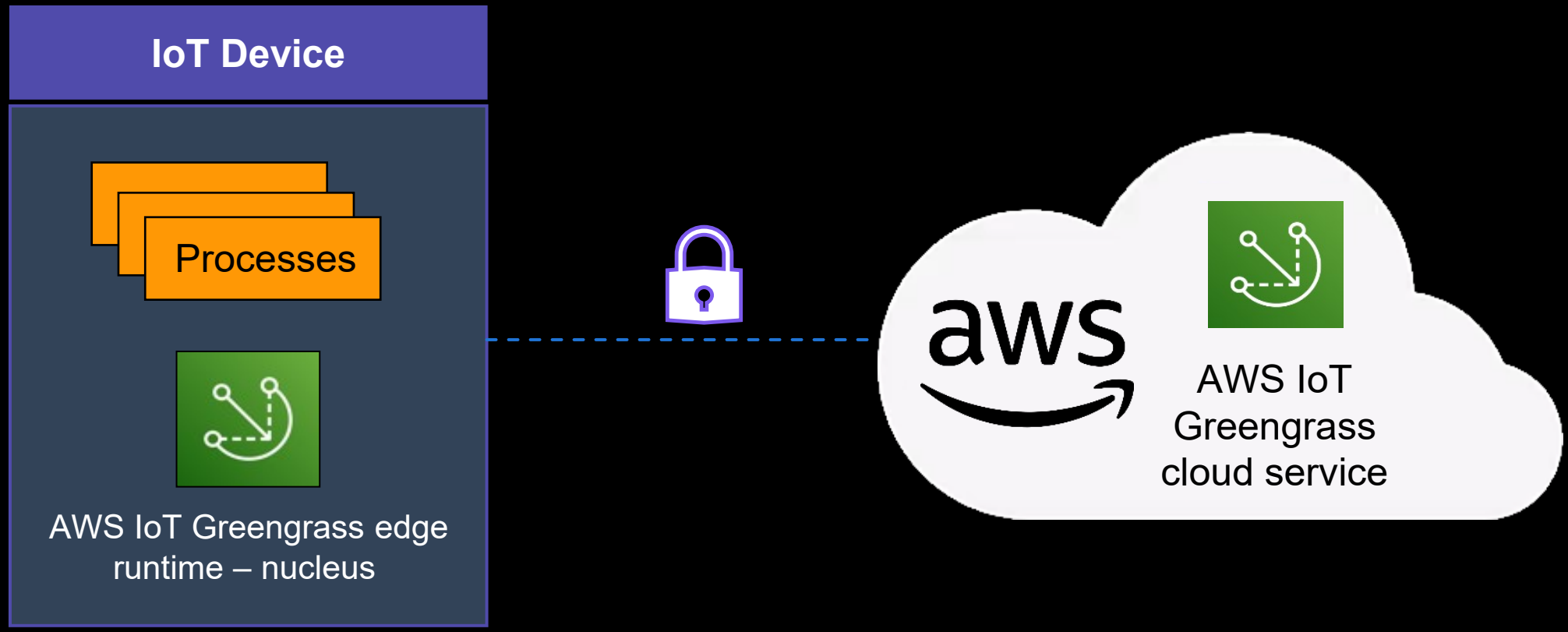
Greengrass is your Swiss Army Knife

Greengrass uses:

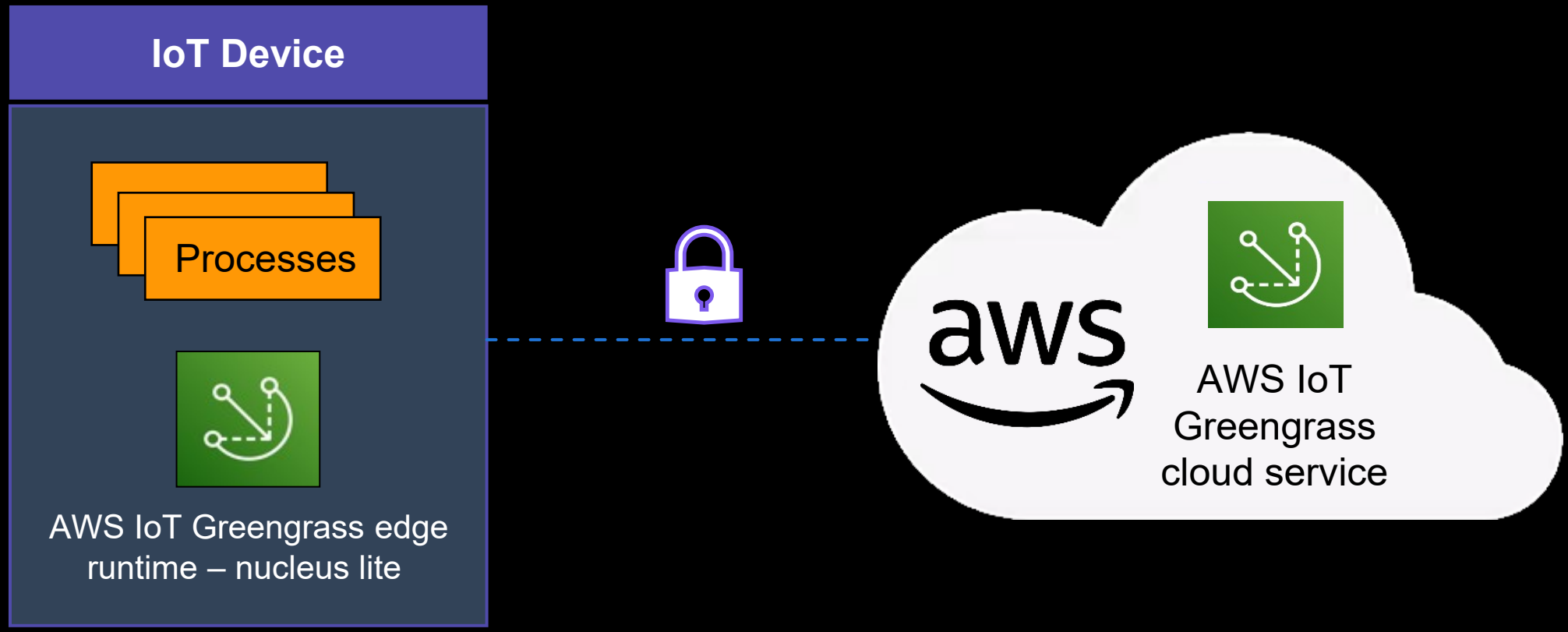
- Open source client software
- Easily share an MQTT connection across multiple applications and components
- Device-side developer tools – iterate quickly with CLI and local console
- Portable across HW (ARM/x86) and languages (C/C++, C#, Java, Python, JS/Node)
- Deploy and orchestrate containerized (and non-) applications
- Pre-built components, such as data streaming to Amazon KVS, Modbus TCP protocol support…



What is IoT Greengrass nucleus lite?



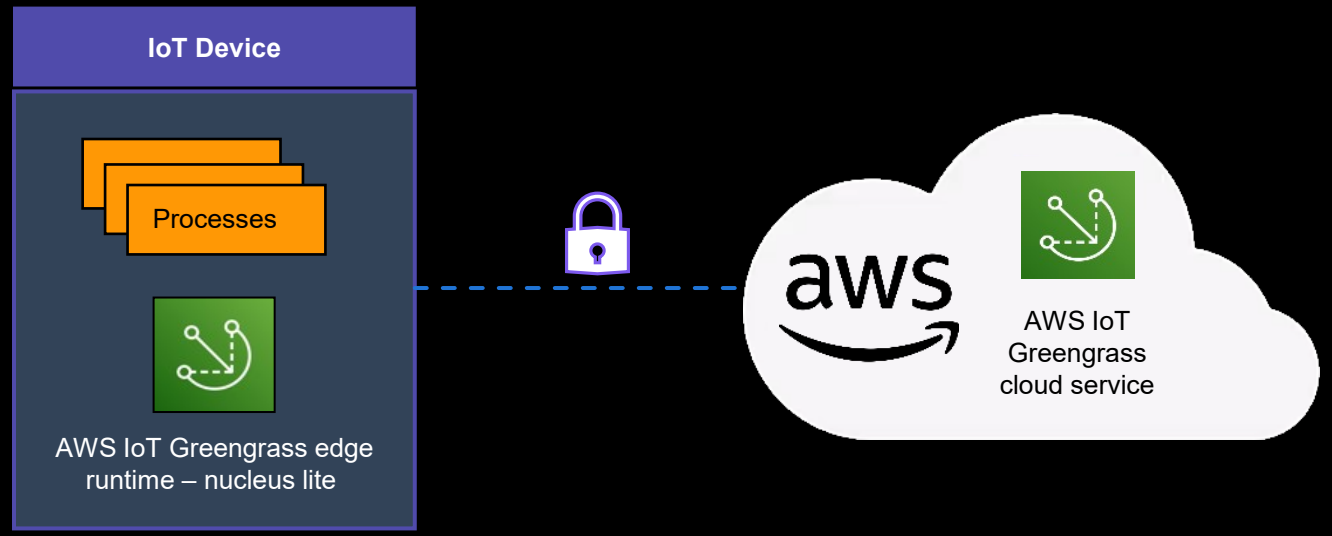
What is IoT Greengrass nucleus lite?



What is IoT Greengrass nucleus lite?

Greengrass nucleus lite features:

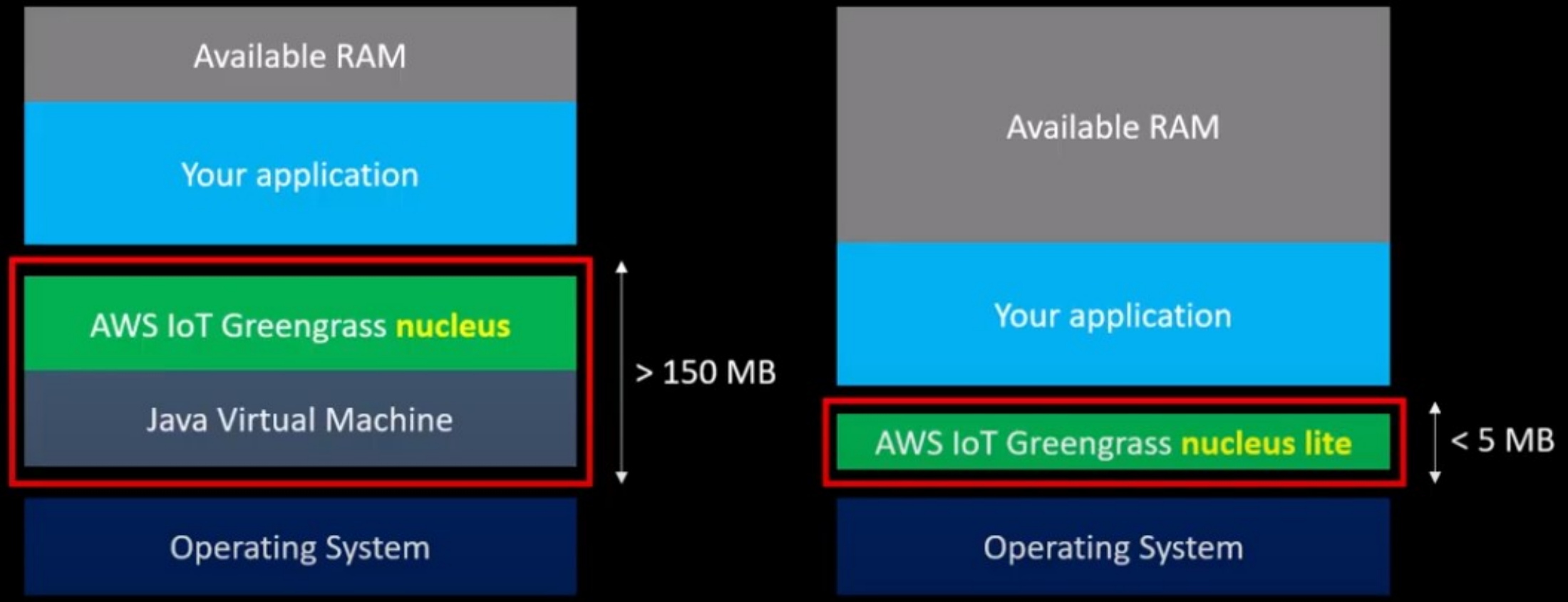
- Lower memory footprint: <5MB RAM, <3MB Storage
- Fit into cost sensitive and constrained embedded devices
- More space for your applications
- Removed dependency on Java (JVM)
- Depend exclusively on libc, sqlLite
- Higher performance on lower spec HW
- Increased robustness with static memory allocation
- API compatibility with Greengrass service v2 API
- Generic components compatibility with Greengrass Nucleus



Advantages of Greengrass nucleus lite

AVNET

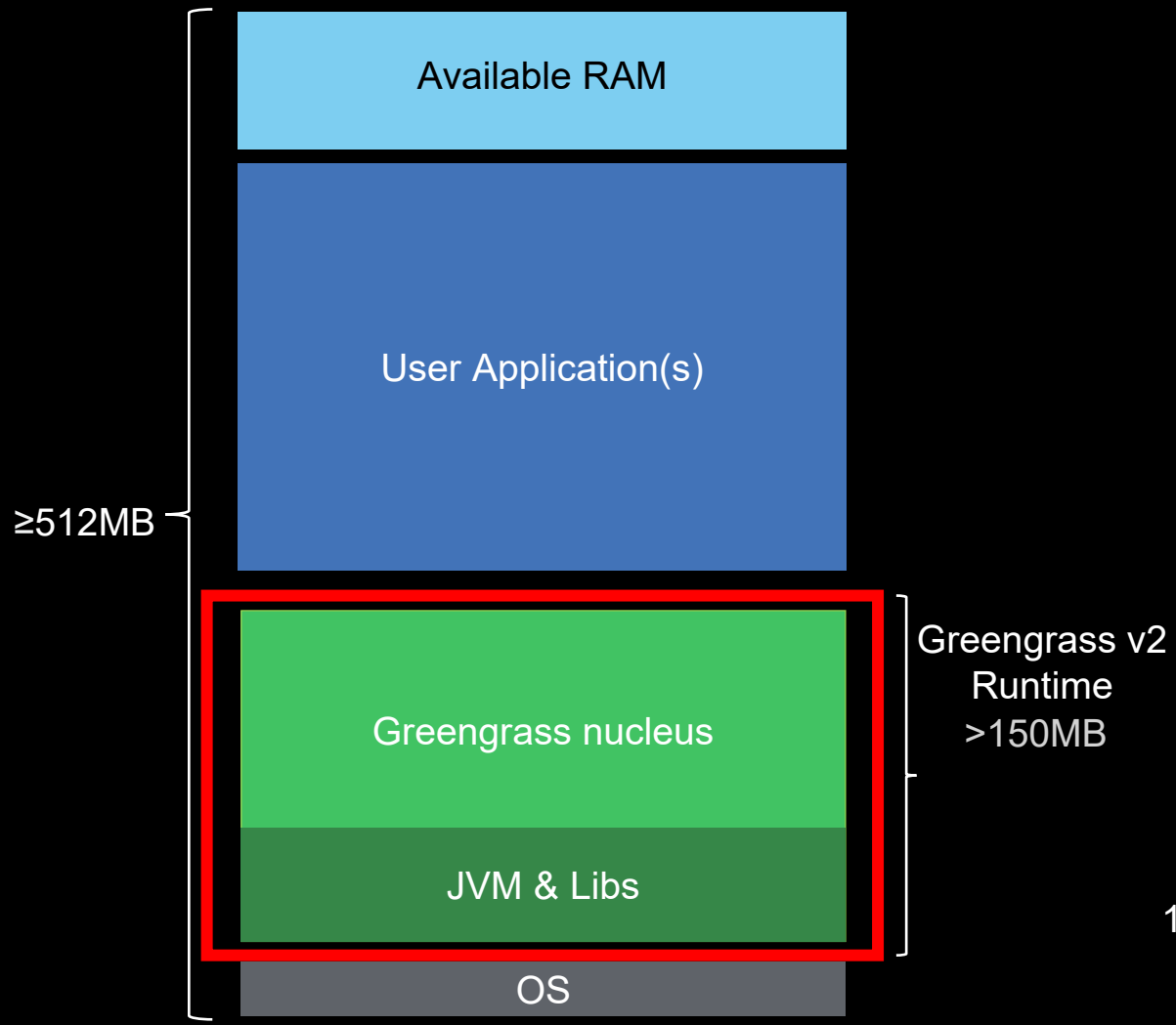
Memory footprint



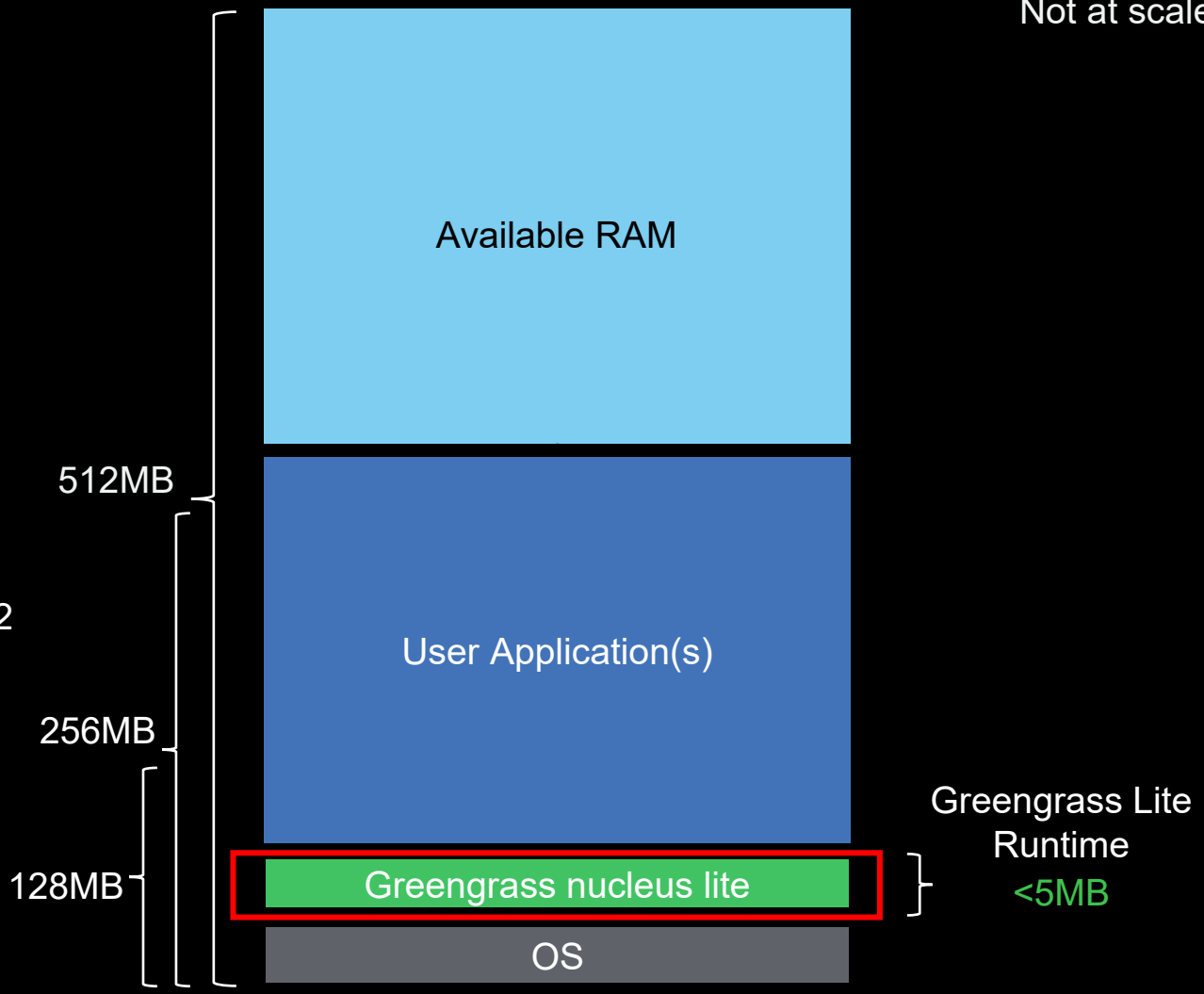
Memory Comparison

AVNET

Not at scale



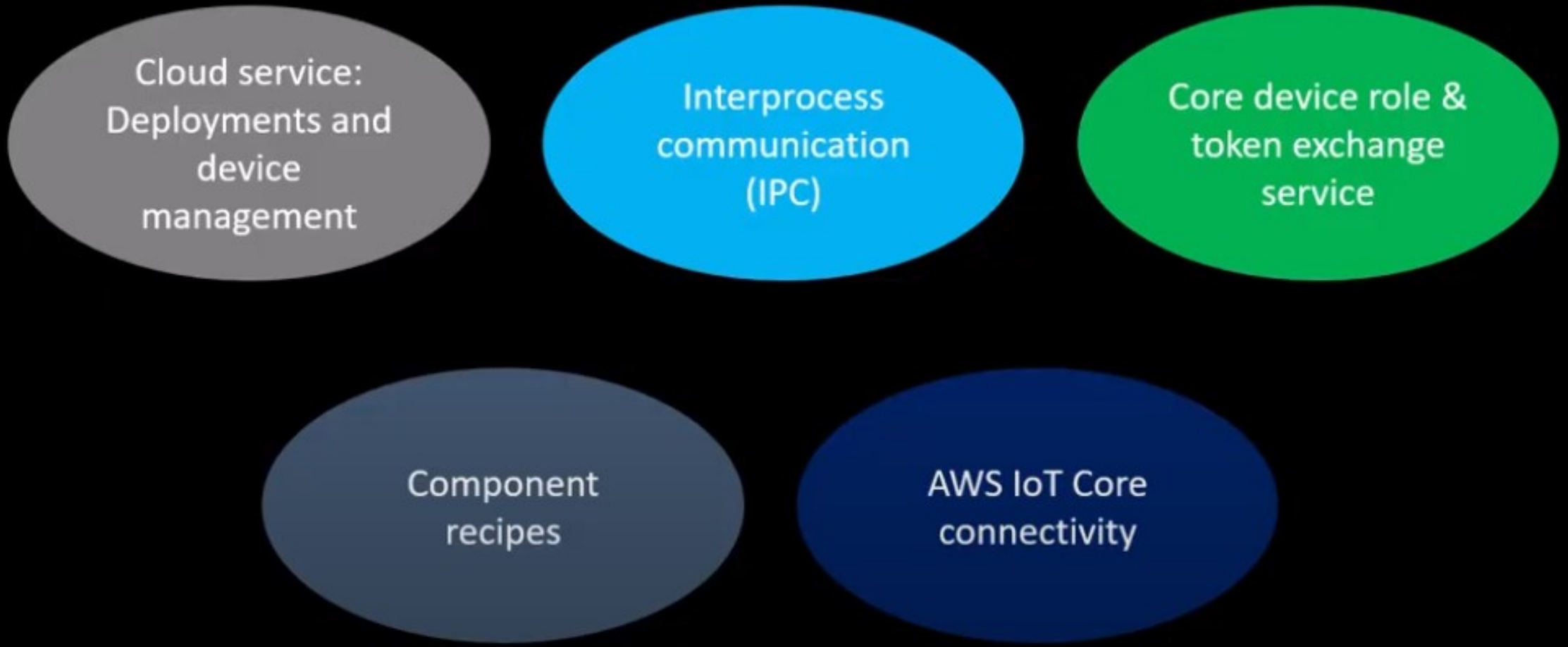
AWS IoT Greengrass nucleus



AWS IoT Greengrass nucleus lite

What does nucleus lite share with nucleus?

AVNET



AWS IoT Greengrass nucleus vs. nucleus lite

AVNET

	nucleus	nucleus lite
RAM	96 MB	5 MB
Flash/disk	256 MB	5 MB
nucleus language	Java	C
Operating systems	Windows and Linux	Linux with systemd
Directory structure	Monolithic	Modular
Memory allocation	Dynamic	Static
Logging system	Custom	systemd journal
Configuration store	TLOG	SQLite
Lambda functions	Yes	No
Feature set	Full	Subset*

Greengrass nucleus vs. nucleus lite

AVNET

	nucleus	nucleus lite
RAM	96 MB	5 MB
Flash/disk	256 MB	5 MB
nucleus language	Java	C
Operating systems	Windows and Linux	Linux with systemd
Directory structure	Monolithic	Modular
Memory allocation	Dynamic	Static
Logging system	Custom	systemd journal
Configuration store	TLOG	SQLite
Lambda functions	Yes	No
Feature set	Full	Subset*

***Shared nucleus and nucleus lite functions**

- Cloud service: Deployments and device management
- Interprocess communication (IPC)
- Core device role & token exchange service
- Component recipes
- AWS IoT Core connectivity

Greengrass nucleus vs. nucleus lite

AVNET

Indications for nucleus:

Windows operating system

Lambda function components

Docker container components

Scripted / interpreted languages

Feature not yet supported by nucleus lite

Indications for nucleus lite:

Constrained hardware with less than 512 MB RAM

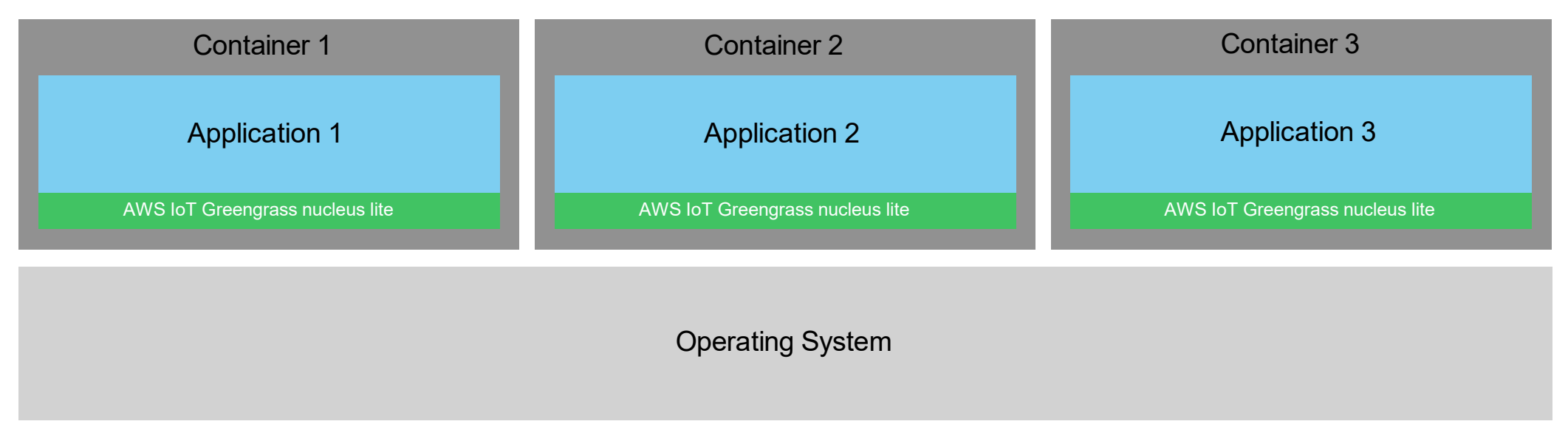
Constrained hardware with CPU clock under 1 GHz

Compliance requirements

Creating your own embedded Linux distribution with A/B partitions for OS image updates

Compiled languages

Multi-tenancy Support for Containerized Applications



With its small footprint, nucleus lite provides the opportunity for effective containerization in multi-tenant IoT deployments.

Developers can run multiple isolated applications, each bundled with their own AWS IoT Greengrass runtime and connected to a distinct account/endpoint.

Use cases include: Smart Home Equipment, Smart Metering

/IOTCONNECT^{s} Supports All Devices

AVNET

aws Services

AWS IoT Core

AWS IoT Core for LoRaWAN amazon sidewalk

AWS IoT Greengrass + Greengrass lite

Device Types

- Connected Devices
- Gateway & Child Devices
- Private LoRaWAN Base Station
- Private LoRaWAN Concentrator
- Public LoRaWAN Device
- Amazon Sidewalk Device
- Edge Server or Gateway
- Memory Constrained Edge Device

Device Enablement

GitHub

freeRTOS

AWS IoT Greengrass

DEB

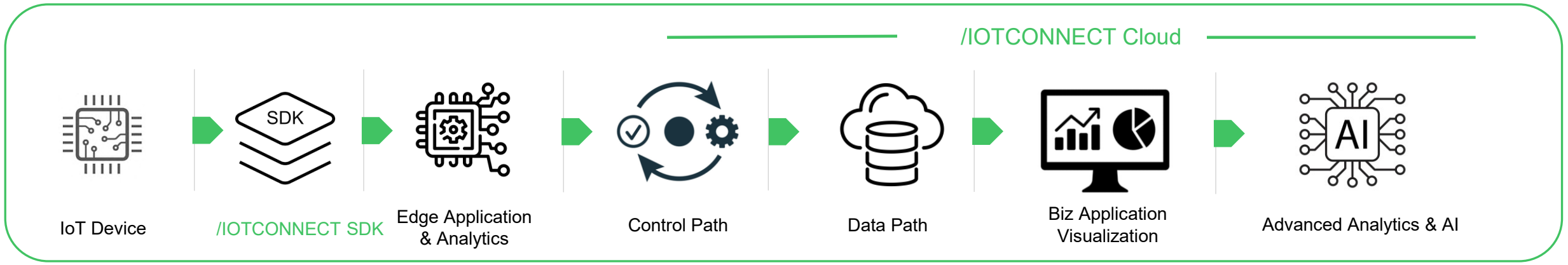
ECLIPSE FOUNDATION ThreadX

yocto · LINUX

Ubuntu

/IOTCONNECT^{s} enables ALL devices types through a single pane of glass.

/IOTCONNECT Building Blocks w/ AWS



FreeRTOS

Python

C

Greengrass

IoT Core

EventBridge

Kinesis

Lambda

RDS

S3 Data Lake

S3

DynamoDB

QuickSight

Grafana

SageMaker

Transport

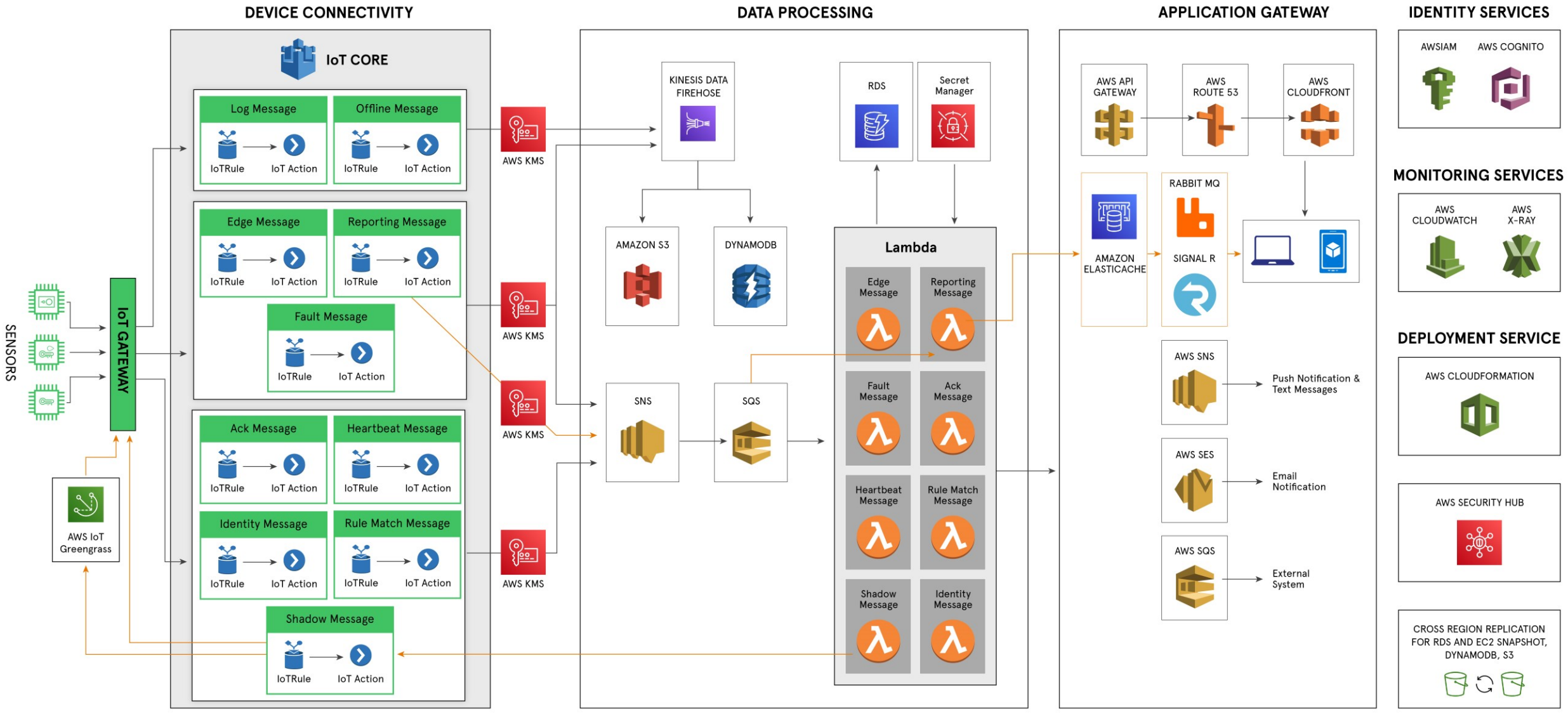
amazon sidewalk

LoRaWAN

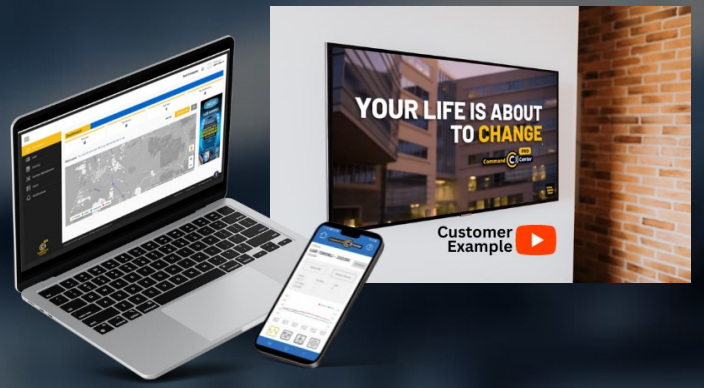
PRIVATE | PUBLIC

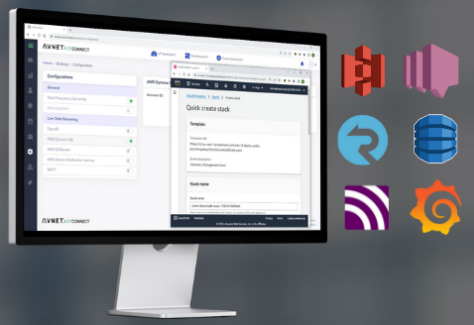
/IOTCONNECT®

/IOTCONNECT Platform Architecture



//IOTCONNECT Developer Personas





- Device, User, Roles, and Entity Admin
- Security manag
- Basic dashboarding
- Internal Ops

Device Builders & Deployment Managers

- RESTful API
- Predictable URLs
- Intelligent error handling
- OAuth 2.0 authentication
- Access to all IoTC functions

Application & UX Developers

- Dynamo DB, S3
- Signal R
- MQTT
- Grafana
- AWS SNS

Cloud Developer & Data Science

/IOTCONNECT SDKs: Deliver a Positive Developer Experience

Objectives:

- Deliver device-builders a positive developer-experience
- Integrate into the Avnet Supplier's development flow and ecosystem
- Provide confidence for a successful outcome at the onset of our customer's IoT journey

Software Resources

- /IOTCONNECT Enablement, Witekio, and Softweb service teams
- Access to global and scalable Avnet software services
- Skills: C, Python, Java, OS/RTOS, Applications, AI/ML

Deliverables

- /IOTCONNECT Library
- SDK (C / C# / Python / …)
- Test Strategy
- Platform Targeted Samples
- Developer Guide
- QuickStart Experience

Device Enablement: SDKs

Generic SDKs

Multiple Languages and Environments

C, C++, C#, python, node.js, Kotlin, Swift

Platform-specific SDKs

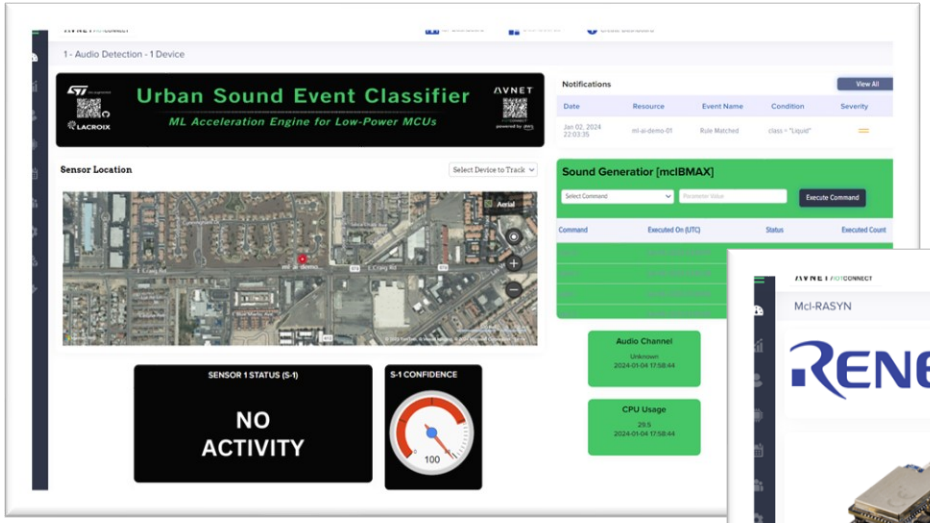
Development Boards and Embedded Hardware

infineon, MICROCHIP, NXP, life.augmented, RENESAS, intel, ASUS, ADVANTECH, DELL

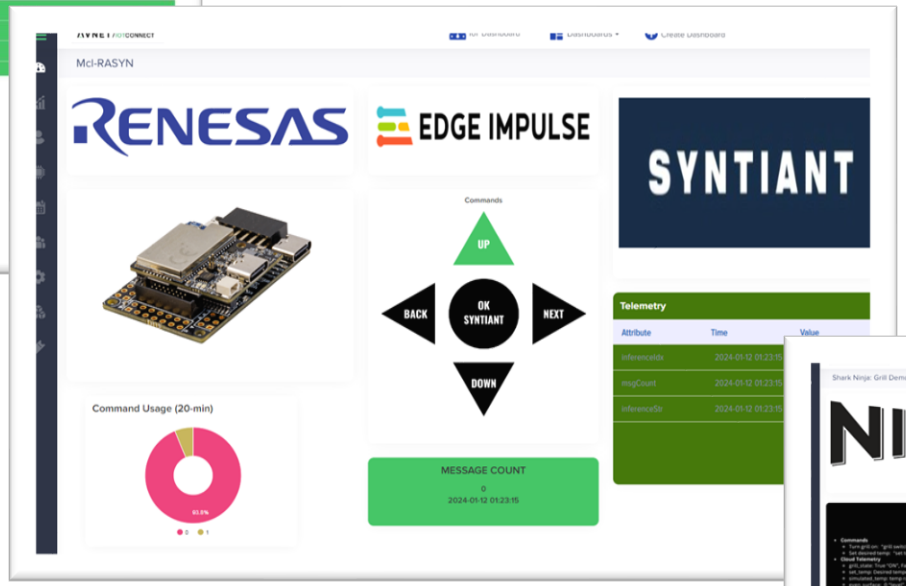
https://docs.iotconnect.io/iotconnect/sdk/

https://github.com/avnet-iotconnect/

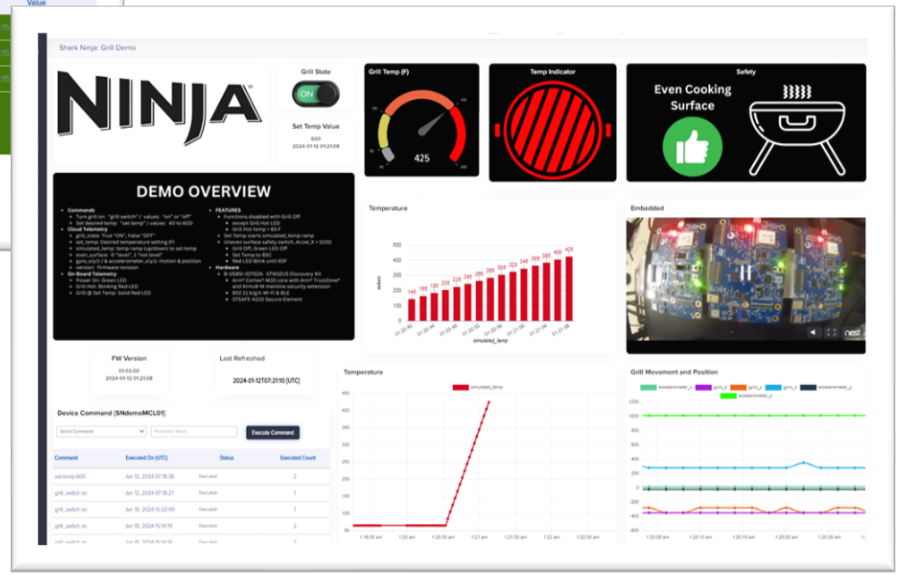
/IOTCONNECT AWS Demo Examples



AI/ML Audio Classification



Edge ML Voice and Motion Detection



Consumer Indoor Grill