AWS re:Invent

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IOT209

Simplifying device security with AWS IoT

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Agenda

1. The challenge – securing and monitoring IoT devices
2. The solution – AWS IoT Fleet Hub, a no-code solution to monitor device health
3. Use case demonstration

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Developers are using AWS IoT to innovate in every aspect of customers' lives

Home automation



Security and monitoring



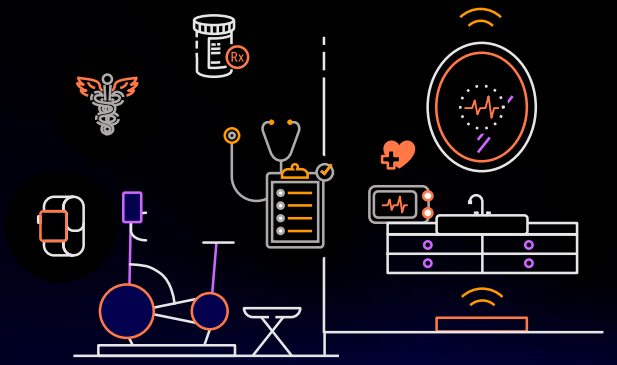
Networking



Energy management



Health and wellness



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Top needs when building connected products



Managing security and privacy

Keeping devices, IoT data, and customer information secure and protected from threats to minimize customer issues



Managing and scaling large fleets

Ability to scale to millions of devices globally with tools to simplify device management



Customer experience and support

Creating a seamless customer experience across IoT devices and apps, and improve the customer support process

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Security breaches impact your customers and brand



Device security

Device connectivity, botnets, malware infection

Cloud security

DoS, data infiltration, impersonation

Intellectual property

Supply chain anti-theft, anti-piracy

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IoT offers an opportunity to be more secure



Devices and sensors	Connectivity and infrastructure	Analytics and insights	Applications and services	Change management
Onboard, provision, manage	Connect, communicate, secure	Analyze, visualize, act	Engage, empower, delight	Transform, shift culture

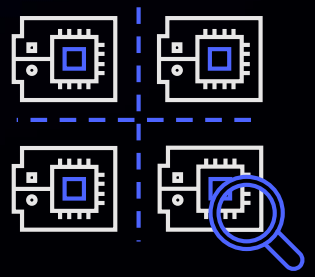
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IoT device lifecycle management



Onboard

Register and configure devices with a few clicks



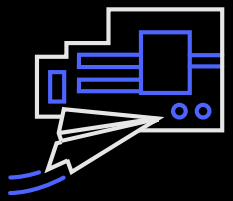
Organize

Understand the health and status of your device fleet



Monitor

Collect device logs to quickly identify and remediate problems



Update

Organize and trigger actions on devices

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IoT enhances the customer support experience



Higher device uptime

Troubleshoot devices remotely

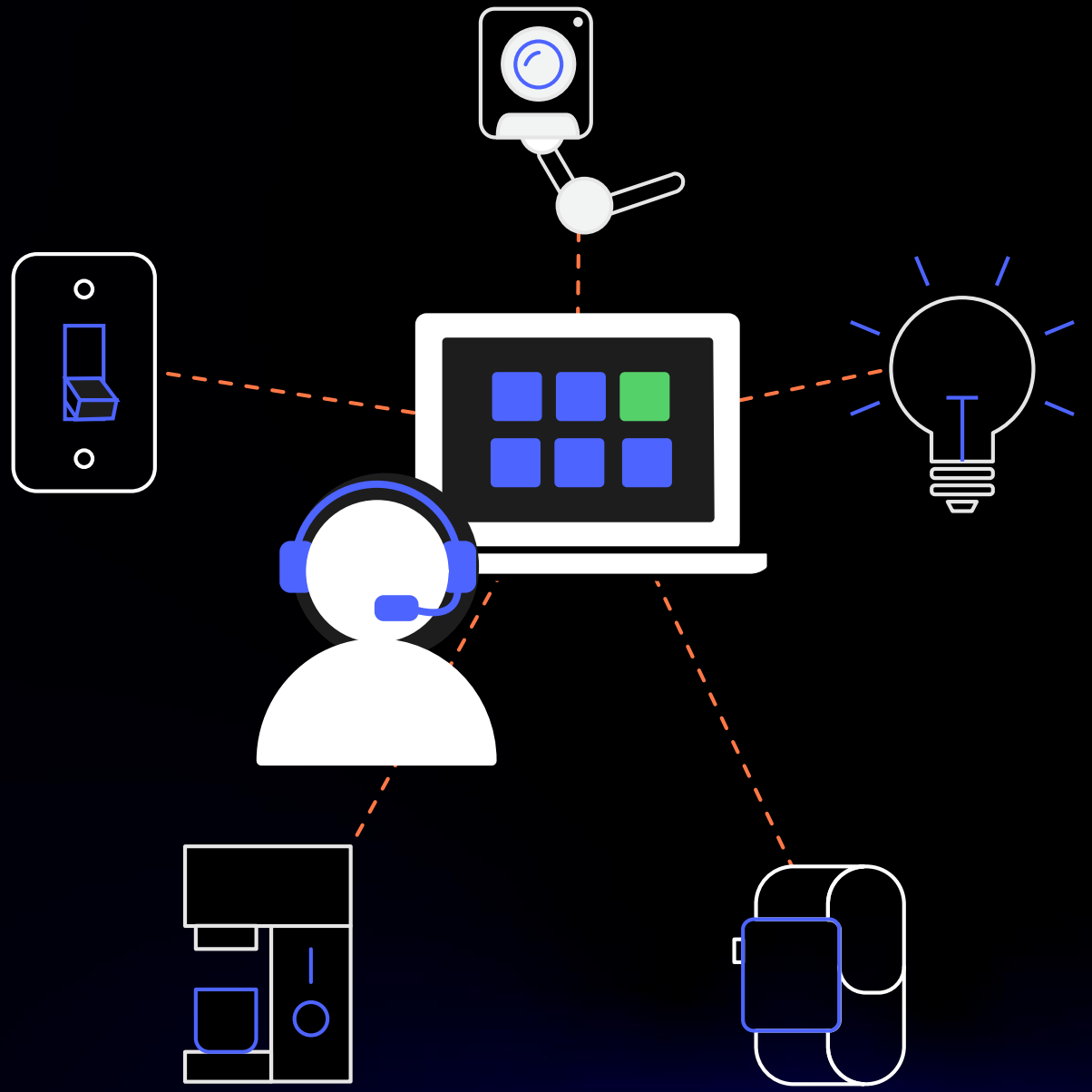
Improve customer support through 24/7 awareness of product states and issues

Remote device diagnostics and updating – eliminating onsite technician visits

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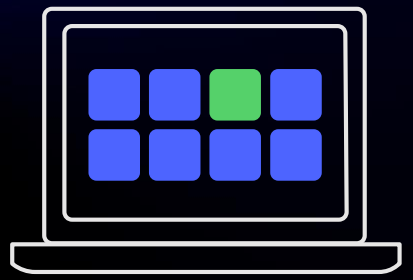
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How can I quickly monitor and troubleshoot my IoT fleets remotely?



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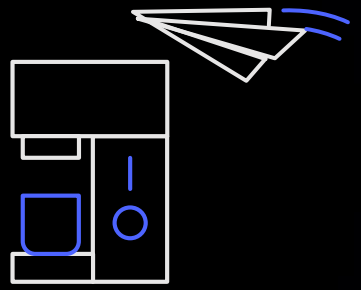
Managing your device at scale with Fleet Hub





Monitor your fleet

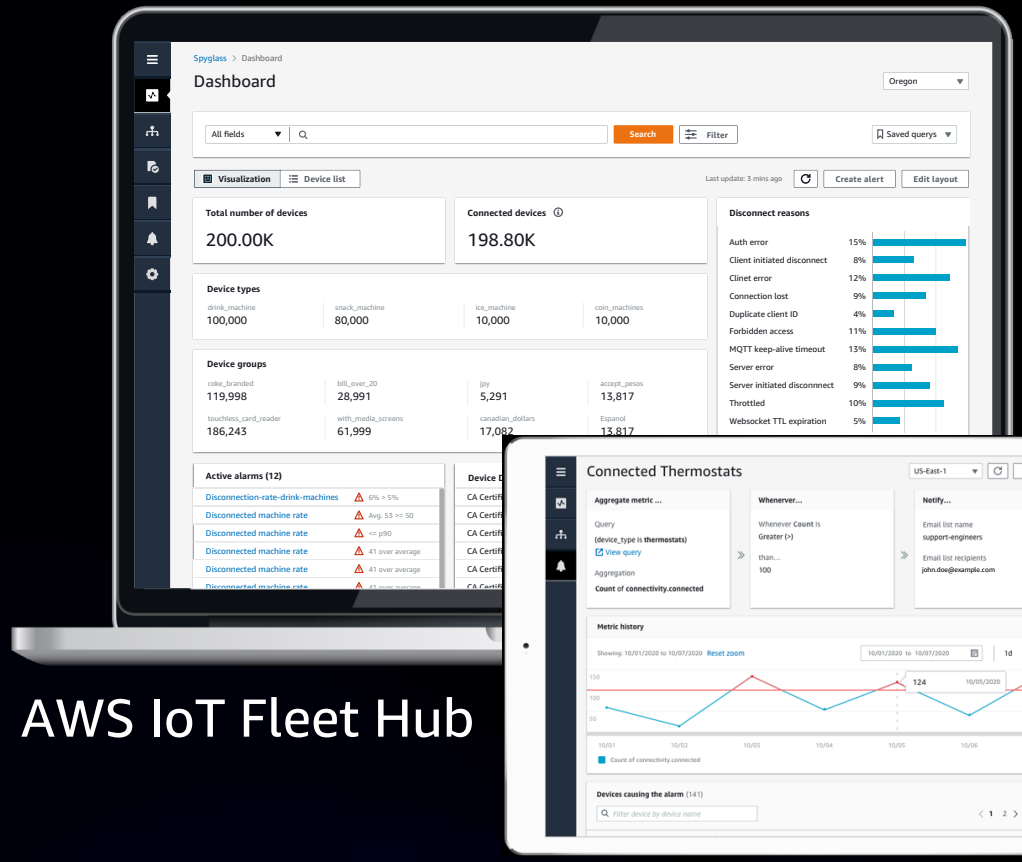
Take corrective action





Update devices

Securely access devices remotely



AWS IoT Fleet Hub

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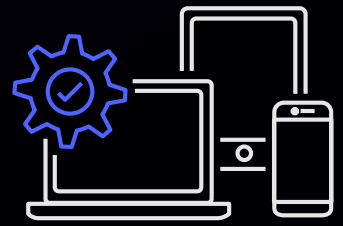
Multi-layered edge-to-cloud security

AWS IoT Device Defender provides a simple way for you to monitor security and operational anomalies on your IoT devices



Audit

Validate IoT configuration is secure



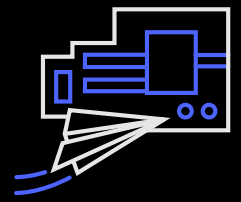
Detect

Detect anomalies in device behavior



Alert

Know when and what to investigate



Mitigate

Remediate potential issues

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Automatically audit for IoT best practices



Expiring/ revoked certificates

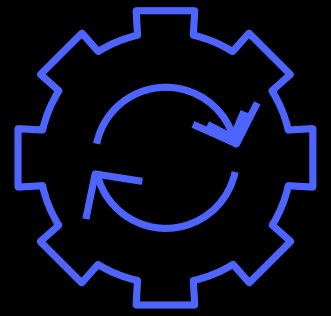
Key quality of device certificates



Overly permissive policies



Shared or duplicate identities



Logging

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Detect anomalies

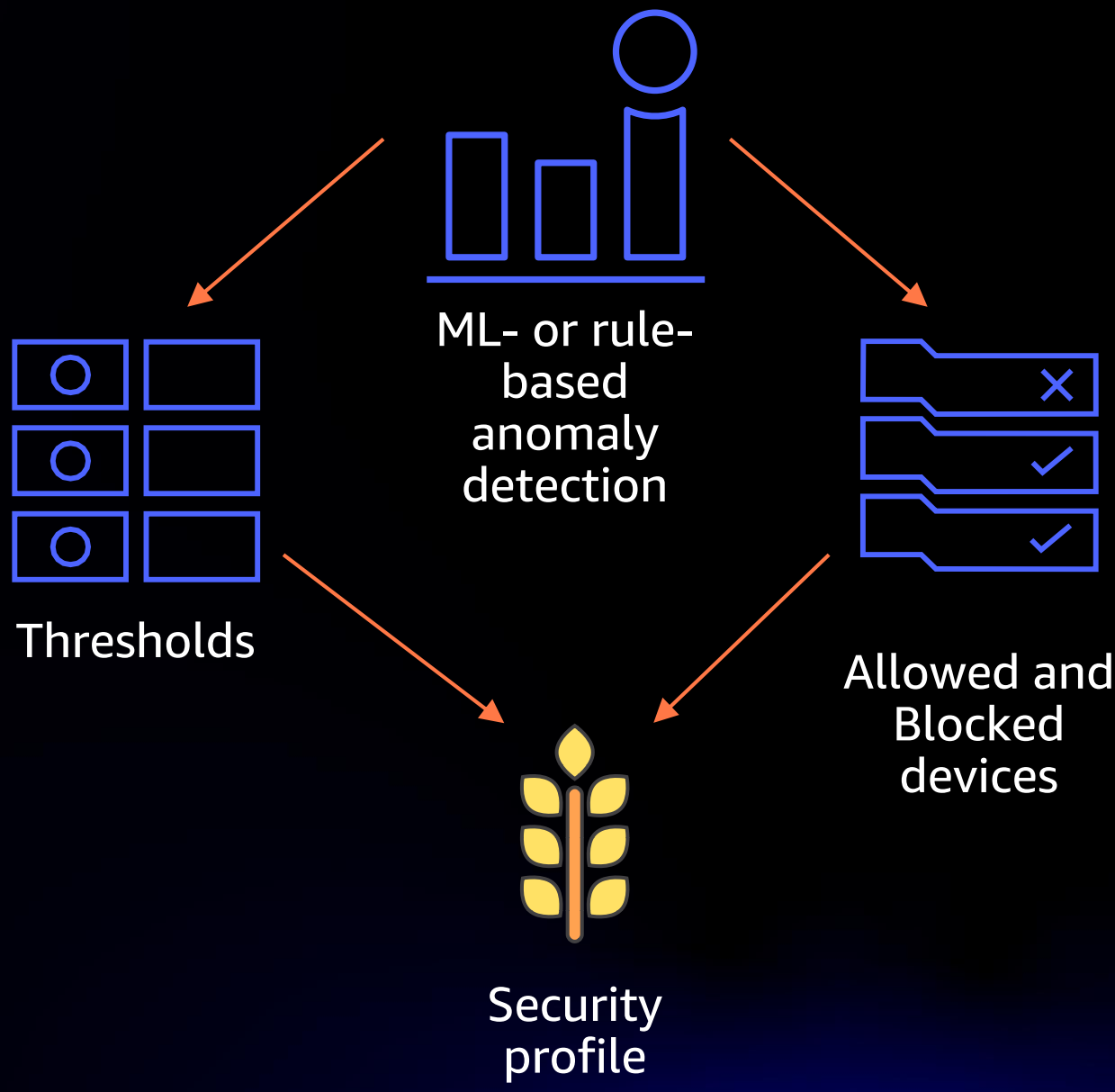
IDENTIFY ANOMALIES IN DEVICE BEHAVIOR

Create security profiles for all your devices

Define rule- or machine learning–based behaviors

Detect operational and security anomalies automatically

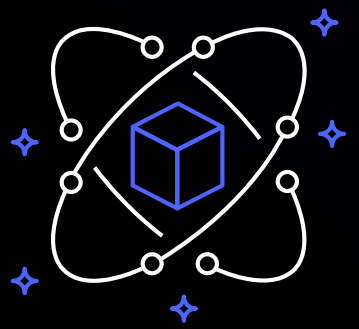
Update expected device behaviors based on new data trends continuously



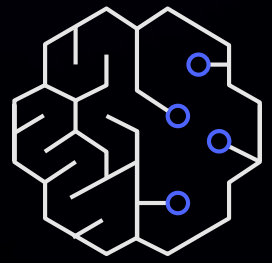
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Monitor device behavior automatically

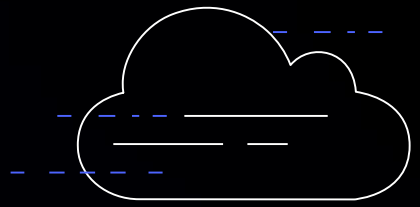
AWS IoT Device Defender ML Detect provides a simple way for you to monitor security and operational anomalies on your IoT devices



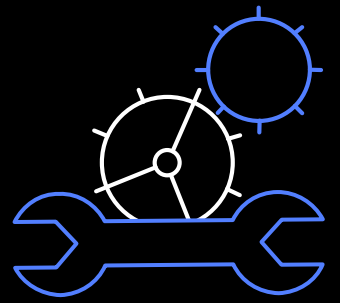
Enables onboarding AWS IoT Device Defender Detect quickly



No need to set the thresholds of your IoT device behaviors



Adjusts to device data continuously



Provides pre-built mitigation actions

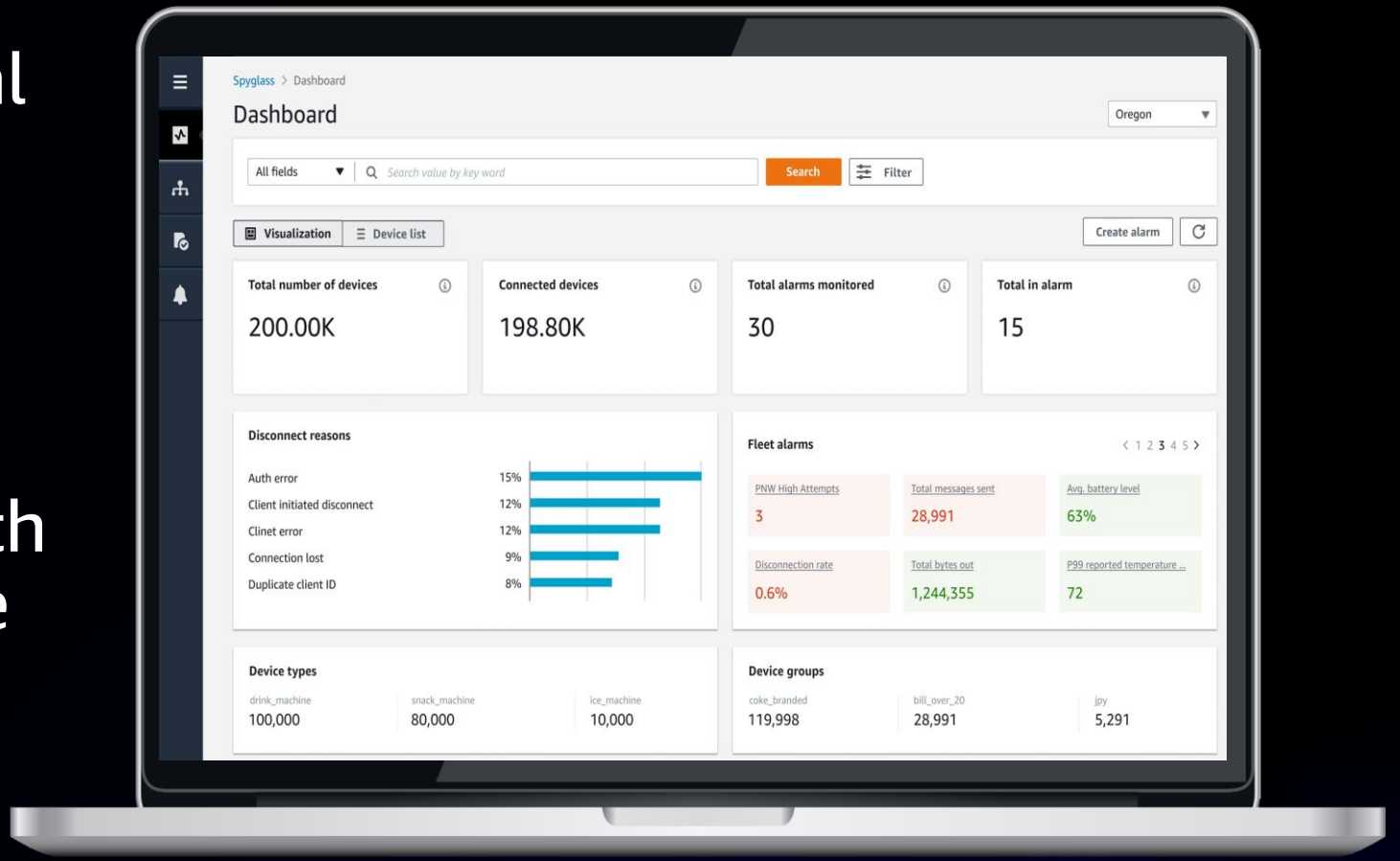
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AWS IoT Device Defender now available in Fleet Hub

Monitor fleetwide operational health and health profiles from a single interface

AWS IoT Device Defender violations now integrated with Fleet Hub for AWS IoT Device Management

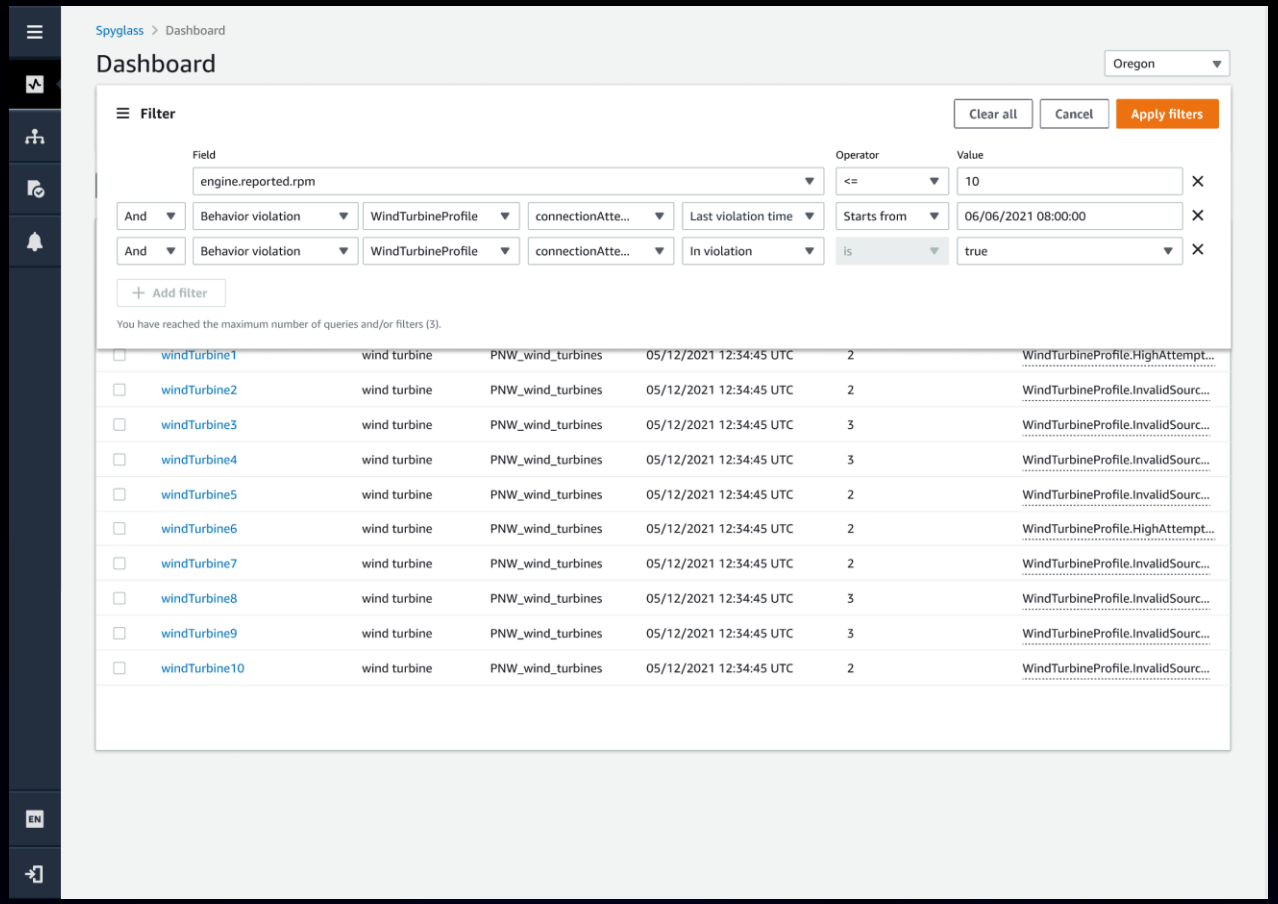


In public preview today

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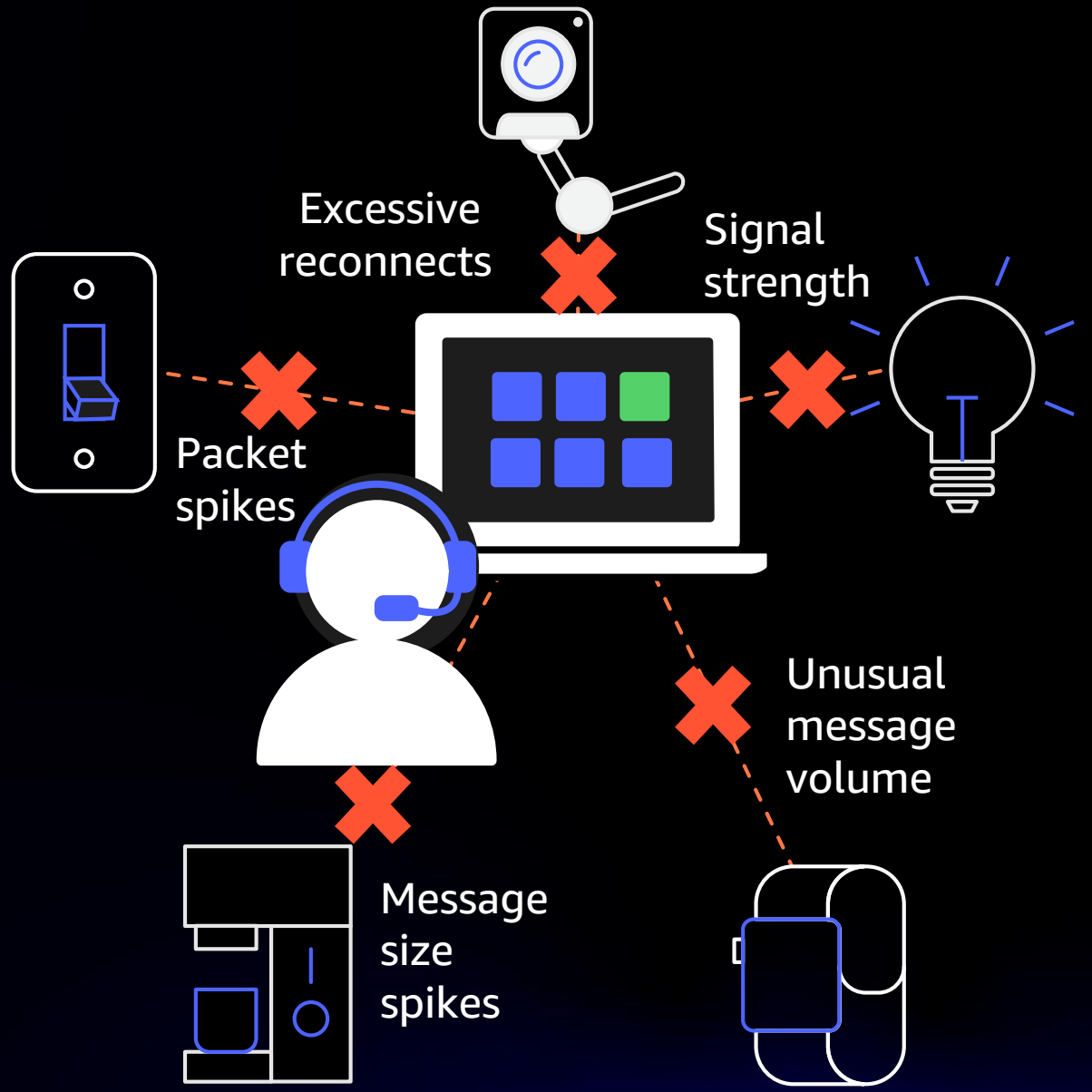
Monitor and investigate operational health

- Visualize fleet metrics in Fleet Hub without writing code
- Analyze historical health trends for individual devices
- Monitor AWS IoT Device Defender violations within Fleet Hub
- Take mitigation actions (for example, quarantine troubled devices)



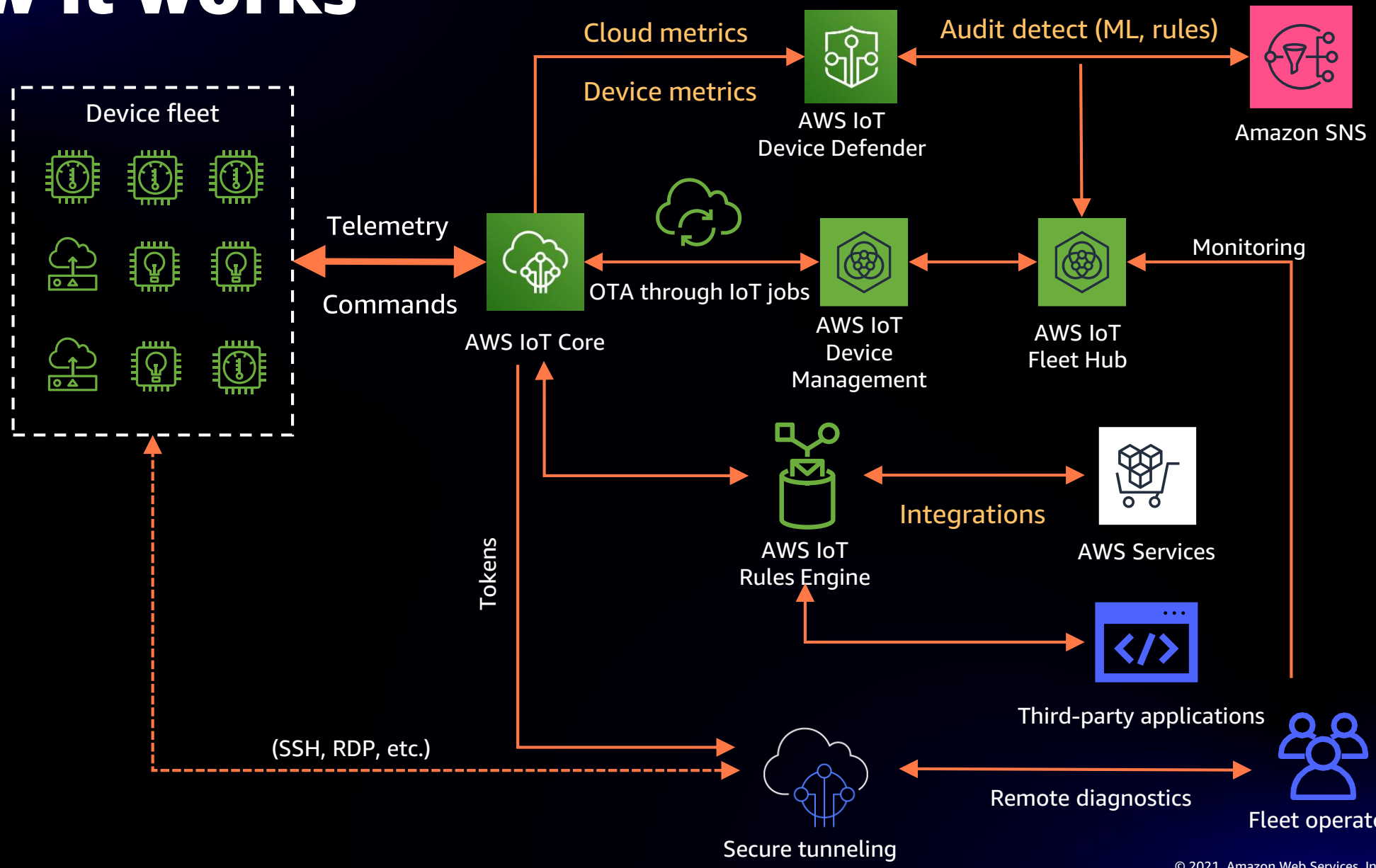
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What health and security violations can I monitor?



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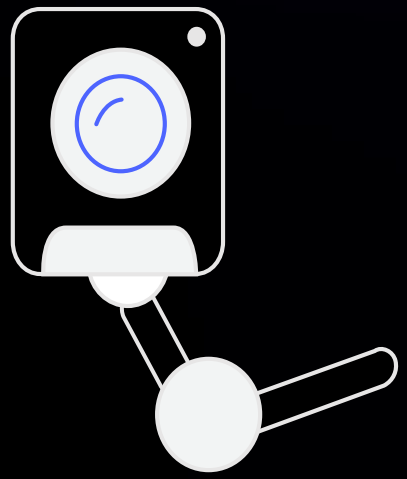
How it works



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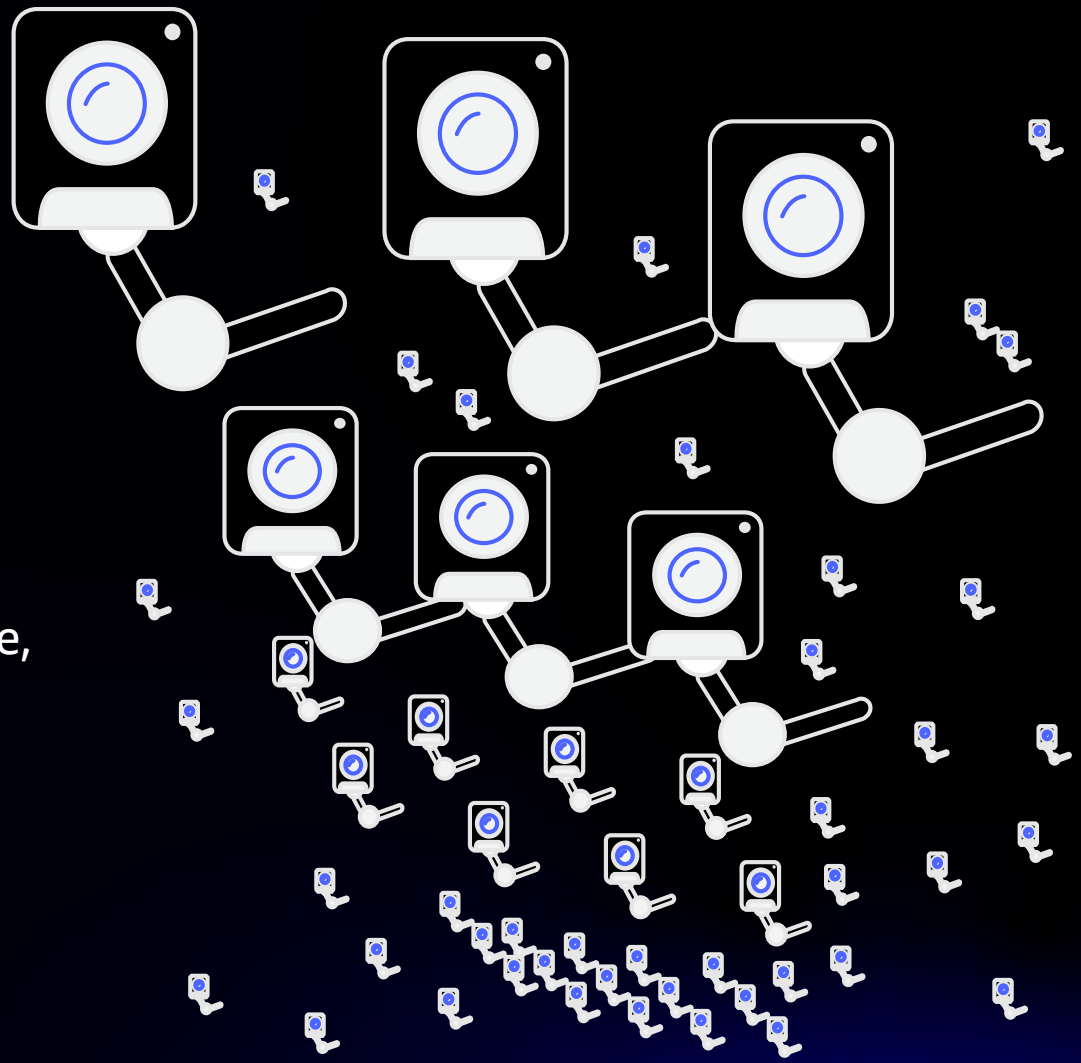
Making it real . . . with a hypothetical example

Imagine we released a connected product



. . . that was wildly successful

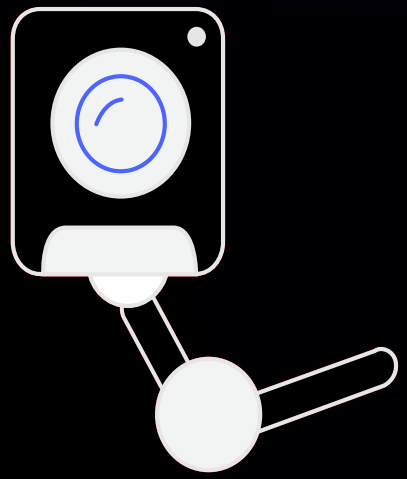
We onboard, manage, and update devices remotely



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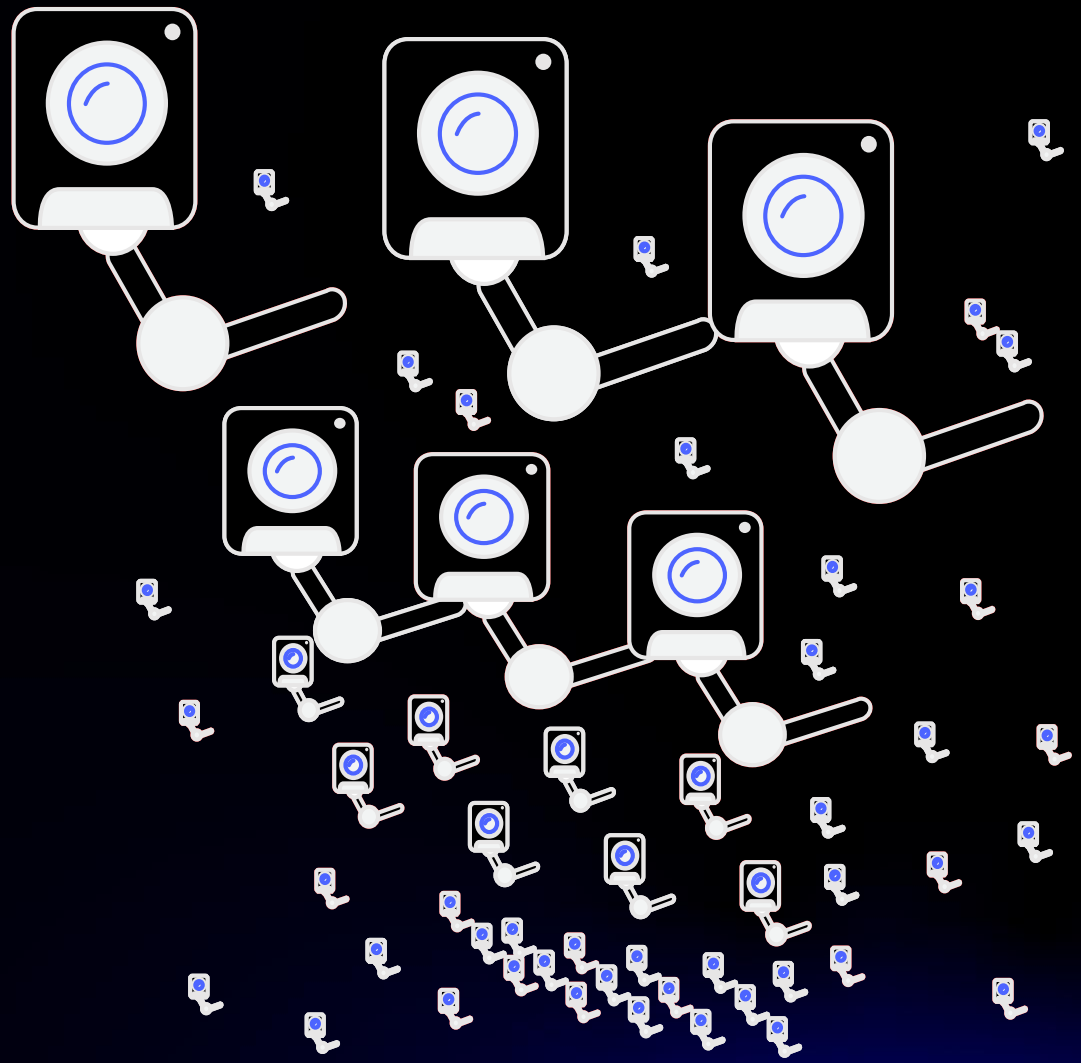
Success begets attention

Vulnerability discovered and malware infects part of fleet



Devices display anomalous behavior

What do we do?



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Let’s jump to the AWS IoT console

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Thank you!

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