AWS re:Invent

NOV. 29 – DEC. 3, 2021 | LAS VEGAS, NV

IOT314

How to manage your IoT devices at scale

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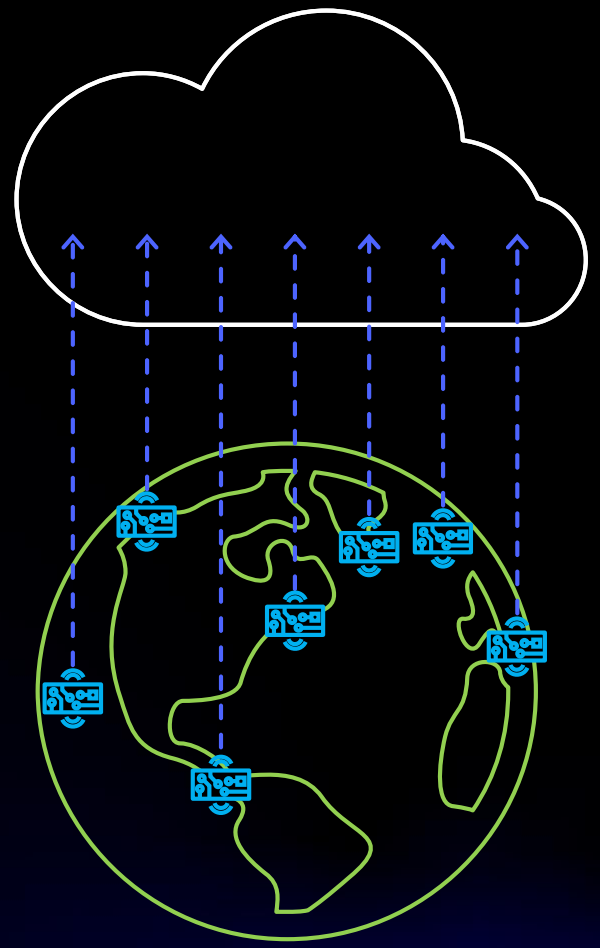
Agenda

- Device manager overview
- Organizing your fleet
- Fleet indexing and attributes
- Jobs
- Fleet Hub
- Whiteboarding – It’s your session, ask your questions

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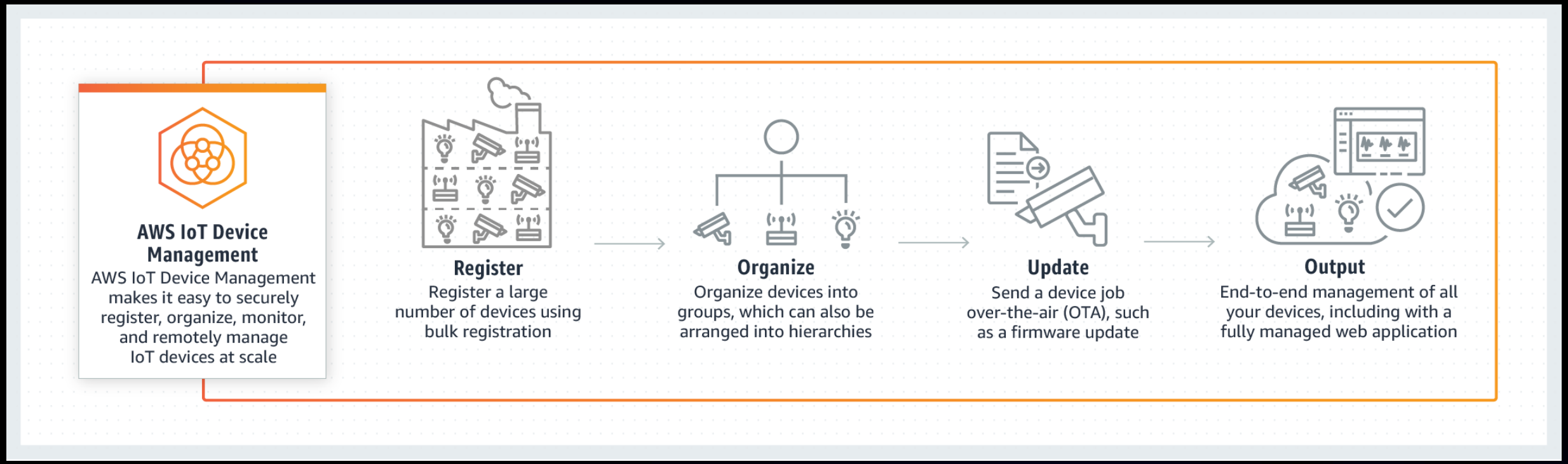
Device management at scale

How can I manage
my growing fleet
of connected devices
at scale?



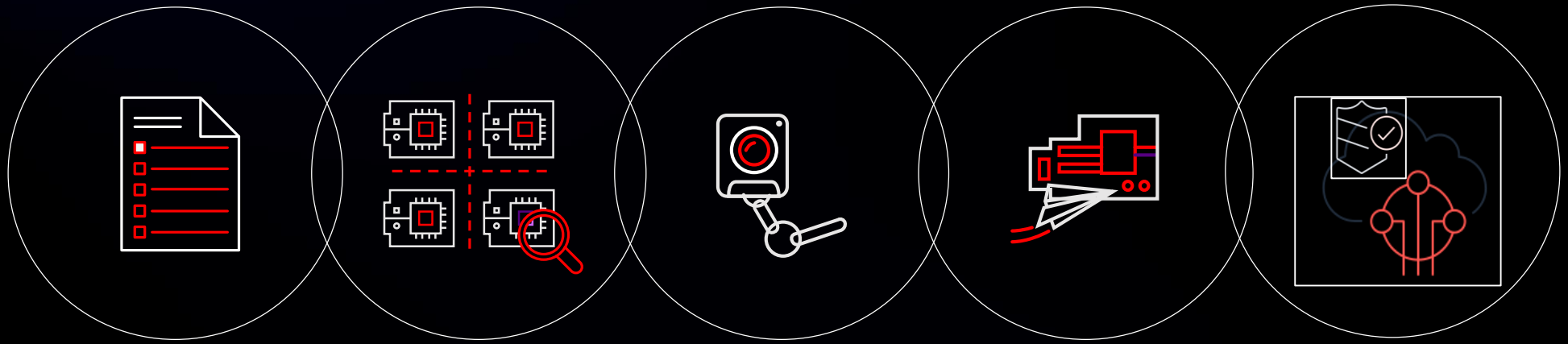
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How AWS IoT Device Management works



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AWS IoT Device Management



Bulk things registration

Register and configure devices with a few clicks

Fleet indexing & search

Understand the health and status of your device fleet

Device logging & monitoring

Collect device logs to quickly identify and remediate problems

Jobs

Organize and trigger actions on groups of devices

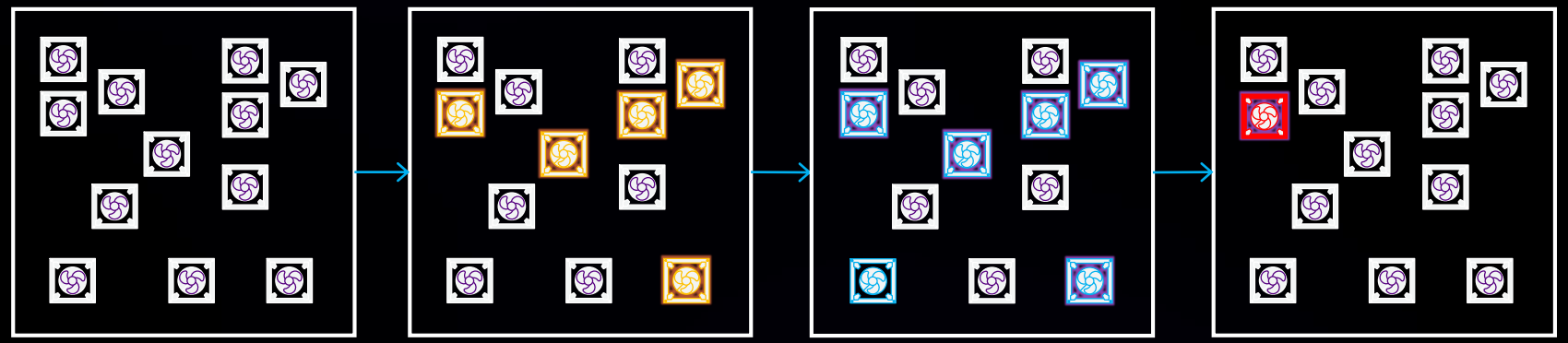
Secure tunneling

Securely access devices behind restricted firewalls

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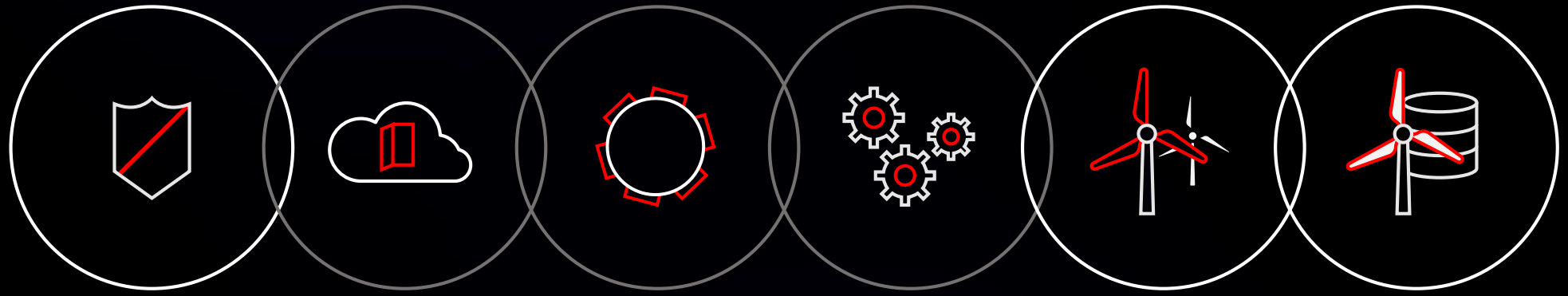
How AWS IoT Device Management works

Register, organize, monitor, and remotely access your fleet



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Components of AWS IoT Core for Device Management



Identity service

Manage authorization of devices & provision unique identities at scale

Device gateway

Fully manage connectivity optimized for IoT workloads

Message broker

Reliable and fast communication across your IoT fleet

Rules engine

Ingest large amounts of IoT data at a low cost, pre-process it, & make it available to 10+ services for analytics, reporting, & visualization

Device shadow

Understand and control the status of your device at any time

Registry

Define and catalog device for easy use by AWS services

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Fleet index and search

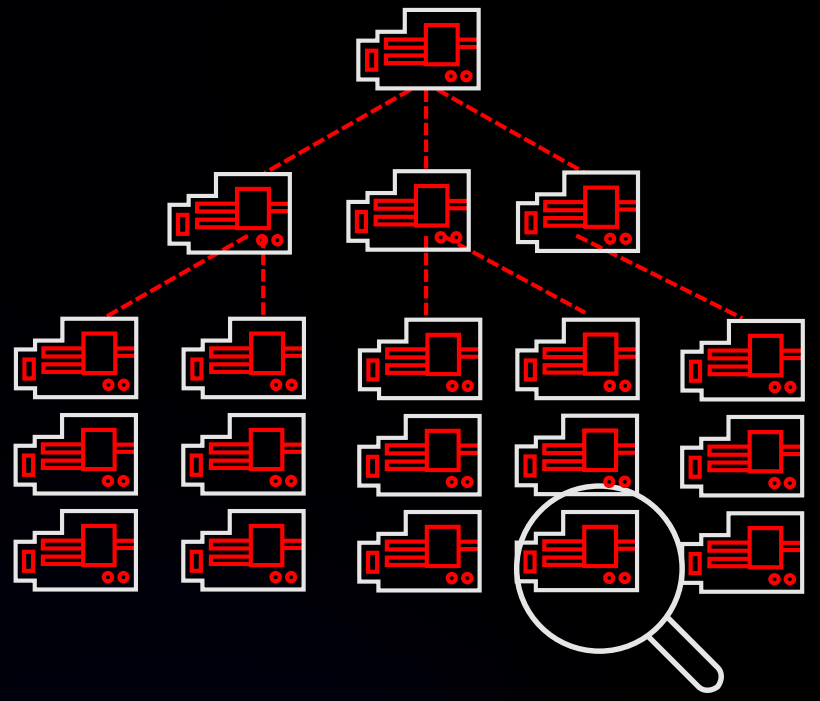
Find devices within the fleet based on any combination of device attributes

Example: “Find all devices manufactured after 2013 with firmware version 1.2 that are currently connected”

Automate your device organization with dynamically updating groups of devices based upon queries

Example: “Group all hardware version 1.1 lightbulbs that are in New York”

Easy to use – one-click activation via console



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Efficient discovery across your fleet



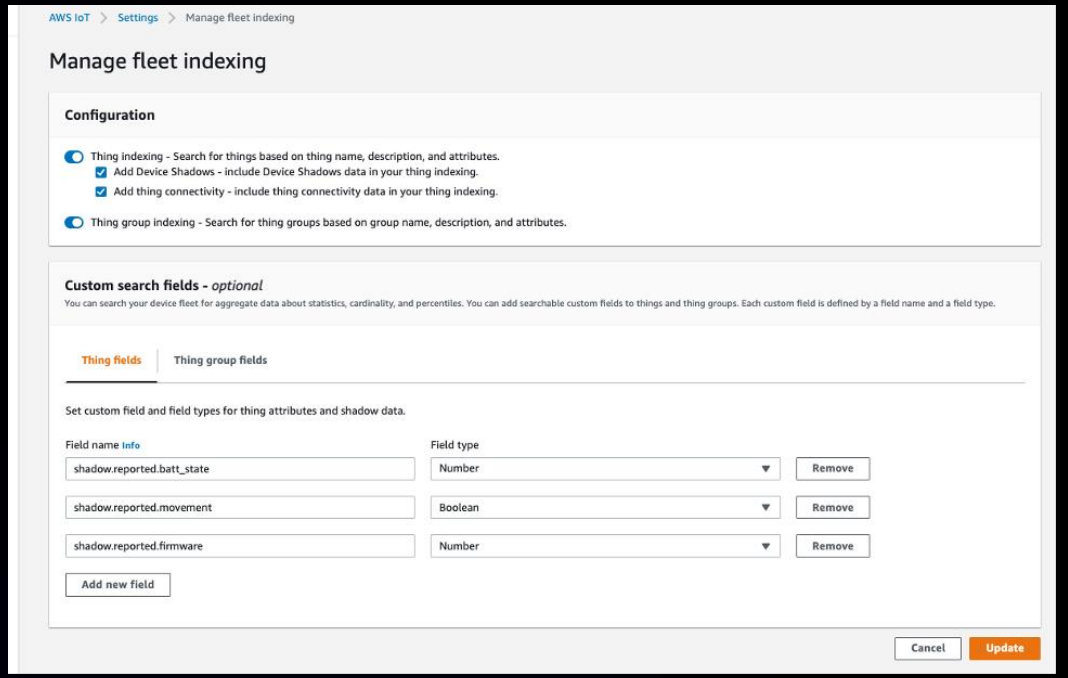
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Fleet indexing – Custom search fields

Custom fields from your shadow documents will be added here

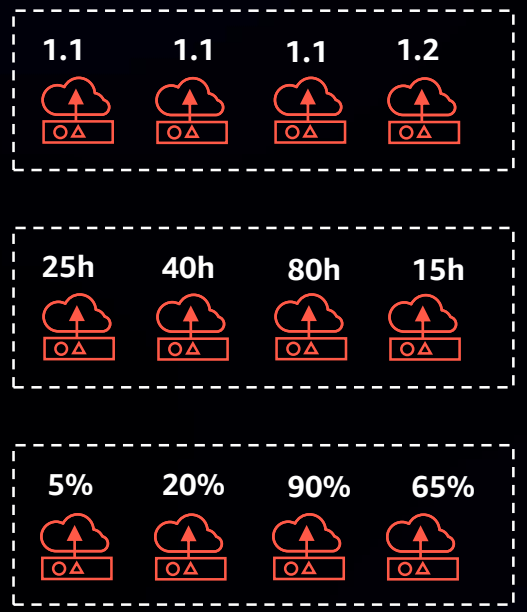
These attributes will be added to the index

As these attributes are changed, the index is updated



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Aggregation queries



# of devices on v1.1?

Reported duty hours?

Bottom decile of battery life?

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Jobs

Organize and trigger actions on groups of devices

Receive status updates for individual devices to monitor your updates as they execute

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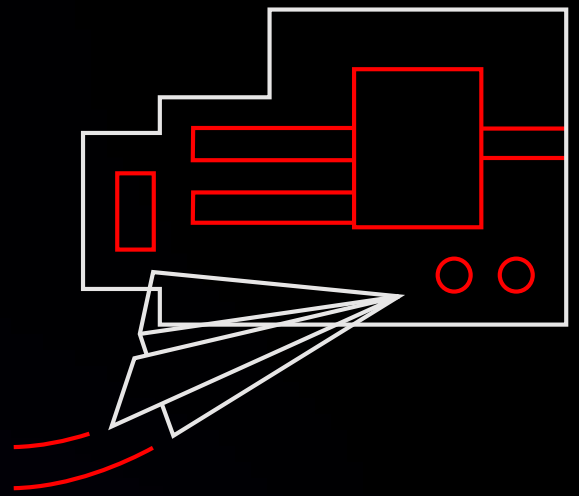
Target groups of devices to update in bulk, or pinpoint single devices to update

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Control your deployment velocity and set failure criteria to reduce the area of impact of any update

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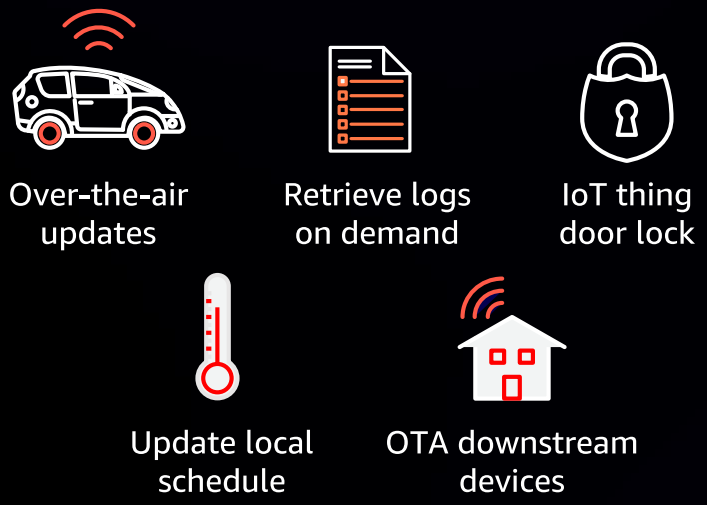
Digitally sign your jobs before they are sent to your devices to protect your devices from being compromised



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Jobs

Arbitrary jobs



Different scheduling models



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Fleet Hub

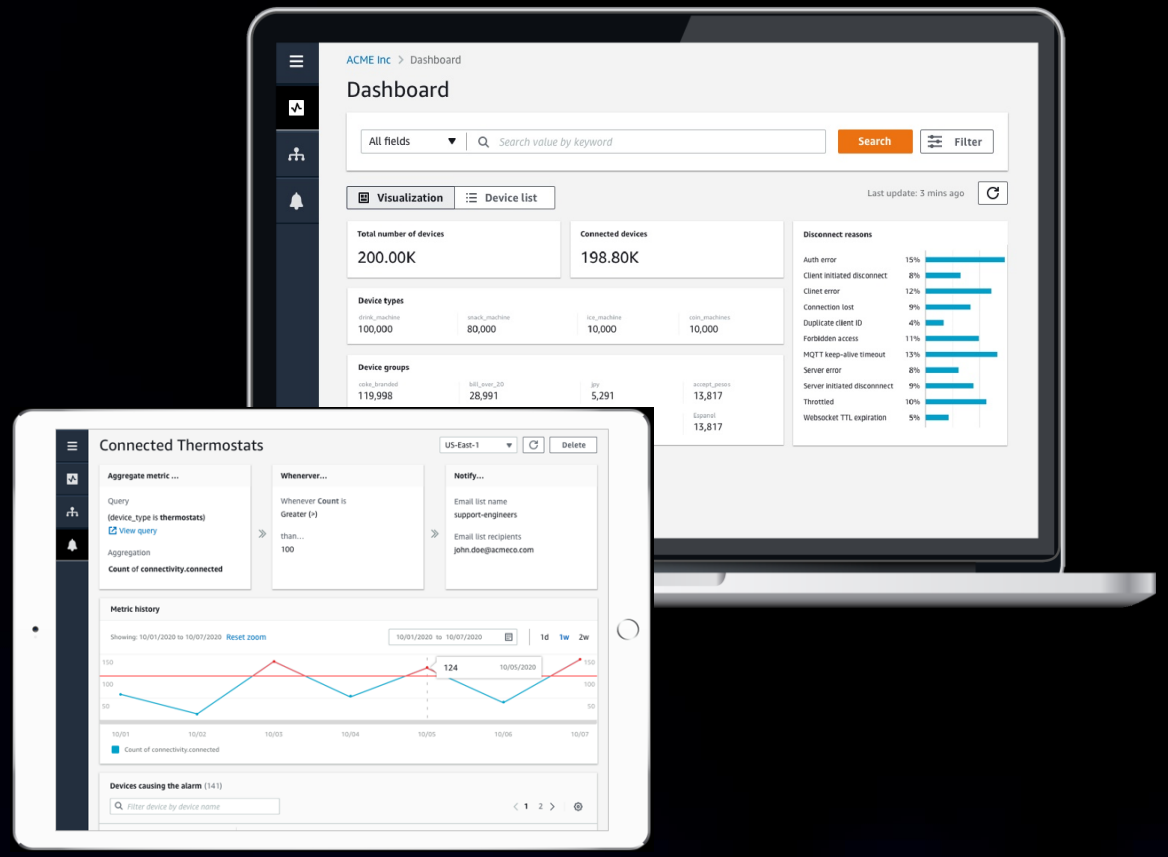
Fully managed web application to manage your device fleet connected to AWS IoT

Simple interface to visualize, filter device lists, set alarms, and take actions

Customizable for operators to manage fleet health such as connectivity issues, operational anomalies, and OTA failures

Fully managed app that you do not need to build, host, or maintain

Get started within minutes by creating your first application from the AWS IoT Core console page



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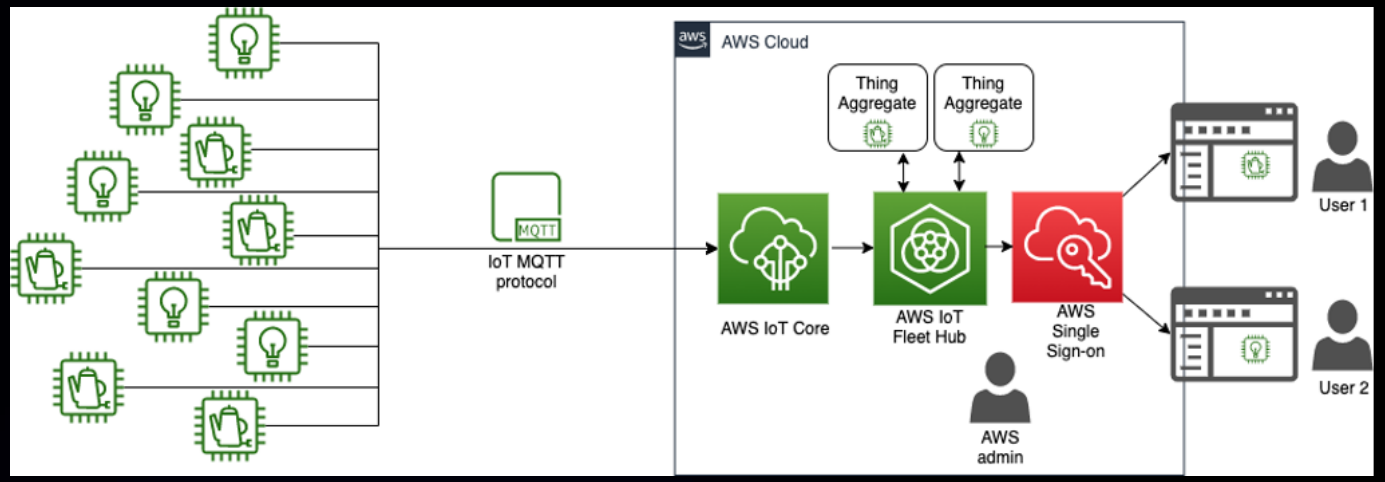
Fleet Hub

Fleet Hub SSO and AWS admins

Fleet Hub operators do not need AWS IAM credentials or accounts. Operators will authenticate with SSO

Fleet Hub operators can manage IoT jobs, monitor the fleet, create alarms with their own application

AWS IoT administrators will configure the Fleet Hub applications can be configured to allow only approved devices be managed by each Fleet Hub application



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Whiteboarding

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Thank you!

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