
AWS
re:Invent
NOV. 28 – DEC. 2, 2022 | LAS VEGAS, NV

TLC305

Reimagining the connected home with TELUS and AWS

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TELUS is Canada’s fastest-growing telco

SUPPORTING 17M CUSTOMER CONNECTIONS | $17B ANNUAL REVENUE



Mobile

Canada’s fastest mobile network



TV & Internet

Fastest & most reliable Internet



Security & Automation

Largest & fastest growing



Agriculture

Global, unified, sustainable & trusted value chain



TELUS International

28 countries 70K team members



TELUS Health

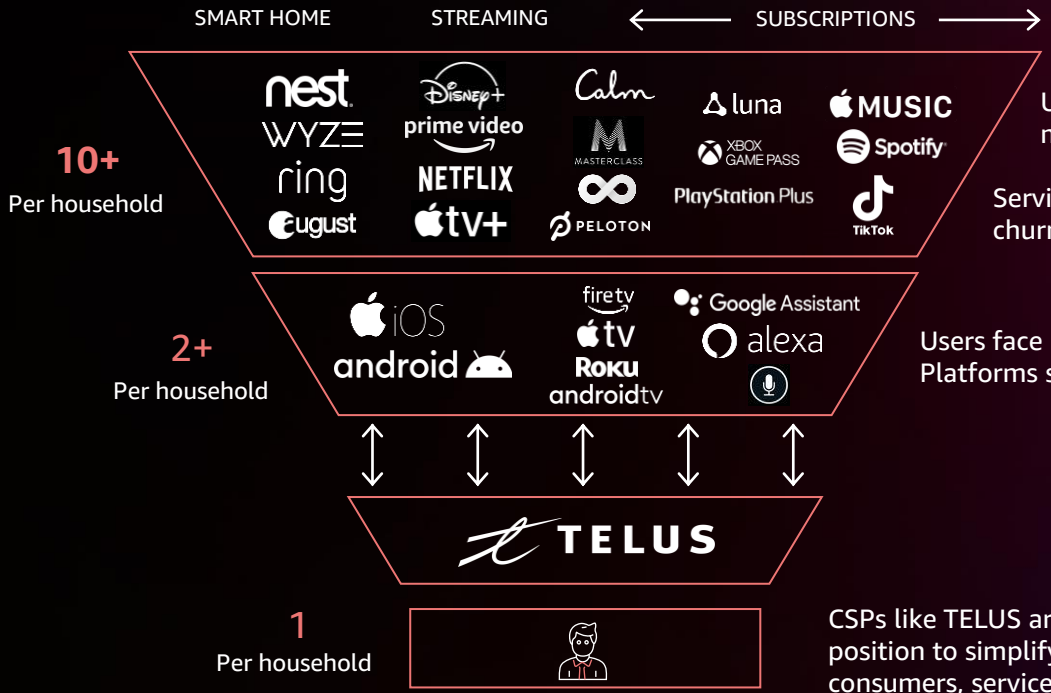
Canada’s largest healthcare IT provider

We leverage our global-leading technology, compassion, and our world-class team to drive meaningful social change and enable remarkable human outcomes

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Opportunity for CSPs to simplify a customer's digital life



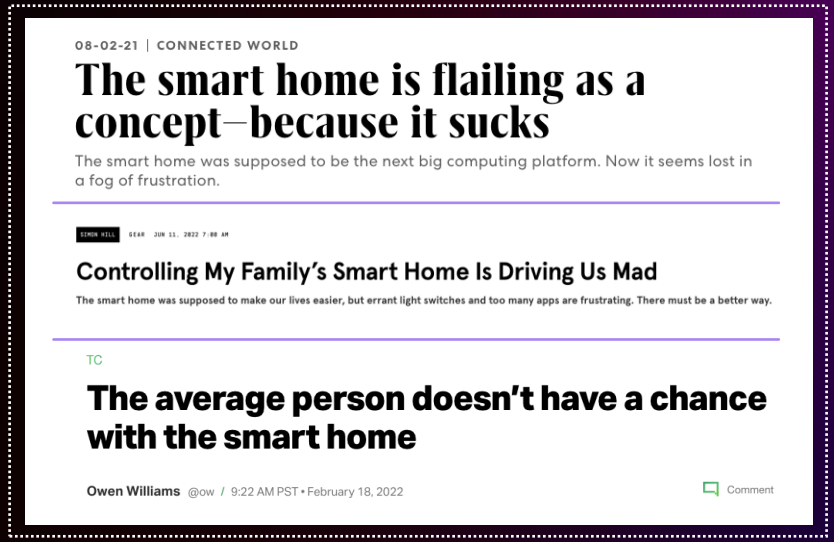
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Smart homes are not easy or convenient

By 2024, **50% of households** in North America will have **smart home products** and yet:

37% of users reported complexity of setup, too many apps and concerns on device compatibility

Consumers spend ~2.5 hours on support and speak with 3+ people to resolve issues
22% give up and return the product for a refund



08-02-21 | CONNECTED WORLD

The smart home is flailing as a concept—because it sucks

The smart home was supposed to be the next big computing platform. Now it seems lost in a fog of frustration.

SIMON HILL GEAR JUN 11, 2022 7:00 AM

Controlling My Family's Smart Home Is Driving Us Mad

The smart home was supposed to make our lives easier, but errant light switches and too many apps are frustrating. There must be a better way.

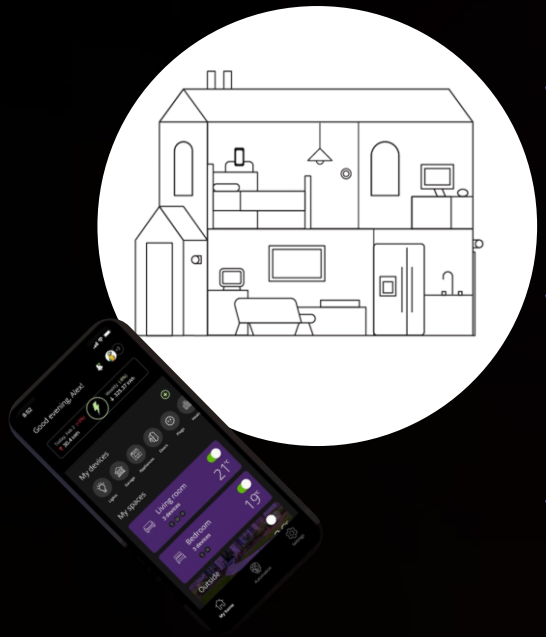
TC

The average person doesn't have a chance with the smart home

Owen Williams @ow / 9:22 AM PST • February 18, 2022 Comment

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The smart home “re:Invented” – Enabling a simple experience



A platform that unifies cross-service experiences

AI that automates and simplifies routines

Stackable plans that are affordable, simple and flexible

Plug & play setup regardless of protocol with **Zero Touch**

Supports major third-party devices with **Ubiquitous Control**



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TELUS smart home abstracts the complexity of multiple ecosystems into a seamless daily experience

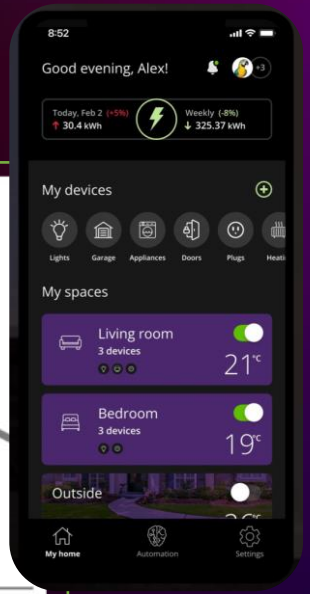
10:00 PM

Your **iPhone** bedtime setting adjust your **phone, TV** and **house** lights to night mode. When electricity rates go down, EV starts charging.

5:00 PM

Your **connected car** approaches home: door opens, system disarms, house reaches the perfect temperature for you





7:15 PM

Google Assistant announces the start if a Canucks game via Sonos speakers. **IKEA blinds** close, **Hue** lights dim and **Optik TV** starts the game

7:00 PM

Dinner finally gets delivered. Answer the **Ring doorbell** using your **TV** without missing any action

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TELUS & AWS solution transforms SmartHome offering

Security with smart devices...

to

...Automation-led smart service offerings

"select one"

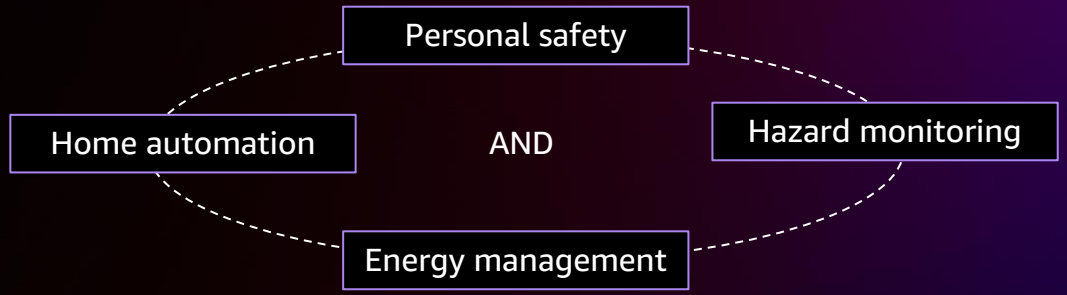
Pro monitoring

OR

Self-monitoring

Manage 4–5 first-party device types with custom mobile app

Value based "mix and match configurable & stackable plans"

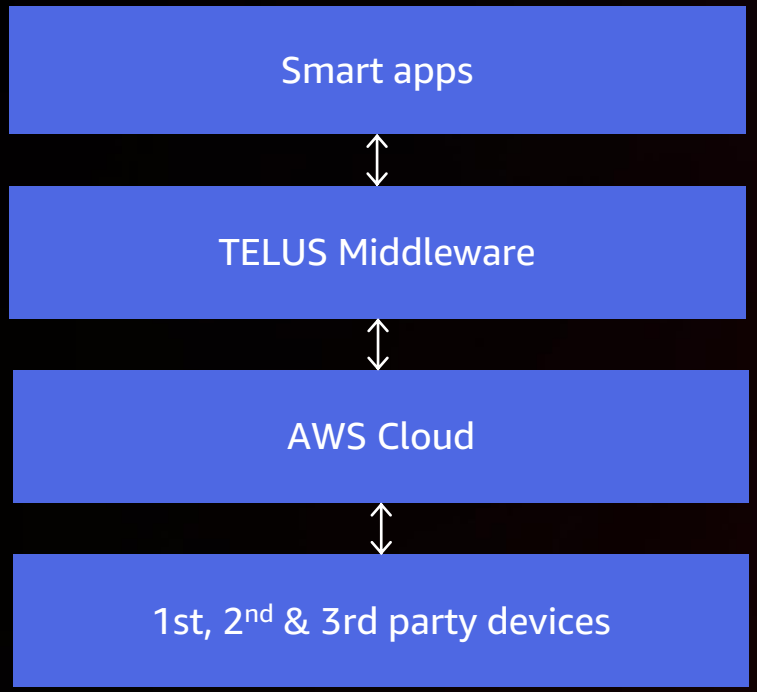


Manage 1,000s of first- and third-party plug & play device types with custom mobile app, 10 ft apps and voice assistants

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AWS & TELUS are delivering an end-to-end solution together



Mobile, web, and 10 ft apps + voice skills

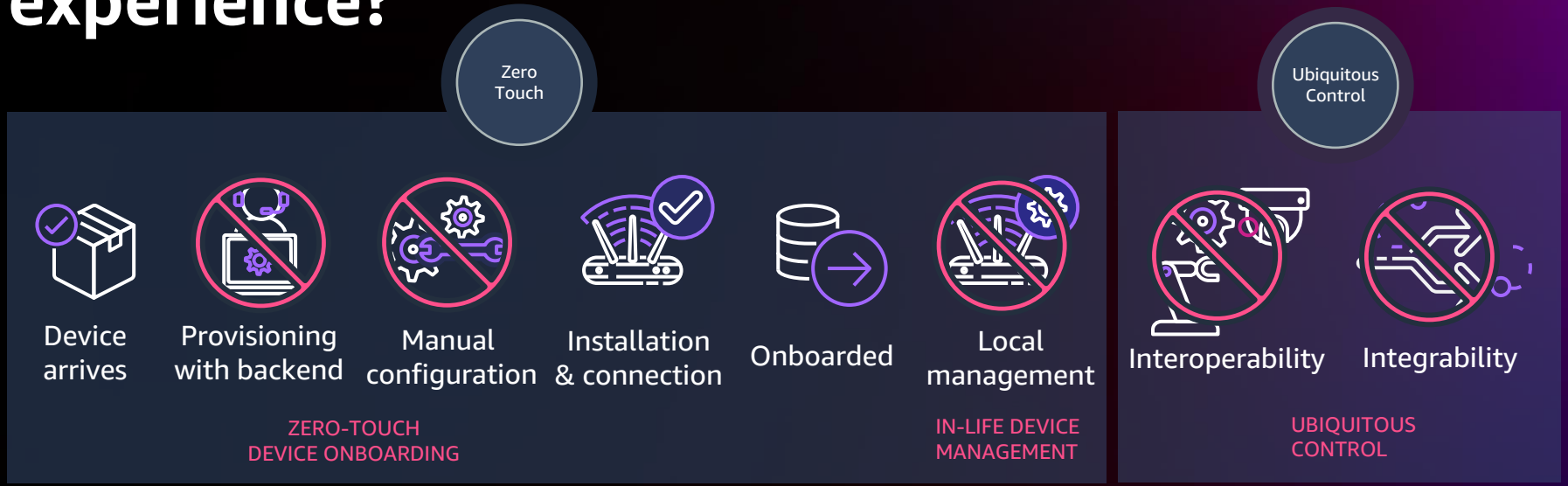
TELUS Middleware enables feature set (orchestration, recommendations, rules, etc.)

AWS IoT Core, Amazon Kinesis Video Streams and functionality to enable ubiquitous control and zero touch for devices

Standardized integrations across OEM and 3rd Party Off-the-Shelf devices

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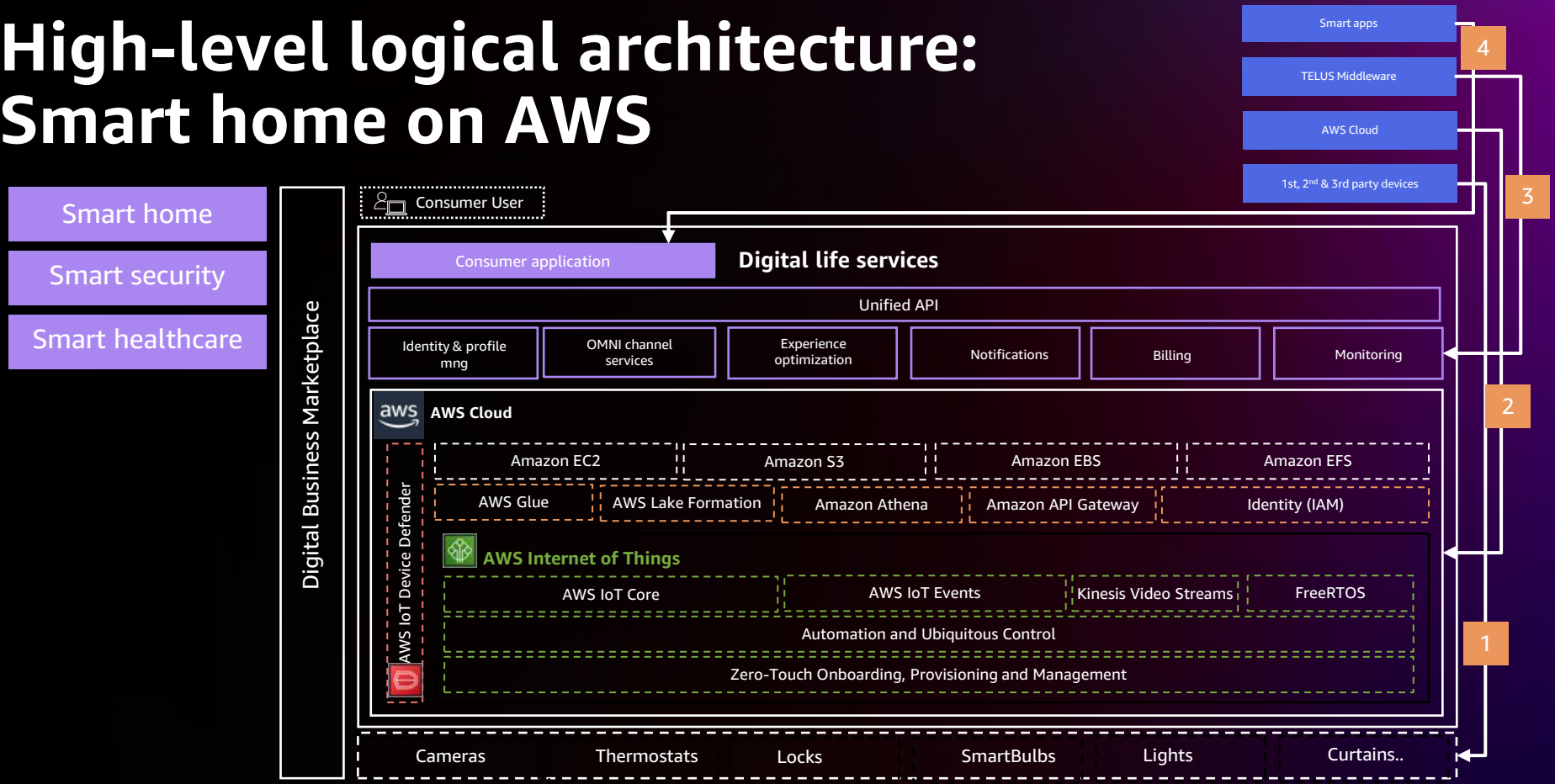
But, what does this mean to the customer experience?



- Saving 1 min of manual onboarding per device for 3M device **saves 27 Years!**
- **20%** of project cost on top, for in-life security and device management!
- Compatibility, interoperability challenges

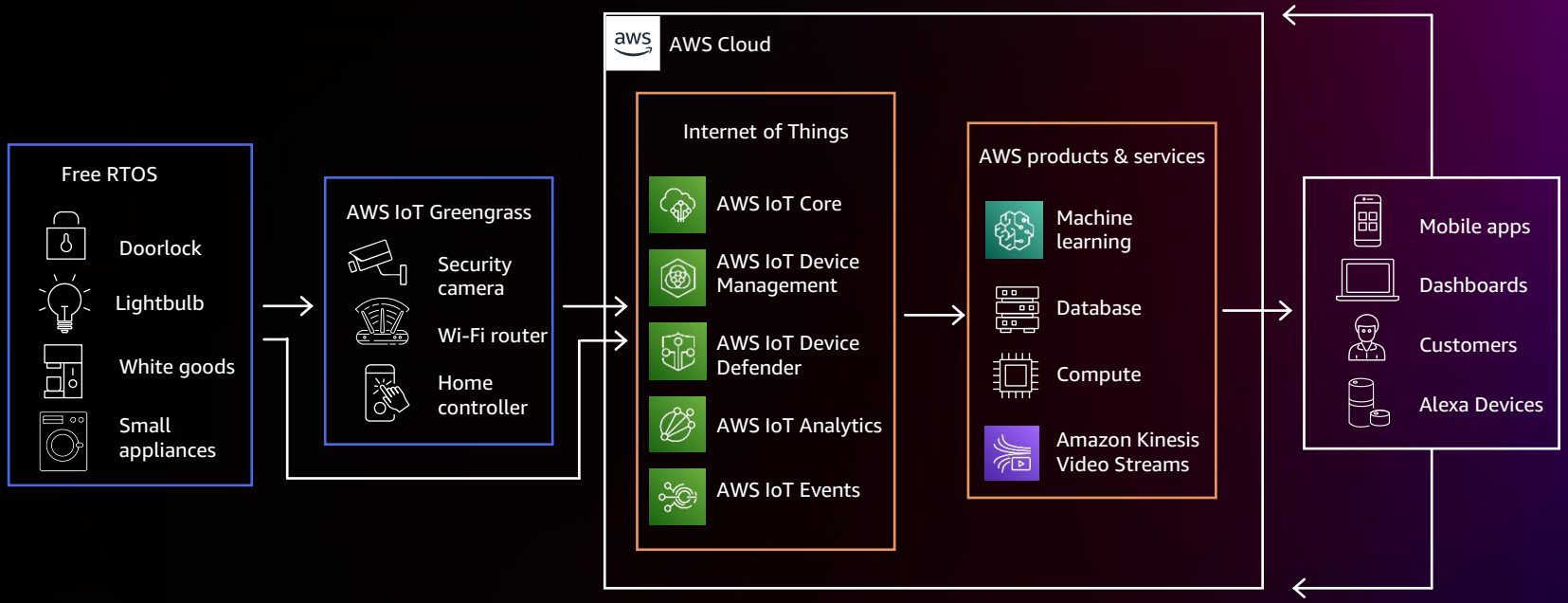
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High-level logical architecture: Smart home on AWS



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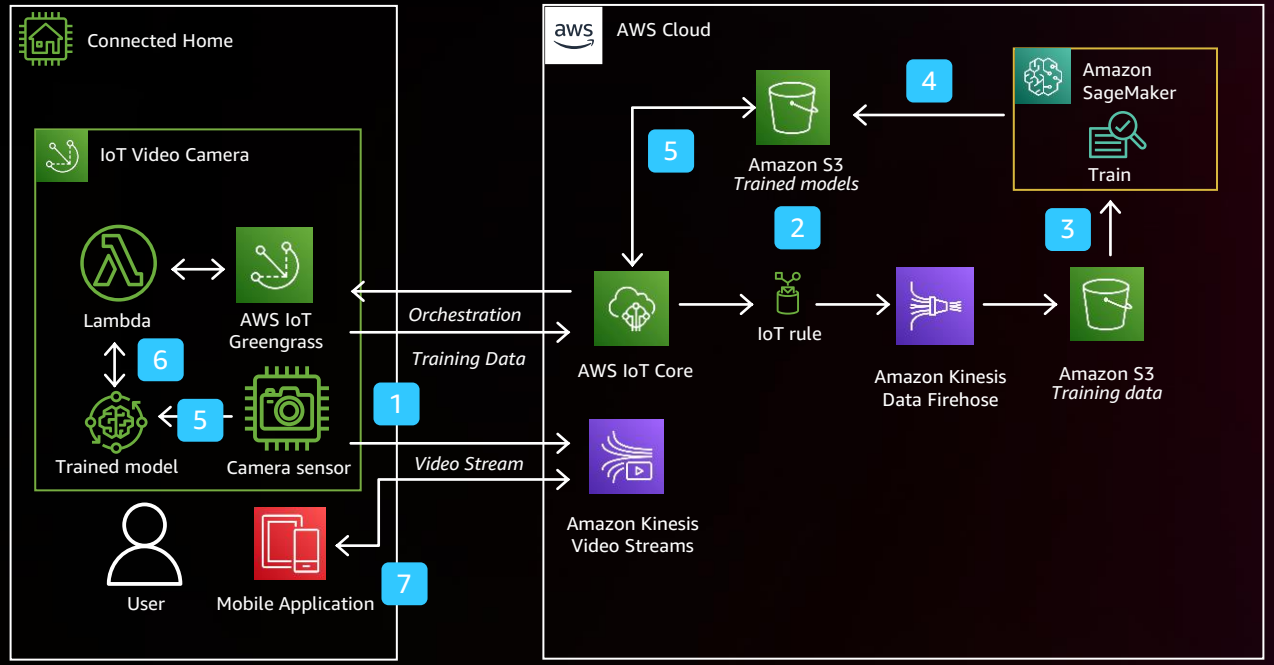
Digital life – Smart home



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Connected home – Machine learning at the edge

IOT MACHINE LEARNING ON HOME DEVICES

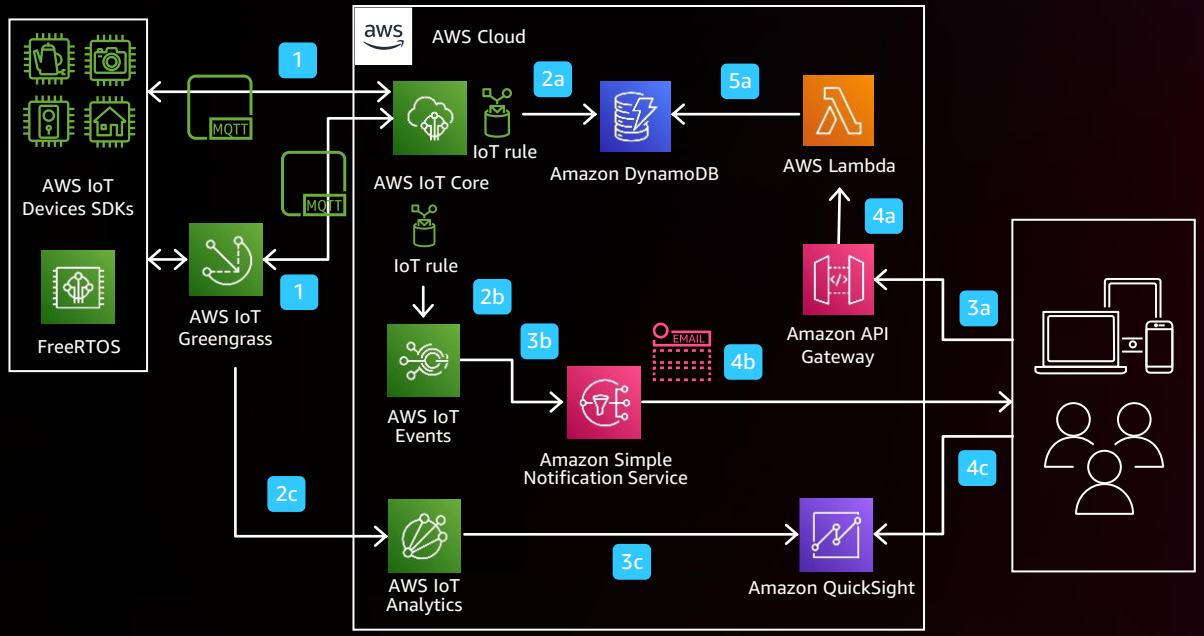


1. An IoT video camera running **AWS IoT Greengrass** publishes training data to **AWS IoT Core**.
2. An **IoT Rule** that is listening for camera data forwards messages to **Amazon Kinesis Data Firehose** for storage in **Amazon S3**.
3. **Amazon SageMaker** is used to train, optimize, and build machine learning (ML) models that can use less than a tenth of the memory footprint found in resource-constrained devices like cameras.
4. **Amazon SageMaker** outputs trained models to **Amazon S3** for delivery to the IoT video camera.
5. **AWS IoT Greengrass** cloud service is used to orchestrate deployments of software to the target IoT video camera, including trained models, and application logic such as an **AWS Lambda** function or Docker container.
6. A **Lambda** function running locally on the IoT video camera performs inference using the latest version of the trained ML model.
7. The homeowner can use mobile applications to view the camera's video stream via **Amazon Kinesis Video Streams**.

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Connected home - Telemetry

MEASURING AND COLLECTING DATA FROM SMART HOME DEVICES



1 The devices connect to **AWS IoT Core**, directly via MQTT from **FreeRTOS** or via **AWS IoT Greengrass.**

2a An IoT topic Rule can be configured in **AWS IoT Core** to pick up meaningful data and save it in **Amazon DynamoDB**.

2b Another IoT topic Rule can be configured in **AWS IoT Core** to trigger **AWS IoT Events** for certain data, like temperature etc.

2c Or directly from **AWS IoT Greengrass**, data can be ingested in **AWS IoT Analytics**.

3a Client applications can make an API call to retrieve data via **Amazon API Gateway**.

3b **AWS IoT Events** can trigger **Amazon SNS** actions in case certain changes occur in the data (e.g. Temperature > 25 degrees).

3c Data from **AWS IoT Analytics** can be imported into **Amazon QuickSight**, for visualization and further insights.

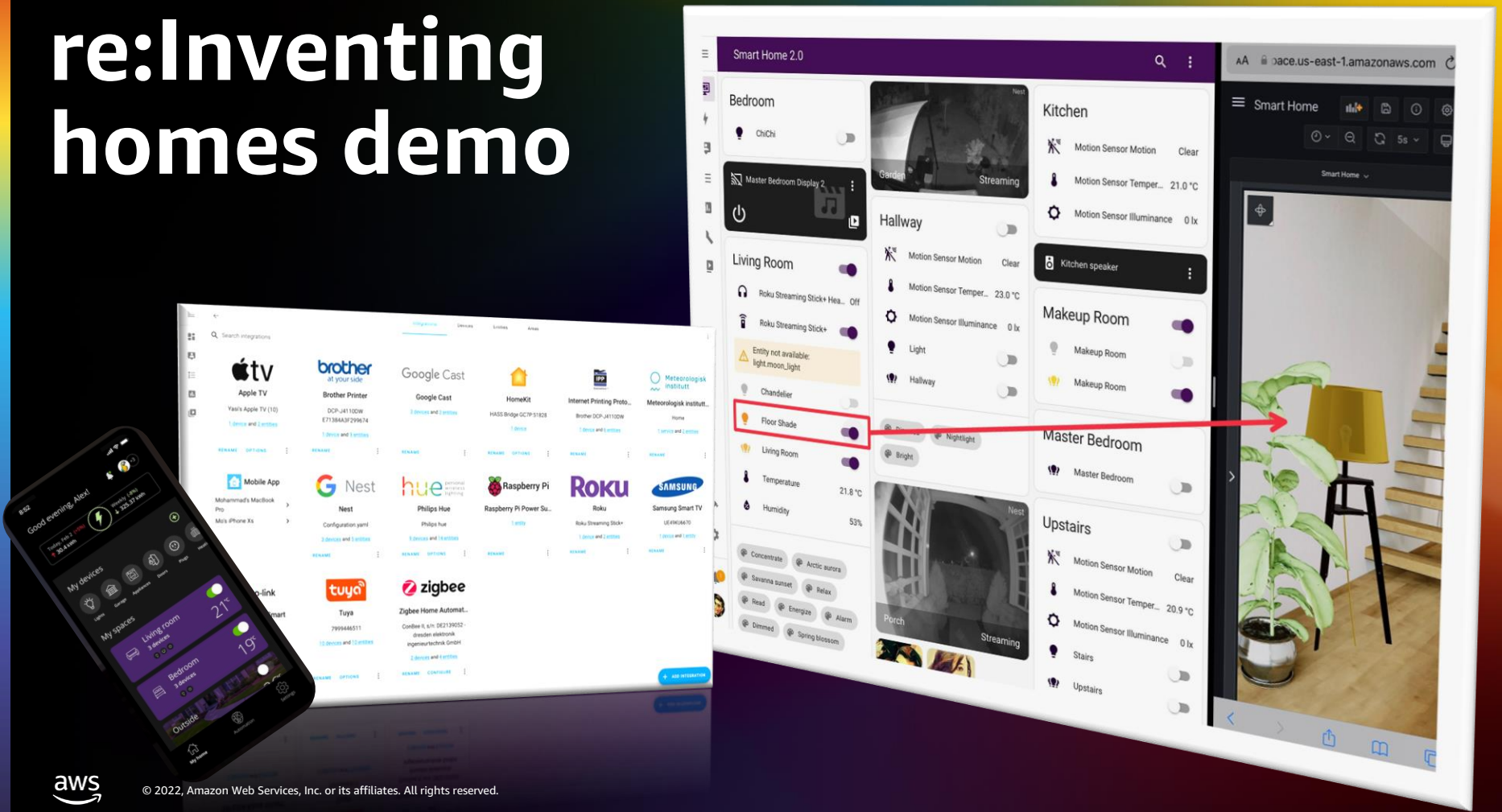
4a **Amazon API Gateway** invokes an **AWS Lambda** function with logic to retrieve data
5a requested by the client applications from **Amazon DynamoDB.**

4b **Amazon SNS** triggers an email notification for client applications.

4c Client applications can visualize the data in **Amazon QuickSight**.

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re:Inventing homes demo



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Roadmap of joint collaboration

2022

- AWS & TELUS to continue development
- Global partners expression of interest across Device and global CSP ecosystem

2023

- Market launch and scale
- Delivery planning with first wave of global partners

2024+

- Global go-to-market launch
- First wave partner market launches
- Licensed solution available via AWS Marketplace

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A growing smart home for manufacturers



- Accelerated household adoption through CSP
- Frictionless experience for customers
- Global digital distribution channel with low cost of integration

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Unlocking growth for CSPs



- Cutting-edge differentiation with fast monetization
- Reduced time & cost to market, leveraging AWS /TELUS 2-year investment
- Platform designed ground up for CSPs by CSP for scale and growth
- Ability to construct profitable market-specific value props
- Facilitates higher HH ARPU's with lower churn and cost of acquisition

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A vendor-agnostic smart home solution for customers



- Simplicity – Finally!!
- Cross service experiences
- Leverages existing and new devices in home
- Ever-growing ecosystem of devices, services and applications
- Wow factor!

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Let’s make the future friendly

See you at the Caesars Forum,

AWS Industries Lounge

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Thank you!



Please complete the session survey in the **mobile app**

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