

# Unlocking Smart Apartments with AWS IoT Core

“Cost effectiveness and providing connected experience to residents are a critical operational considerations for successfully managing a portfolio of multi-unit properties. Co-developing Quext IoT with Klika Tech enabled us to use AWS IoT Core and solve major challenges.”

Tray Johnson , VP of Innovation, Quext

Quext and Klika Tech developed an IoT platform built on Amazon Web Services to provide multi-unit property owners a cost-effective and streamlined approach for creating a smart living environment coupled with property management software. Quext IoT is a first for the commercial apartment industry and provides the modularity for the tailored creation of a seamless network of connected devices, coupled with property management software for better tenant experiences and higher operating efficiency.

Powered by AWS IoT, Quext IoT uses a custom thermostat as an IoT gateway and a LoRaWAN network for device-to-cloud connectivity. Residents can control all their smart devices through a mobile app, from the lights to unlocking the front doors.

## INDUSTRIES AND APPLICATIONS

Quext IoT is built on a modular foundation that can be tailored to create a dynamic range of smart living environments

- Smart Apartments
- Smart Buildings
- Smart Cities
- Logistics



Quext IoT is built on AWS to give users a one-provider platform with access to the services to manage range of features and functions from device-to-cloud

- AWS IoT Core
- Amazon SES
- AWS CloudFormation
- Amazon SQS
- Amazon Cognito
- Amazon ECS
- Amazon CloudFront
- Amazon Lambda
- AWS CloudWatch
- AWS Organizations
- Amazon Route 53
- AWS IAM
- AWS RDS
- AWS KMS
- AWS ACM
- Amazon S3



## Challenge

The multi-unit property industry has unique challenges for reducing capital costs, increasing market value, and staying competitive. Creating a smart living environment for better tenant experience, managing dynamic leasing processes, reducing property-wide energy waste, and efficient property maintenance, are among the challenges for multi-unit property owners.



## Solution

An off-the-shelf platform built on AWS to provide a range of intelligent functions and features. A custom thermostat in each unit used as the gateway for connecting each resident's smart devices and monitor, control and remote access to heating and cooling. LoRaWAN network technology for managing devices and data across an entire property footprint. Smart locks for resident access as well as audit and credential management using serverless and EC2 AWS infrastructure for remote access, such as planned maintenance.



## Features and Benefits

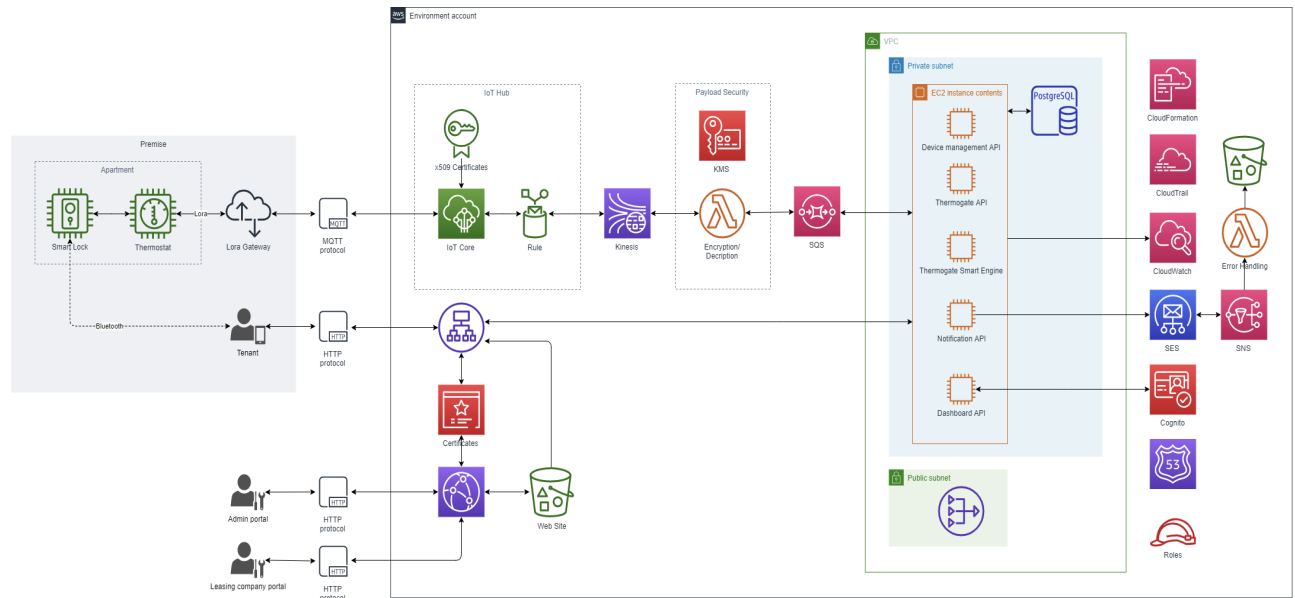
The platform can be effortlessly retrofitted and quickly implemented to provide an immediate smart living experience, reduce inefficiencies, and lower OpEx.

- Expand for devices and data at scale
- Requires less hardware
- Smart device connections via Bluetooth, Zwave, and Zigbee.
- Provide smart living features to every resident
- Simple installation of gateways
- App-based control of smart devices
- Back-end software for reporting, analytics, lease management and more
- Intelligence and insights across key property management areas

# An IoT Platform Specifically Designed for the Apartment Industry

The architecture of Quext IoT provides a simplified, expandable, and secure platform for connecting residents' smart devices and device-to-cloud connectivity for back-end management of data. There is no sharing of resources and no possibility of accidental cross-client data access. The platform is fully-adherent to infrastructure as code (IaC) concepts with instances defined in CloudFormation templates. No manual steps are used when provisioning an instance for a new customer and all communication links between devices and data payloads are encrypted and connections are authenticated through X.509 certificates for security on all the levels of communication. The Web Application is monolithic, using a responsive approach for better experience on all screen sizes and the front-end is stored in an S3 bucket. The back-end is hosted on EC2 within an Auto-scaling group.

Each client provides an IoT connection endpoint, Device authentication certificates, Web access URLs and Access Authentication



“One challenge property owners face is non-optimal temperature settings which can cause excess energy usage. Building on AWS enabled us to develop a solution surrounding a thermostat as a gateway for device-to-cloud data management, connecting residents’ smart devices, and controlling the apartment door locks”

Gennadiy M. Borisov, Klika Tech President and Co-CEO



The apartment industry has been waiting for a makeover since the 90s — and Quext is here to deliver it. We've reimaged apartment technology with products that work seamlessly together to deliver the most intuitive, all-in-one property nerve center ever made.

For more information, visit [www.onequext.com](http://www.onequext.com)



Klika Tech is an IoT & cloud product and solutions development company headquartered in the U.S. with development and management locations across North America, Europe and Asia. Founded in 2013 by business-oriented technologists, Klika Tech co-creates end-to-end hardware, embedded, and software solutions for wearables, smart home/building/city platforms, connected healthcare, smart retail, connected agriculture, asset tracking, automotive, smart mobility, and cloud IoT hub integrations. Klika Tech is an AWS IoT Competency and an Advanced Consulting Partner in the AWS Partner Network with Service Delivery Designations for AWS IoT Core, Amazon API Gateway, AWS CloudFormation, and AWS Lambda. For more information, email: [contact@klika-tech.com](mailto:contact@klika-tech.com)