QuickSet for Set-Top-Box

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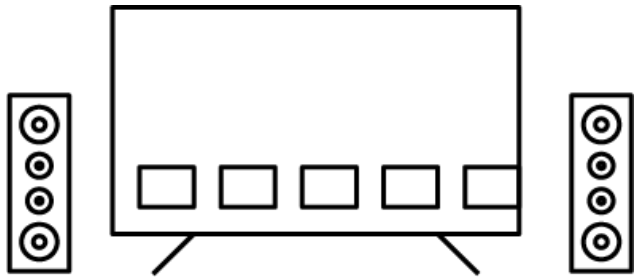
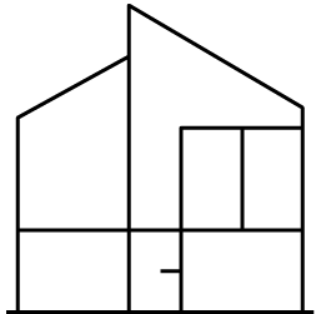
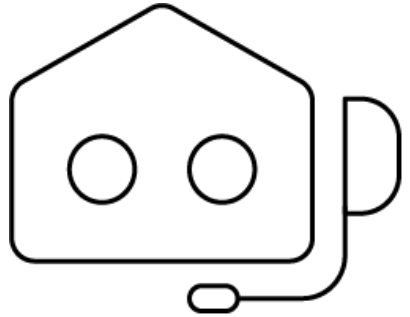
QUICKSET® CLOUD



Better Entertainment Experience



Better Smart Home Experience



Better Support Experience

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QuickSet Cloud, software and services

QUICKSET CLOUD™

QuickSet Cloud is the industry standard for home control

- Launched in 2008, QuickSet has been deployed in over 600M devices with ~288B transactions
- Device and system knowledge base for discovery, control protocols, functions and system behavior
- Control data for over 28 million unique fingerprints across nearly 1.2 million devices from 13,000 consumer brands, offering true interoperability between home entertainment and smart home devices and ecosystems
- QuickSet Cloud architecture is built with control engines and discovery, automation and management frameworks with capability for IP, RF4CE, Zigbee, Bluetooth and Infrared

ENABLING NEW CAPABILITIES

QuickSet for Set-Top-Box

QuickSet solutions provide:

1. Set-up & control of Entertainment devices
2. One touch view experience for accessing content across devices
3. Advanced discovery & control capabilities of connected devices and their services over multiple protocols
4. Blends Entertainment & Smart Home experiences

QUICKSET®

Detect, control and interact with virtually every device within the home using the largest knowledge graph of devices.

QuickSet use cases

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Simplify Setup and Control with QuickSet Cloud

Automatic Setup

One-Touch View

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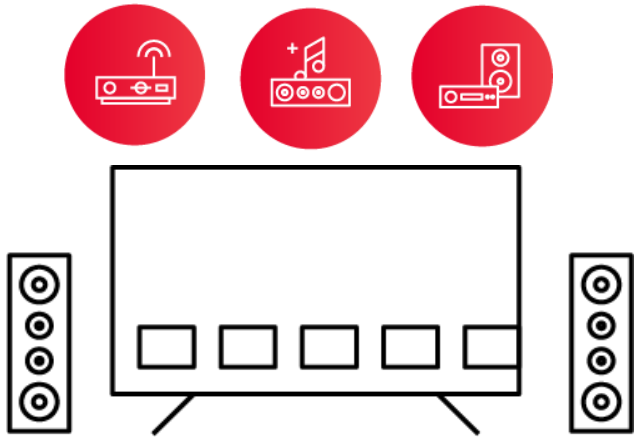
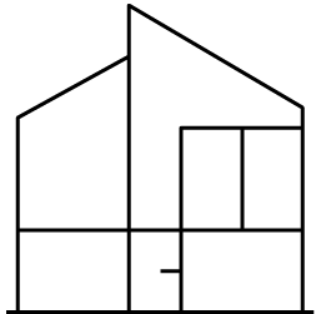
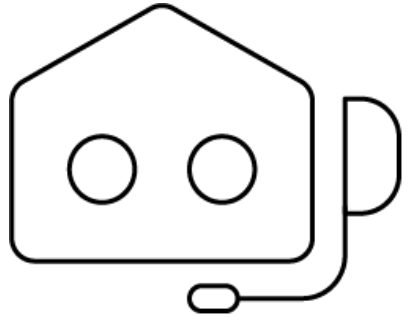
QUICKSET CLOUD



Better Entertainment Experience



Better Smart Home Experience



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Top three remote control pain points

Setup confusion

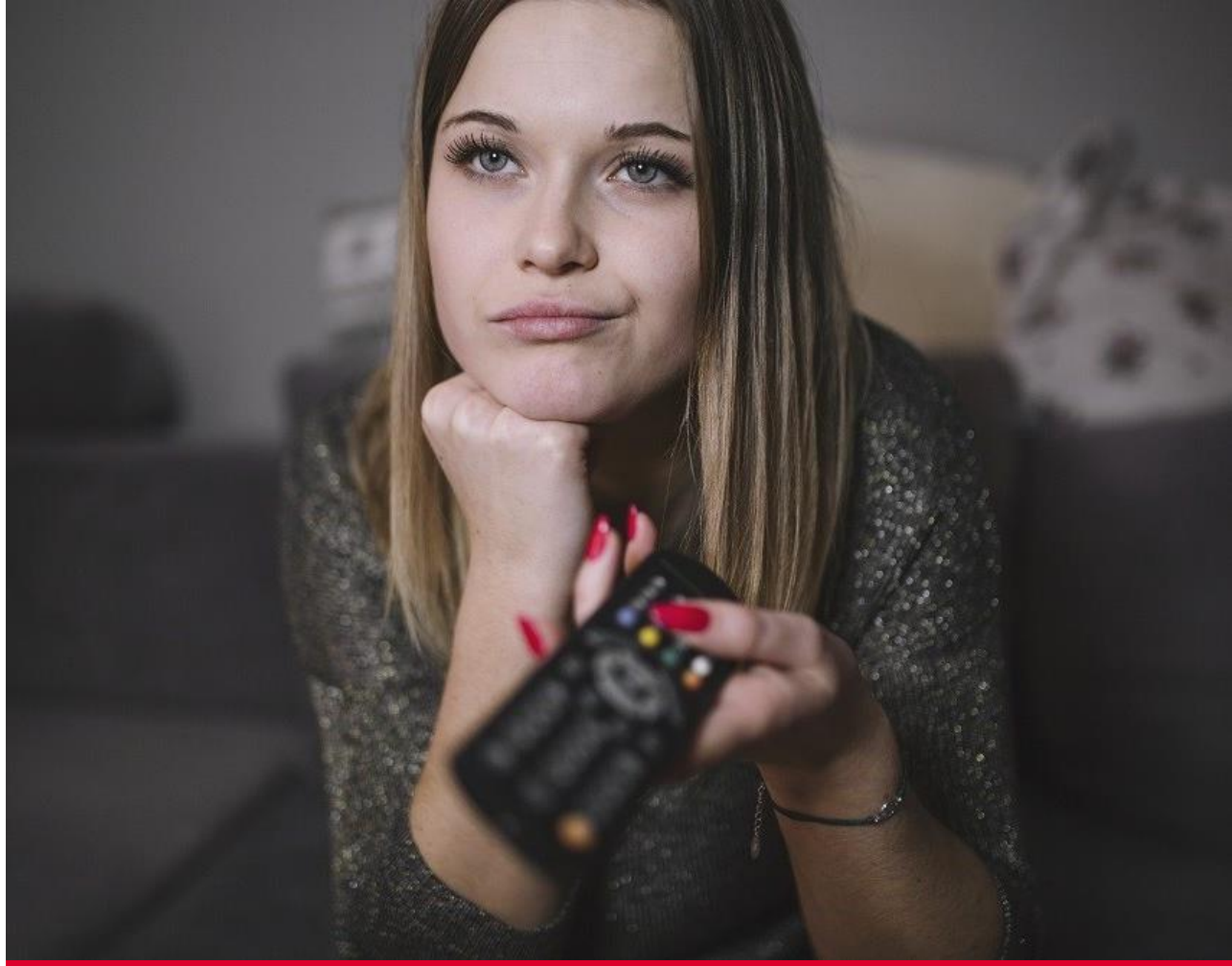
- How to program?

Input confusion

- What input is my device on?

Don’t understand the remote

- So many keys, what do they do?



Remote controls can be confusing

Traditional programming

Programming methods

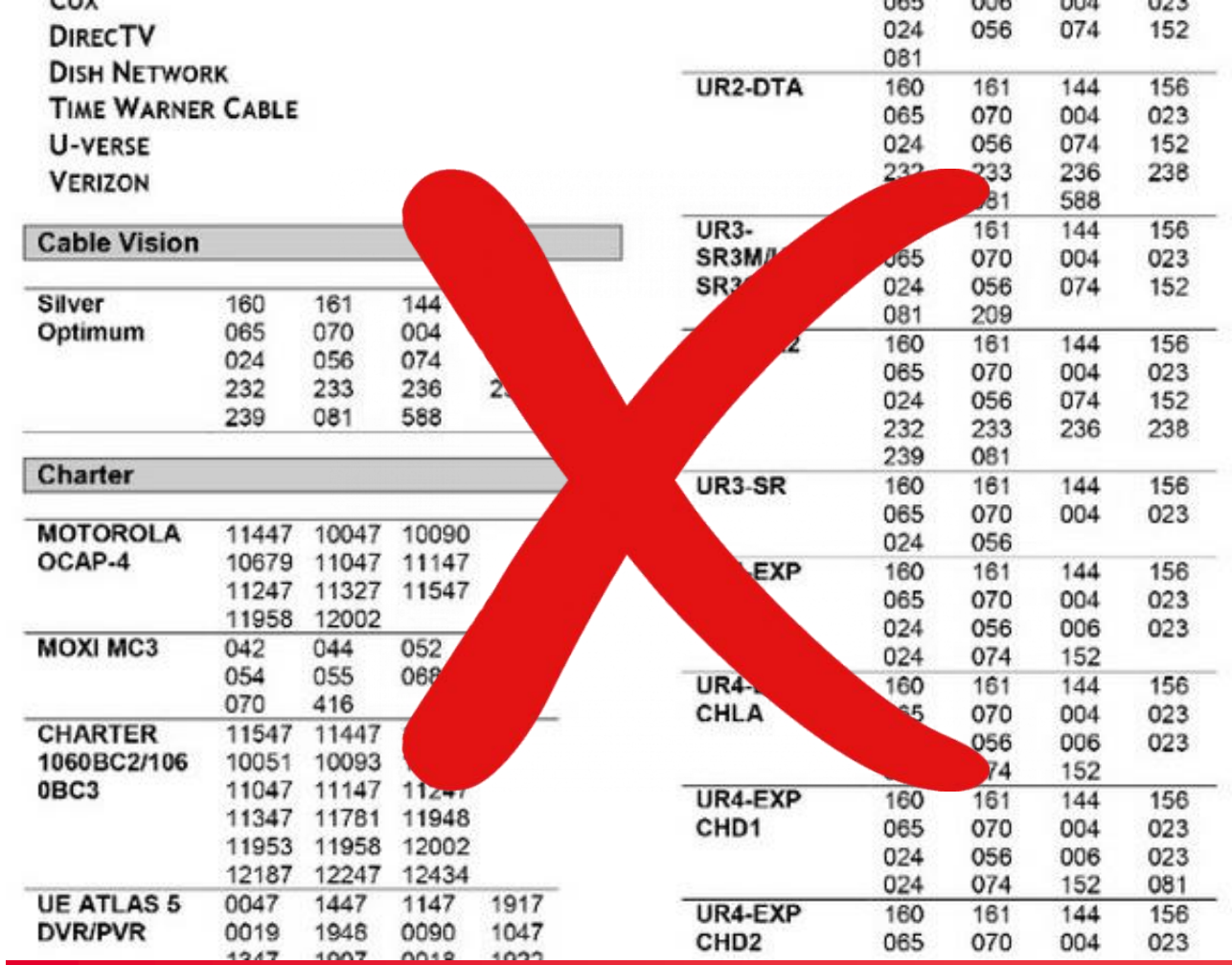
- 4, 5 or 6 digit code lists: trial and error

Success rate

- Time consuming to achieve 100% match if even

Upgrade / reprogramming

- 15% increase in service calls for reprogramming



Code entry is complicated

GUI-based programming

Brand-based setup

- User needs to select a brand on set-top-box GUI and then try if they work one by one.

Model-based setup

- User needs to select a brand and model number on set-top-box GUI and then try if they work.

Automated setup (Unique to UEI)

- QuickSet automatically discovers the TV and pairs the Set-Top-box remote with the TV; no intervention required.
- QuickSet Cloud keeps adding new control protocols and codes and keep you up to date.

No more setup confusion as devices automatically work

15% of TV users struggle with switching inputs

Streaming leads to more input switching

- Many people watch streaming services on other device than their pay TV set-top box
- Smart TV is most used platform for streaming video and growing

Gaming forces input switching

- Game consoles are using other HDMI port; even in sleep mode, game consoles keep active input

Switching input creates confusion

- Several major TV brands will not automatically select the latest active input of the set-top box; needs to be manually selected each time

Streaming and gaming creates input confusion

One Touch View

- Single button to instantly get user to watching content
- Powers up required devices automatically
- Switches inputs on TV and AVR

Dynamic Key Mapping

- Remote keys map automatically to devices based on activity
  - Volume goes to AV receiver
  - Channel goes to STB
  - Play/Pause goes to STB/DVR
  - Input goes to TV
  - Power goes to ALL

Adaptive Control

- Shows only the keys you need
  - Digit keys in Live TV mode
  - Fast forward in Recorded Content mode

No more input confusion with One-Touch View

QuickSet Data Insights

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QUICKSET DATA INSIGHTS

QuickSet for Connected AV Home Entertainment

Use QuickSet Cloud Data Insights to determine what devices are connected to the TV

- What devices are connected to the HDMI network?
- What is the make and model of the TV?
- What is the age of the TV?
- Does the TV support HD, Full HD or 4K?

Understanding the installed base

DATA INSIGHT CRITICAL FOR PRODUCT FEATURE, PRODUCT USAGE ASSESSMENT

Data Insights

Provides insights for customer on device ownership, usage and user behavior

- Device: model/make, year, capabilities
- Network: inputs, active usage, other devices
- Services: downloaded apps, app usage

Predicting and reducing customer support

- Understanding means predicting customer support (especially on CPE installation)
- Understanding where customer is watching streaming services (which device, how often, etc.)

QuickSet Cloud Data Insights

QuickSet Advanced Entertainment use cases

IP Discovery & Control

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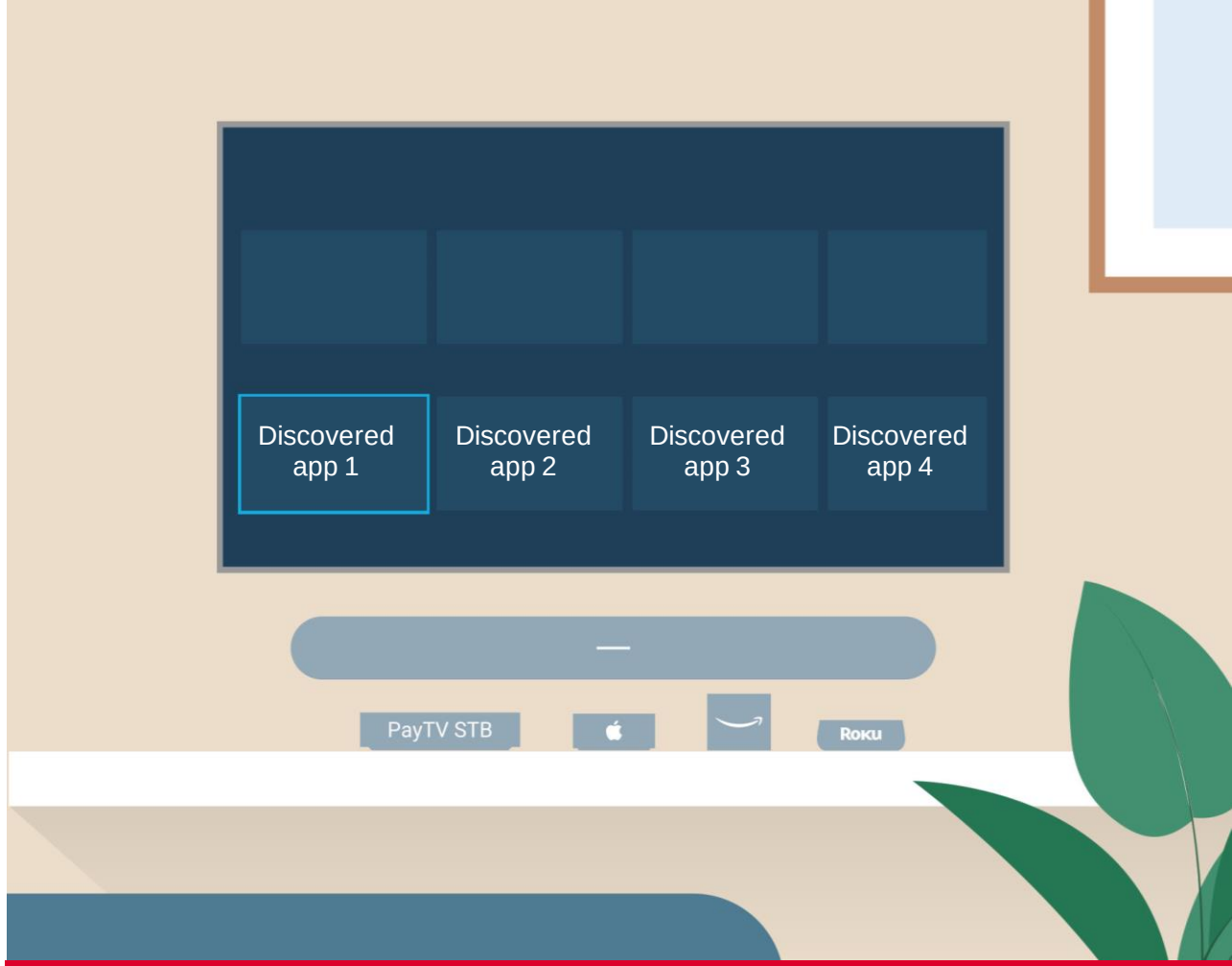
USE IP DISCOVERY & CONTROL CAPABILITIES

QuickSet for Connected AV Home Entertainment

Expand discovery & control capabilities across devices

1. Use IP control capabilities
   - Discover Smart Home devices in the home network
   - Add control capabilities for IP devices, such as Sonos speakers

2. Provide insights
   - Which VOD apps are installed
   - How often are VOD apps used
   - From which device are Apps used



Discover & control devices in the home network and their installed apps

Blending experiences with QuickSet

Blending smart home and entertainment experience

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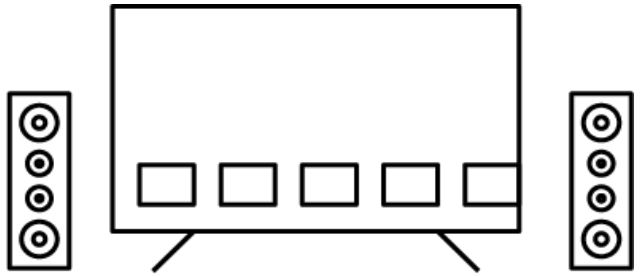
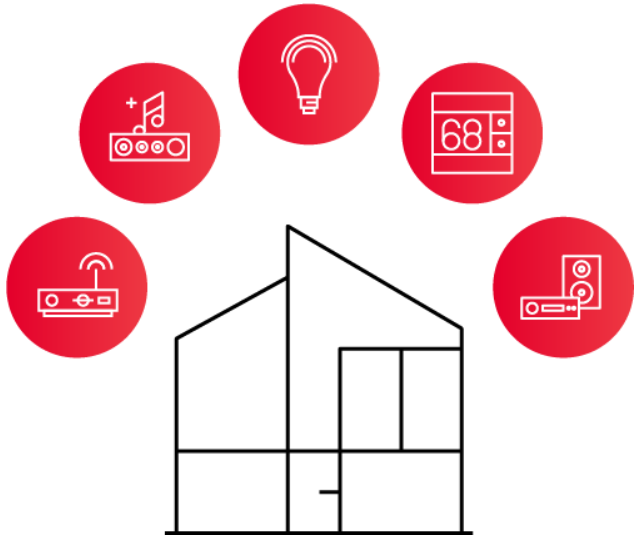
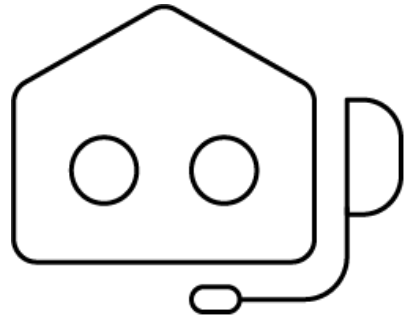
QUICKSET® CLOUD



Better Entertainment Experience



Better Smart Home Experience



Better Support Experience

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BLENDING SMART HOME WITH ENTERTAINMENT EXPERIENCE

QuickSet in the Connected Home

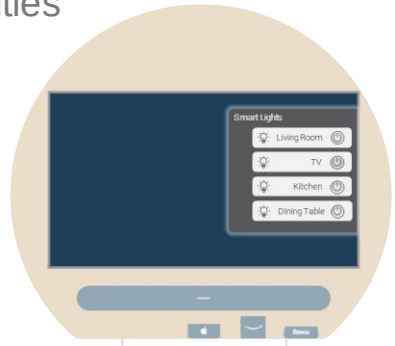
Enhance control capabilities with voice assistants or own Smart Home capabilities

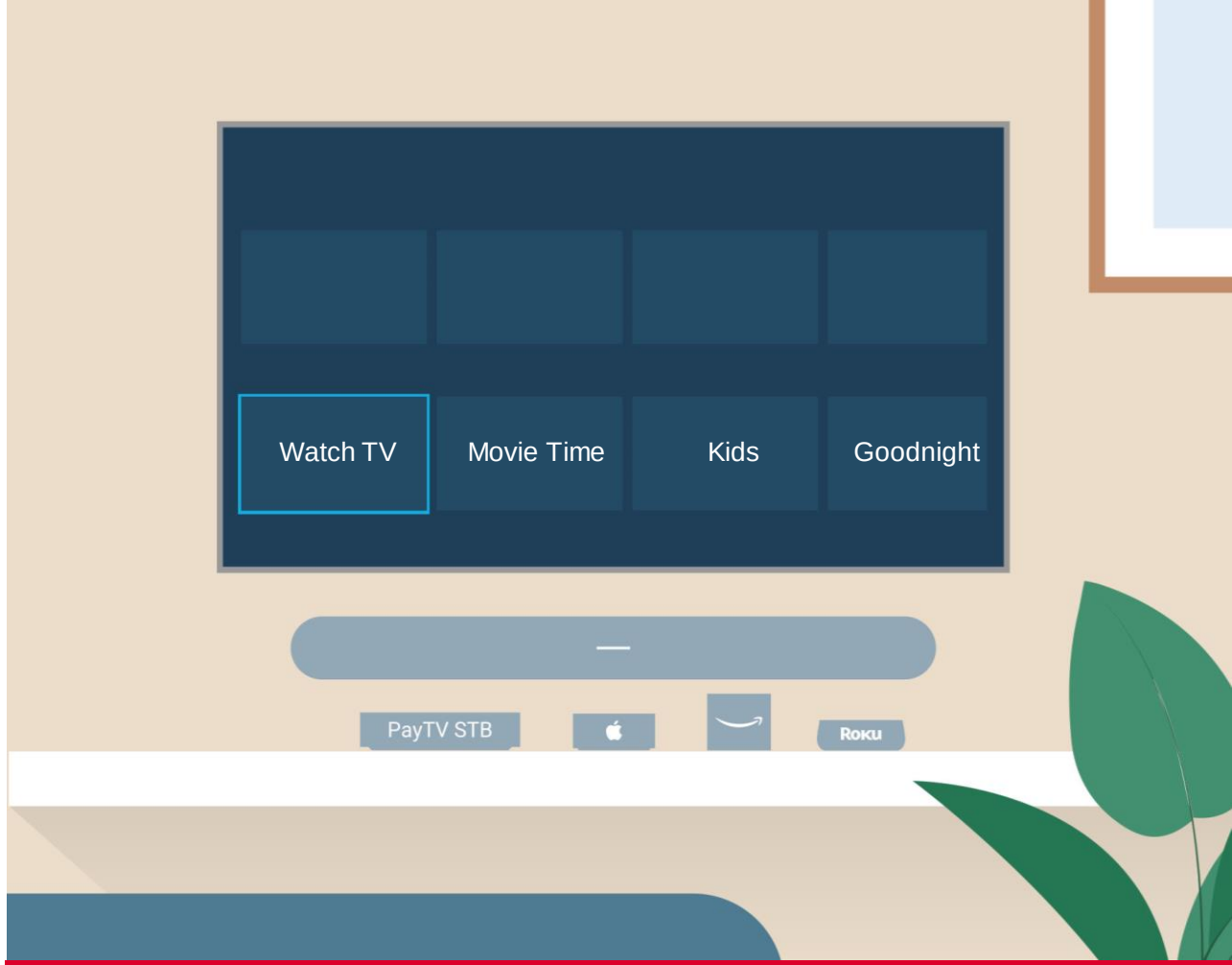
Add interoperability with 3rd-party voice assistants

- QuickSet interoperability offers compatibility with third-party assistants offering the “One-Touch View” experience

Offer own Smart Home capabilities

- Integrated into the UI





Extending with Smart capabilities

Interoperability with third-party voice assistants

QuickSET CLOUD

Alexa,
Watch
ESPN

Ok

—

PayTV STB

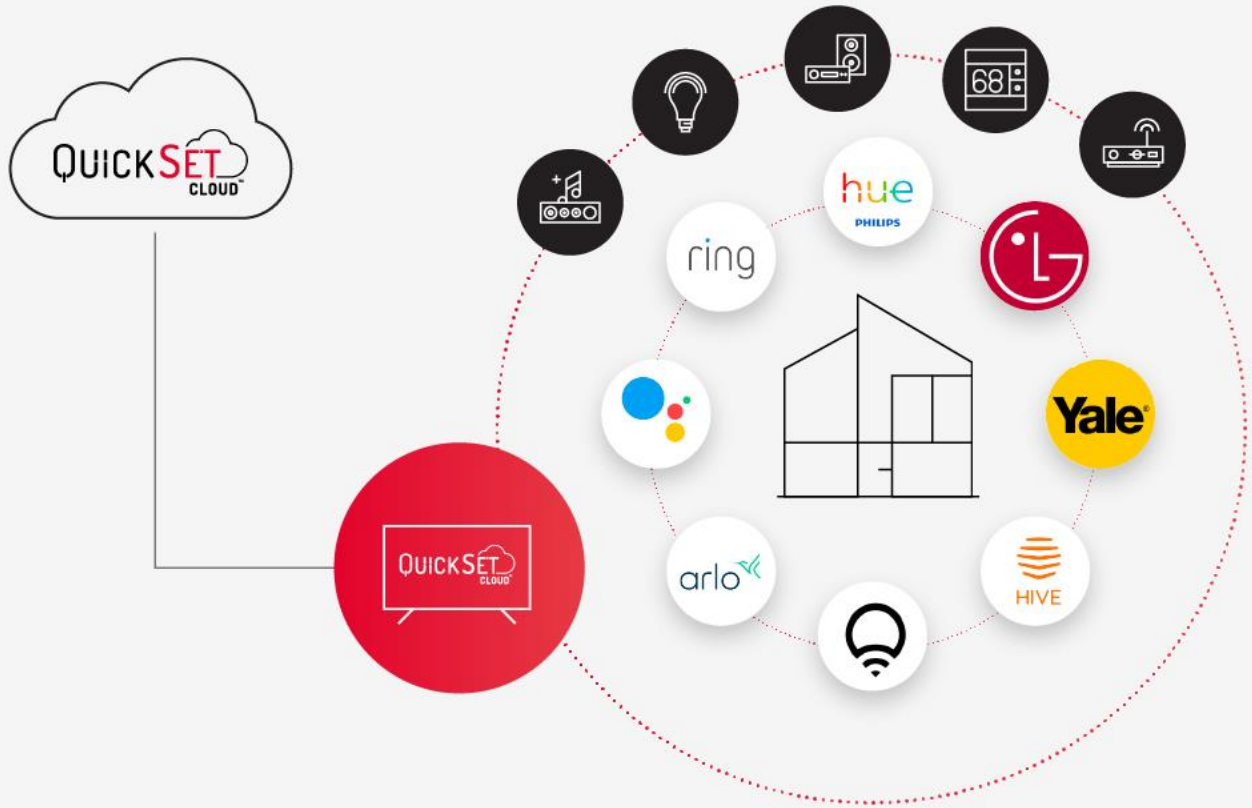
Roku

INTEROPERABILITY AS A SERVICE

Interoperability

Reduce friction, improve compatibility and lower operating cost.

- Unifying entertainment control with smart home automation to deliver a complete smart home experience
- Managed and maintained interoperability means a pain-free path
- Ensures compatibility with what consumers already have within their home
- Extends existing retail voice assistant's features (Google Assistant / Amazon Alexa)
- With Matter Certification, QuickSet's interoperability is now extended to all Matter Capable devices.



Experience seamless interoperability with QuickSet

- Make your device compatible with the **600+ million devices** running QuickSet.
- Make your device compatible with major IoT hubs.
- Make your product work with other assistant devices.

Blend Entertainment and Smart Home experiences

QuickSET CLOUD

Smart Home – a curated experience

Unifying Entertainment & Smart Home Control

Provide	Provide curated list of devices for easy entry into Smart Home Lifestyle device starting with Lights, Plugs, Thermostats…
Bring	Bring Interoperability and intelligent onboarding to blend Entertainment and IoT devices Made easy with other UEI Offerings like Virtual Agent
Support	Support for existing and new devices within the home across varied protocols

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CURATED LIST OF SUPPORTED DEVICES

Smart Device Expansion (IP)

The Works With QuickSet program is a curated ecosystem blending the entertainment and smart home experiences. Ensuring a product is compatible with what consumers already have in their home including existing entertainment devices, smart speakers and a wide range of IoT Smart devices such as:

Lights	Switches/ Plugs	Thermostats	Hubs	Locks	Cameras/ Doorbells
•Philips Hue •LIFX •OSRAM •IKEA •TP-Link •Yeelight •Eufy •Sengled •Nanoleaf •Hive •Wiz •Nexlux •Magic light •Smartthings lighting •...	•Belkin Wemo •TP-Link •Leviton •Etekcity •D-Link •Hive •IKEA •iHome •Wyze •Awair •Homematic •Eufy •ConnectSense •Meross •...	•Honeywell •Hive •Radio Thermostat •Tado •Netatmo •...	•SmartThings •Philips Hue •IKEA •Hive •Wink •Insteon •Bosch •Homeatic •Hunter Douglas •OSRAM •August •Sengled •...	•August •Yale Assure •...	•Amcrest •August •D-Link •Doorbird •Garmin •...

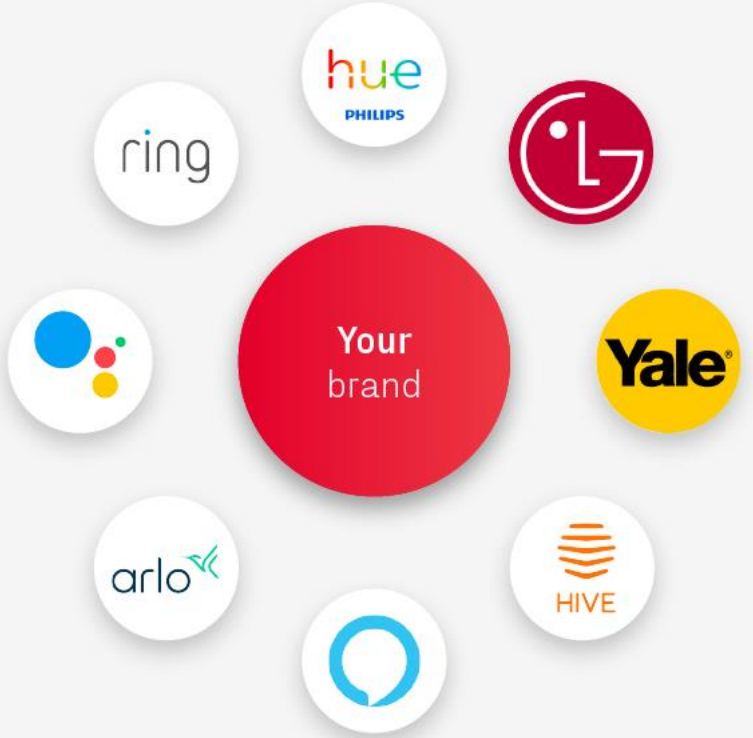
WORKS WITH QUICKSET

Provide curated list of devices for easy entry into Smart Home lifestyle device starting with Lights, Plugs, Thermostats…

COMPATIBILITY WITH DEVICES AT HOME IS THE NUMBER ONE DRIVER FOR PRODUCT PURCHASES

Interoperability as a Service

- Addresses consumers' needs as well as manufacturers' challenges
- Ensures the product is compatible with what consumers have in their home whether it be an existing hub, smart speaker or automation platform as well as those devices Powered by QuickSet
- With Matter Certification, QuickSet's interoperability is now extended to all Matter Capable devices irrespective of brand and type!



Interoperability as a Service

virtual agent

Self support service for

- Guided Device Onboarding
- Feature Discovery
- Troubleshooting

When combined with QuickSet it is enhanced with the knowledge of existing devices at the home including real-time access to secure remote troubleshooting features.

An integrated tier 0 support service for Entertainment and Smart Home devices.

POWERED BY QUICKSET®

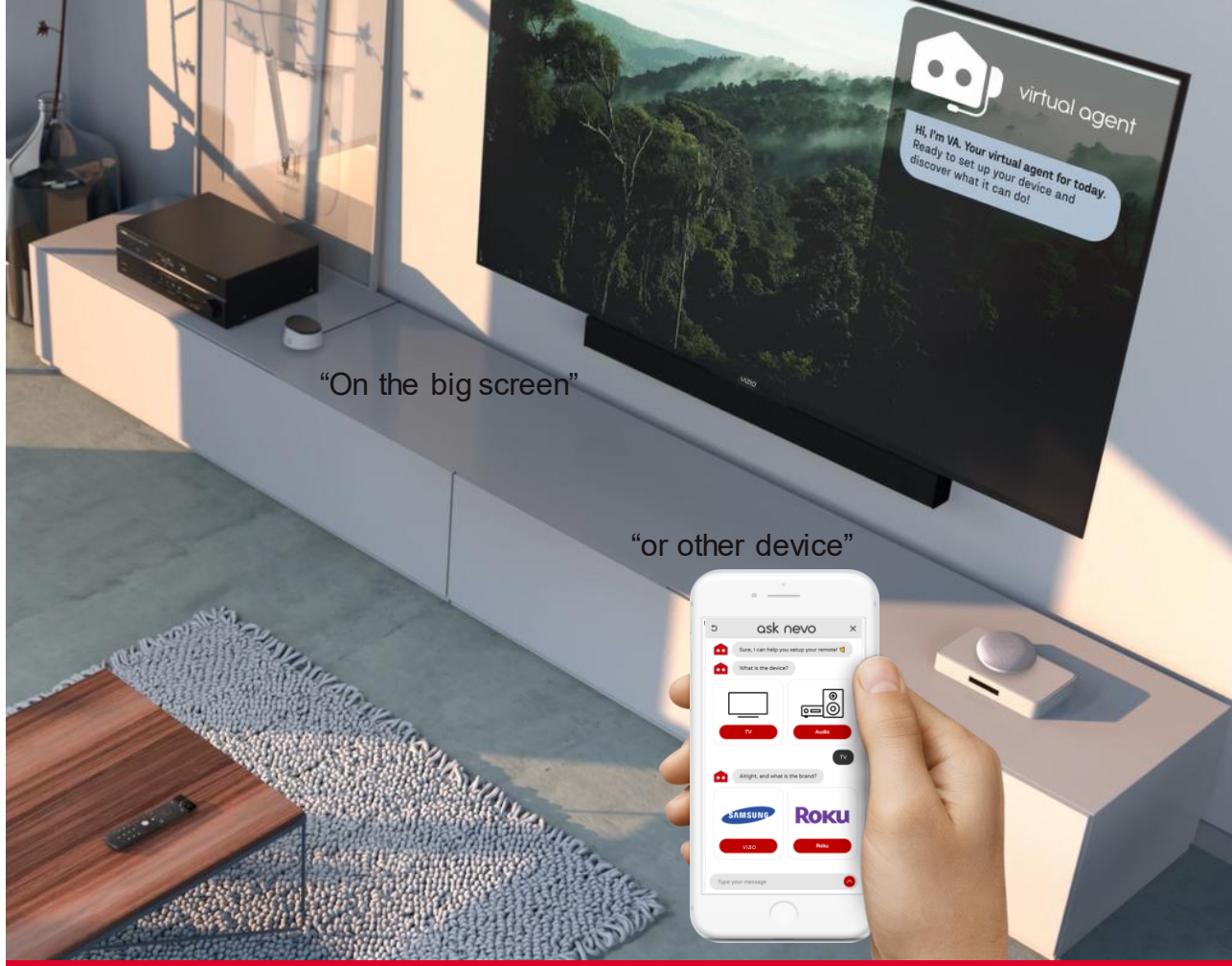
UNIVERSAL ELECTRONICS

virtual agent

Video Service Providers

- Helps the user with Self Install Kits
- Set Top Box and Remote-Control Onboarding
- Troubleshooting for TV and Audio Devices
- Integration on Customers Support Site
- Hand Off to Live Human Agents
- Customer Branded Experience

POWERED BY QUICKSET®



An integrated tier 0 support service for Entertainment and Smart Home devices.

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Matter

Matter addition to QuickSet

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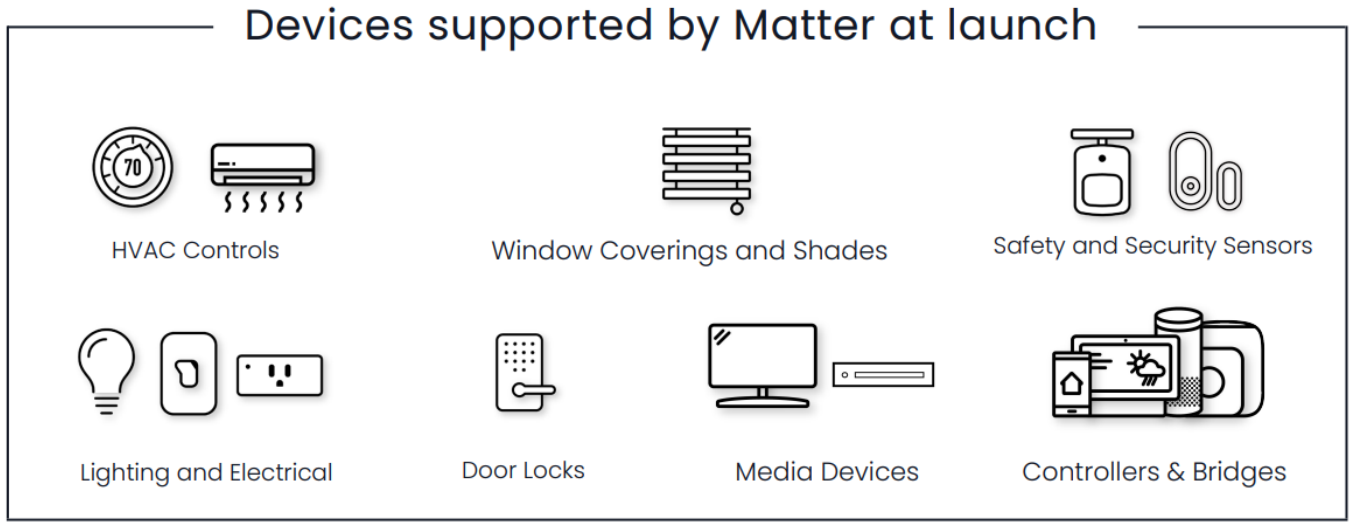
Matter 1.0 Highlights

matter

New standard for the Smart Home that promises interoperability, security, reliability and simplicity

- Is a local protocol working on LAN
- Supports lights, locks, shades , sensors, controllers, bridges, HVAC etc.
- Provides interoperability across devices and controllers
- Supports multiple controllers in the home through multi-admin
- Supports bridge device type for bridging non-matter devices
- Simplifies onboarding of devices
- Open-source SDK for easy adoption



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With the Promise of MATTER, Why QuickSet?

The Reality of the Industry

The goal of the standard is to make all smart home devices interoperable BUT **not all devices will be Matter addressable.**

matter

Strategy Alignment	The Matter strategy does not align with some manufacturers' strategy *e.x. certain providers do not wish to participate in the multi-admin nature of Matter.* *e.x. Most non-Android TV STB will not support Matter*
Technical Feasibility	Majority of deployed devices simply cannot achieve matter compliance due to hardware constraints *e.x. Some deployed smart home devices only have sufficient RAM and Flash to run either zigbee, Thread or Wi-Fi protocol, but insufficient to add Matter stack on top of that which today is ~ 12MB*
Upgrade Path	Many devices will not be matter upgraded *e.x. Signify has announced that it's updating the bridge for its Philips Hue smart lights to support Matter while Belkin (Wemo) announced that existing Wemo products will not be upgraded to support Matter*

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What Matter Does Not Do?

Does not replace existing proprietary and standard protocols
Not interoperable and compatible with all devices existing in the home today

- Does not replace standards like Zigbee, Zwave etc. or other proprietary smart home IP Control protocols
- **Local Only**. Is not a Cloud to device technology, remote access is not available natively
- Does not support some of the major device types including Cameras, Doorbells, vacuums and more
- Does not provide automation framework ex: Scenes are provisional
- No standardize multi-admin onboarding process. ex: steps on Apple, Google, Amazon and SmartThings are all different and nested
- Multiple ways to put device in advertising mode, left to manufacturer discretion ex: button press, power cycle, menu selection
- Onboarding of existing devices that are upgraded to Matter is tedious at best ex: No QR Code on device
- Not all existing devices are capable of upgrade to Matter ex: Zigbee/Zwave
- Does not come with integrated support for setup and troubleshooting

QuickSet with Matter

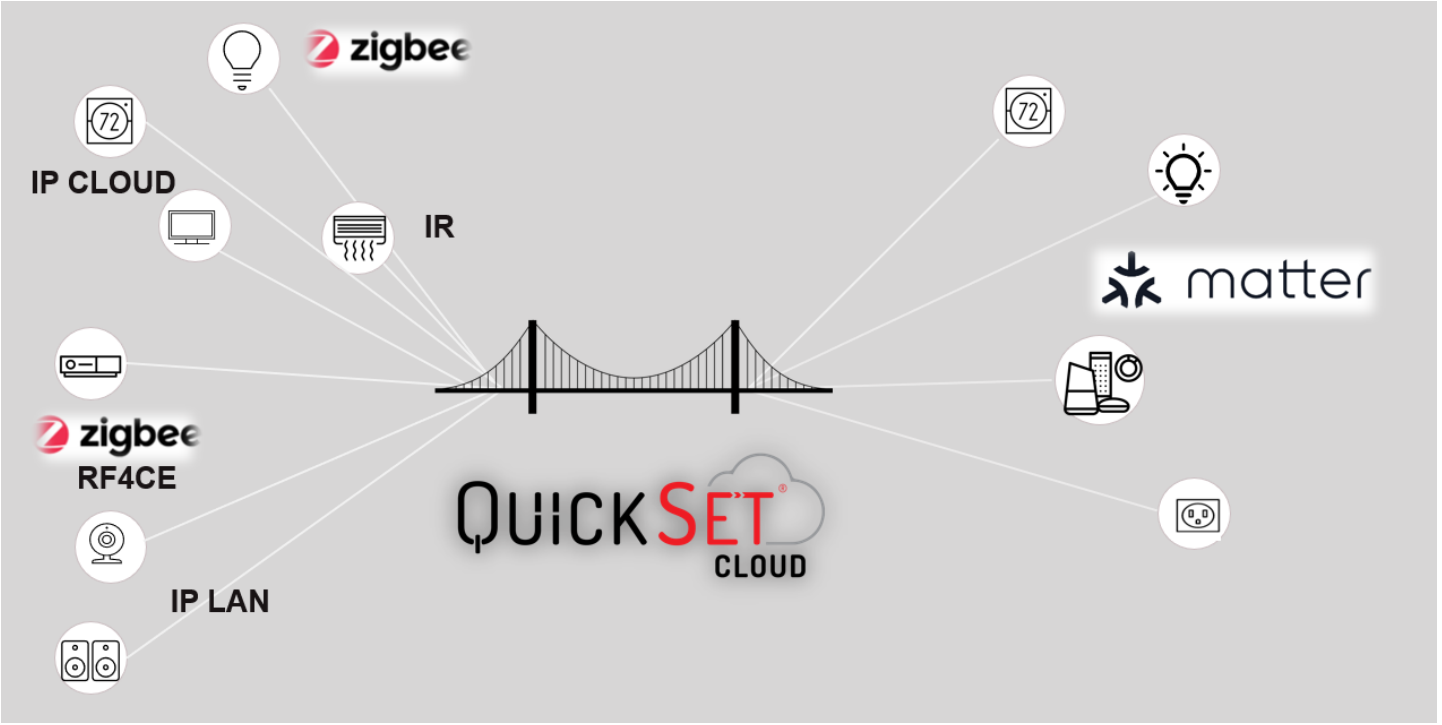
Better Together

- QuickSet's Interoperability as a Service provides **interoperability and compatibility with old and new** devices across protocols
  - IR, ZIGBEE, ZIGBEE RF4CE, CEC, IP-LAN, IP-CLOUD, MATTER, BLE
- Additionally, it brings **bridging capabilities**
  - ZIGBEE Bridge, MATTER Bridge
- QuickSet's integrated support walks the users through **onboarding and troubleshooting** of devices
- QuickSet's Remote Control and Troubleshooting **complement Matter's local control with remote capabilities**
- QuickSet Automation framework with Rules Engine and Device scripting allows **for whole home automation** across QuickSet compatible and Matter capable devices

QuickSet as a Matter Bridge (Available in 6.0)

Bridging non-Matter Devices into Matter Ecosystem

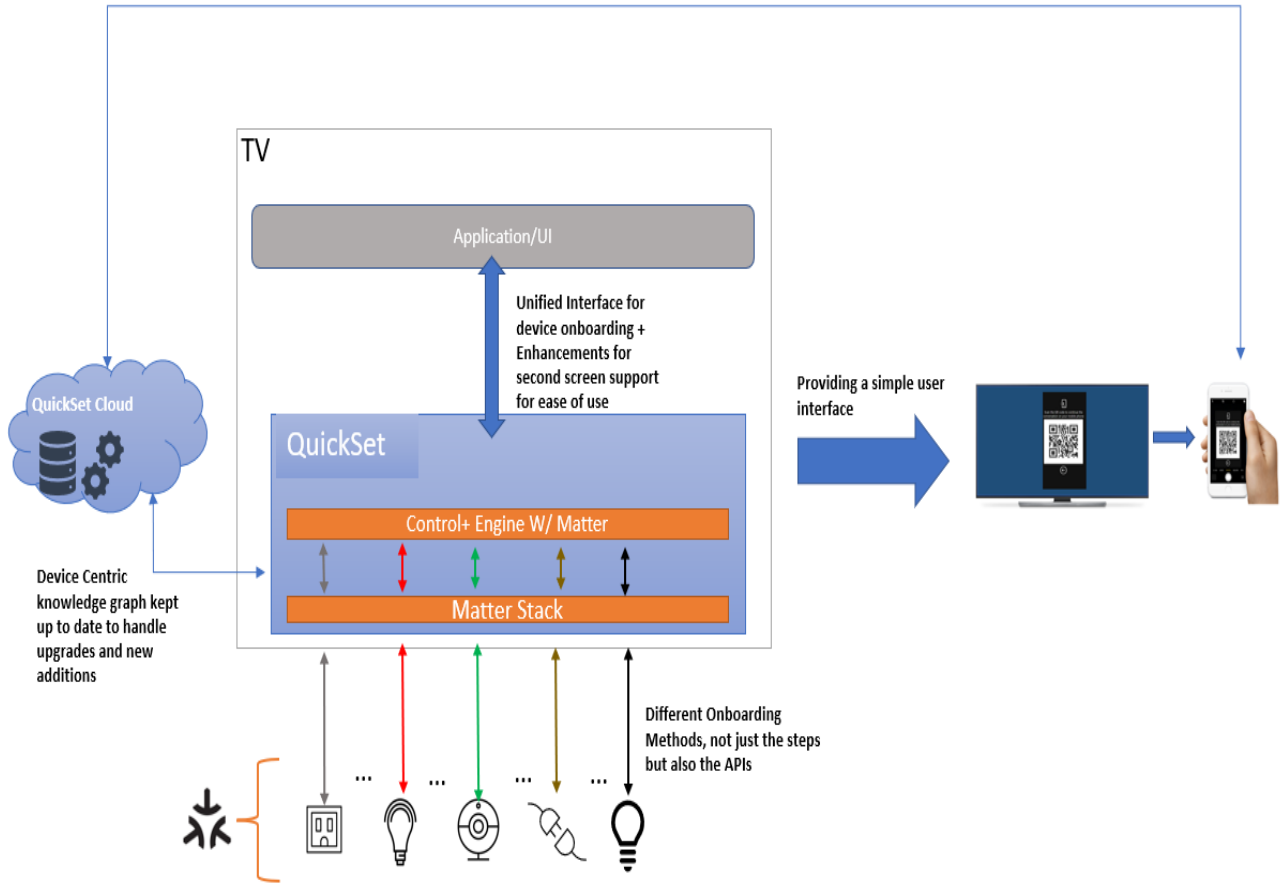
- Device categories not covered by Matter ex: Cameras, Doorbells etc.
- Existing devices within the home such as Complex Aircon, AV devices, etc.
- Devices that won't be upgraded to Matter ex: Belkin, IKEA etc.
- Smart home devices with varying protocols ex: Zigbee, Proprietary etc.



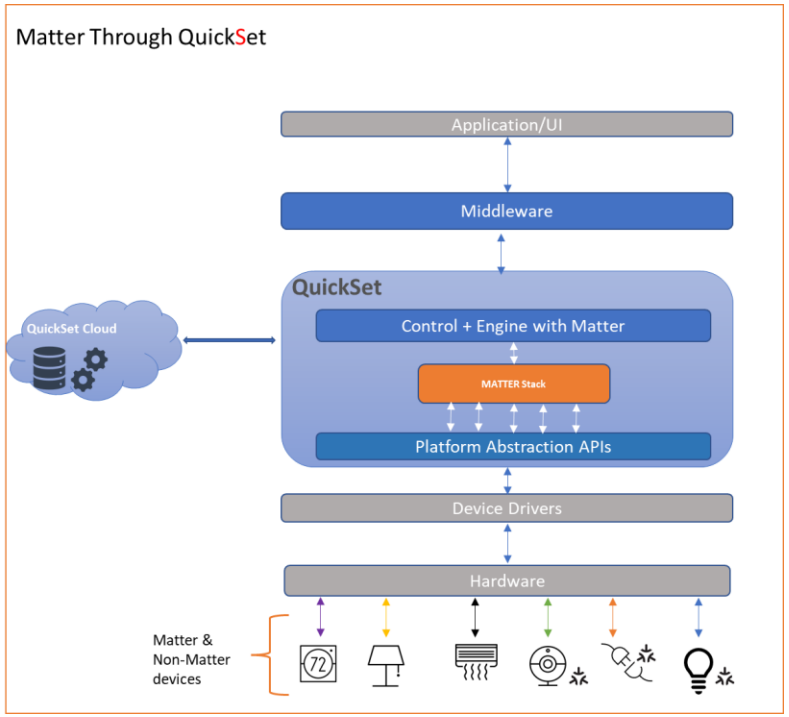
Control+ Engine W/ Matter

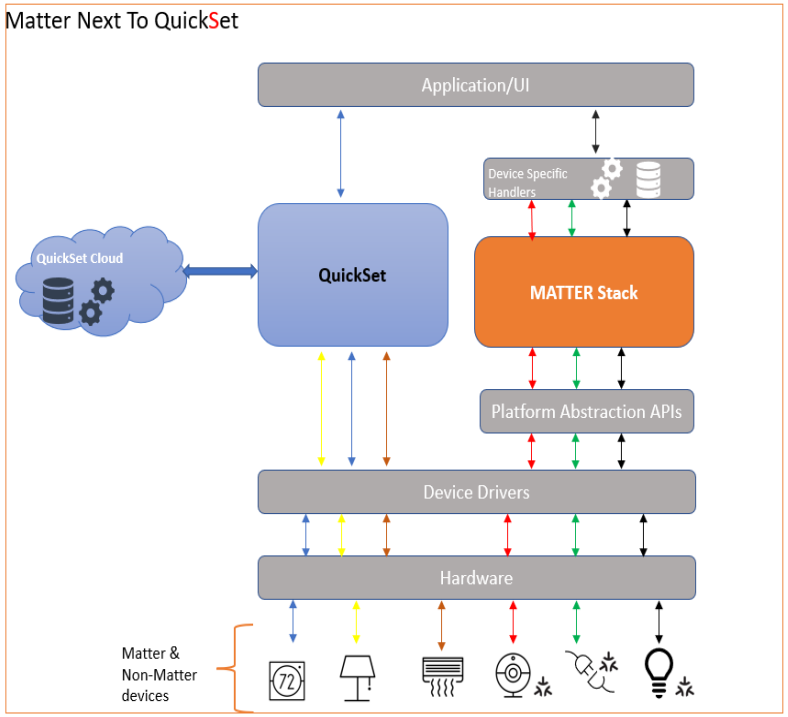
Simplifying Matter Open-Source SDK

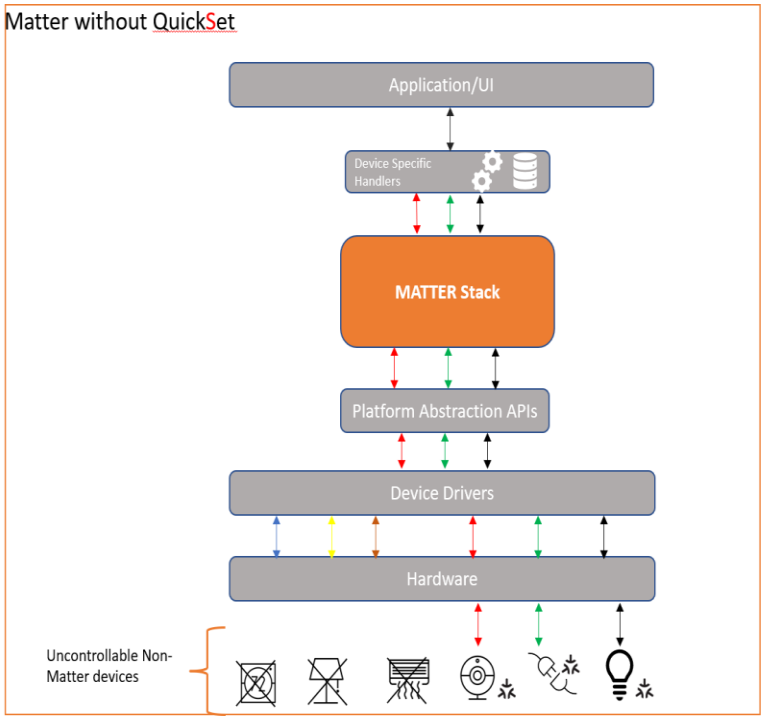
- How does it work?
  - **Knowledge graph that understands device specific steps** and APIs for onboarding of both Matter devices as well as controllers
  - **Continuous testing, updating and maintaining** device knowledge graph to include new variations, and regions as an on-going dedicated effort
- **Simplifies onboarding** of devices through device specific steps in conjunction with offerings like Virtual Agent
  - First time onboarding
  - Multi-Admin onboarding
- Simple and Unified API and device model to discover, onboard and control Matter enabled and legacy devices



QuickSet and Matter







Blue: UEI, Grey: Customer, Orange: Matter Open-Source SDK

Thank you!