
Software & Services





Discovery & Control

- 8 signatures with rDNS (New) and Reverse Discovery (New)
- Enhanced App & Content Discovery and Control covering 250M households
- 7 Control+ Engines with the addition of Matter (New)

Entertainment Experience

- Turnkey Android SDK for SBR Customers (New)
- App & Content Discovery & History (New) on additional platforms like Android, Apple (New)

Smart Home as a Service

- Matter Certified Software Component (New)
- Bridge Non-Matter Devices into Matter Ecosystem (Coming in QuickSet 6)
- Expanded Interoperability with Matter, Zigbee, WWQS Expansion (New)
- Intelligent Onboarding
- Remote Control and Troubleshooting
- Device Management Services

Integrated Support

- Virtual Agent
- Companion App
- Qterics

Assistant

Virtual Agent



virtual agent

- Self-service support for Entertainment and Smart Home devices
- Simplifying setup of devices by handing off the onboarding to a second screen **(New)**
- Integrated with QuickSet for improved and semi automated troubleshooting and onboarding **(New)**
- Smart Feedback Loop to improve accuracy and response times **(New)**
- Available as a pure web-based app and TV app for easy integration

My Nevo Companion App



nevo®

- Turnkey companion app for onboarding, setup and control of devices.
- Ability to onboard devices by scanning QR code on device **(New)**
- Delivered as a skinnable companion app or an SDK. **(New)**
- Covering UEI's portfolio of devices across remotes, QuickSet Widget, etc.
- Integrated with Virtual Agent for self-service support **(New)**
- Commercially launched with two products launched in 2022 alone! **(New)**

Qterics Device Management

OTA Software Update

- Worldwide support
- Secure
 - Authentication – Device & Server
 - Encryption – Control and payload
 - Meets Netflix® & Google® robustness rules
- Reliable
 - 24x7x365 high-availability

SupportView Remote Support

- Remote Device Management
 - Remote screen viewing & control
 - Remote diagnostics & troubleshooting
- Enhanced Customer Experience
 - Improved Customer Satisfaction
 - Lower Support Costs

DRM Field Provisioning

- Secure Payload Delivery
- Simplified Key Management
- Minimize factory provisioning errors
- Enable new streaming services
- Netflix and Google approved services

QuickSet



QUICKSET OVERVIEW



The de facto solution for simplifying universal discovery, control, and interaction of devices within the home.

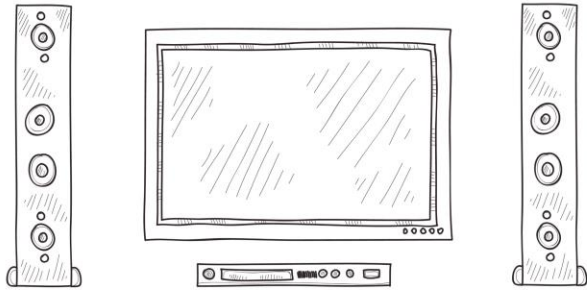
Over **half a billion** QuickSet enabled devices shipped.

Serving ~ **500,000** households every 5 minutes



	Connected STB's	TV Manufacturers	Smart Speaker STB's	Voice Assistant
Partner(s) Tier 1 Customers with commercially deployed products.				
Key Feature(s)	<ul style="list-style-type: none"> Control of TV's & AVR's Quickset Insights 	<ul style="list-style-type: none"> Control of connected Devices Smart Home Control 	<ul style="list-style-type: none"> Control of TV's 	<ul style="list-style-type: none"> Universal Control for: TV, STB, Audio, DVD, Projector, Fan, Air Purifier, Humidifier, Robot Vacuum, Cleaner, Light, and Air Conditioner





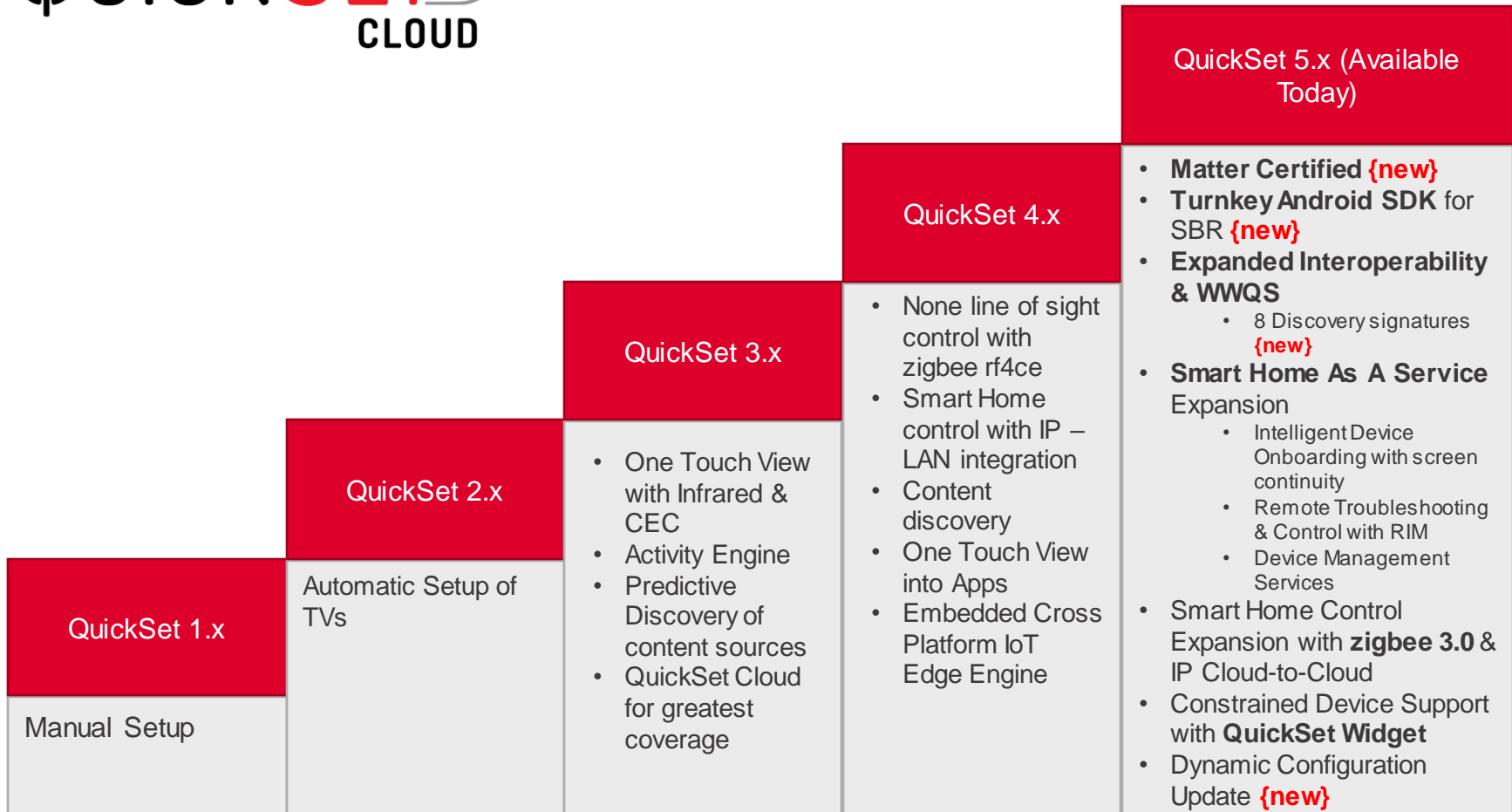
Entertainment Experience



Smart Home As a Service

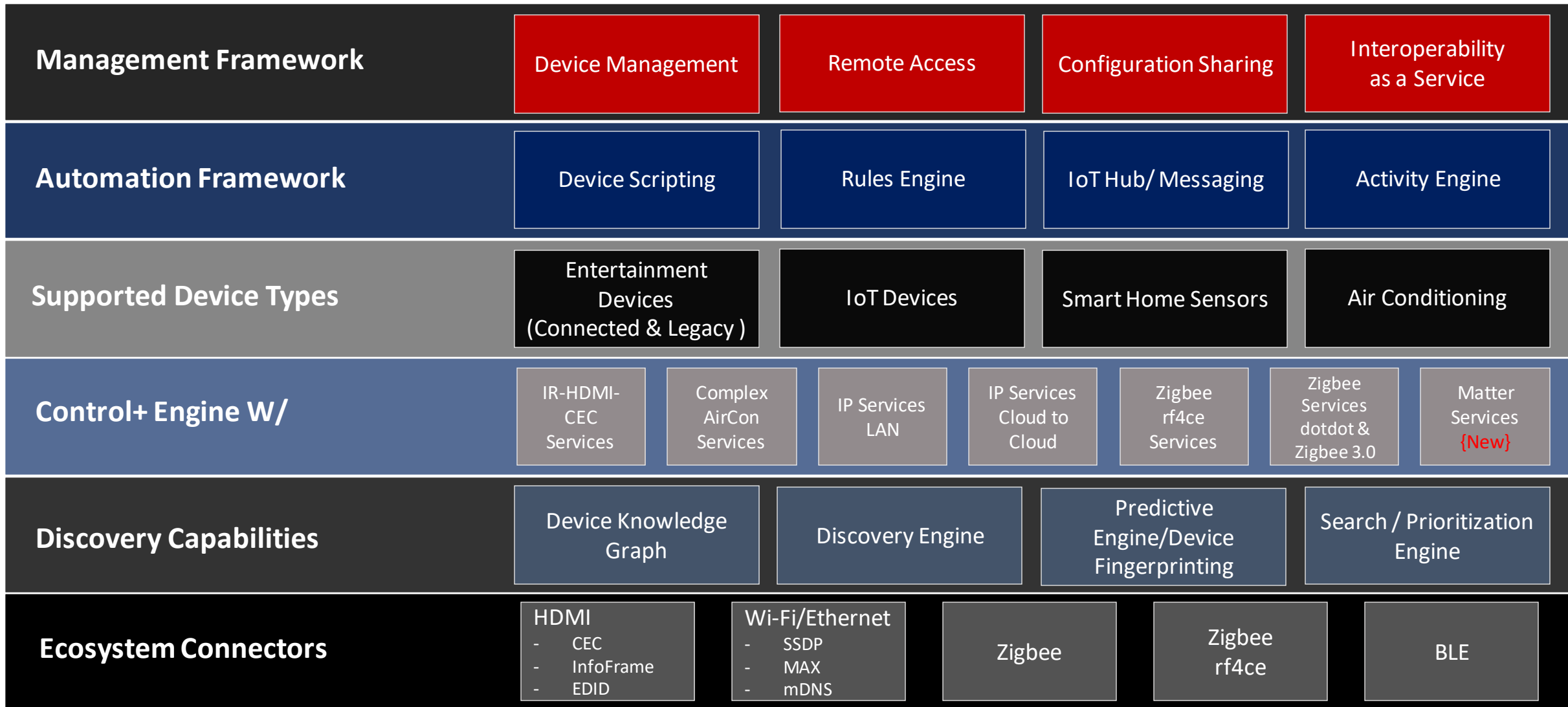


Integrated Support



Bringing Matter Bridge – Bridging non-Matter Devices into Matter Ecosystem

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

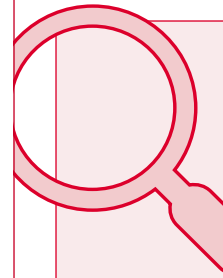


Highlights



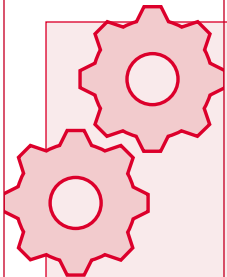
Yearly Run Rate

- 300 Billion and growing ...



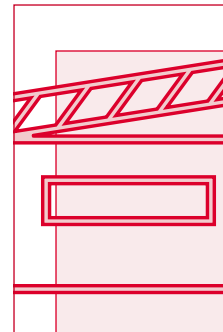
Device Discovery

- 1.6 Billion devices discovered in 2022 alone!



Automated Setup

- PayTV users saved 450 man-years on TV Setup alone!



Content Discovery & Control

- 250 Million households and growing ...
- Roku, Apple, Android ...

QuickSet is a Matter Certified Software Component!

https://csa-iot.org/csa_product/quickset/

Matter is the new standard from Connectivity Standards Alliance promising simplicity, interoperability, reliability and security for Smart Home devices. QuickSet is now a **certified Software Component** enabling our customers to **discover, onboard and interact with Matter devices**



UNIVERSAL ELECTRONICS, INC.

QuickSet

Matter

Certificate ID:

CSA22050SWC60050-M2

QuickSet provides a unified discovery and control interface for devices in the home.

Learn More →



Entertainment Experience

Automatic Discovery of TVs, Set-Top boxes, Soundbars, AVRs, and OTTs

Control at the tip of your fingers: Combining multiple protocols across Infrared, IP, Zigbee-RF4CE, and CEC

Activity Engine for one touch tuning into devices and content

Content Discovery & Control across major platforms including Roku, DirecTV, etc.



Smart Home As a Service

Interoperability as a Service + WWQS - Covering assistants, smart home devices and more

Intelligent Device Onboarding with screen continuity

Zigbee 3.0 & Matter bridging capabilities

Remote Troubleshooting & Control with RIM

Device Management Services



Integrated Support

Virtual Agent : Self service support for entertainment and smart home devices – across device onboarding and troubleshooting

My Nevo : Turnkey Companion App for onboarding, setup and control of devices

Qterics : Next gen Customer Support, OTA, Field Provisioning, DRM

LG TV Dashboard powered by QUICKSET[®] CLOUD



Discovery and Control

A series of white, curved lines that originate from the bottom left and fan out towards the right side of the slide, creating a sense of motion and complexity.

Device Knowledge Graph



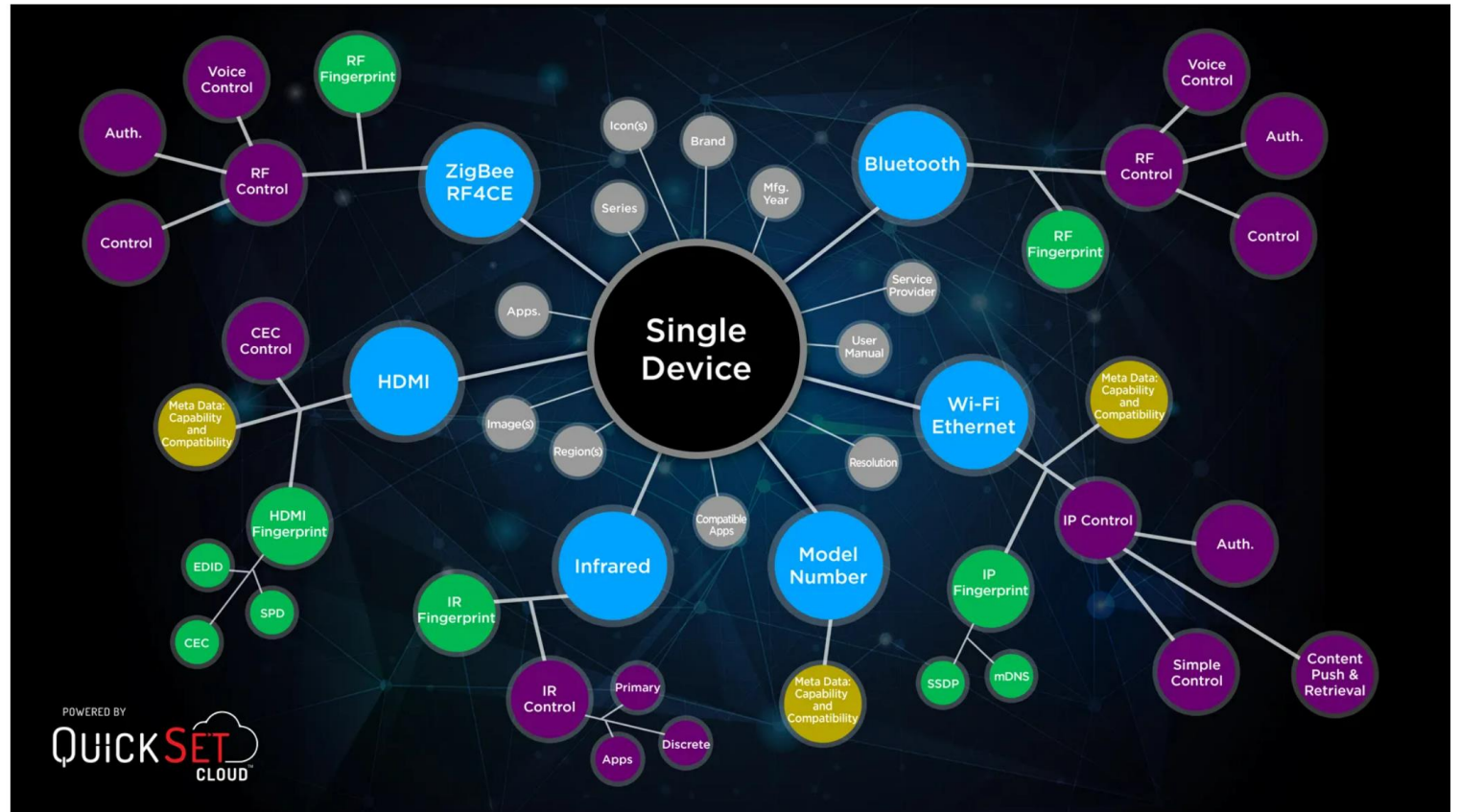
A global [device knowledge graph](#) provides structured and detailed information about devices, their capabilities and services they offer as well as the relationships among them. This powerful knowledge graph is continuously updated as new devices or services surface up.

288 billion cloud transactions yearly

28M + fingerprints

1.2M devices

13,000 brands



QuickSet Discovery & Control Capabilities



Discovery Framework

[Device Knowledge Graph](#)

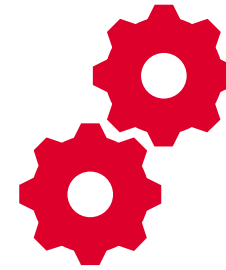
[Discovery Engine](#)

[Predictive Engine](#)

[Search Engine](#)

[Prioritization Engine](#)

[Reverse Discovery](#)



Control+ Engines

[Control+ Engine W/ IR-HDMI-CEC](#)

[Control+ Engine W/ ZIGBEE RF4CE](#)

[Control+ Engine W/ ZIGBEE - DOTDOT & ZIGBEE 3.0](#)

[Control+ Engine W/ IP-LAN](#)

[Control+ Engine W/ IP-Cloud](#)

[Control+ Engine W/ Complex Aircon](#)

[Control+ Engine W/ Matter](#)



Discovery & Control Highlights

Discovery, Setup & Control

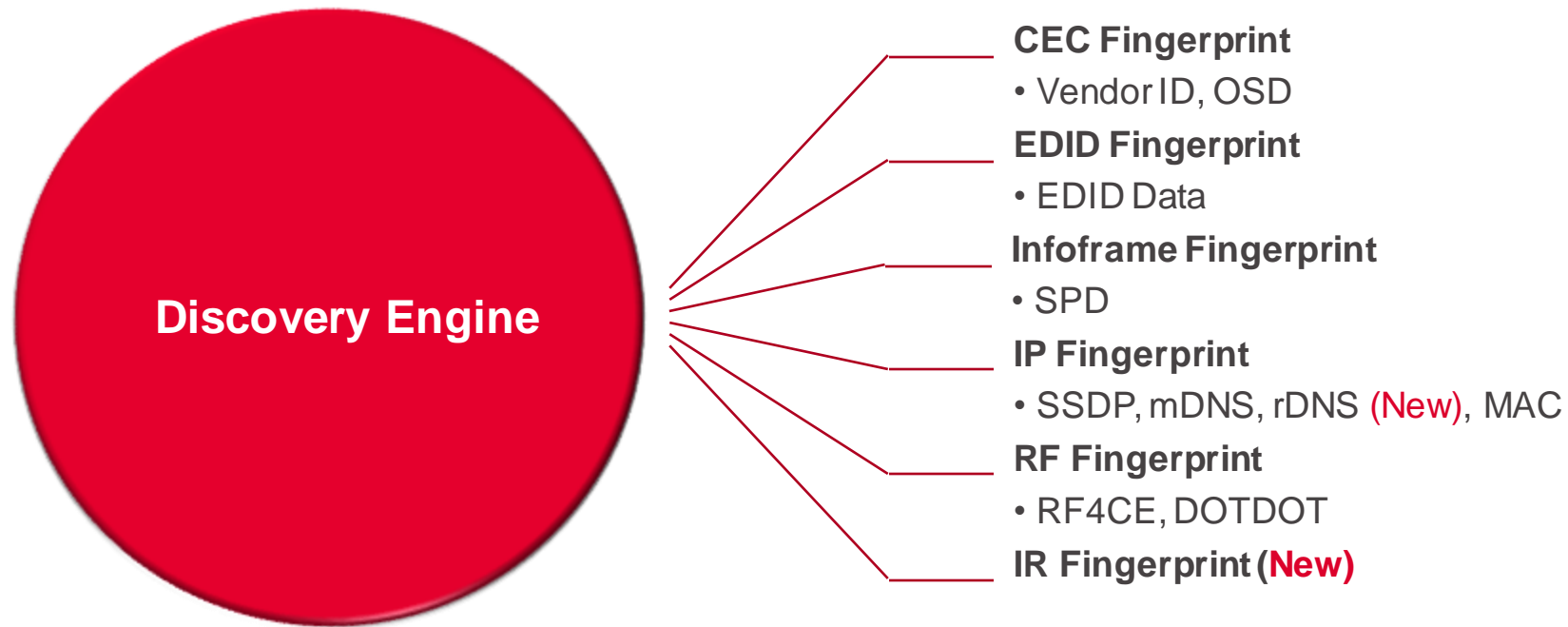
- **Device Discovery & Fingerprinting**
 - Enables automatic discovery of devices and their attributes including type, make, model and much more across popular networks
- **Automatic Setup & Control**
 - Automatic Setup of TVs and Content Sources. Control using a hybrid of IR and CEC. Non-Line of Sight control with IP and Zigbee RF4CE (for STBs). One Touch View into devices and content with Discrete-IR, CEC and IP
- **App and Content Discovery. Control and History**
 - App and Content Discovery extended to new platforms (Roku, Android, Apple ...) covering over **250 million households**. App History feature enabling customers to bring users back to their platforms.
- **Reverse Discovery {New}**
 - Automatic Discovery and Setup of legacy IR devices using IR as a fingerprint

Control+ Engines – IP, Zigbee, & Matter

- **Control+ Engine with IP-LAN** & **Control+ Engine with IP-Cloud**
 - Discovery and control content and services of networked entertainment and smart home devices using standard and proprietary data transmitted over the IP network, or through cloud integration.
- **Control+ Engine with Zigbee**
 - Built-in support for dotdot over Zigbee 3.0 devices to make it a full featured framework for connected home, bringing smart home applications to any device running QuickSet. Exclusively available when used with UEI QuickSet Certified chip platform.
- **Control+ Engine with Matter {New}**
 - QuickSet is a Matter Certified Software Component supporting Discovery, onboarding and control of Matter compatible devices.

Discovery Engine

QuickSet implements a unique fingerprinting approach to identify devices based on non-structured and non-standard datasets. It identifies a range of device information, from device type, brand, model, control information and more.





Predictive Discovery Growth

- Over **130%** growth in Predictive Discovery usage from 2021 to 2022, with **over 100 billion** calls
- In the last year alone, we helped our customers discover over **1.6 billion** devices!
- Introduced Feed Back Loop for improving rate of automatic discovery

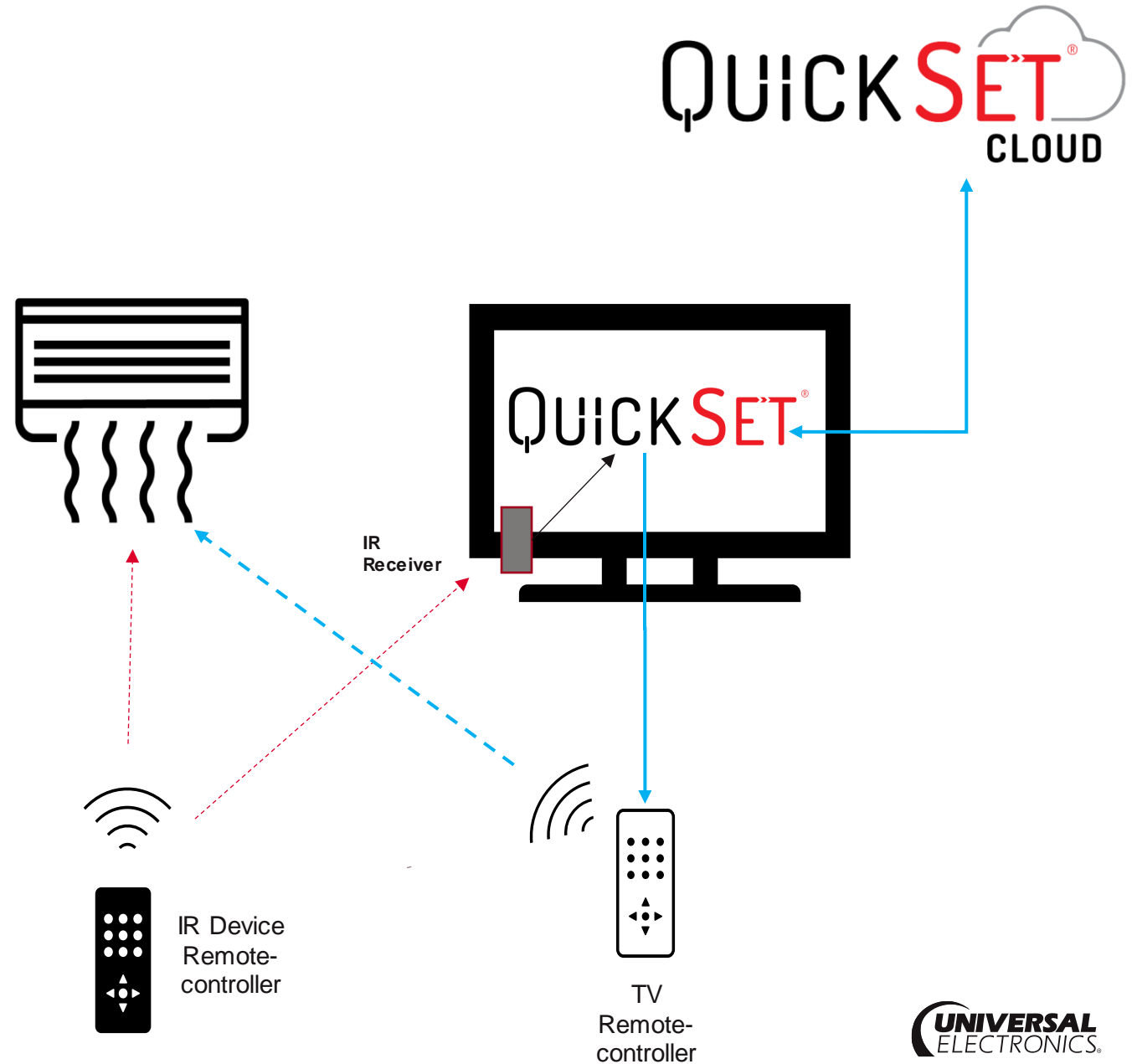


Reverse Discovery (New)

Not widely released – Please Contact QuickSet's Product Line Head

How does it work?

- Automated discovery and setup of legacy IR devices using IR Signals emitted by devices as a fingerprint
- Eliminates cumbersome setup process with model search across complex aircon devices



Entertainment Experience

A series of white, curved lines that originate from the bottom left and fan out towards the right side of the slide, creating a sense of motion and depth.

For TVs



The Problem

Device & Content Confusion

Today's home lacks interoperability and the entertainment system has :

- Many connected devices
 - Leading to **Device/Mode Confusion**
- Many ways to consume content - Apps, channels, VoD
- Various communication protocols
- Different devices offering similar contents and Apps.
 - Leading to **App Confusion**
- Devices don't work with each other out of the box



PayTV STB



Roku

Device & Content Confusion



QuickSet – The Solution

The Experience

Automatic detection and setup of connected content sources such as Set-top boxes, OTT boxes, AVRs, and sound bars

Discovery of apps and content within devices

Intelligent device onboarding when needed

Universal Control of devices using a combination of protocols:

- **IR and HDMI-CEC** commands
- **Zigbee RF4CE for non line of sight control** of RF capable STBs
- **IP-based discovery, control & Interaction**
Device and Content
- **IP-based device control** of smart devices

Remote capabilities for **troubleshooting**

Enhanced Configurations – Configuration sharing provides synchronization across multiple control points

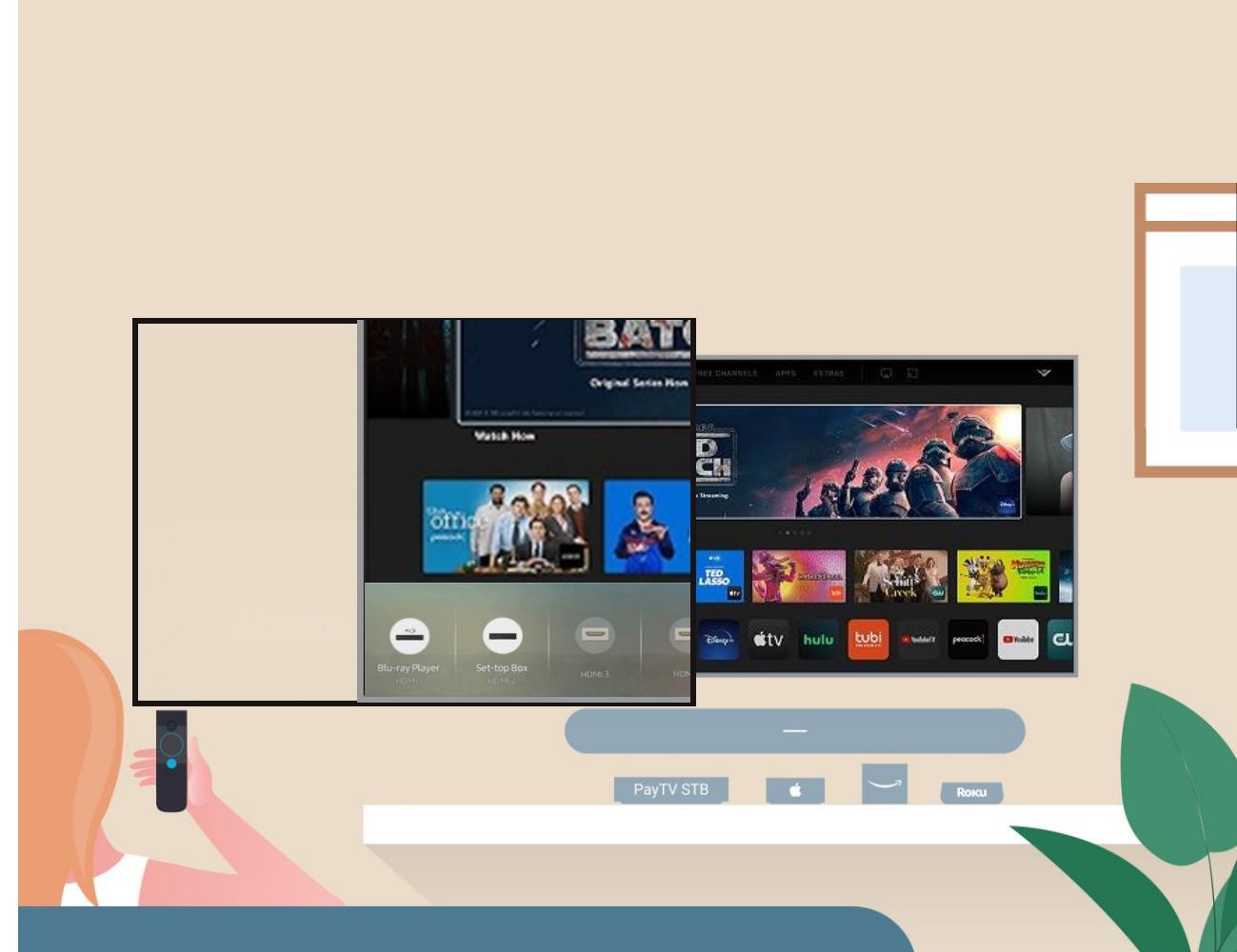
Intelligent filtering and prioritization based on market & location specific meta-data to only display the relevant information

Supports any **bi-directional wireless standard** for over-the-air download to a control point, including ZigBee RF4CE, Bluetooth Smart and Wi-Fi

AUTOMATIC DISCOVERY AND SETUP OF DEVICES

Discovery and Control

- Automatic discovery and setup of devices across HDMI, Zigbee RF4CE, IP, and IR Protocols
- QuickSet automatically **maps the control functions** for the device to right keys on TV Remote Control
 - ex. Ch+/Ch- and Guide keys are routed to STB
- Predictive Engine in QuickSet not only provides the control methods for content sources, but also predicts Service Provider!
 - Allows TV to support EPG Integration
 - Allows for Search in channel lineup and direct tuning to channels



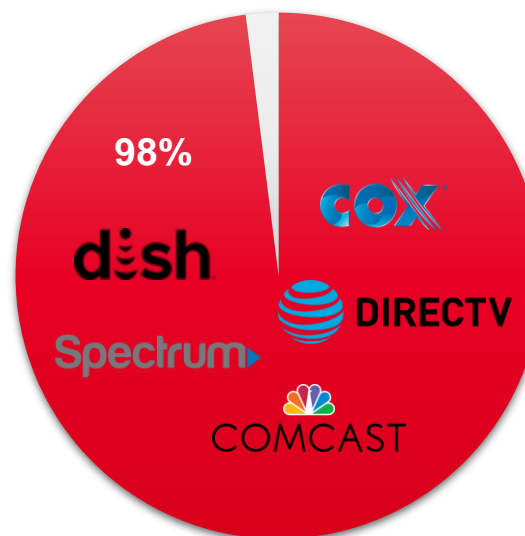
Provide unified control experience across TV, Set-Top Boxes, OTT, Live TV provider and other connected devices

AUTOMATIC DISCOVERY AND CONTROL INCL IP

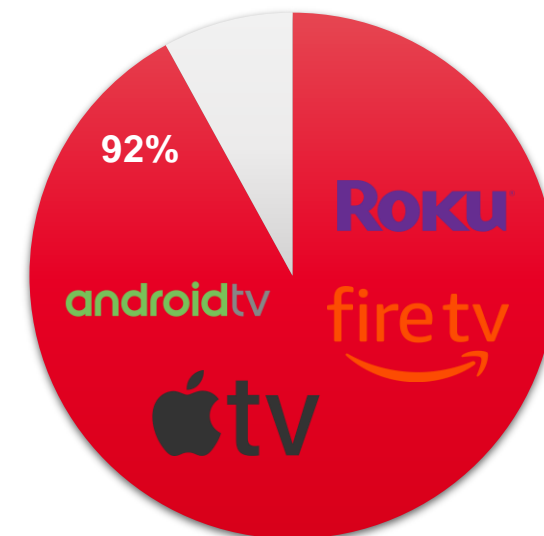
Market coverage with QuickSet

- Over **98%** control reach for (pay) TV Set Top box
 - Covering all popular brands like: Comcast, DIRECTV, DISH, Spectrum, Cox, Verizon and many more
- Over **92%** control reach for Streaming devices
 - Covering all popular brands like: Roku, AppleTV, FireTV, AndroidTV and many more

STBs in NA



OTTs in NA



■ IR+CEC+IP ■ Not Controllable

■ IR + CEC + IP ■ Not Controllable

Expanded Control across STBs and OTTs

Zigbee RF4CE for Non-Line of Sight Control

Discovery & Control of ZIGBEE RF4CE capable pay TV STBs

- Offering (NLOS) non line of sight control
- Available with UEI UE878



ENTERTAINMENT CONTROL EXPERIENCE

Device & Content Discovery, Control and History with IP

- Add control for Streaming sticks that cannot be controlled over IR
 - Ex: Roku, Chromecast etc.
- NLOS control for hidden boxes
 - Ex: STBs, OTTs
- Complement ACR with expanded discovery and control with rich metadata
- Current Status
 - Get real time status of devices and content
- Content Discovery and Control
 - Direct tune into apps and channels
 - Quick access from dashboard
- Content History
 - Provide personalization and recommendations

Covering over 250 Million Households!

STB Brand	Market Share
Android TV STBs	150M
DIRECTV	13.2M
Dish	8.4M
Sky	17.8M
Orange	7.6M
SFR	4.7M
Ziggo	3.9M
TATA Sky	23M
TIVO	6.9M
Others	...

TV remote is the remote to provide unified control experience across TV, Live TV provider and connected devices



Content Discovery, Control and History (New)

- Expanded Content Discovery and Control capabilities now covering close to **300 Million households** across popular platforms such as: Roku, Android and Apple
- Enabling customers to:
 - Retrieve content** within connected devices through IP
 - List of Installed Apps, App Icons
 - Real-time display** of current status of connected devices
 - Currently viewing App/Channel
 - Direct tune into Apps and channels** across devices
 - Get App and Content History (New)**
 - Most watched App
 - List of recently viewed Apps etc.

Brand	Type	App List	App Launch	Current Status	Market Share
Roku	OTT/TV	Y	Y	Y	87 million
Chromecast	OTT	N	N	Y	33 million
Android TV	TV/OTT/STB	N	Y	Y	150 million
AppleTV	OTT	Y	Y	N	26 million

For SBRs



The Problem

Setup confusion

How to program the remote?

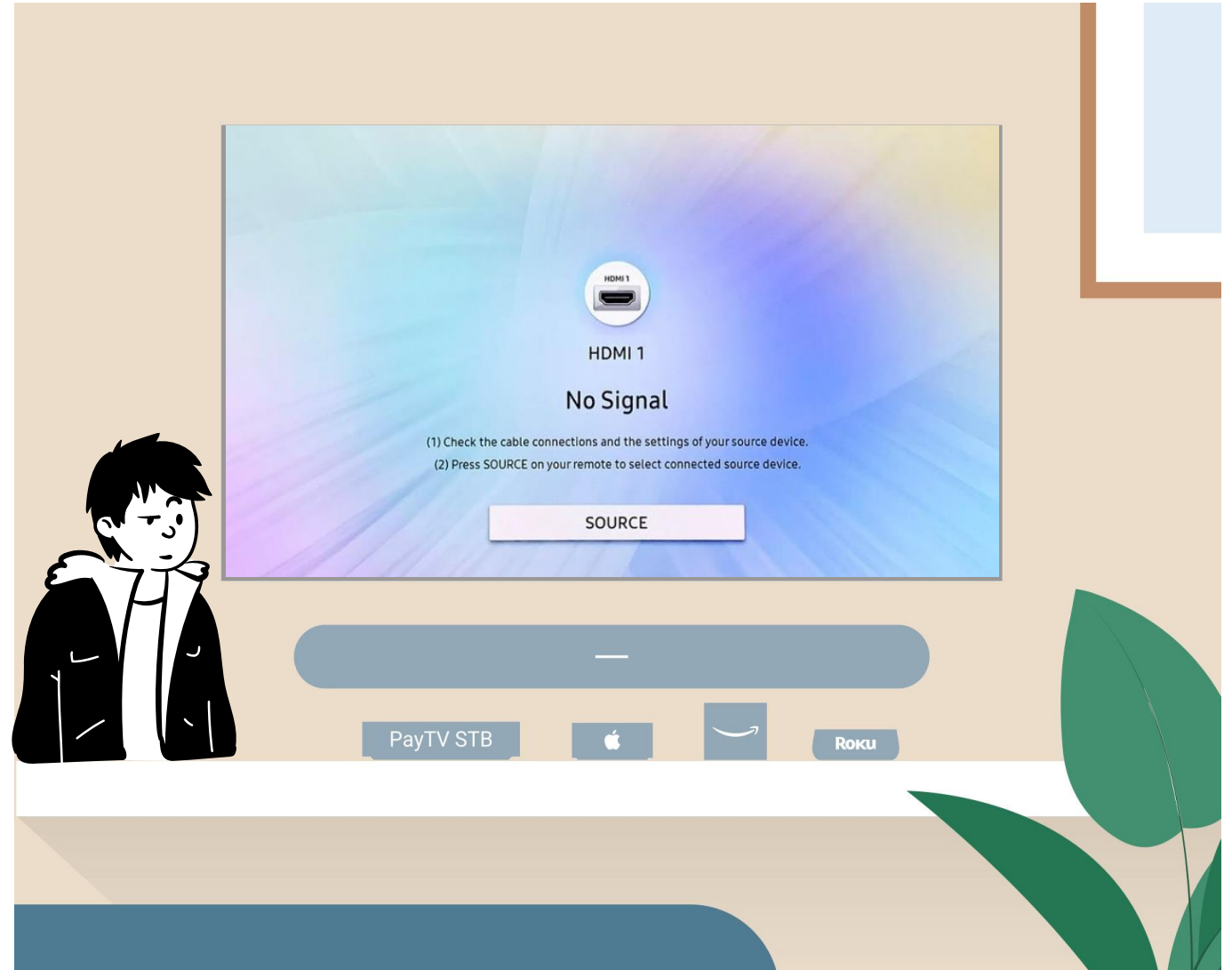
Input confusion

What input is my device on?

Don't understand the remote

So many keys, what do they do?

Leading to truck rolls, expensive support calls, product returns or technician visits.





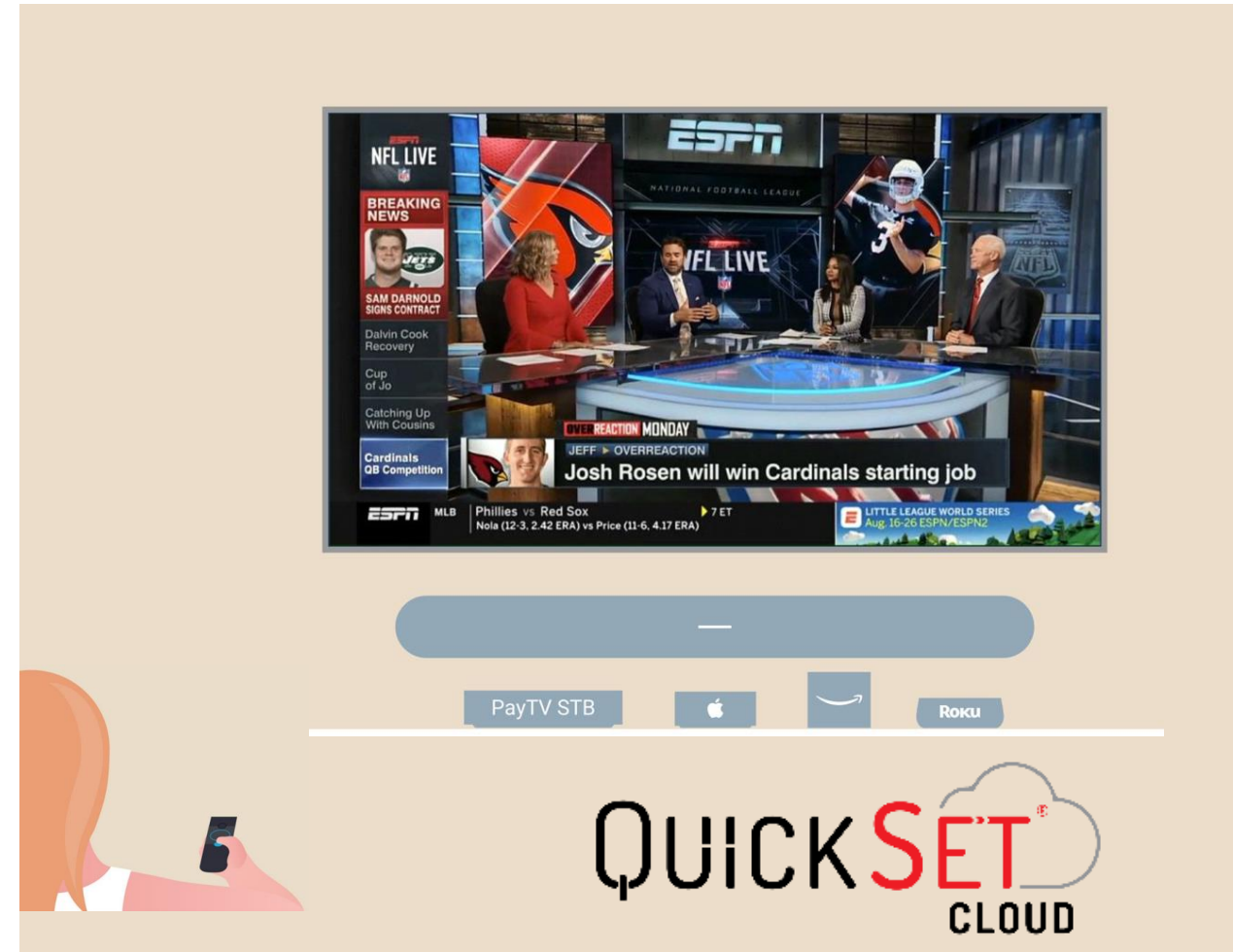
QuickSet – The Solution

The Experience

- One touch gets the user to their **content** - no more mode confusion!
- Automatically detects and sets up most HDMI-connected connected TVs & AVRs for hybrid control through IR & CEC
- Automated “Watch TV” volume setup, primarily through IR due to lack of support in most CEC implementation
- *Compatible with existing CEC drivers included in STBs*
- Supports a range of platforms including android ([Turnkey Android SDK](#)), embedded Linux, as well as specific services for RDK platforms
- Remote capabilities for troubleshooting
- Intelligent filtering and prioritization based on market & location specific meta-data to show only what is relevant
- Supports any bi-directional wireless standard for over-the-air download to a remote device, including ZigBee RF4CE & Bluetooth Smart

One Touch View – OTV

- **One Touch View - OTV**
 - Single command 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 DVR



Discovery Engine



- Considering a user-driven setup takes about 5 minutes to complete...
- In 2022, we helped Pay TV implementations...

Achieve complete
automated TV
setup **94%** of the
time

Save their customers
over **450 man-years**
over traditional
manual setup



QuickSet Advantage

Primary Control

CEC Only

- **Volume** : Less than 10% of devices in the market support CEC volume - concentrated within a few brands – making CEC of minimal value for volume control
- **Power** : CEC Power ON and CEC Power OFF supported by 30% of devices in the market

QuickSet

- **Volume** : QuickSet hybrid control adds allowing for almost full market coverage
- **Power** : QuickSet hybrid control adds discrete IR for power OFF/ON, increasing the above coverage to 65% and smart state toggle control to cover the remainder

One Touch View

CEC Only

- Only 25% to 30% of the devices in the market can provide One Touch View capability through CEC

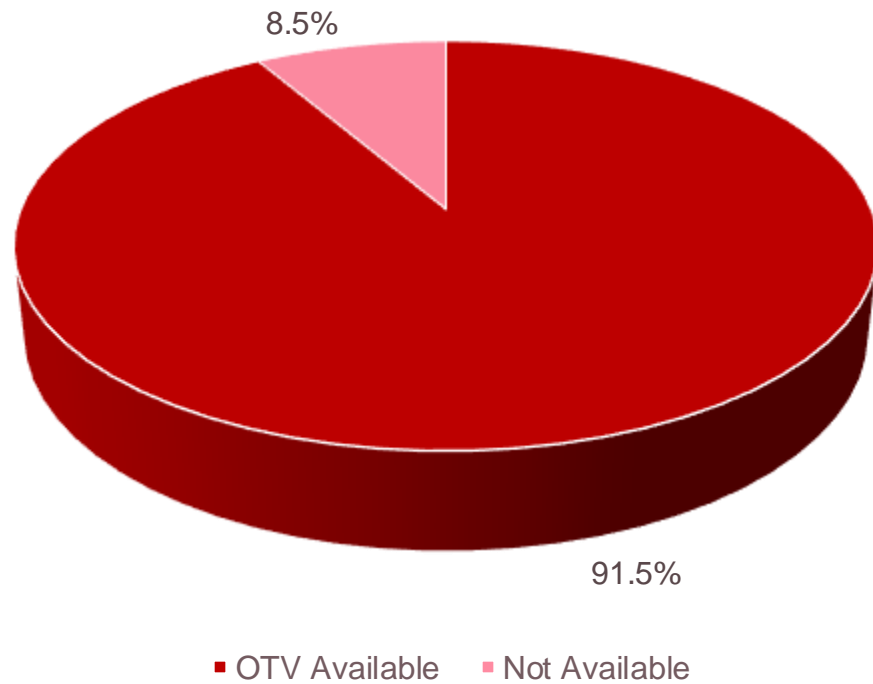
QuickSet

- QuickSet increases this number to 90% by leveraging discrete IR & CEC control database.

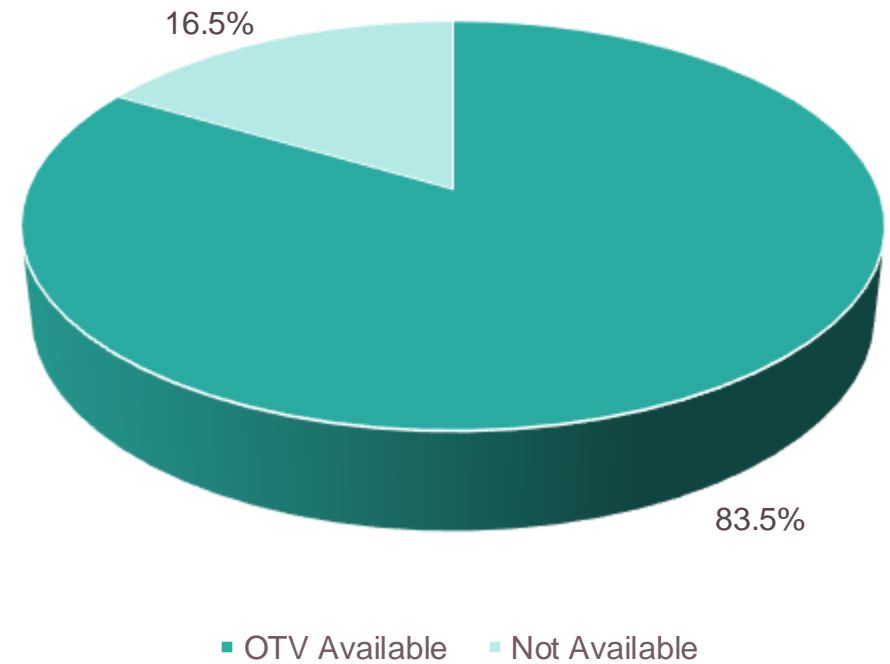
OTV Success Rate – North America



TV



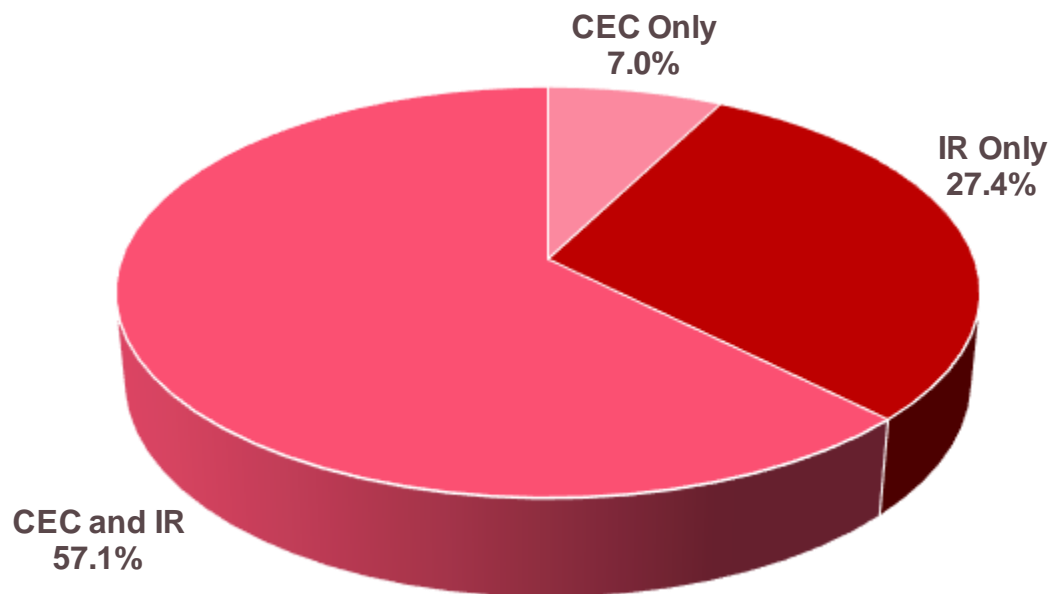
Audio



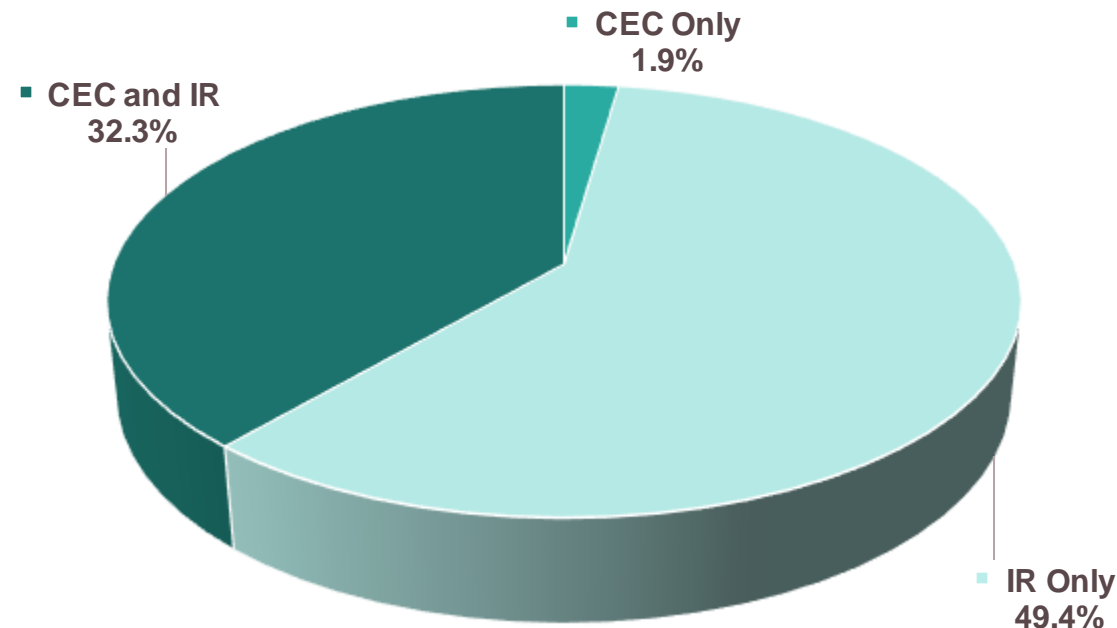
OTV – CEC & IR Share (NA)



TV



Audio



- CEC Only – Power On and Input are only from CEC
- IR Only – Power On and Input are only from IR
- CEC and IR – Power On and Input are a combination of both

Turnkey Android SDK (New)

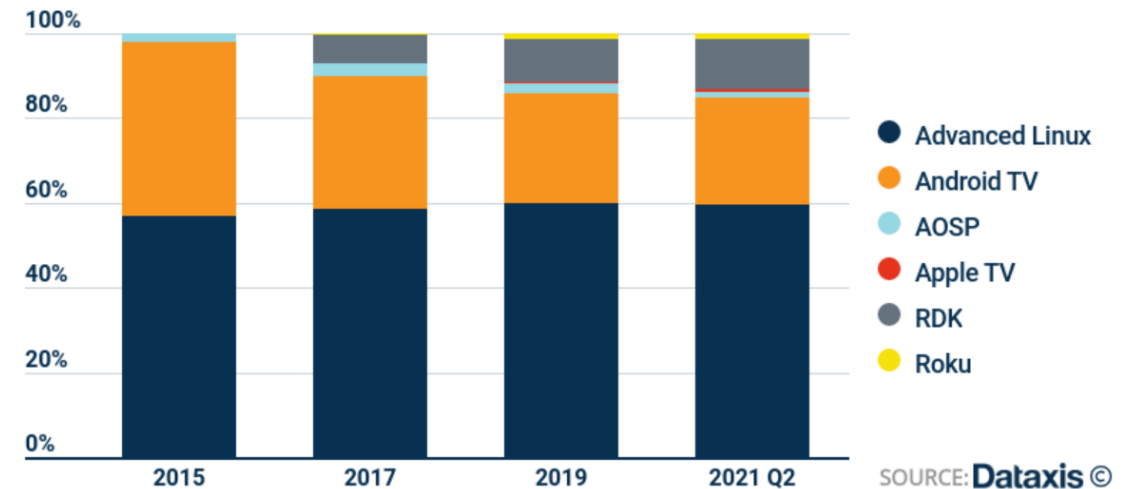
Turnkey Android SDK across existing and new android platform remote controls eliminating UI requirements from SBR customers

- Drastically reduce integration time and effort
- Web based User Interface for Assisted and Manual Setup Flows through Virtual agent on device browser or second screen through QuickSet Screen Continuity

QuickSet is a simple plug and play service on Android Platforms



Installed base by advanced set-top box middleware 2015-21, World



Smart Home As a Service

QuickSet - Smart Home as a Service Make Any Device, a Smart Home Hub



Interoperability as a Service

WWQS to cover smart devices across:

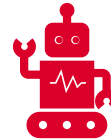
- IP
- Zigbee
- HDMI
- IR
- Matter

Bridging Capabilities (Zigbee, Matter, etc)



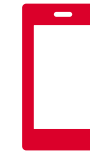
Intelligent Onboarding

Screen Continuity



Remote Control & Troubleshooting

Bi-directional communication channel through IoT Hub



Device Management Services

Visibility into the fleet through Device Dashboard

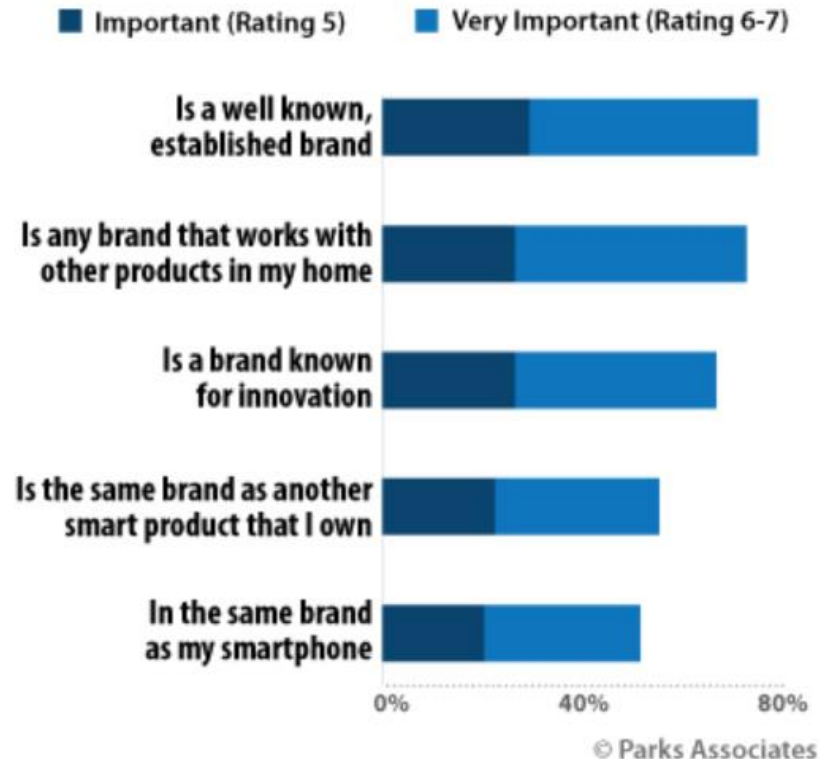
Interoperability As a Service



Interoperability As A Service

Important Factors to Purchase Decision

U.S. Broadband Households Intending to Purchase Smart Home Devices



- Interoperability is an evolving problem
- **Compatibility is the number one driver for product purchases**
- Nearly **75%** of consumers planning to buy smart home devices **value interoperability with other products in their home**

Interoperability As A Service

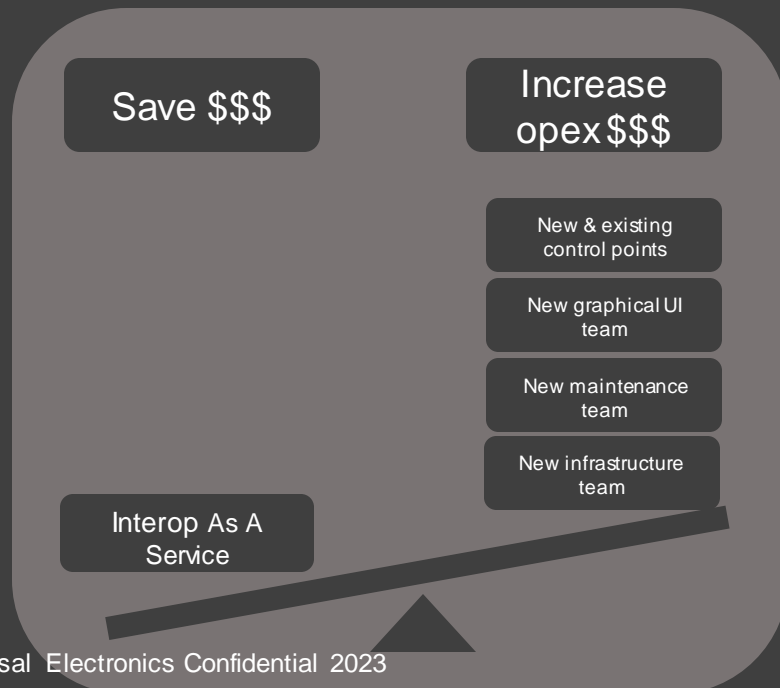
- Offered by QuickSet 5.x
- Ensures product's compatibility with what consumers have in the home irrespective of the underlying protocol
- Enables controlled brand experience delivery
- Extends existing retail voice assistant's features



- Unify entertainment control with smart home automation to deliver a complete smart home experience
- Managed and maintained interoperability means a **pain-free** path
- Unburden yourself from the cost of having your own team to manage the constantly changing implementations across devices

Interoperability with:

- **QuickSet Installed Base**
 - Make your device compatible with the 500+ million devices running QuickSet
- **Existing Devices within the Home**
 - Bring compatibility with what users already have in their homes
- **IoT Hubs**
 - Make your device compatible with major IoT hubs
- **Assistants**
 - Make your product work with assistants users already have in the home such as Google Home



WORKS WITH

QUICKSET[®] Program

Unifying the Smart Home and
Entertainment Experiences

[Supported Devices](#)

Smart Device Expansion(IP) - Entertainment: Apps, Content ...

AVRs & Sound Bars	TVs	STBs	OTTs
<ul style="list-style-type: none">• Samsung• Bose• Sonos• Onkyo• Denon• Harmon/Kardon• Marantz• Pioneer• Sony• Yamaha• Access• Anthem	<ul style="list-style-type: none">• LG• Panasonic• Philips• Samsung• Android TVs• Sharp• Sony• VIZIO• Roku TVs (All variations of Roku TV, including TCL, Hisense..)• Xiaomi	<ul style="list-style-type: none">• LG• Panasonic• Philips• Samsung• Android TVs• Sharp• Sony• VIZIO• Roku TVs (All variations of Roku TV, including TCL, Hisense..)• Xiaomi	<ul style="list-style-type: none">• Roku• Chromecast• Fire TV• Apple TV• Android TV OTTs (Chromecast with googletv, AirTV, Verizon, KCCL, TIVO etc.)• Xiaomi

WORKS WITH
QUICKSET[®]

Smart Device Expansion(IP*) – Smart Home(IoT)

Lights	Switches/Plugs	Thermostats	Hubs	Locks	Cameras/Doorbells
<ul style="list-style-type: none"> • Philips Hue • LIFX • OSRAM • IKEA • TPLink • Yeelight • Eufy • Sengled • Nanoleaf • Hive • Wiz • Nexlux • Magic light • SmartThings 	<ul style="list-style-type: none"> • Belkin Wemo • TPLink • Leviton • Etekcity • D-Link • Hive • IKEA • iHome • Wyze • Awair • Homematic • Eufy • ConnectSense • Meross • Somfy • Sengled • Wiz 	<ul style="list-style-type: none"> • Honeywell • Hive • Radio Thermostat • Tado • Netatmo • Venstar 	<ul style="list-style-type: none"> • SmartThings • Philips Hue • IKEA • Hive • Bosch • Homematic • Hunter Douglas • OSRAM • August • Sengled • Securify 	<ul style="list-style-type: none"> • August • Yale Assure 	<ul style="list-style-type: none"> • Amcrest • August • D-Link • Doorbird • Garmin • TPLink • Netatmo • Somfy • Simplisafe

*complemented with native Zigbee control, Matter support and cloud control of smart home devices in QuickSet 5

Smart Device Expansion(IP*) – Smart Home(IoT)

Shades	Garage Openers	AQI	Sensors	Sprinklers	Home Appliances
<ul style="list-style-type: none">• IKEA• Hunter Douglas• Soma• Somfy	<ul style="list-style-type: none">• Chamberlain• Romootio	<ul style="list-style-type: none">• Awair• Wynd• Netatmo• Davis Instruments	<ul style="list-style-type: none">• Philips• Bosch• Homematic• Somfy	<ul style="list-style-type: none">• Rainmachine	<ul style="list-style-type: none">• Bosch Washer• Bosch Dryer• Bosch Dishwasher• Bosch Refrigerator• Bosch Freezer• Bosch Coffee Machine• Bosch Ventilation hoods• Bosch Oven

*complemented with native Zigbee control, Matter support and cloud control of smart home devices in QuickSet5

Smart Device Expansion – IoT Features

Lights

- On/Off
- Get Current State
- Brightness
- Color Temperature
- Hue/ Saturation
- RGB
- Groups/Scenes

Switches/Plugs

- On/Off
- Get Current State
- Schedule

Thermostats

- Get Current State
- Set HVAC Mode
- Set Fan Mode
- Target Temperature
- Humidity
- Schedule

Hubs

- Get Device List
- Add/Remove devices
- Scenes/Groups
- Location

Locks/Garage Openers

- Open/Close
- Get Current State

Smart Device Expansion – IoT Features

Cameras/Doorbells

- Get Current State
- Audio/Video On/Off
- Motion Detection
- Snapshot
- Real-time Video Link
- Camera Direction/Zoom

Shades

- Set position
- Status

Home Appliances

- Get current state
- Program
- Attributes
- Operation Modes
- Events

AQI

- CO2
- Humidity
- Pm1p0
- Pm2p5
- Pm10
- Carbon Monoxide
- VOC
- Db
- Lux
- Temperature
- Pressure
- Score

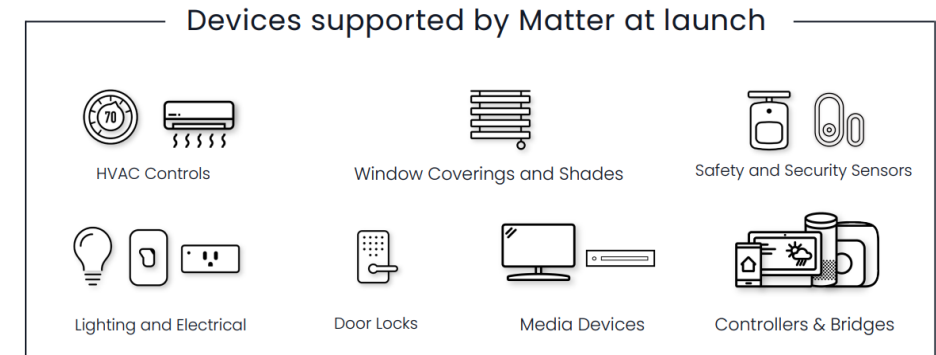
Sensors

- Open/Close
- Motion
- Temperature

Interoperability further extended with Matter

With the addition of Matter, QuickSet extends its interoperability to devices users will add to their home in the future while maintaining compatibility with existing devices!

- With **Matter Certification**, QuickSet's interoperability is now extended to all Matter Capable devices irrespective of brand and type!
 - ~300 Companies are currently members of Matter Alliance
- Matter's **multi-admin** enables sharing of devices across ecosystem
 - Expanding QuickSet's reach to previously uncontrolled devices
 - Enabling QuickSet to bring control and automation to the whole home
 - Setup and onboarding made easier with Virtual agent!





- Interoperability Overview – [LINK TO VIDEO](#)
- Interoperability with Google Assistant – [LINK TO VIDEO](#)
- Interoperability with Alexa - [LINK TO VIDEO](#)
- Interoperability with Ikea - [LINK TO VIDEO](#)
- Interoperability with SmartThings - [LINK TO VIDEO](#)

Seamless interoperability with leading hubs and assistants

Zigbee Dotdot and 3.0

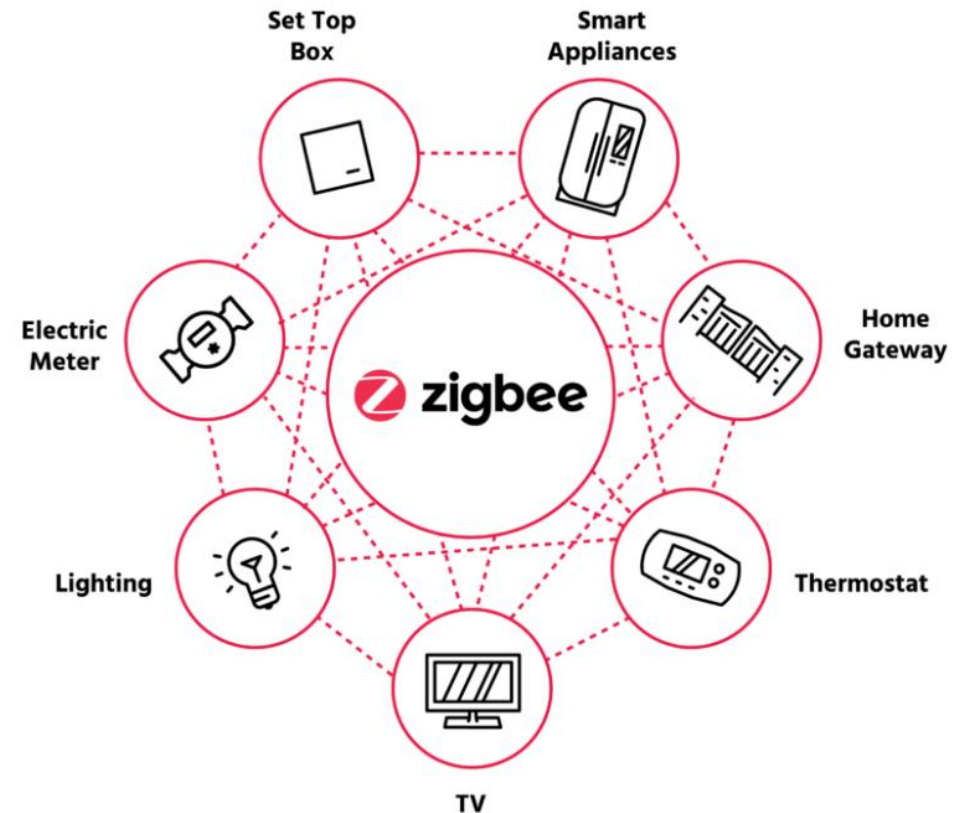


Control+ Engine with Zigbee – Dotdot and 3.0

QuickSet 5 comes with built-in support for Zigbee Dotdot and Zigbee 3.0
QuickSet acts as a Zigbee Controller:

- Commissioning and control of Zigbee devices within the home
- Discovery of Zigbee device function and mapping
- Translating Zigbee device attributes and ZCL commands into QuickSet format for unified control across protocols
- Bridging of Zigbee devices onto the IP Network for extended Interoperability

Exclusively available when used with UEI's Multi-protocol QuickSet Certified chip platform.



Smart Home

Matter (New)



Matter 1.0 Highlights

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



A dark blue rectangular graphic with a thin white border. It contains four white icons arranged horizontally, each with a title and a short description below it.

- Simplicity**: Easy to purchase and use. Icon: A triangle and a square.
- Interoperability**: Devices from multiple brands work natively together. Icon: Three circles connected by lines.
- Reliability**: Consistent and responsive local connectivity. Icon: A shield with a checkmark.
- Security**: Robust and streamlined for developers and users. Icon: A padlock.

A white rectangular graphic with a thin black border. It is titled "Devices supported by Matter at launch" and contains eight categories of devices, each with an icon and a label.

- HVAC Controls**: Icon of a thermostat and a furnace/boiler unit.
- Window Coverings and Shades**: Icon of a window blind.
- Safety and Security Sensors**: Icon of a door sensor and a motion sensor.
- Lighting and Electrical**: Icon of a light bulb, a smart plug, and a power outlet.
- Door Locks**: Icon of a smart door lock.
- Media Devices**: Icon of a television and a soundbar.
- Controllers & Bridges**: Icon of a smartphone, a tablet, and a bridge device.

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

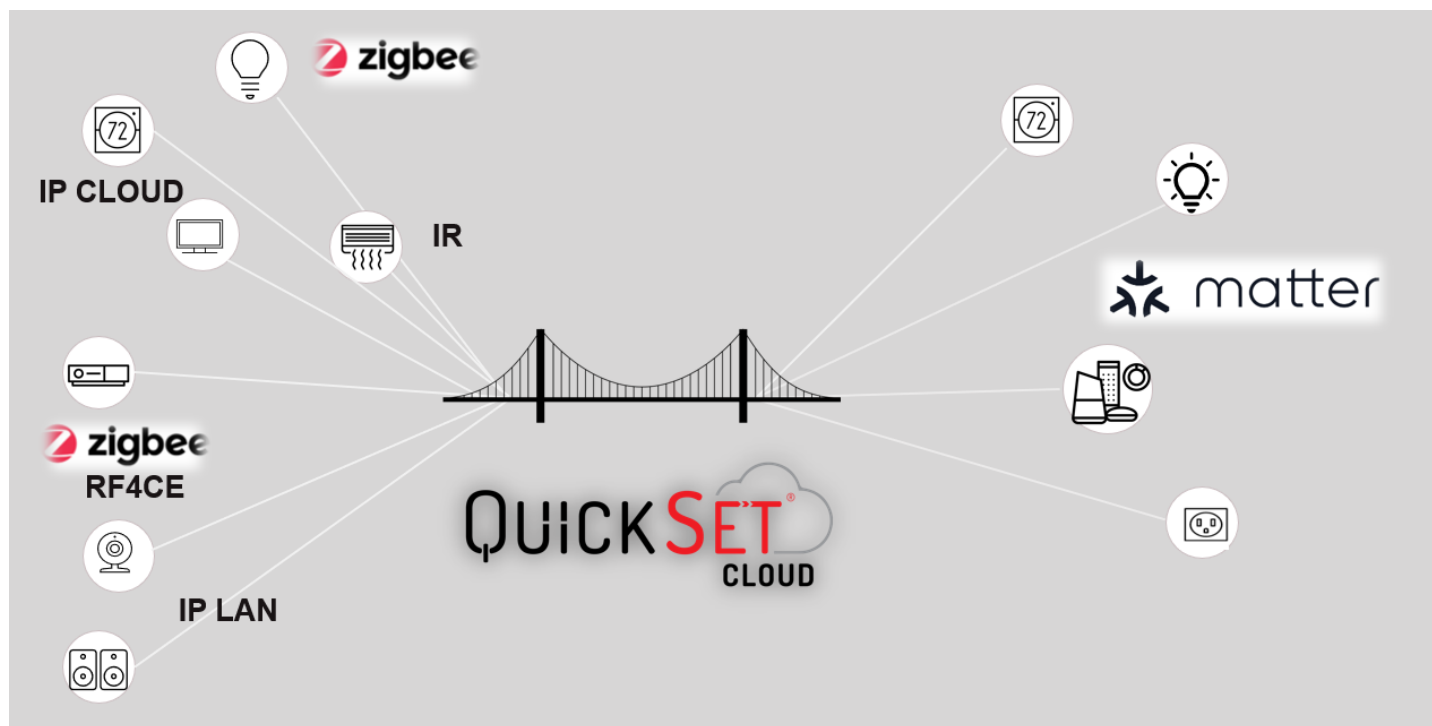
- QuickSet's Interoperability as a Service provides **interoperability and compatibility with old and new devices** across protocols
 - IR, ZIGBEE, ZIGBEE RF4CE, CEC, IP-LAN, IP-CLOUD, MATTER, BLE
- Additionally, it brings **bridging capabilities**
 - ZIGBEE Bridge, MATTER Bridge
- QuickSet's integrated 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

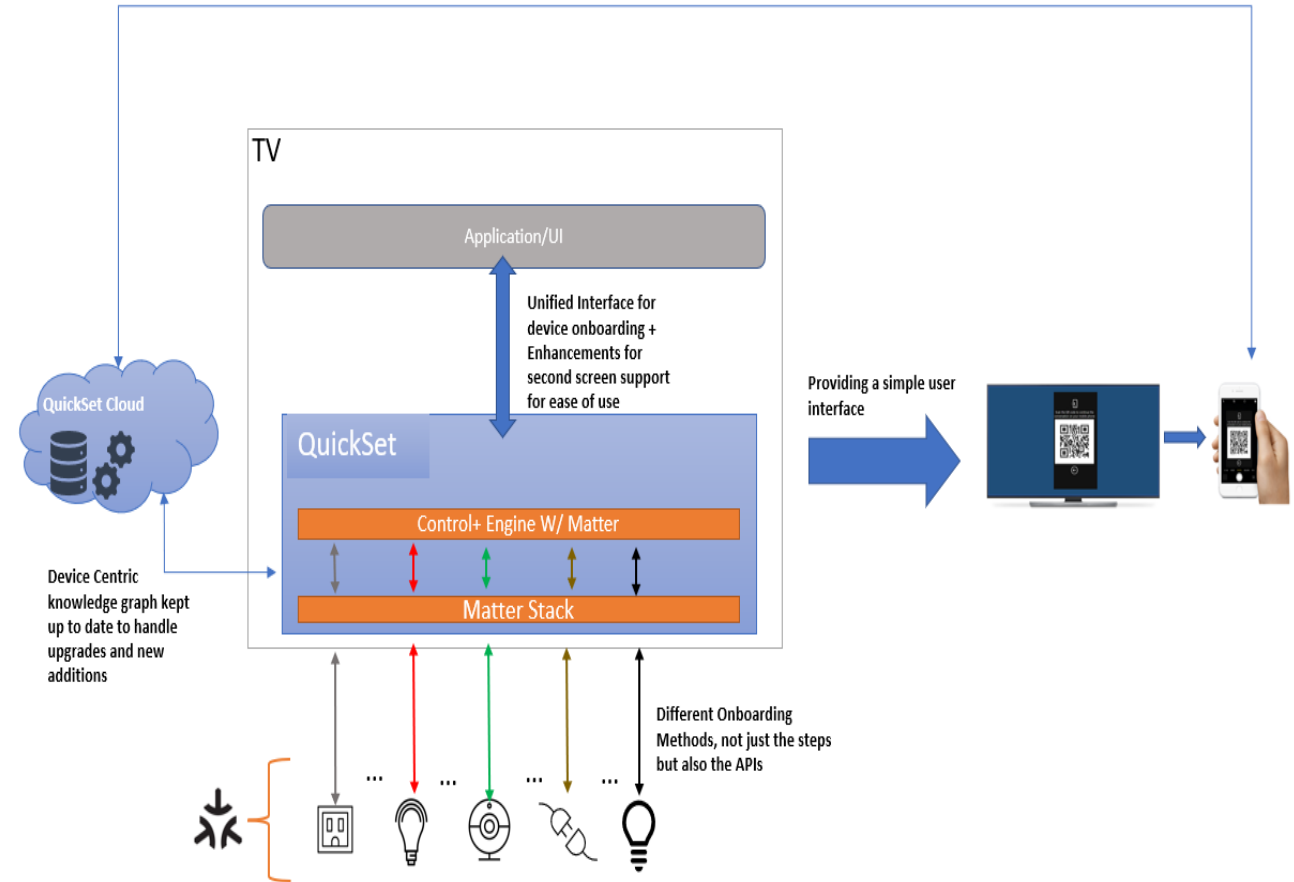
- Device categories not covered by Matter ex: Cameras, Doorbells etc.
- Existing devices within the home such as Complex Aircon, AV devices, etc.
- Devices that won't be upgraded to Matter ex: Belkin, IKEA etc.
- Smart home devices with varying protocols ex: Zigbee, Proprietary etc.



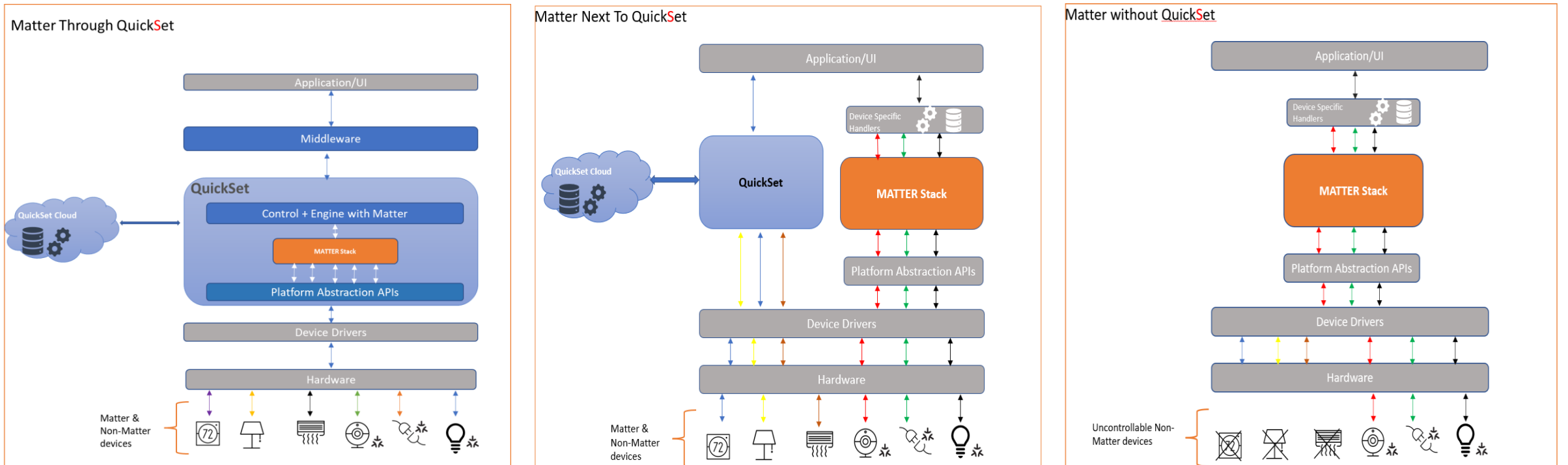
Control+ Engine W/ Matter

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

Intelligent Device On Boarding



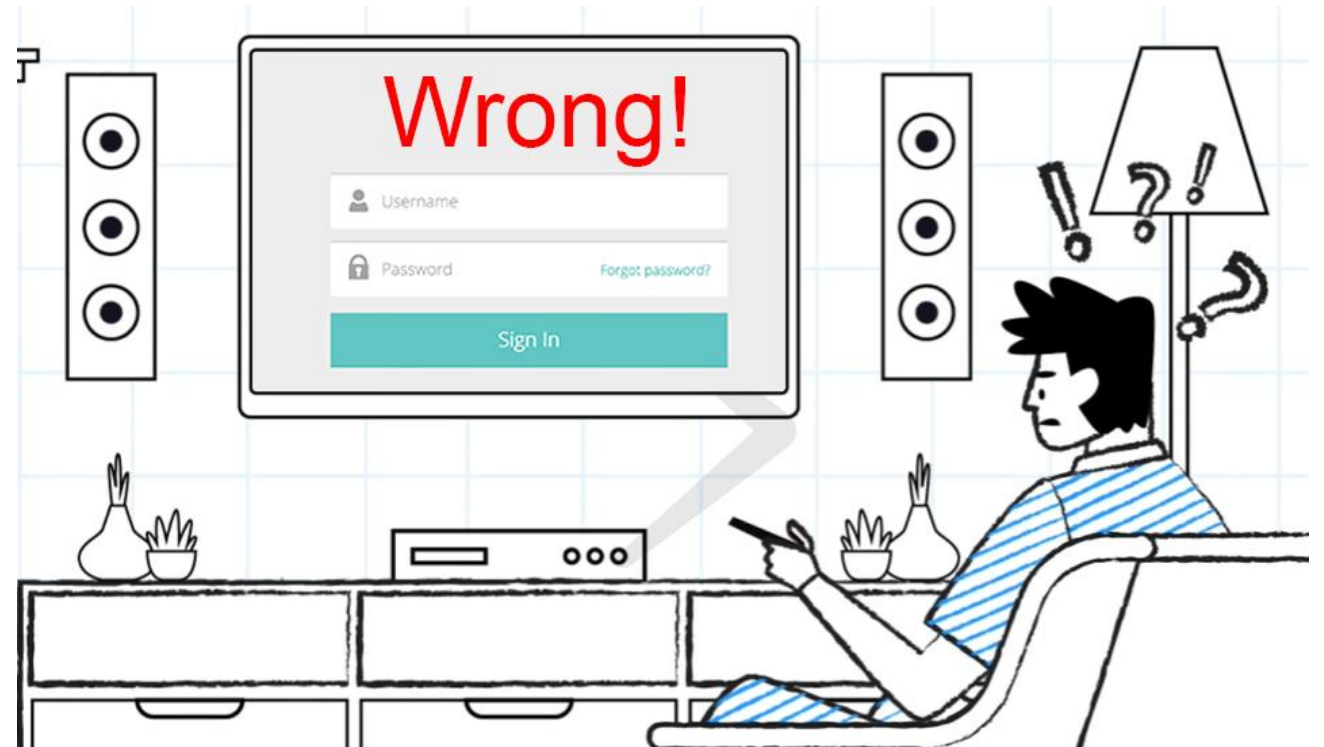
Problem Statement

Onboarding smart home devices is cumbersome

Users are required to type out their credentials on a TV screen using only the D-Pad of a remote. This can be very tedious and difficult to navigate.

Matter introduces the QR Code

Matter's QR code has drawbacks (ex. you can't scan QR codes with a TV), entering setup codes is prone to errors, and enabling Multi-Admin varies by Matter Controller.



Magic Sauce

- Provide device specific guided steps that simplify the device setup via your preferred UI.
 - Matter onboarding and multi-admin
 - Non-Matter smart device onboarding
- Authentication and onboarding is completed in a matter of seconds!
- User never enters an email or password on screen.
- Credentials are never saved or stored.

Access the magic code through many routes such as:

- ✓ QR Code
- ✓ Voice
- ✓ Second screen

This experience is further enhanced with  virtual agent



Which app do you use to control your smart device?



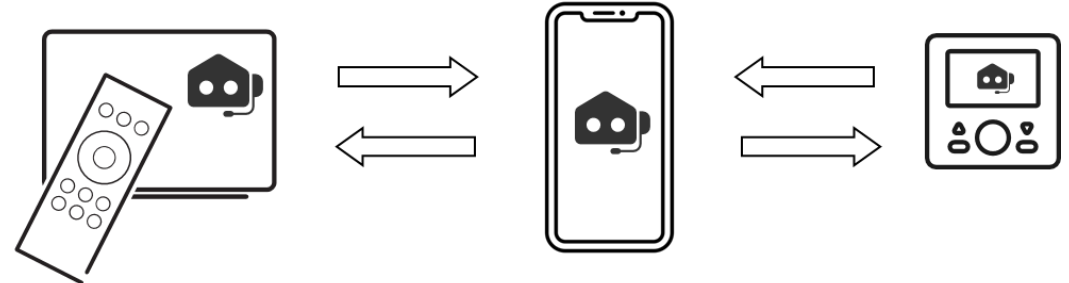
HomeKit



Google Assistant



SmartThings



Magical Linking – Examples

IKEA

- In the case of setting up an IKEA hub on a TV screen, we complete the setup experience in a matter of seconds by leveraging a second screen and utilizing QR code

Alexa

- Linking with an Alexa Skill has never been easier, the experience is simplified by replacing the traditional username and password linking with a Magic Code that can be spoken or entered through a second screen

Watch the magic unravel in:

[“Interoperability with a Touch of Magic”](#).



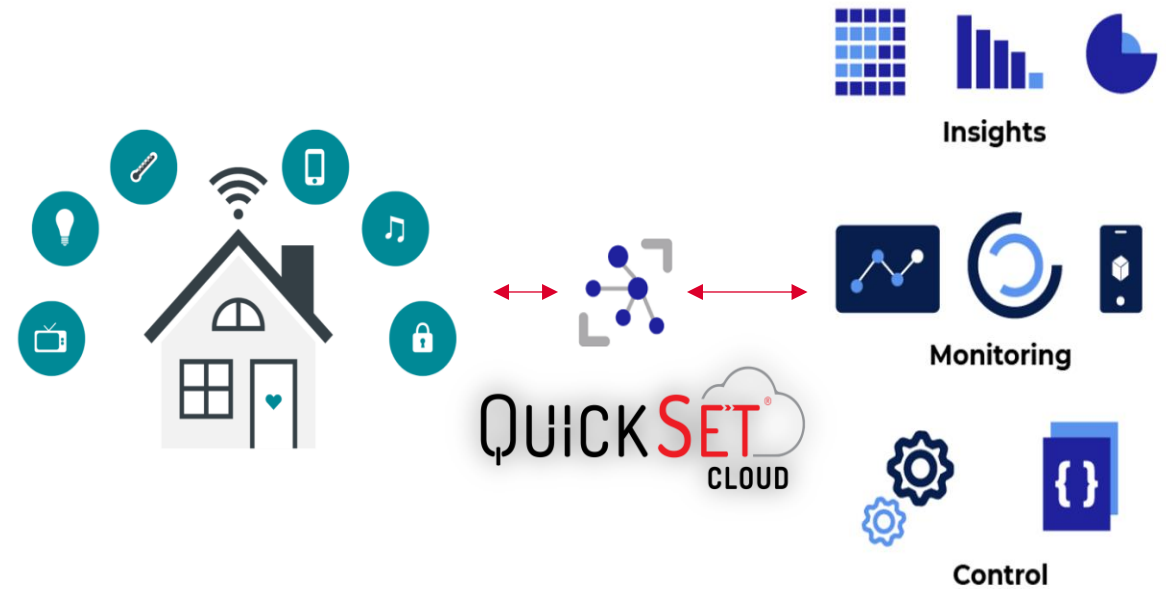
Remote Control & Troubleshooting



Remote Control and Troubleshooting

QuickSet's integrated IoT Hub brings bi-directional communication enabling:

- Remote device management through graphical interface
- Remote monitoring and control actions for troubleshooting
- Direct and simple access to display of devices and associated status – Can be used for further personalization opportunities, advanced trouble shooting,...



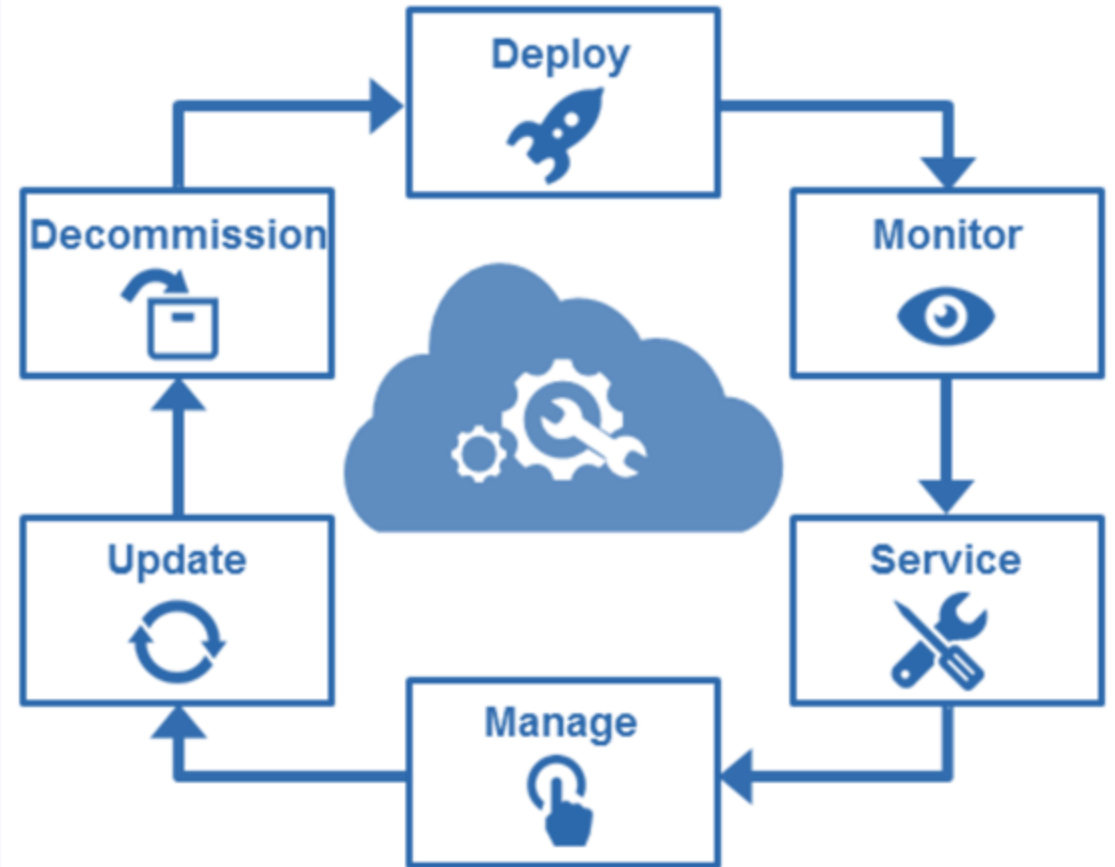
Available for QuickSet Integrated Smart Module, Silicon, QuickSet Smart Thermostat and QuickSet 5.0 enabled Devices

Device Management Services



Device Management Services

- A full-featured device management cloud system providing better visibility into deployed fleet
- Powerful dashboard for managing device virtualization, templates, properties, rules and schedules
- Powerful device management tools and framework for monitoring device fleet health and status
- **Connectivity protocol agnostic** framework; supports Zigbee, BLE, sub-GHz, IP, Zigbee rf4ce and cellular to edge device
- Mobile SDK for easy mobile app development and test



QuickSet Cloud Data Insights

A series of white, curved lines that originate from the bottom right and fan out towards the left, partially overlapping the main title text.



QuickSet Cloud Data Insights

Device insights critical for product feature and usage assessment

Intelligent Decision-making

- Data-driven insights into installed user base
- Critical for product feature and usage assessment
- Intelligent decisions based on quantifiable data

Targeted Investment

- Insights enable targeted monetization and investment of services and development

Tailored to Customer

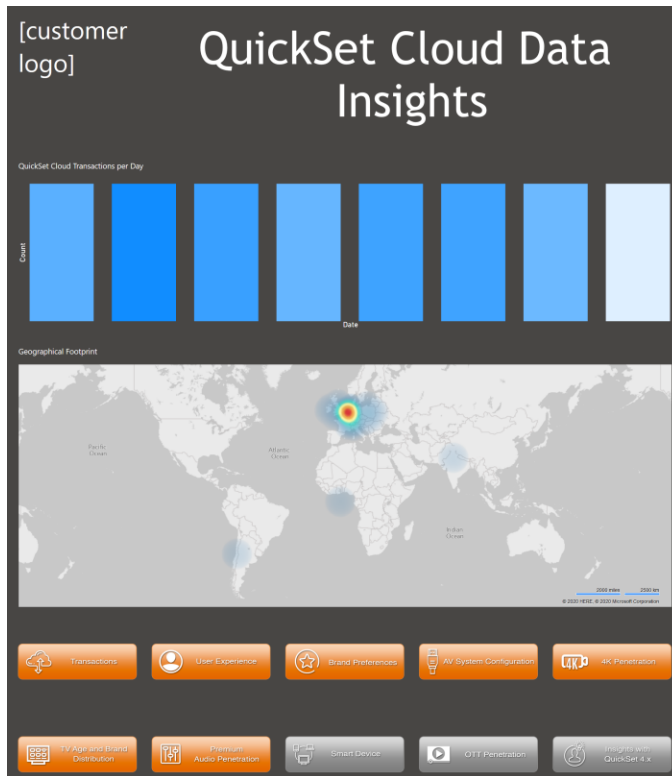
- Insights into each QuickSet Cloud-enabled products
- Across installed geography
- Expanded features depending on level of QuickSet deployed

Answers Important Questions

- What is the penetration of a device in my user base?
- What is the current penetration of 4K users?
- What are the ages of my users' TVs? How long do they keep them?



Typical Subscriptions



Subscription Customers

- Cloud Transactions
- User Experience
- Brand Preferences
- AV System Configuration
- 4K TV Penetration
- TV Age and Brand Distribution
- Premium Audio Penetration

Smart TV Customers

- Cloud Transactions
- User Experience
- Brand Preferences
- HDMI-Connected Devices
- Smart Device Penetration
- OTT Penetration

Integrated Support

An abstract graphic consisting of several thin, white, curved lines that originate from the bottom left and fan out towards the right side of the slide, creating a sense of motion and integration.

Assistant



Assistant

Virtual Agent



- Self-service support for Entertainment and Smart Home devices
- Simplifying setup of devices by handing off the onboarding to a second screen **(New)**
- Integrated with QuickSet for improved and semi automated troubleshooting and onboarding **(New)**
- Smart Feedback Loop to improve accuracy and response times **(New)**
- Available as a pure web-based app and TV app for easy integration

My Nevo Companion App



- Turnkey companion app for onboarding, setup and control of devices.
- Ability to onboard devices by scanning QR code on device **(New)**
- Delivered as a skinnable companion app or an SDK. **(New)**
- Covering UEI's portfolio of devices across remotes, QuickSet Widget, etc.
- Integrated with Virtual Agent for self-service support **(New)**
- Commercially launched with two products launched in 2022 alone! **(New)**

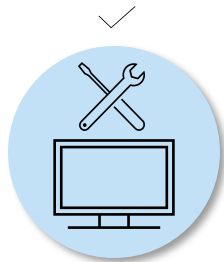


An integrated Self-Service Support solution
for Smart Home and Entertainment
companies.

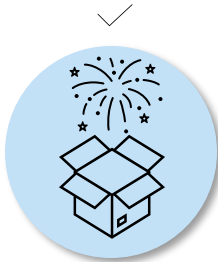


Powered by
nevo.ai

Self-service support for



Setup



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.

POWERED BY

QUICKSET[®]



virtual agent



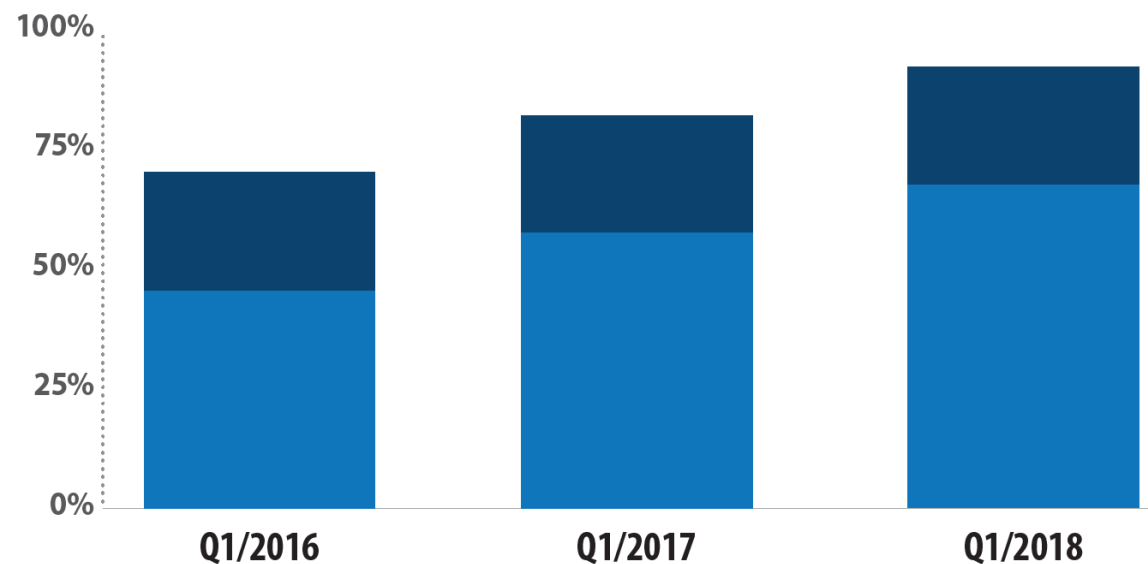
Self Install

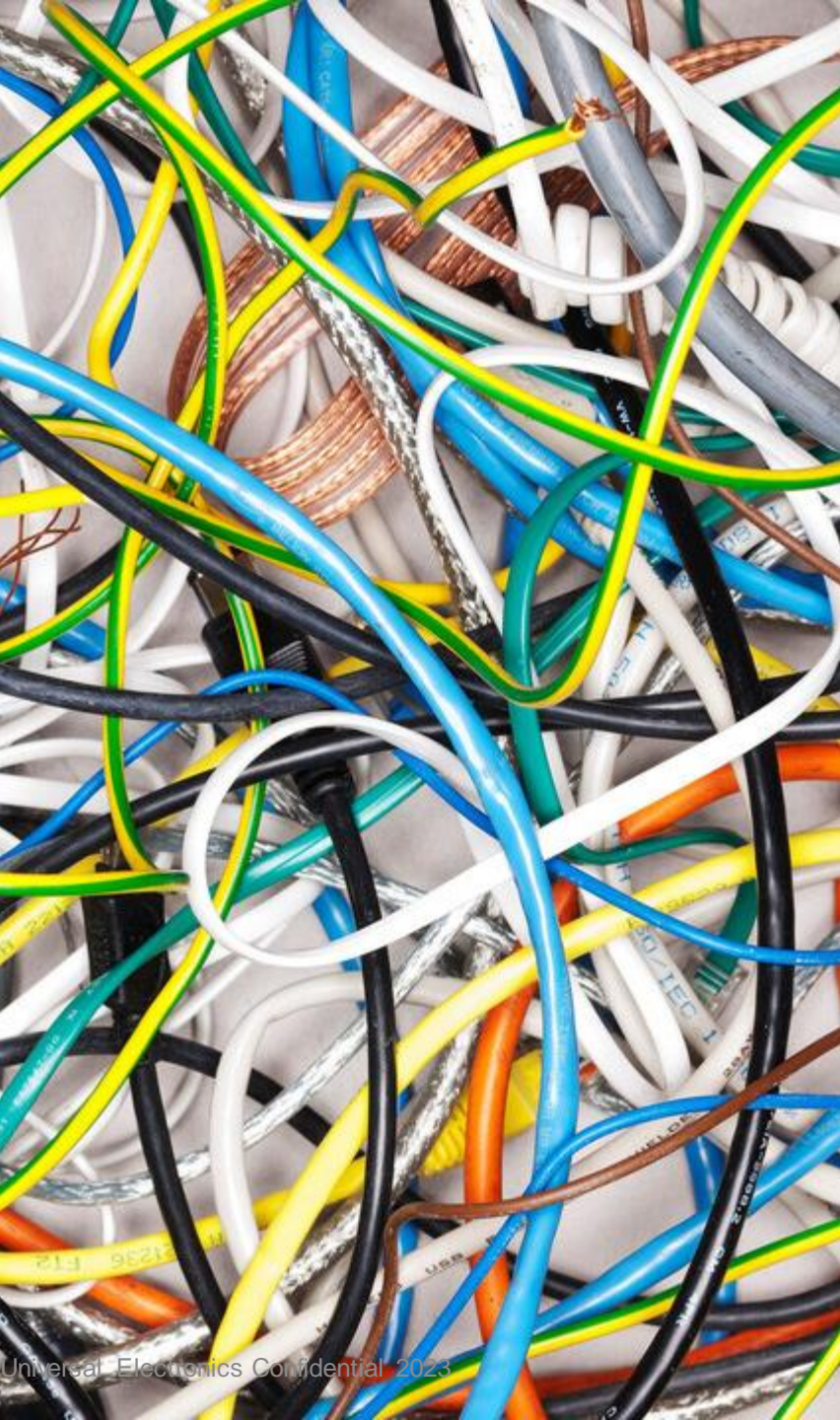
Nine out of ten smart home device owners have either installed and set up a device **themselves** or had a **friend** or **family member** help.

Overall Smart Home Device Installation Methods

U.S. Owners of Smart Home Devices

■ Friends or family members ■ Myself



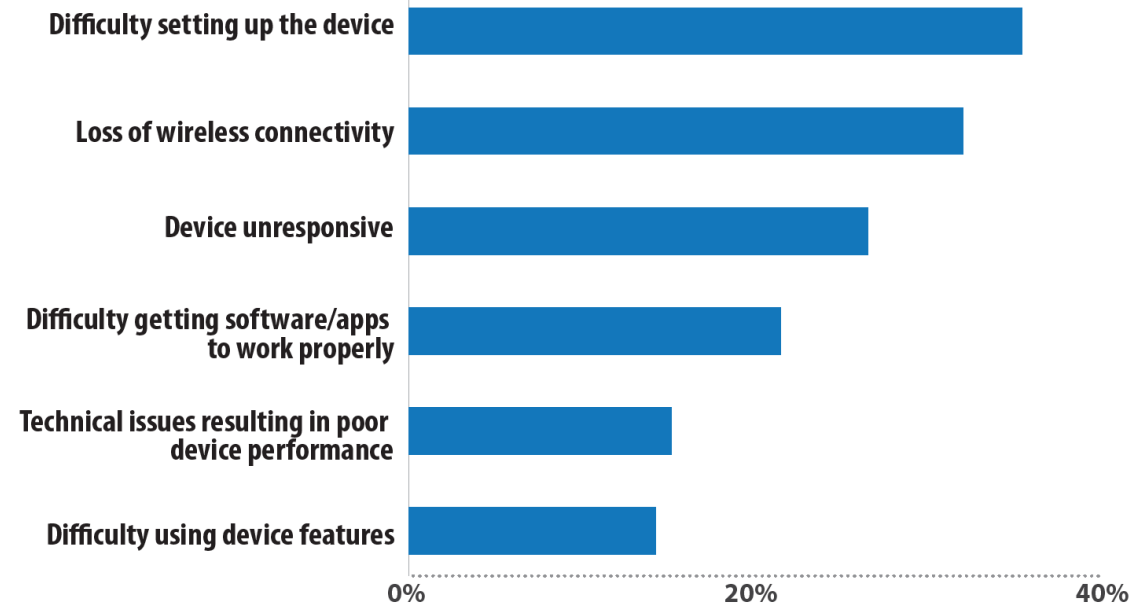


Common Technical Problems

Users experience difficulty when buying and setting up smart home devices due to the complexity of the products, user interface, and the lack of customer support

Smart Home Devices: Common Technical Problems

U.S. Broadband Households that Experienced Technical Problems with Smart Home Device



© Parks Associates

Self Install is a painful process



The percentage of smart home device owners who experienced at least one problem during device setup grew in the last years



While 43% used available information found in product manuals or on the internet to resolve the issue with their smart home device, **28% reached out to either a manufacturer or independent support provider.**



Convenience plays a major role in the actions consumers are likely to take when **seeking support**, creating a **large opportunity** for service providers to fill this customer need.



Nearly **40% of smart home device owners** who set up their devices themselves report they would prefer to have **professional help the next time they set up a device.**

“Complexity contributes to Churn”

29% of consumers who indicate their devices were difficult to set up ended up switching to a different brand. Brand abandonment shoots up to 49% when consumers reported setup was “very difficult.”





QUICKSET CONVERGENCE

DEVICE ONBOARDING ON ANY SECOND SCREEN

QuickSet Convergence



Use Virtual Agent to easily onboard Smart Home and Entertainment devices - by scanning a QR code, the Virtual Agent takes over, allowing for quick and effortless integration to provide a seamless user experience.

- Drastically reduce integration time and effort
- Reduce friction for end users
- Improve overall user experience

QUICKSET
CLOUD

POWERED BY



virtual agent

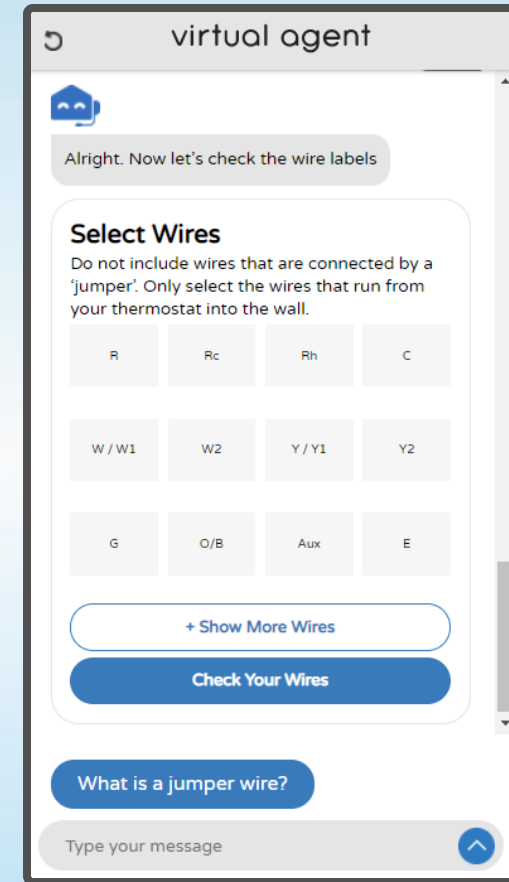
SAVE TIME & HASSLE

Compatibility Checker

The compatibility checker helps users ensure device compatibility. If unsure, it prompts the user to send a picture to the human support team for analysis. If incompatible, the team provides advice & guidance on how to fix.

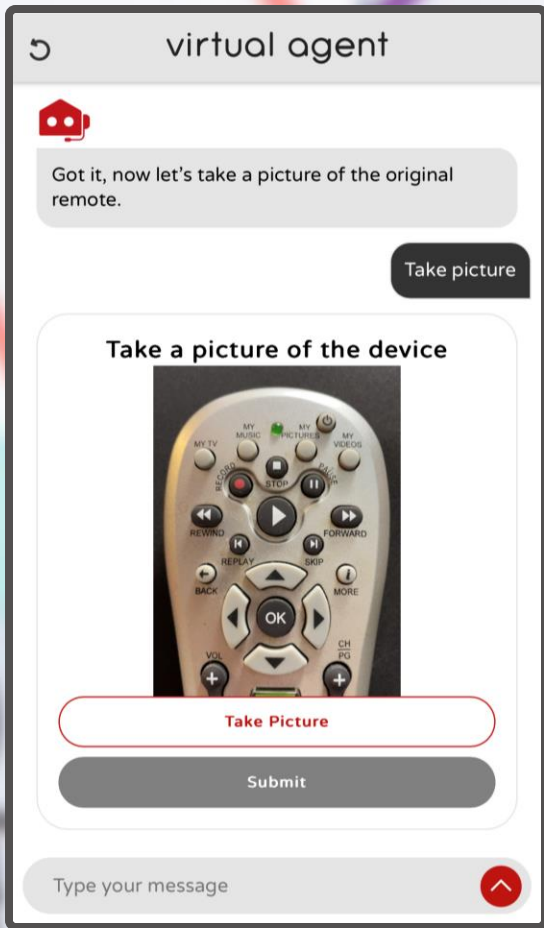
This compatibility checker feature will save users time and hassle by identifying any potential incompatibilities before they make their purchase.

Now also available inside the MyNevo Companion App



virtual agent





SMART FEEDBACK LOOP

IMPROVE ACCURACY AND RESPONSE TIMES



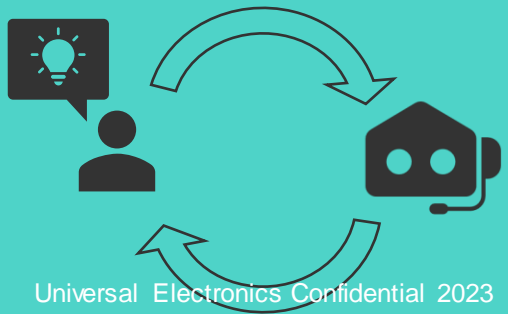
Smart Feedback Loop

Utilizing the camera

During a troubleshooting session, users can expedite the process of reaching a resolution by taking a picture of their situation and upload it to the Virtual Agent.

Automatically Generate Support Tickets

Generate support tickets automatically using information supplied by users, such as transcripts, enhanced meta data, and images captured during virtual agent interactions.



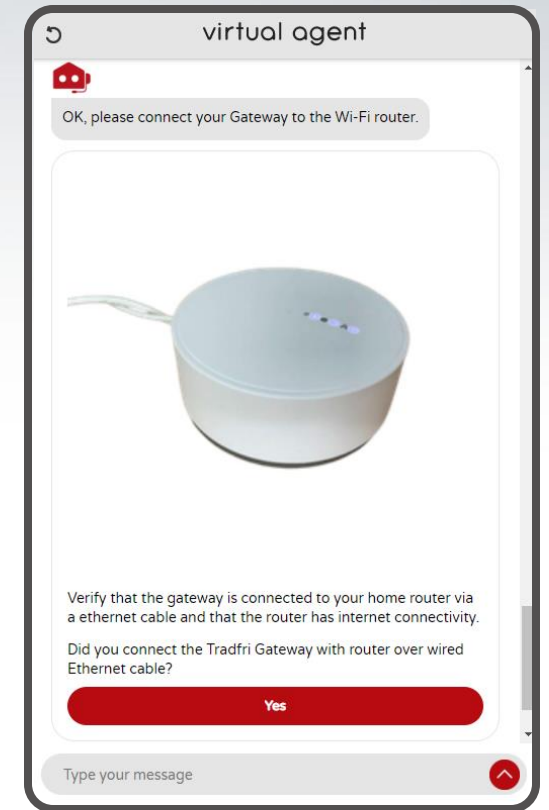
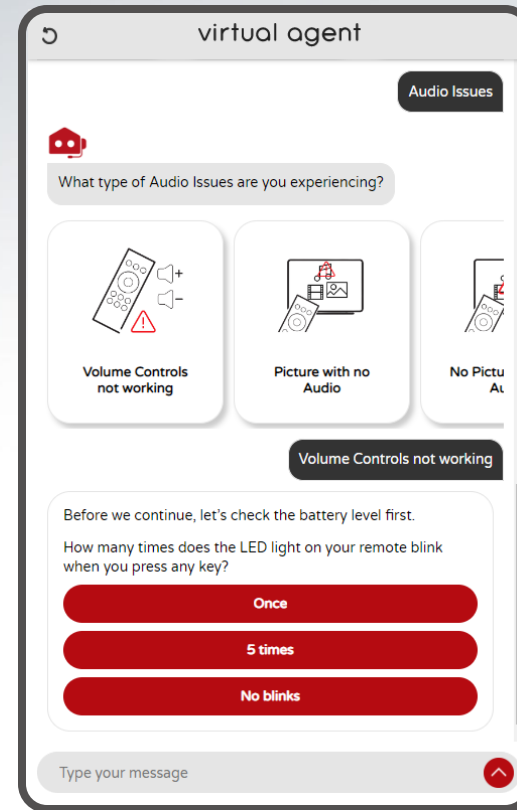
virtual agent

SAVE TIME AND ENJOY BETTER CUSTOMER SERVICE.

Troubleshooting

This feature enables users to quickly and easily troubleshoot technical problems at home. Powered by QuickSet, the Virtual Agent detects devices and their status which helps solve issues quicker.

If it can't be solved, the session can easily be handed off to a human agent, with all necessary context provided for an efficient follow up process.



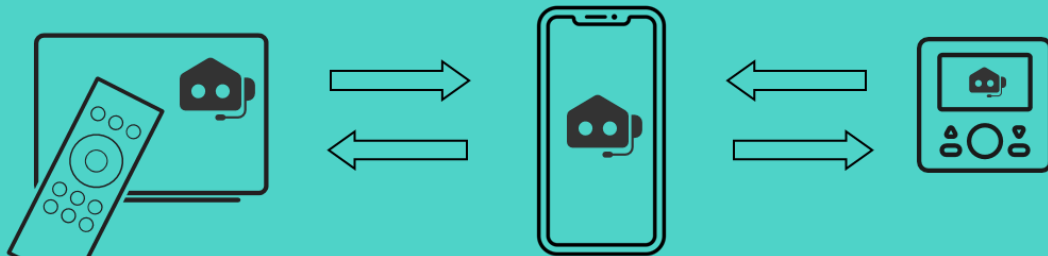


CROSS SCREEN CONTINUITY

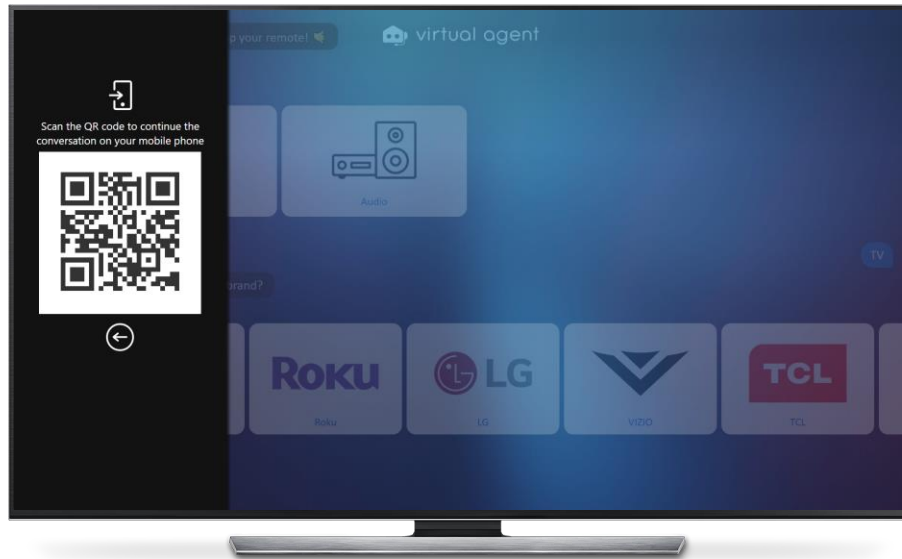
SEAMLESSLY TRANSFER BETWEEN MULTIPLE DEVICES

Cross Screen Continuity

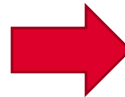
- Start a conversation on one device and seamlessly transfer it to another device
- Virtual Agent remembers the conversation state and context
- Can be used to send more information to a Smart Phone, for example to download a Product Manual
- Can also be used to expand the types of user input available on a second screen device



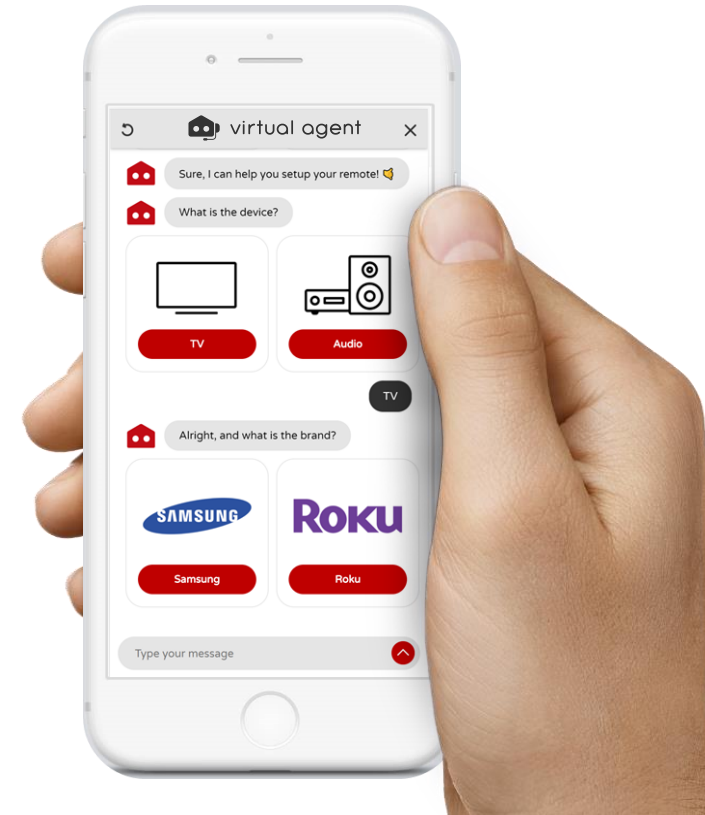
Cross Screen Continuity Example



Start on TV..



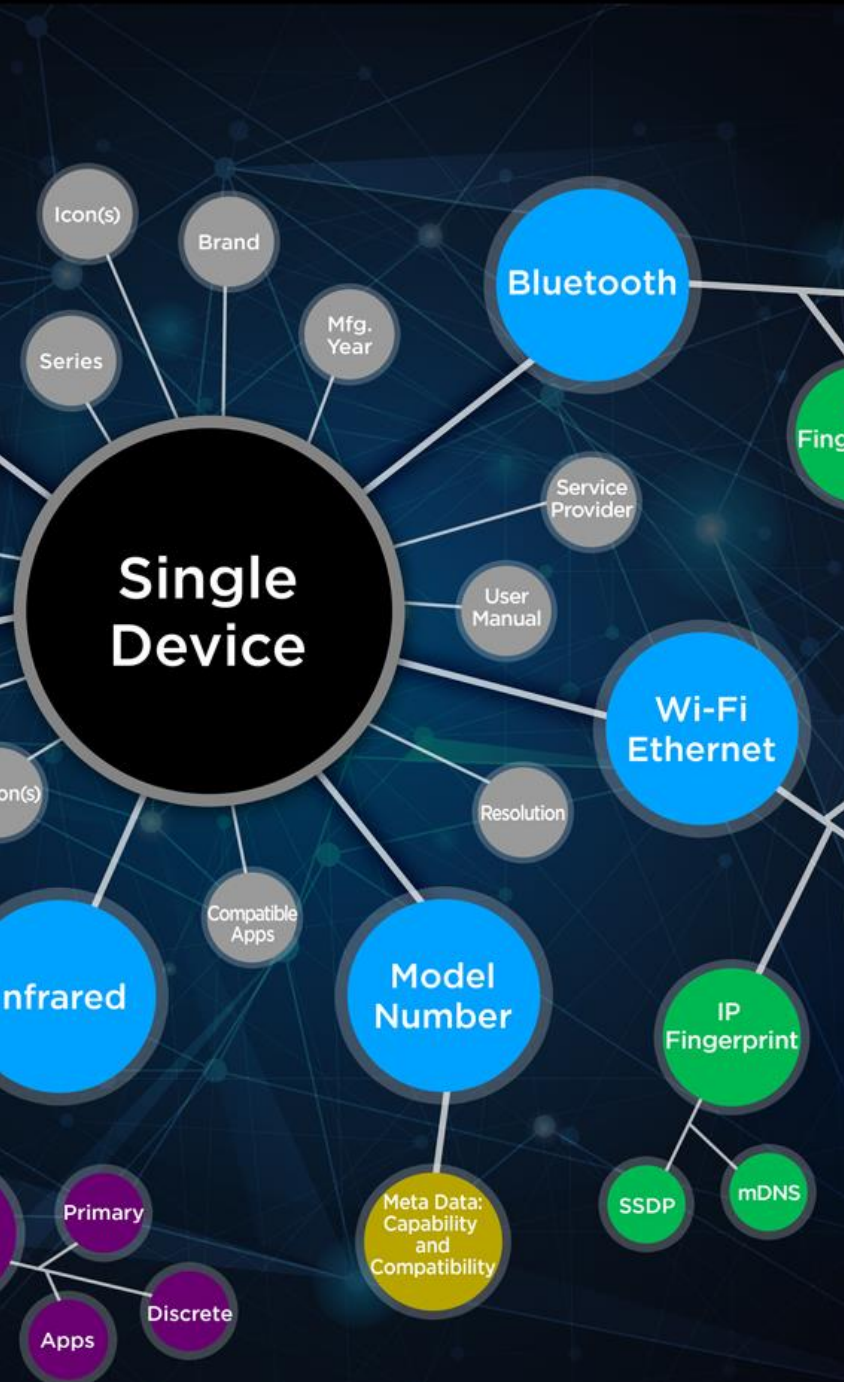
..Scan QR Code..



..Continue on Phone

Contextual Awareness

Virtual Agent can understand context from different sources even before a conversation with the user has started. It uses this context to understand the situation in the home and significantly reduce the amount of steps needed to solve any potential issues.



Context Examples

- Devices available in the home
- Device Configurations
- Services available in the home
- Geo-IP Location
- Location on a website
- Internet Service Provider



Virtual Agent Insights

Built-in tool to surface valuable user insights and collect user feedback.

- ✓ Conversational Analytics
- ✓ User Behavior Analytics
- ✓ Analytics Dashboard
- ✓ Track User Engagement
- ✓ Track Success Rates
- ✓ Collect User Feedback
- ✓ Collect User Ratings
- ✓ Capture User Contact Details for follow up



Integration Options

Virtual Agent is a pure web app and can be easily integrated on the device itself, on support websites and in mobile apps.



On-Device
(TV, STB, Thermostat etc)

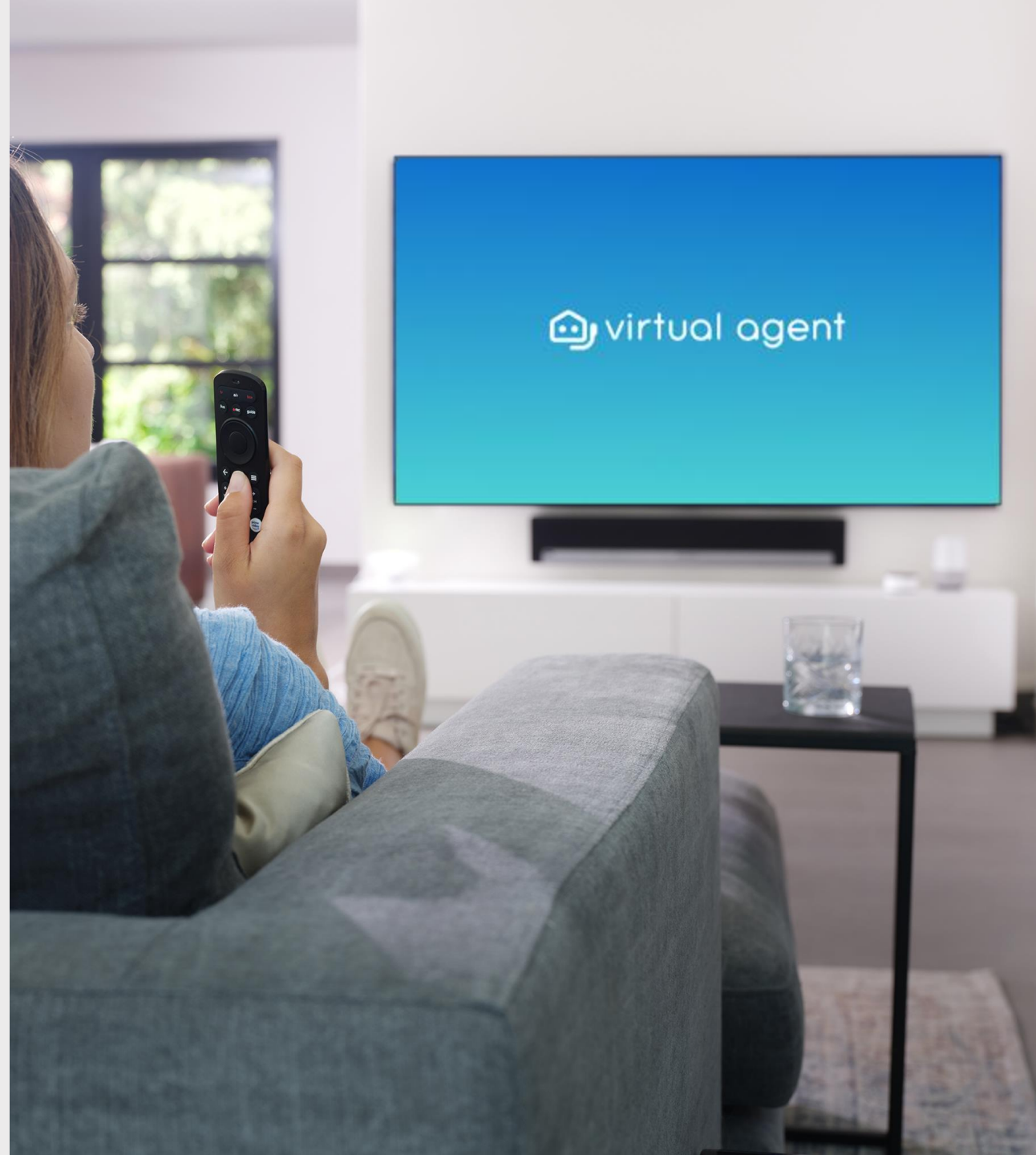


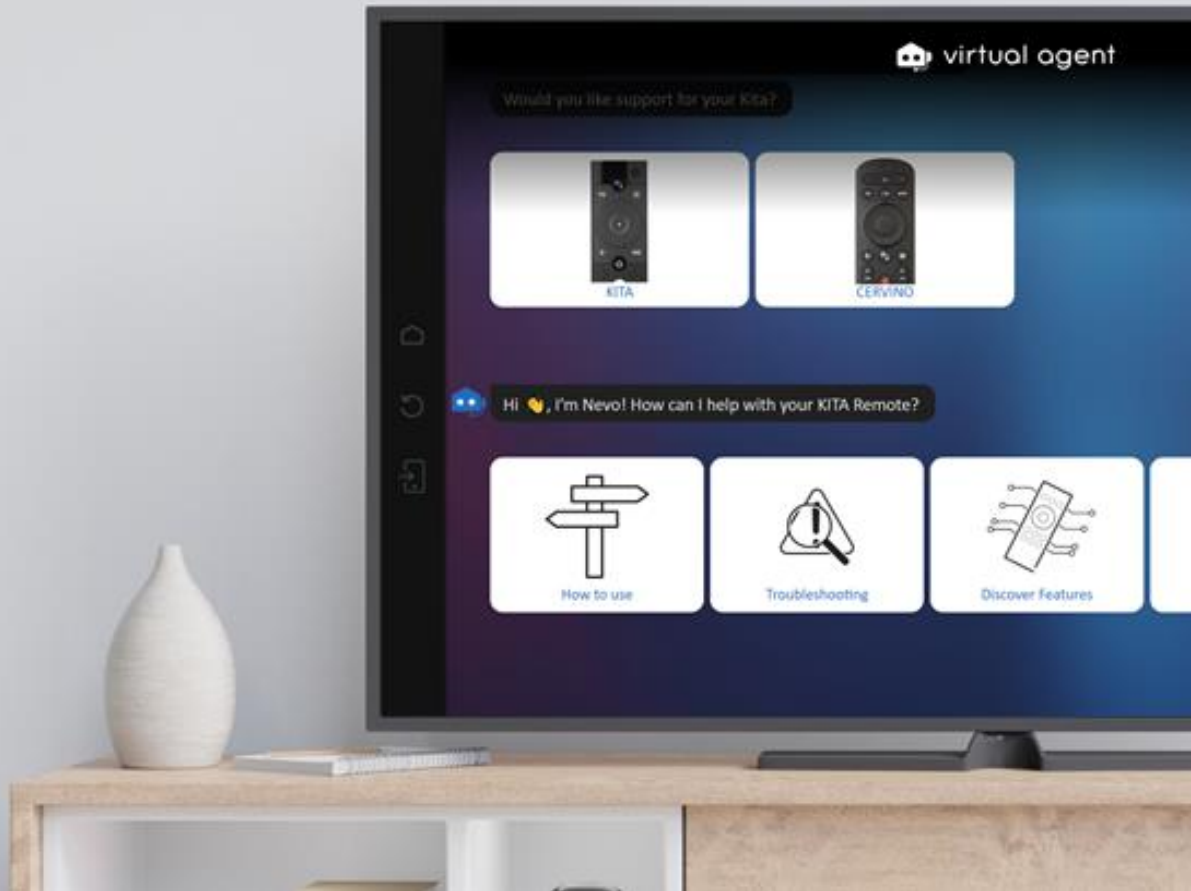
Support Websites



Mobile Apps

Integration on support websites takes a **couple of minutes**





VIRTUAL AGENT ON DEVICE

For the Big Screen



- Conversational Interface optimized for the Big Screen
- Available as an Android TV App (APK)
- Available as a pure web-based app for easy integration on TVs or Set Top Boxes
- Offering Cross Screen Continuity
 - Transfer a conversation to a Smart Phone
 - Send documents like Product Manuals to a Smart Phone
- Contextual Awareness powered by QuickSet
- Ability to customize the branding and personality of the Virtual Agent



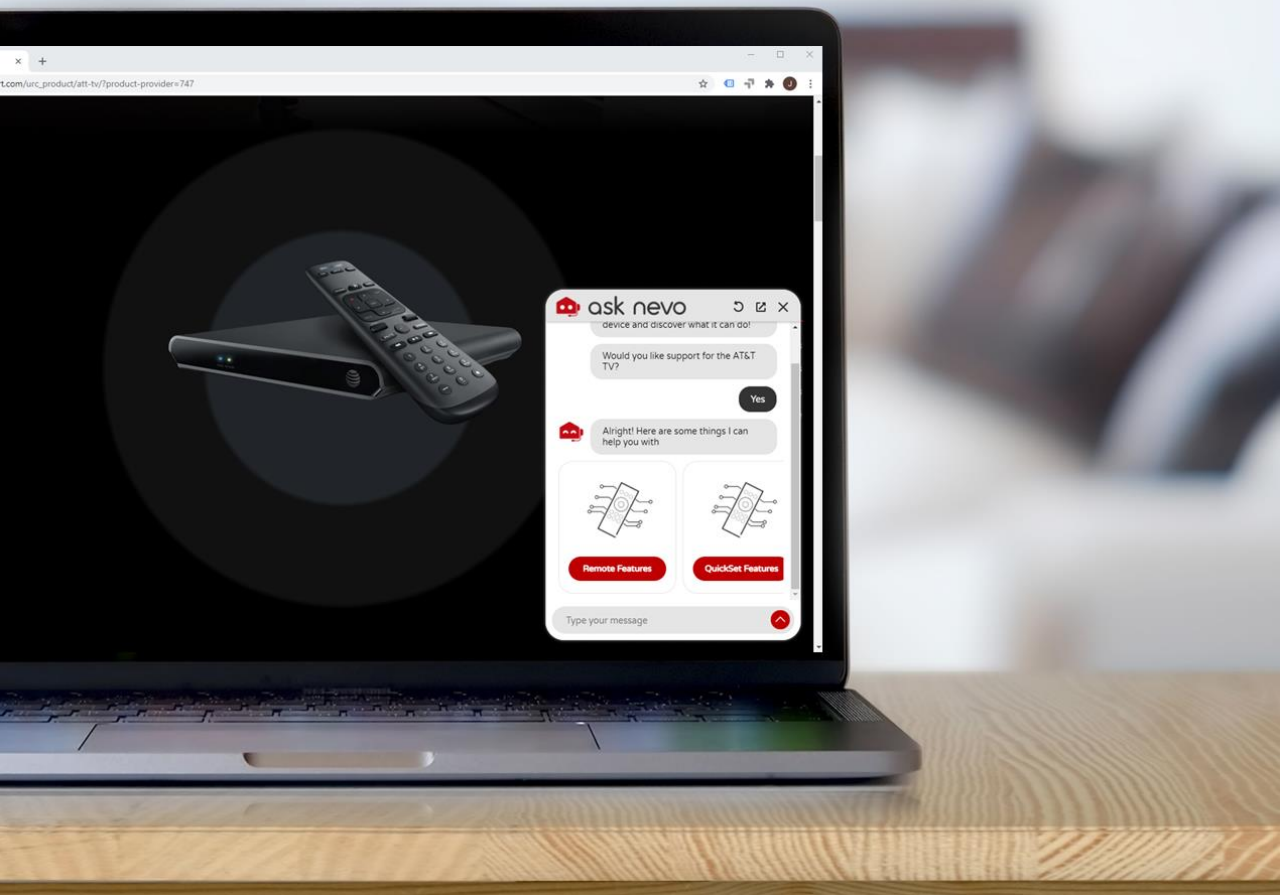
VIRTUAL AGENT ON THE SECOND SCREEN

For Mobile



- Conversational Interface optimized for Mobile & Touch
- Easy & Quick Integration for:
 - Mobile Apps
 - Mobile Support Websites
- Available as a pure web-based app for easy integration
- Contextual Awareness powered by QuickSet
- Ability to customize the branding and personality of the Virtual Agent





VIRTUAL AGENT ON THE SECOND SCREEN

For Desktop

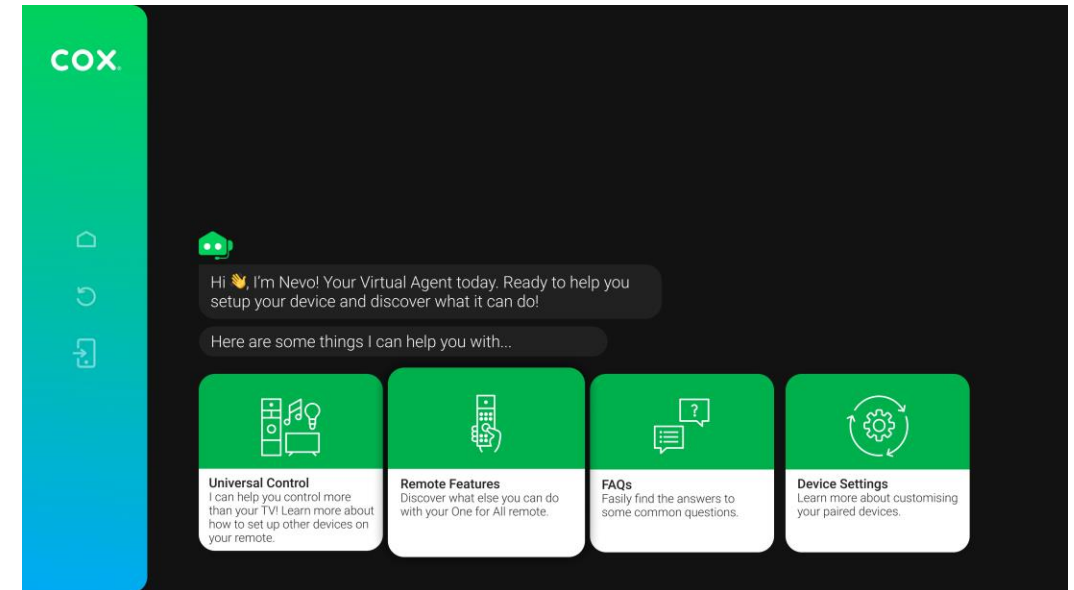
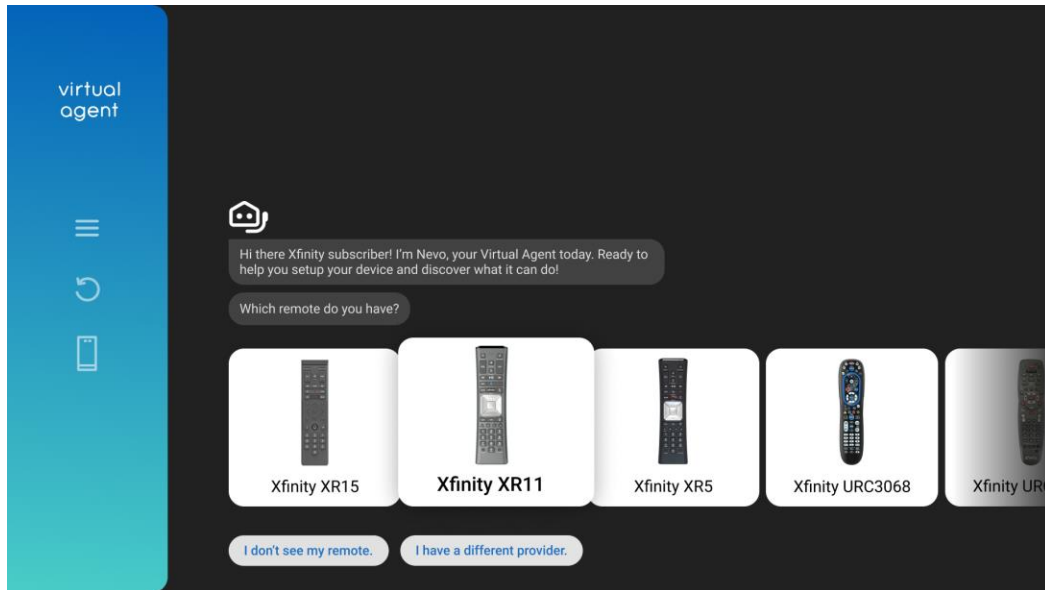
- Easy & Quick Integration on Support Websites
- Conversational Interface optimized for Desktop Websites
- Available as a pure web-based app for easy integration
- Contextual Awareness powered by QuickSet
- Ability to customize the branding and personality of the Virtual Agent



Dynamic Skinning

Customize the look and feel of the user interface.

Customers can choose from a wide range of color palettes and design elements such as font styles and sizes, image backgrounds, and logo placement. This feature allows to personalize their virtual agent's appearance and make it look unique, giving an even better customer experience.



Mobile Companion App



Smart Home
Hubs



Smart
Thermostats



Smart Remotes

And other QuickSet Widget enabled products...

A turn-key mobile companion app for device onboarding, remote control and built-in self-service support solutions. Also available as a Software Development Kit including developer documentation

Powered by QuickSet and Virtual Agent

Universal Electronics Confidential 2023

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QUICKSET[®]



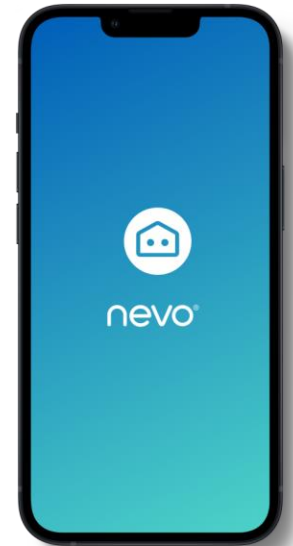
my nevo

UNIVERSAL
ELECTRONICS



Product Overview

My Nevo Companion App



Leverages nevo.ai to guide users through:

- 1) Onboarding a QuickSet enabled device
- 2) Discovery of Smart Home and Entertainment devices
- 3) Control of Smart Home and Entertainment devices

Throughout these 3 components the Virtual Agent is easily accessible, to help the user with any troubleshooting or questions.

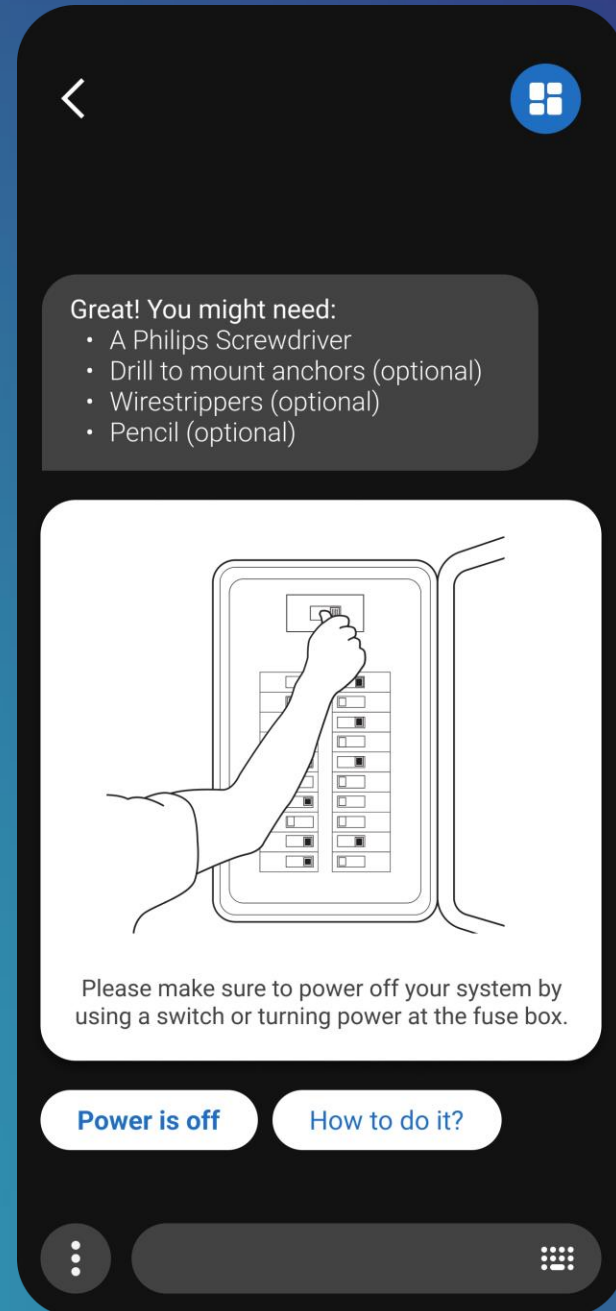
MYNEVO

Onboarding



Manage the full process of onboarding QuickSet enabled devices and their accessories.

- Guiding users through the initial setup or installation steps
- Connecting the devices to the Wi-Fi network
- Configuring them with BLE.
- Keep track of all onboarded devices.
- Ability to onboard devices with a QR code to automate discovery and authentication.



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QUICKSET[®]

IKEA

SONOS

LIFX

hue
PHILIPS



Discovery & Setup



Take control of your Smart Home

QuickSet enabled devices can discover devices within your home network.

The My Nevo companion app renders those discovered devices, allowing users to quickly interact with their devices.

My Nevo also handles and helps with devices that require additional onboarding user interactions like Scanning a QR code, entering a setup code, signing in with OAuth or just simply pressing a button on a device.

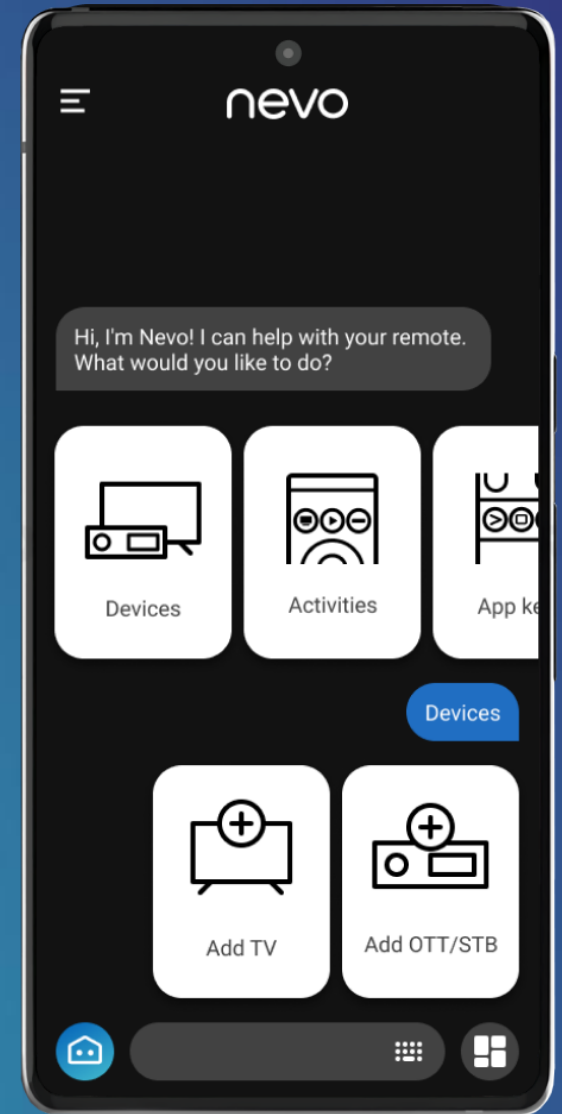
MYNEVO

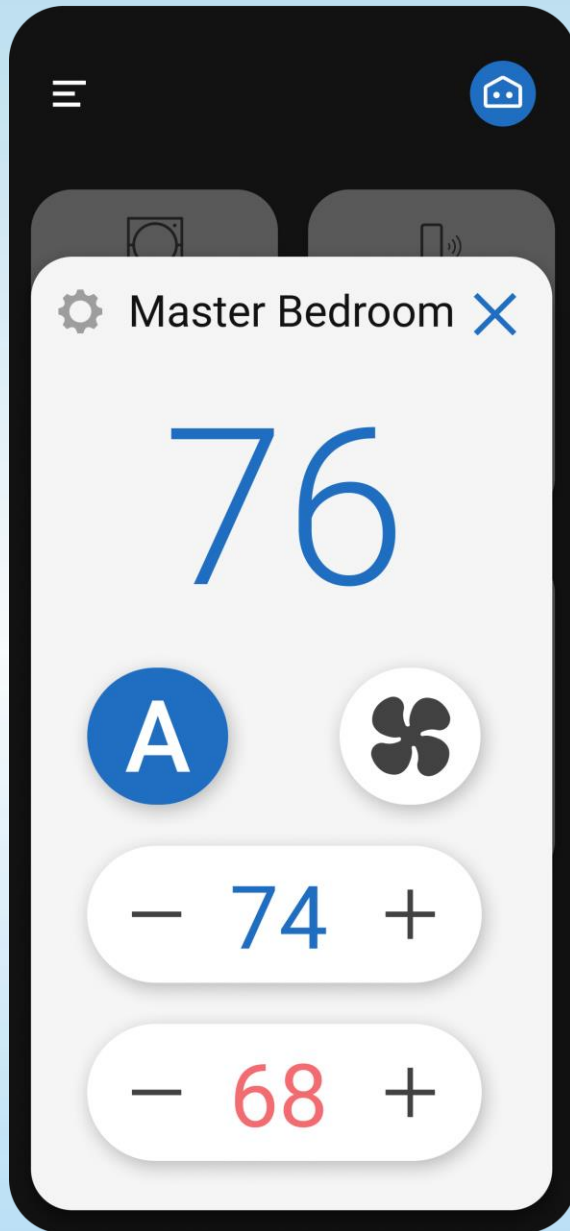


Entertainment Setup

- Setup Entertainment Devices over BLE
- Device setup powered by QuickSet
- Customize App Keys
- Customize Activity Keys

POWERED BY
QUICKSET[®]





Control



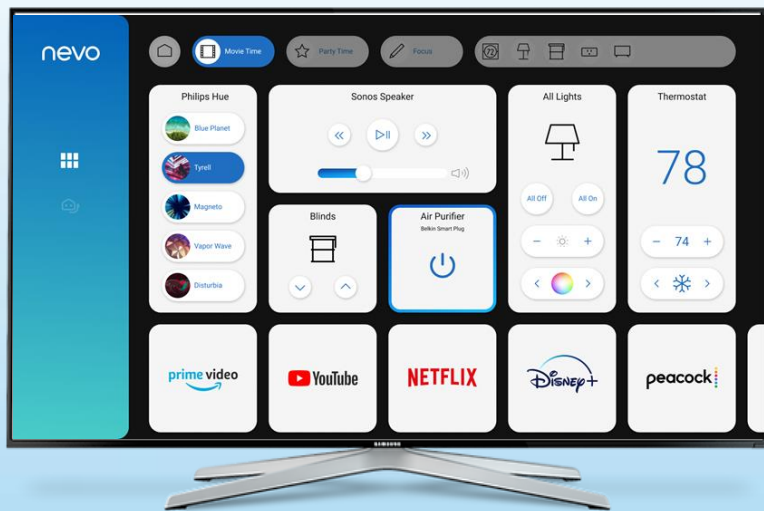
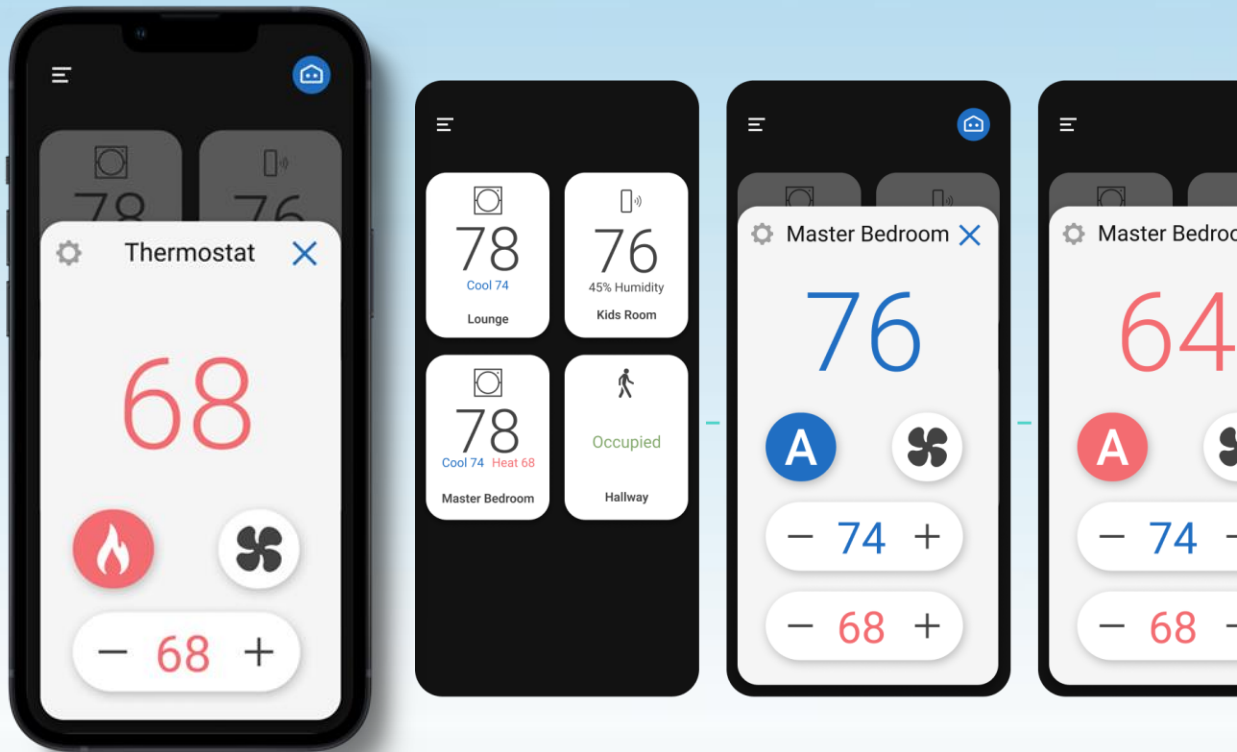
Take control of your Smart Home

Users can experience fast and meaningful interaction with their devices as soon as they are discovered.

Possible interactions include:

- Controlling individual devices like thermostats
- Changing modes to "Away" or "Comfort",
- Activating One Touch View Activities
- Launching apps related to content sources,

Furthermore, the experience can be enhanced through conversational interfaces, a mobile app interface, and smart home dashboard widgets on any screen.



Control Widgets & Dashboard

Smart home control made easy



MyNevo offers the ability to control smart home products via a customizable, web-based dashboard with widgets for any device with a screen, as well as mobile apps or websites.

Widgets could include climate control, security, energy monitoring, automation features, and real-time insights into product performance.

The dashboard would also allow users to access their smart home products remotely.

Supported Devices

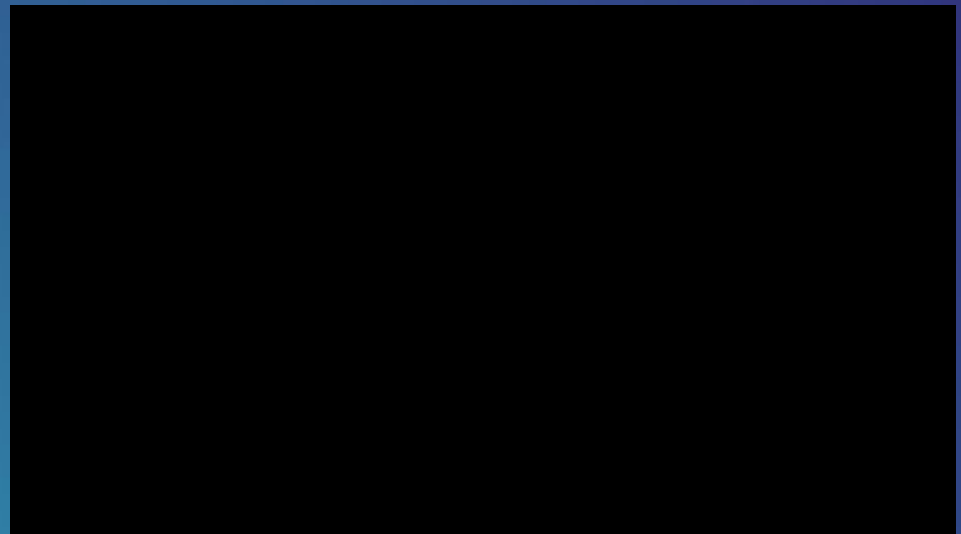
- Nevo Butler
- One for All - Smart Streamer Remote
- Tide Dial Thermostat

Upcoming Products

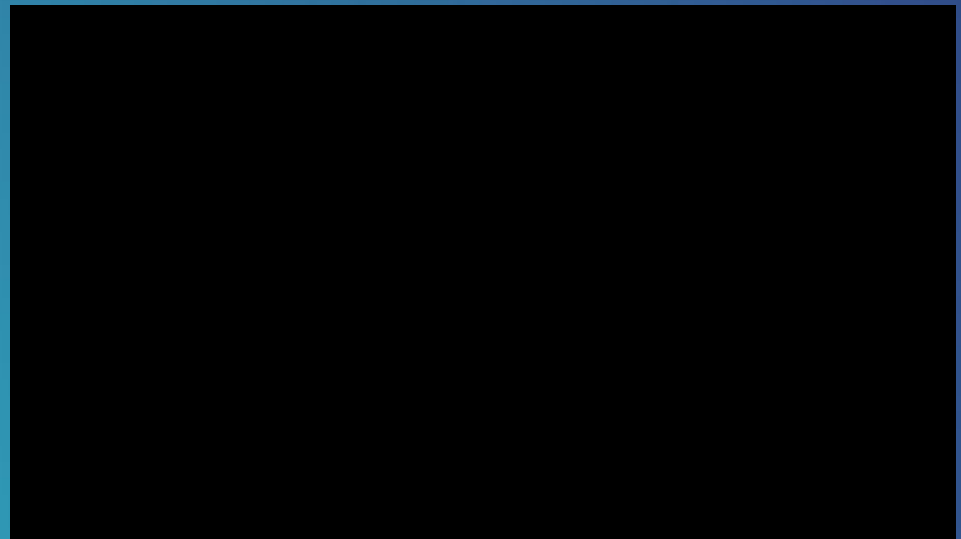
- Eterna – Our New Xtreme low power remote
- One for All – Prestige Remote
- Tide Touch Thermostat
- Tide Bridge
- Customer specific Comfort Line variations
- All Butler variations

Available Platforms for My Nevo

- Android TV
- Android OS
- iOS
- Web



Remote Control Onboarding



Control Widgets & Home Dashboard