Presentation Will Begin Shortly

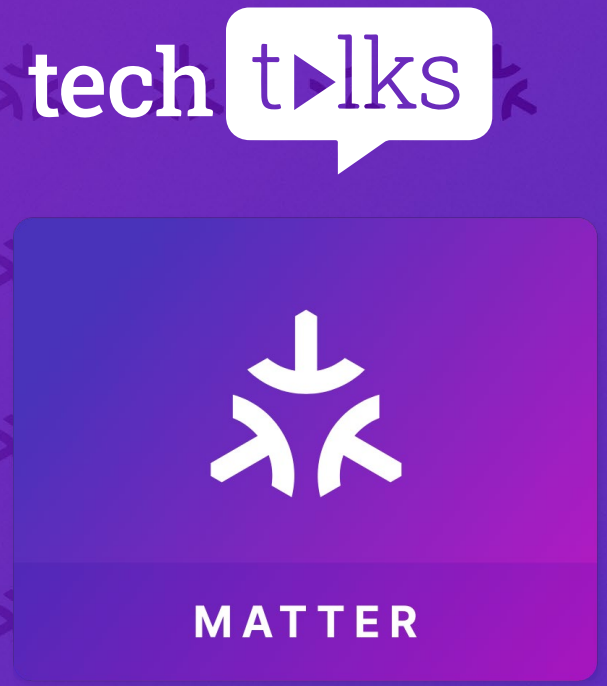
4:00

MATTER

FEB 15TH	The Final Step Matters: Scaling Secure Products into Volume Production
MAR 21ST	Matter Technology and Market Updates and Q&A with the Connectivity Standard Alliance
APR 25TH	Future Proofing your Matter Products
MAY 30TH	Matter Specification Updates and Enhanced Support for Low Power Sensor Devices

Welcome

Matter Specification Updates and Enhanced Support for Low Power Devices



Agenda

- Matter Intro
- Matter 1.2 and 1.3 Updates
- Energy Management
- Low Power
- ZAP and Device Types

Matter Intro

Matter’s Vision

Developers

- Reduce “Ecosystem specific” products
  - Lower development & operational cost
  - Develop once / deploy everywhere
- Community of support
- Allow more time for innovation

Retailers

- Requires less shelf space
  - Lowers inventory cost
- Simplify purchasing experience
- Minimize returns

Consumers

- Simplify purchasing experience
- Simplify setup & control
  - Provide more consistent set up experience
- Multi-Admin works across & with multiple ecosystems

Simplicity

Easy to purchase and use

Interoperability

Devices from multiple brands work natively together

Reliability

Consistent and responsive local connectivity

Security

Robust and streamlined for developers and users

Matter Adoption

- **Matter 1.0 Launched on October 4, 2022**
  - Matter 1.1 Released May 2023
  - Matter 1.2 Released October 2023
  - Matter 1.3 Released May 2024
  - *Matter 2024 Fall Update*
- **As of April 2024, there are over 1000 certified Product across 28 device types**
- **One of the fastest standards adoptions by manufacturers**
- **Major ecosystems have all rolled out device support for both Thread and Wi-Fi**

Matter 1.2 and 1.3 Updates

Matter 1.2 Updates

- **New Device Types**
  - Washing Machines
  - Refrigerators
  - Dishwashers
  - Room Air Conditioners
  - Robotic Vacuum Cleaners
  - Air Quality Sensors
  - Air Purifiers
  - Smoke/CO Alarms
  - Fan Control
- **Updates to Existing Device Types**
  - Latch & Bolt Door Locks (European Market)

- **New Features / Core Improvements**
  - Device Appearance
    - Conveying general device appearance to the Mobile App for user to verify
  - Device & Endpoint Composition
    - Simple and complex device behavior on the same endpoint to allow better support for simple controllers
  - Semantic Tags
    - Description of physical product details for multiple endpoints
  - Generic Descriptions of Device Operational States
    - Pause, Start, Stop, Resume operations
  - Introduced longer sleep times for sleepy devices
    - For Intermittently Connected Devices (ICDs)

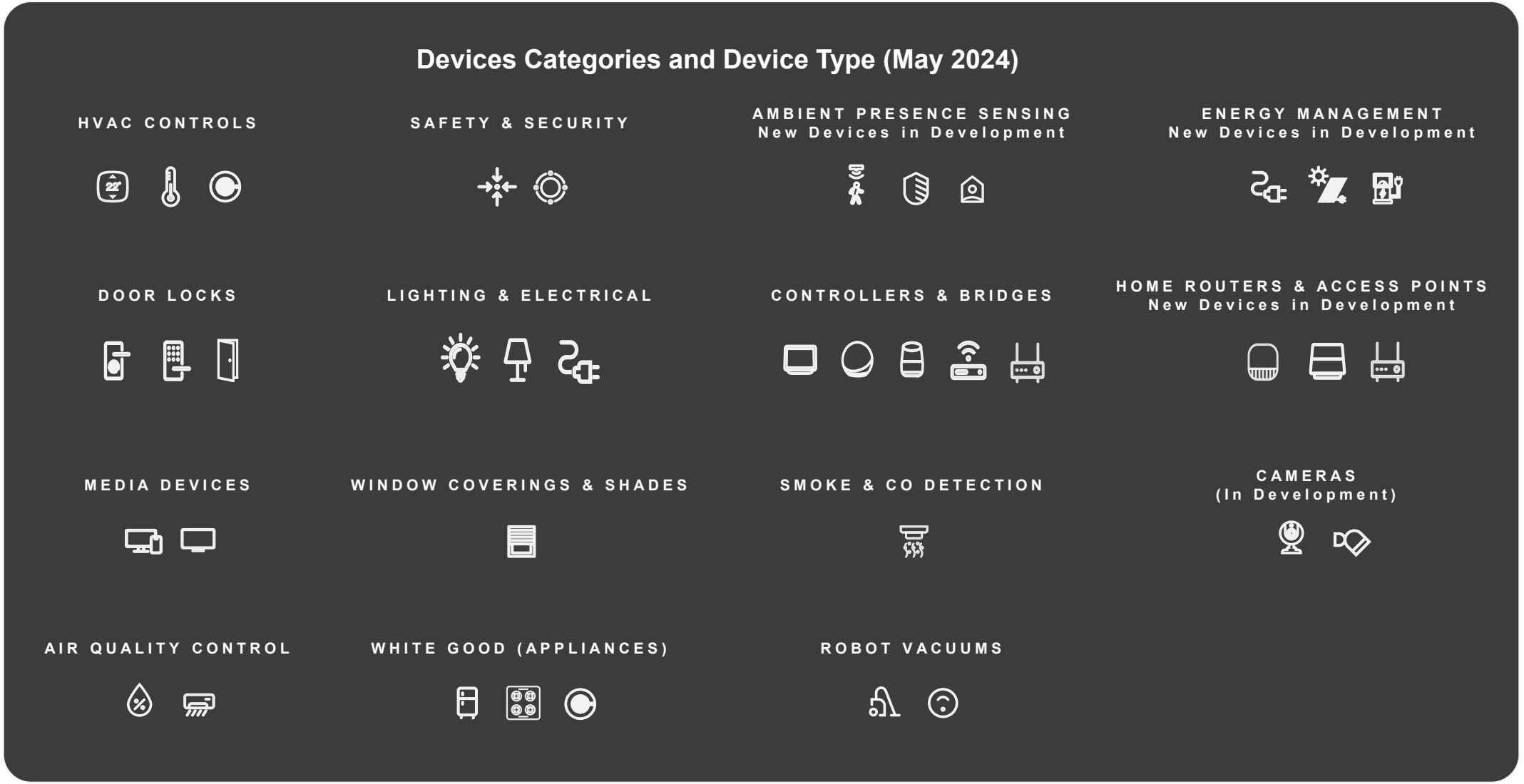
- **Developer Experience Improvements**
  - New Platform Support in SDK
  - Enhancements to the Matter Test Harness

Matter 1.3 Updates

- **New Device Types**
  - Microwave Ovens
  - Ovens
  - Cooktops
  - Extractor Hoods
  - Laundry Dryers
  - Electric Vehicle Charger (EVSE)
  - Water Management Sensors
- **Updates to Device Types**
  - Casting Media Players

- **New Features / Core Improvements**
  - Command Batching
    - Send multiple commands to a device for better bridge translation
  - Improved Network Commissioning
    - Better support for Wi-Fi bands and feedback during commissioning
  - Event Timestamp Synchronization
  - Thread Capabilities
    - Ability to query Thread device version and capabilities during joining
  - Extended Beaconing Period
    - Lengthening the time the device is open for commissioning
  - Scenes
    - Multiple Device specific behavior based on setting a single scene for the group
- **Cluster Updates**
  - Basic Information
  - Channel
  - Door Lock
  - Media Playback
  - Network Commissioning
  - Power Source
  - Thermostat
- **Developer Experience Improvements**
  - Diagnostic Log Cluster
  - Automatic SDK XML Cluster

Matter Device Types



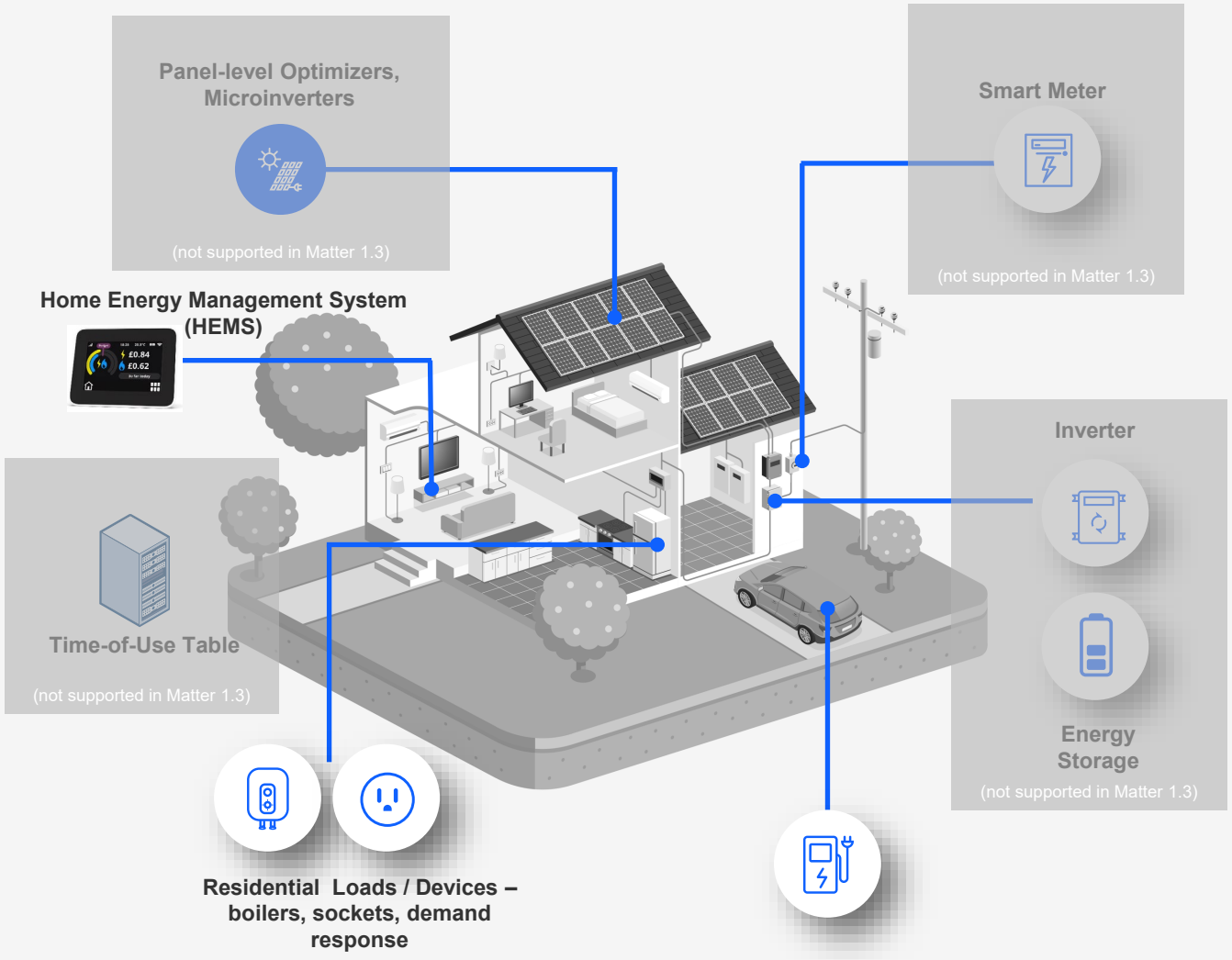
Wi-Fi and Thread comparison for Matter Devices

Category	Sub-Category	Wi Fi	THREAD
Connectivity	Existing Infrastructure	Ubiquitous	Growing Adoption
	Point-to-point	Rarely supported	Mandatory in all routers
	Mesh Networking	Requires dedicated devices from same MFG	Mandatory in all routers
	Bandwidth	Very High (600 Mbps+)	Low (250 Kbps)
Power	Power requirements	55 µA (SiWx917)	2.9 µA (EFRMG24)
	Low Power Infrastructure	Rarely supported by Access points (WMN)	Mandatory in all routers (CSL)
Stack	IP Support	Both IPv4 and IPv6	IPv6 only
	Broadcast Support	Broadcasts are problematic	Optimized for broadcasts
	Internet Support	Extremely easy	Difficult

Q&A

Energy Management

Energy Management



High-level Use Cases

- Energy Monitoring – Balancing, Diagnostics, Insights
- Self-sufficiency – Maximizing Self-consumption
- Fuse Protection – Capacity not exceeded
- Tarriff based decisions – Shifting off from peak hours, Time-of-use, Incentives
- Peak Shaving & Demand Response – Reduce peak loads, match consumption with production
- Power Management during outage
- On-grid demand response

Matter 1.3 Energy Management use case

Device Type – Dishwasher

Notify: on/off
Notify: Electric and Power Measurement

Command: on/off Dishwasher

Device Type – Home Energy Management System

Notify: on/off
Notify: Electric and Power Measurement
Notify: Charge %

Command: StartDelay
EVSE

Device Type – Gateway

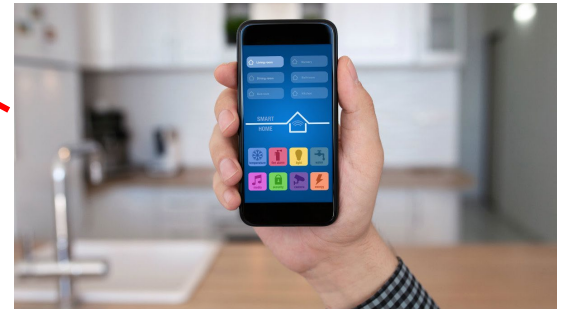
Notify: on/off
Notify: Electric and Power Measurement
Notify: Charge %

Command: StartDelay
EVSE

Device Type – EVSE

Command: on/off Dishwasher

Device Type – App



Low Power

Low Power improvements

- **Matter 1.2**
  - Added better support for Sleepy Devices -- Intermittently connected devices (ICD)
    - Controllers can setup subscriptions with these devices to have them periodically check-in, rather than be always on
    - Subscription recovery for when there is de-synchronization between a controller and the ICD
    - Streamlined wake-ups to support reporting to multiple controllers by sending all updates at one wake cycle
  - Very beneficial for Door Locks, Shades, and other quick response, actuator sleepy devices (Short Idle Time)

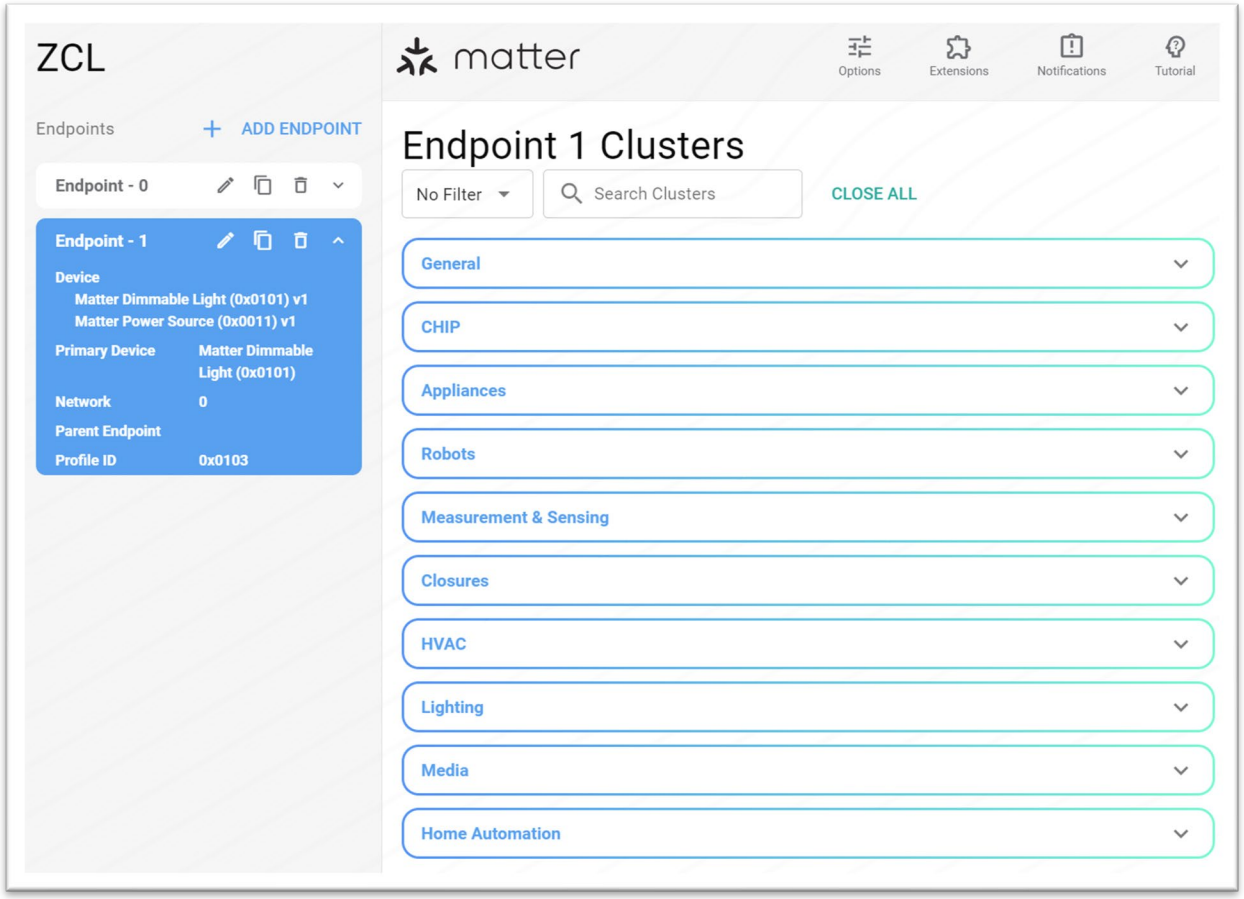
- **Matter Future**
  - CSA first announced the enhancements to ICD in Matter 1.1,
  - WG has been iterating on these improvements continuously as part of a phased approach to new updates.
    - Silicon Labs has been the main driver of these efforts...
  - Focus on sensors and other long sleep cycle devices (Long Idle Time)

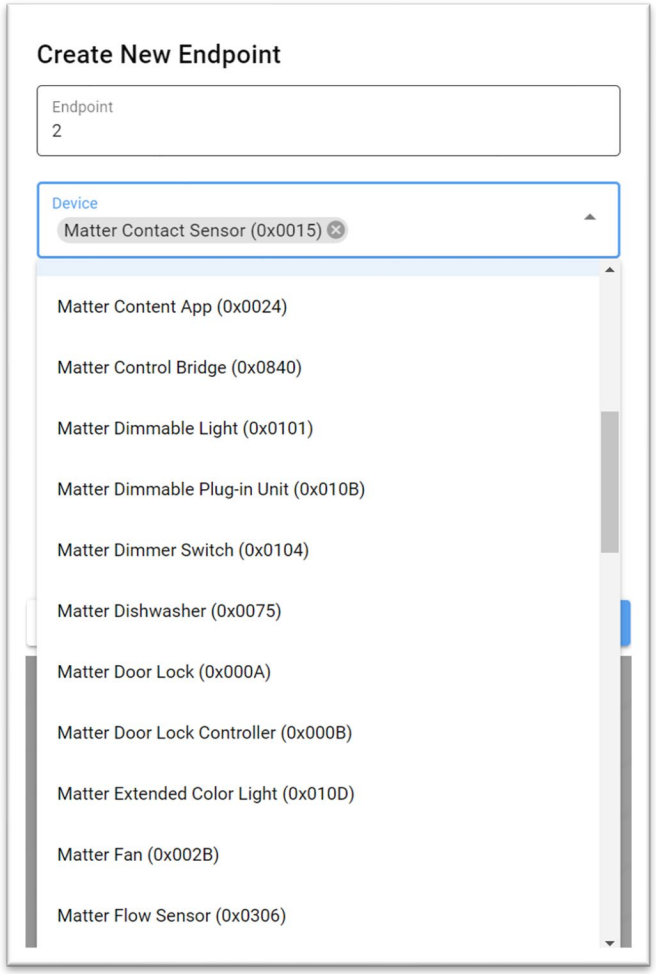
- **How does Matter compare to Zigbee?**
  - Fundamentally they are both using a very similar underlying MAC/PHY of IEEE-802.15.4
  - Silicon Labs lead the standardization of power improvements in Zigbee via the Poll Control Cluster
  - Silicon Labs now leads the standardization of power improvements in Matter via the ICD Cluster
  - We see very similar power usage when operating in deep sleep with RAM retention on our EFR32MG24

ZAP and Device Types

Any Matter Device or cluster

- Create any Mattery device with any set of clusters using ZAP
- Built into our Studio experience





SILICON LABS

Summary

Silicon Labs Matter Support

- **Matter support**
  - Matter SDK Extension for Simplicity Studio – SDK Suite v4.4.4 -- Matter 1.3
  - Actively working on future Matter versions with Alpha and Beta releases to support test events
- **Cluster Support**
  - All Matter certified clusters
- **Matter Sample Applications**
  - Dishwasher
  - Light Switch
  - Lighting
  - Lock
  - Smart Plug
  - Thermostat
  - Window Covering
  - Others - Enabled through ZAP

What is our community for?

A PLACE FOR SUPPORT

An engaging, scalable platform where support comes self-served

A PLACE FOR LEARNING

A robust, one-stop-shop for technical learning and resources

A PLACE FOR RECOGNITION

A place to network and grow your career

Simplifying Matter Development, Testing and Manufacturing

Guided end-to-end Matter Developer Journey

- Steps developers through learning to deployment including guidance for popular Ecosystems

High-performance Low-power Wireless SoCs

- Wi-Fi and Thread solution with Bluetooth Low Energy for commissioning

Wireless Matter solution for Silicon Labs GitHub and Simplicity Studio

- Proven and pre-certified stacks for Matter over Wi-Fi and Matter over Thread

Comprehensive Development Tools

- Development kits, tools, and sample applications for Matter use cases

Robust Matter-compliant Security

- The most advanced IoT security solution with full Matter-compliance

Connectivity Lab

- Developed for testing your products from the user's perspective

Silicon Labs Custom Manufacturing Services

- Secure Programming of your Matter certificates, security parameters, application, and bootloader

Summary

- **Matter Specification Continues to evolve**
  - Bringing in addition functionality and device types
- **Strong momentum with Ecosystems, ISP and Product Manufactures**
  - Major Ecosystems and ISPs are integrating Matter support into gateways and hubs
  - Adding IEEE 802.15.4 for Open-Thread Border Router support
- **CSA members are working hard to close existing gaps**
  - More Battery Powered Devices
  - Cameras
- **Silicon Labs is committed to the success of Matter**
  - Strong portfolio of both Matter over Wi-Fi and Matter over Thread
  - Continued development and support in CSA for new features and device types
  - Largest Matter code contributor among Semiconductor companies

Q&A

Thank You