



Creating Infinite
Possibilities.

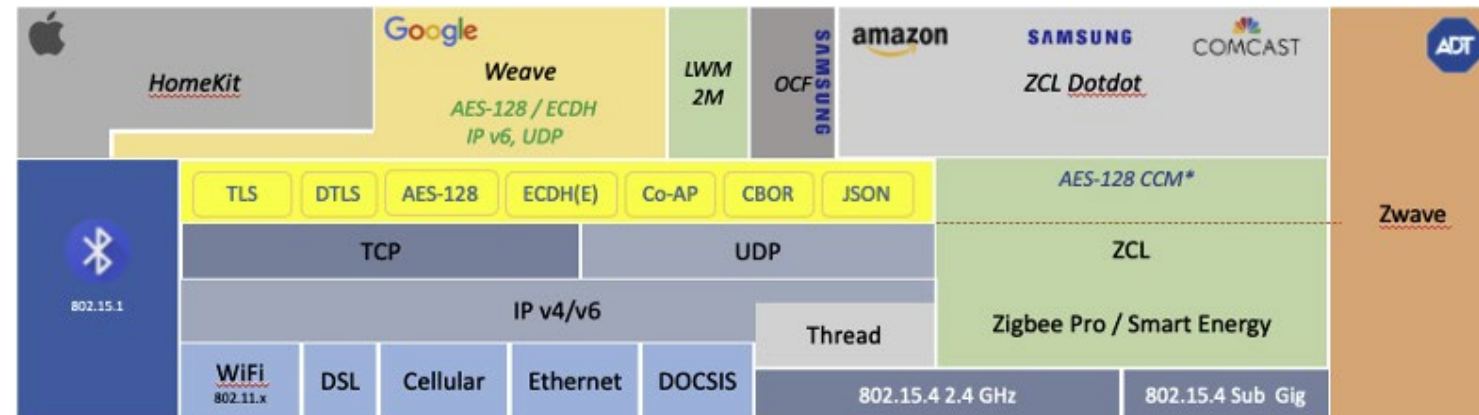
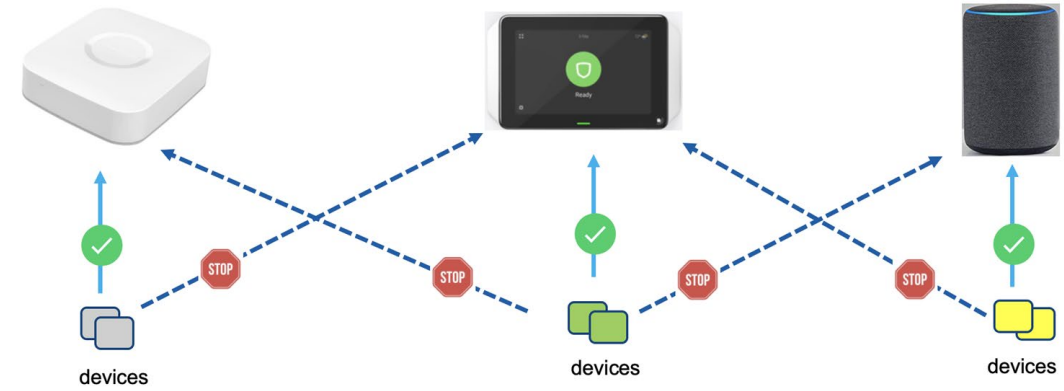
Matter:

What It Is, How It Works

Asad Haque

Executive Director Security Architecture
Comcast

- Many, Many Protocols
 - CoAP - Constrained Application Protocol
 - AMQP - Advanced Message Queuing Protocol
 - MQTT - Message Queuing Telemetry Transport
 - XMPP - Extensible Messaging and Presence Protocol
 - Etc..
- Many, Many Transports
 - Zigbee
 - Zwave
 - LoRa
 - Wi-Fi
 - BLE
 - Etc..
- Many, Many Data Models
 - DotDot
 - One Data Model
 - LWM2M



Developed by world's biggest brands ...



ASSA ABLOY



LEEDARSON



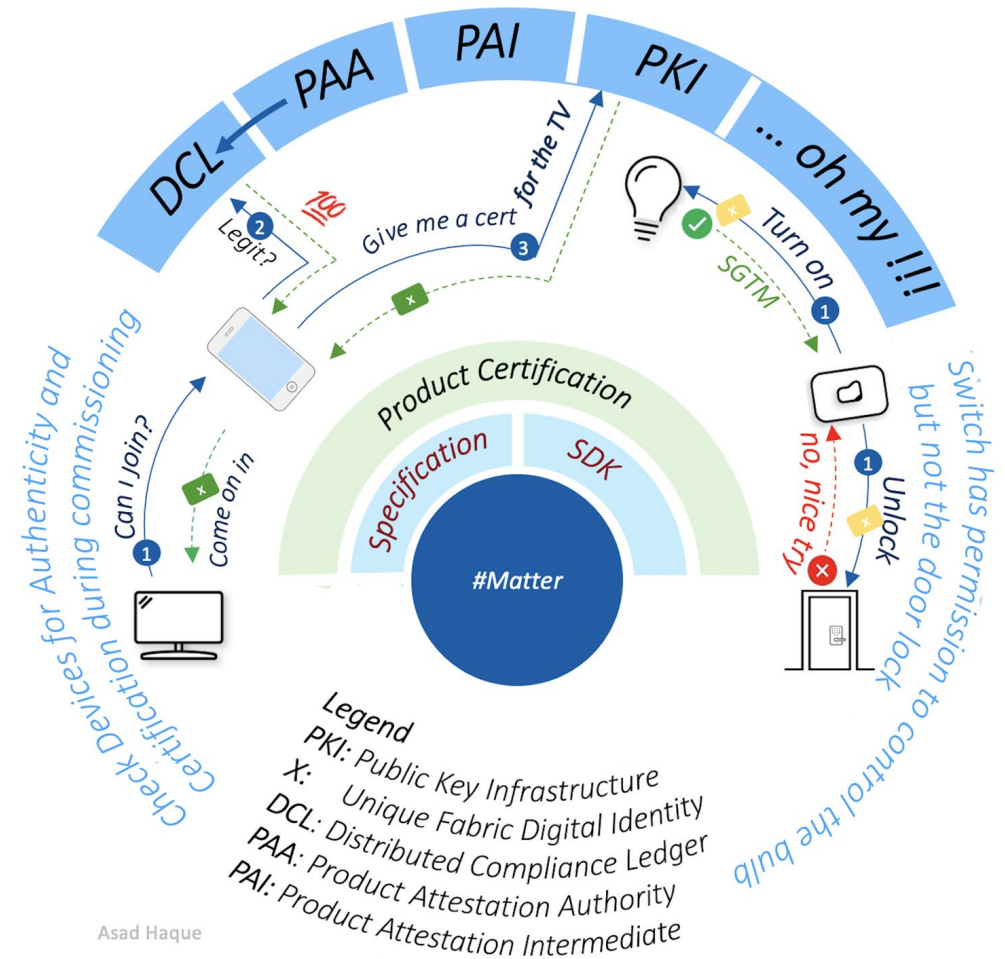
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& 125+ other companies!

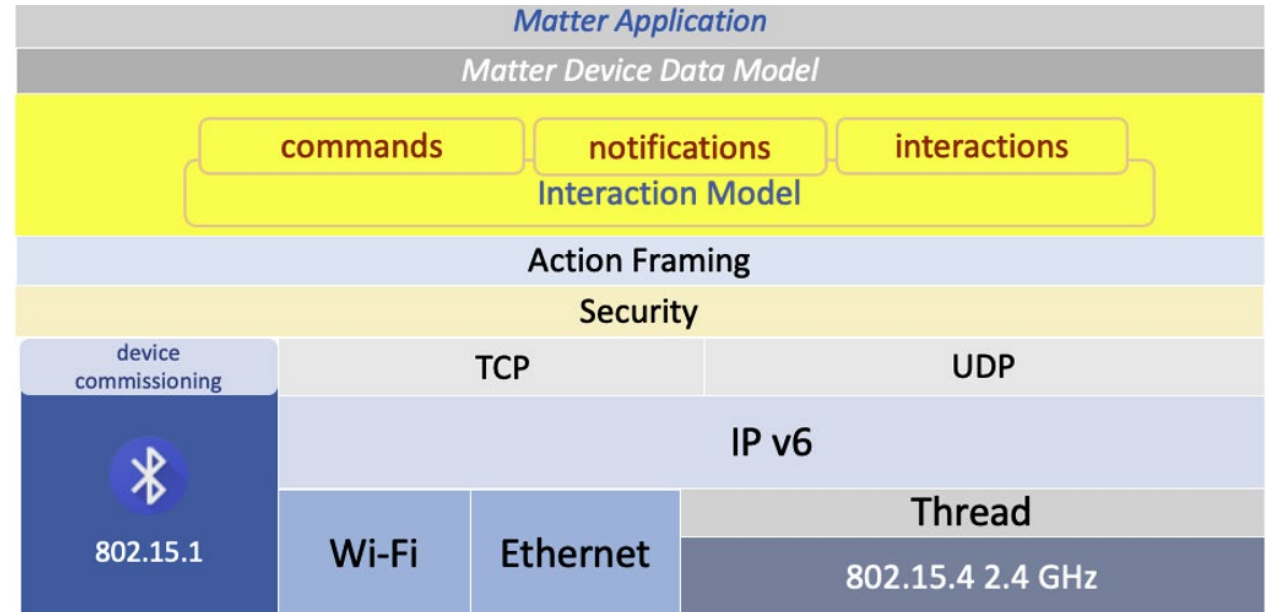
Matter - How it solves the problem

- Specification (300+ companies involved)
- Open source SDK
- Extensive Testing and Certification
- Simple easy to recognize Branding
- Proven Technologies

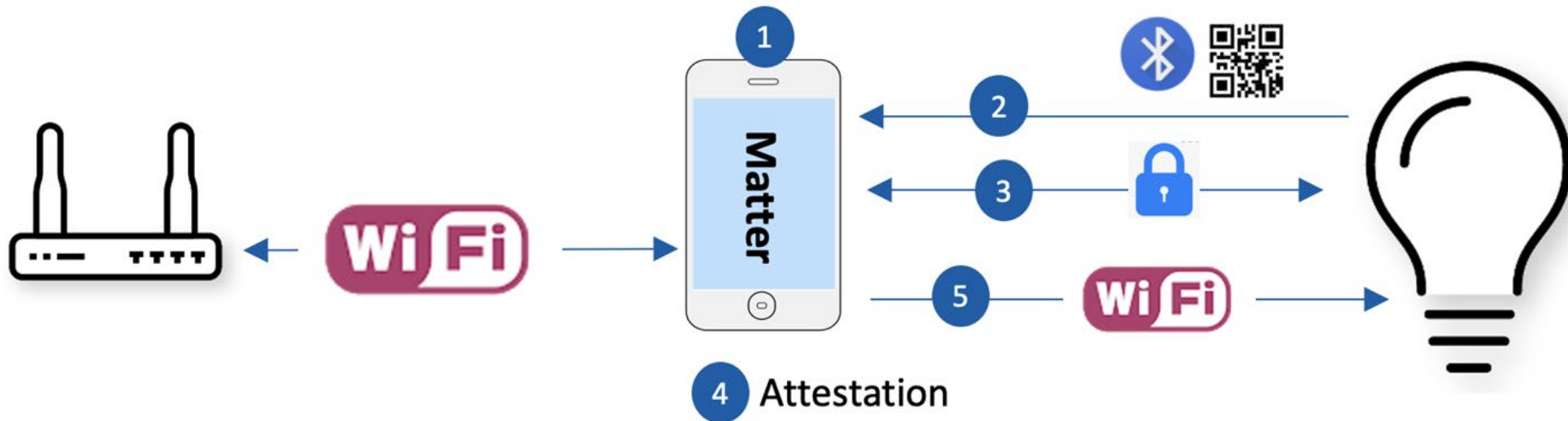
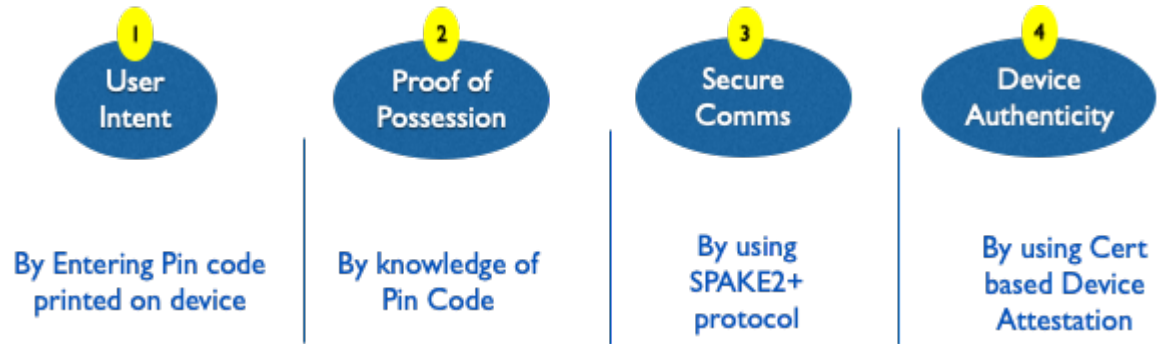


Matter Architecture

- Common Application Stack
 - No need for silos
- IP Bearing
 - IPv6 (primary transport)
 - IPv4 also works in local networks
- Bluetooth for Commissioning
- Unified Security Layer
- Interaction Layer
- Proven Device Data Model



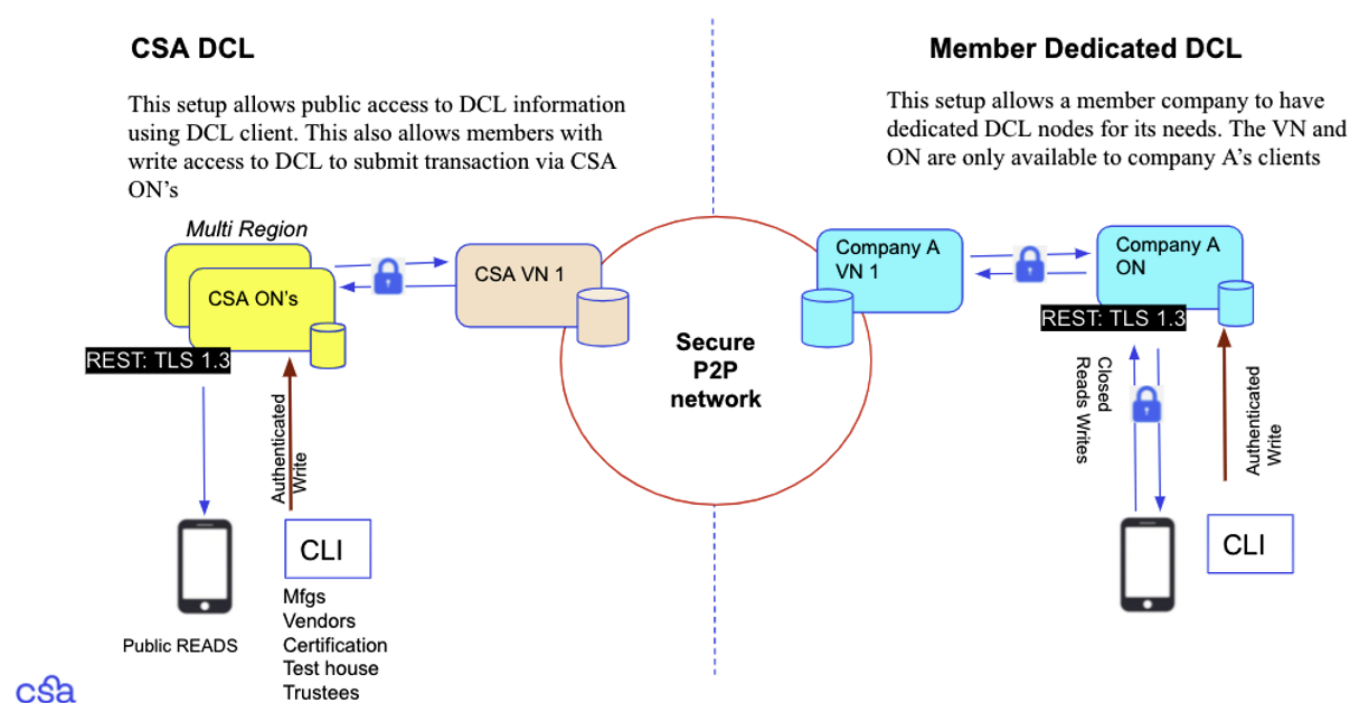
The Steps to adding a Device



Distributed Compliance Ledger

- Network Architecture
 - Permissioned blockchain
 - Validator Nodes – participate in Consensus
 - Observer Nodes – carry full state and transactions, Observer Nodes do not participate in Consensus
- Service Endpoints
 - Nodes expose Restful endpoints
- P2P Network
 - Protobuf over TCP based messages
 - Encrypted communication between nodes
- Broadcast
 - Nodes only broadcast messages received from API
 - Nodes only broadcast messages self created
- Replicated Data
 - Transaction logs
 - **Current State (cryptographic proof)**
- Light clients
 - Interact with Nodes

DCL 1.0 Topologies

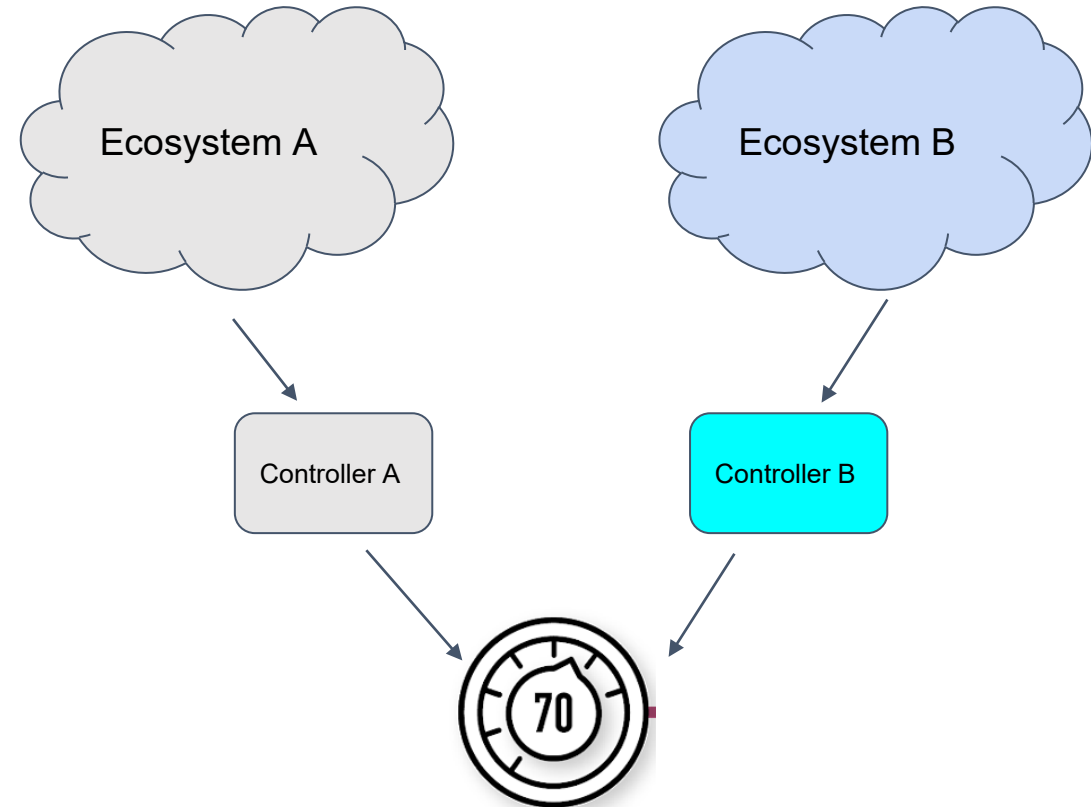


Multi Admin

A device can be paired with multiple ecosystems

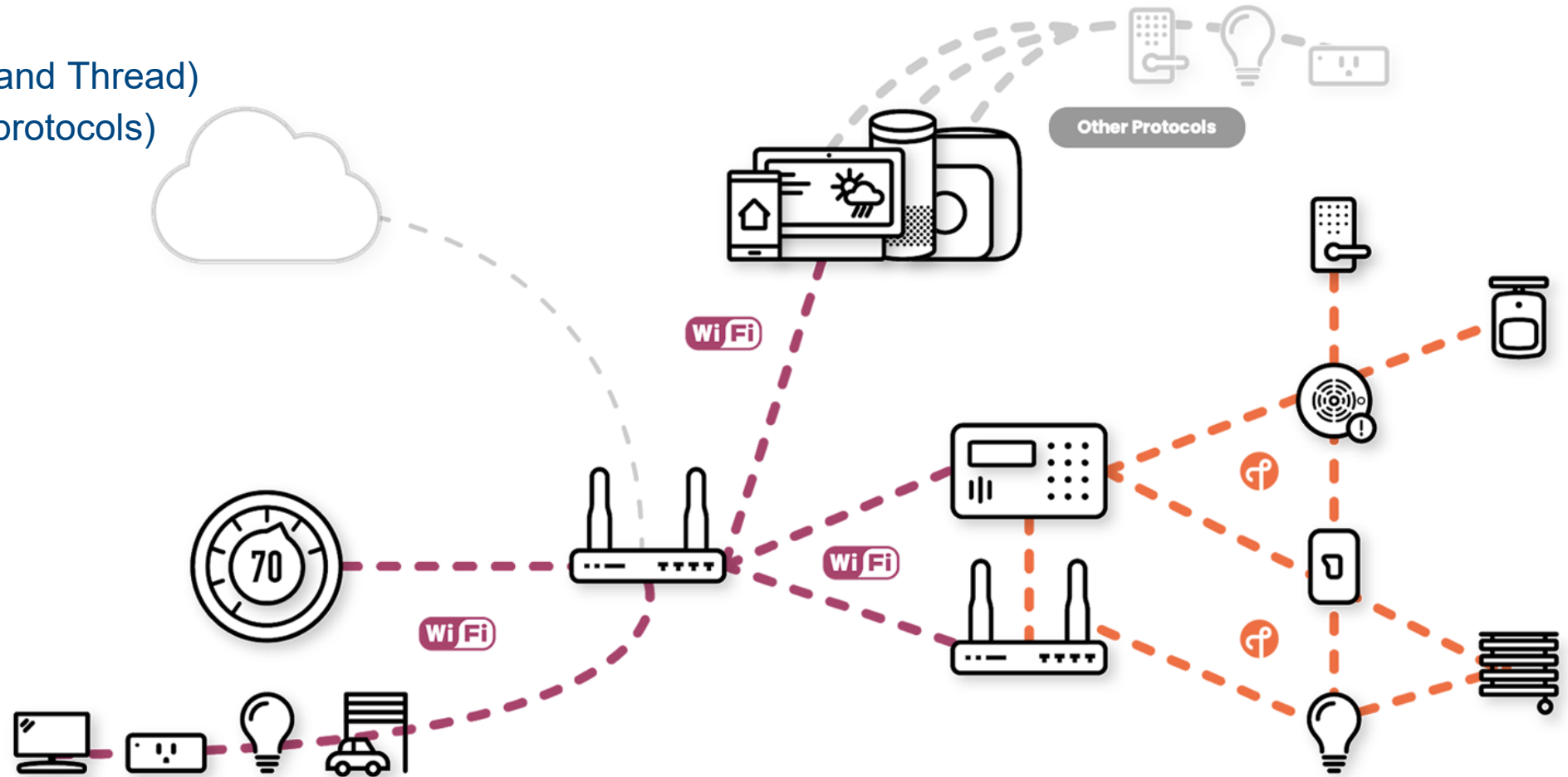
For example,

- A thermostat can be paired with Ecosystem A and B
- Because 1 household members prefers A, other prefers B.
- Both A & B issue their own operational creds (x509).
- Both maintain their own ACL's
- A knows B is on the thermostat and vice versa
- But, they can not mutate each others data, bindings, credentials etc.



Matter - Network Topology

- Border Routers (Thread connectivity)
- AP (Wi-Fi)
- Devices (Mix of Wi-Fi and Thread)
- Bridges (bridge other protocols)





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Possibilities.

Thank You!

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