

Bringing IoT Together with Matter

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Matter is a new smart home standard that aims to simplify and unify the connected home experience.



Matter is currently the primary candidate for an application layer protocol that addresses the issue of fragmentation in Smart Homes.

Key Differentiating Features

- IP-Based Networking
- Developer-friendly – Open Source & Community-driven
- Simplified Setup and Commissioning – BLE, NFC & QR
- Security – DCL (Distributed Compliance Ledger)
- Multi-Admin
- Local Communication
- Federated – No single point of failure
- Matter + Thread + 802.15.4 is an excellent stack for Low-power, Low-cost Sleepy End Devices
- Support for Legacy devices via Matter Bridges



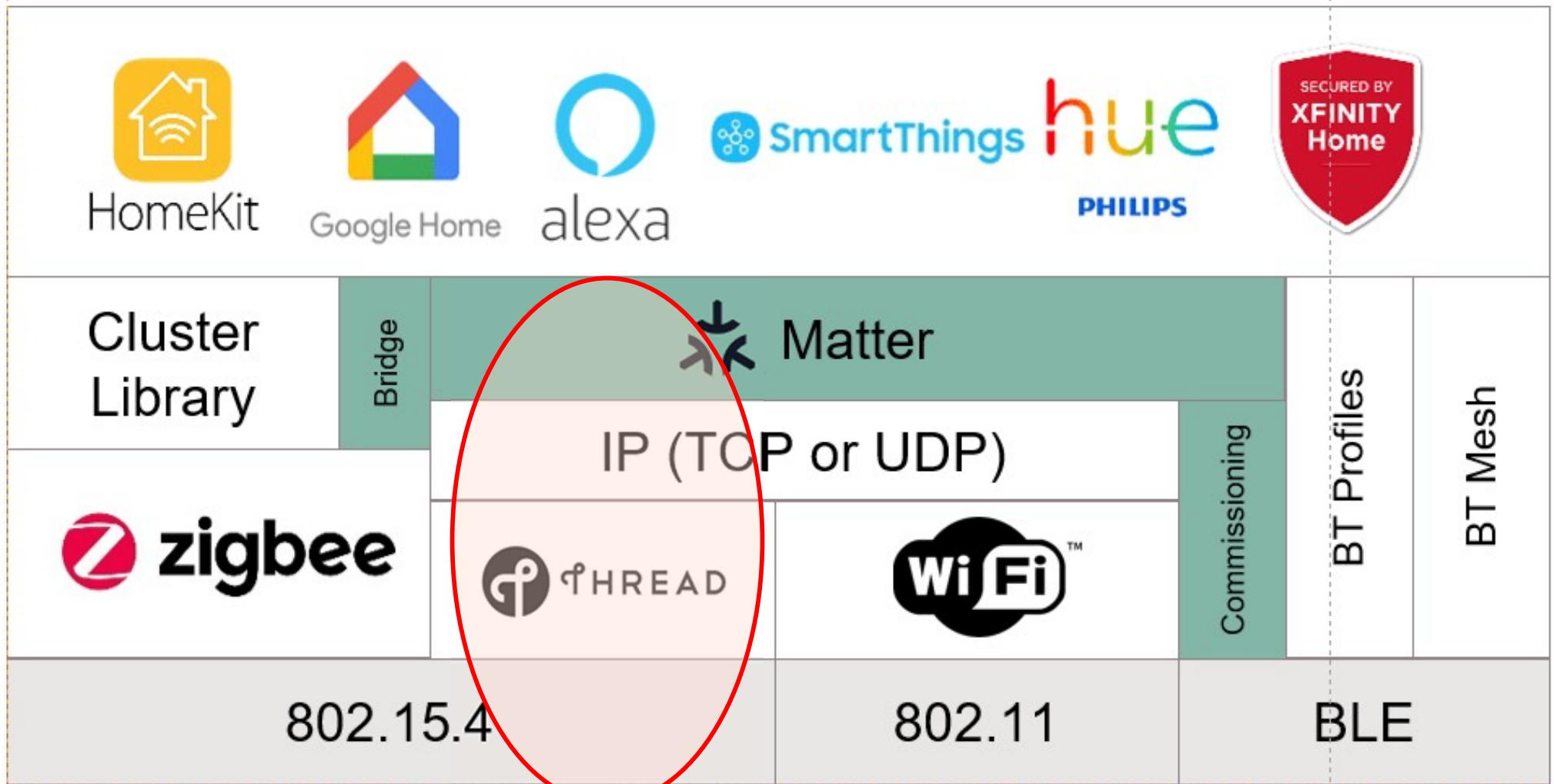
Matter Ecosystems & Products

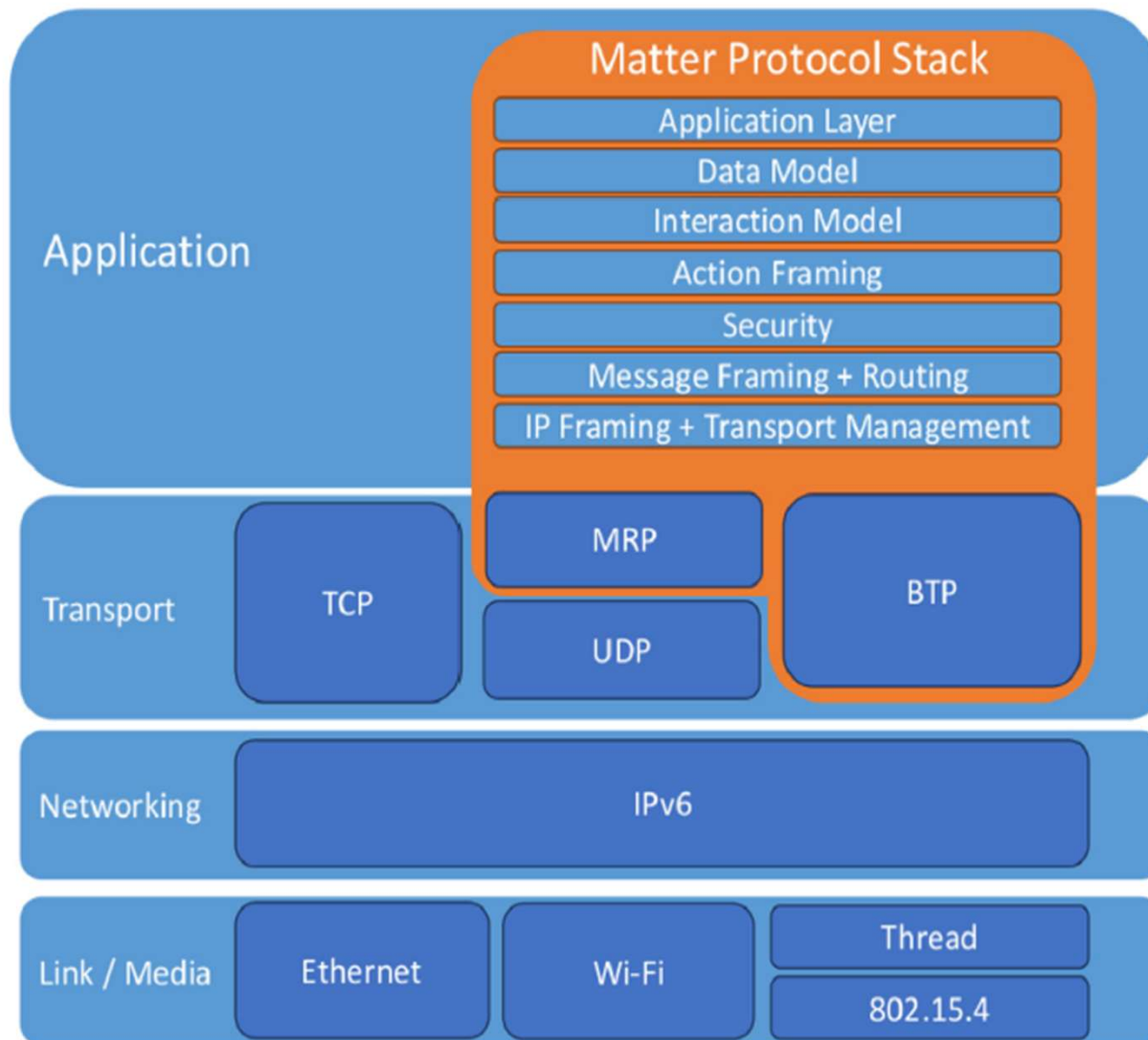


Along with more than 600 other companies

Matter Ecosystem for Developers







Quick History

DEC 2019 - ZigBee Alliance starts the Project CHIP (Connected Home over IP) with

- Amazon,
- Apple
- Google

May 2021 - Zigbee alliance rebranded as "Connectivity Standards Alliance" Officially opens Matter Working Group

Oct 2022 - Matter 1.0 Released

- Support for
 - Lighting products
 - Door locks
 - Thermostats
 - HVAC controllers
 - Blinds and shades
 - Security sensors
 - Televisions
 - Streaming video players

May 2023 - Matter 1.1 Released

- Bug fixes
- SDK & API Enhancements
- No new devices supported

Oct 2023 - Matter 1.2 Released

- Support for
 - Refrigerators
 - Portable air conditioners
 - Dishwashers
 - Laundry washers
 - Robotic vacuum cleaners
 - Smoke and carbon monoxide alarms
 - Air quality sensors & air purifiers
 - Fans.
- Improvements to the specification and SDK
- Certification and testing tools.

May 2024:

Matter 1.3 Released

- Support for
 - EV chargers
 - Water management devices (like leak detectors and water valves)
 - Kitchen appliances (like microwaves, ovens, and cooktops).
- Energy monitoring features
- Enhanced TV features: Improved casting, push notifications, expanded interactivity with TV apps
- Better integration with other smart home devices.
- Scenes support: Allows users to create and activate scenes, which are predefined settings for multiple devices that can be triggered with a single command.

The Last 6 Months – Matter Ecosystem

Matter 1.4

- Enhanced Multi-admin Support
- Expanded Device Support – Energy Management, Heat Pumps, Batteries, Solar panels
- HARP – Home Routers and Access Points (Enables WiFi routers to simplify setup)
- Optimizations for Battery Performance (Sleepy End Devices)

Thread 1.4

- Thread Border Router Interoperability
- Enhanced Commissioning and Credential Sharing
- Improved Network Diagnostics

Smartphone Support

- Android 15 – Supports Thread Support, Border router functionality ('Use Thread' toggle)
- iOS 18 – Expands support for Matter, Thread accessories and Thread border routers.

Product Launches

- Expansion of Product Portfolios of Major Ecosystems (Amazon, Google, Samsung etc)
- New Entrants: Nanoleaf, Wemo, Aqara, Yale.. Lots more

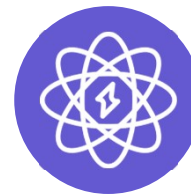


India's First Liberal STEM University

Interdisciplinary & Futuristic Majors



Digital Transformation



Energy Sciences



Life Sciences



eMobility

Project-based Learning Pedagogy Aligned to Industry Needs.

Options to explore and experiment before choosing Major stream (after Year 1)

Launch – Matter Meetup @ Atria University

- CoE for Connected Intelligence shall host ‘Matter Meetups’ at Atria University Campus
- Open Platform for interactions between Industry Practitioners, Academicians and Students
- Kick-start with a One-day Workshop on Matter Protocol
- Reach out to simhav@gmail.com or vijai.simha@atriauniversity.edu.in

<https://www.atriauniversity.edu.in/>



Thank You

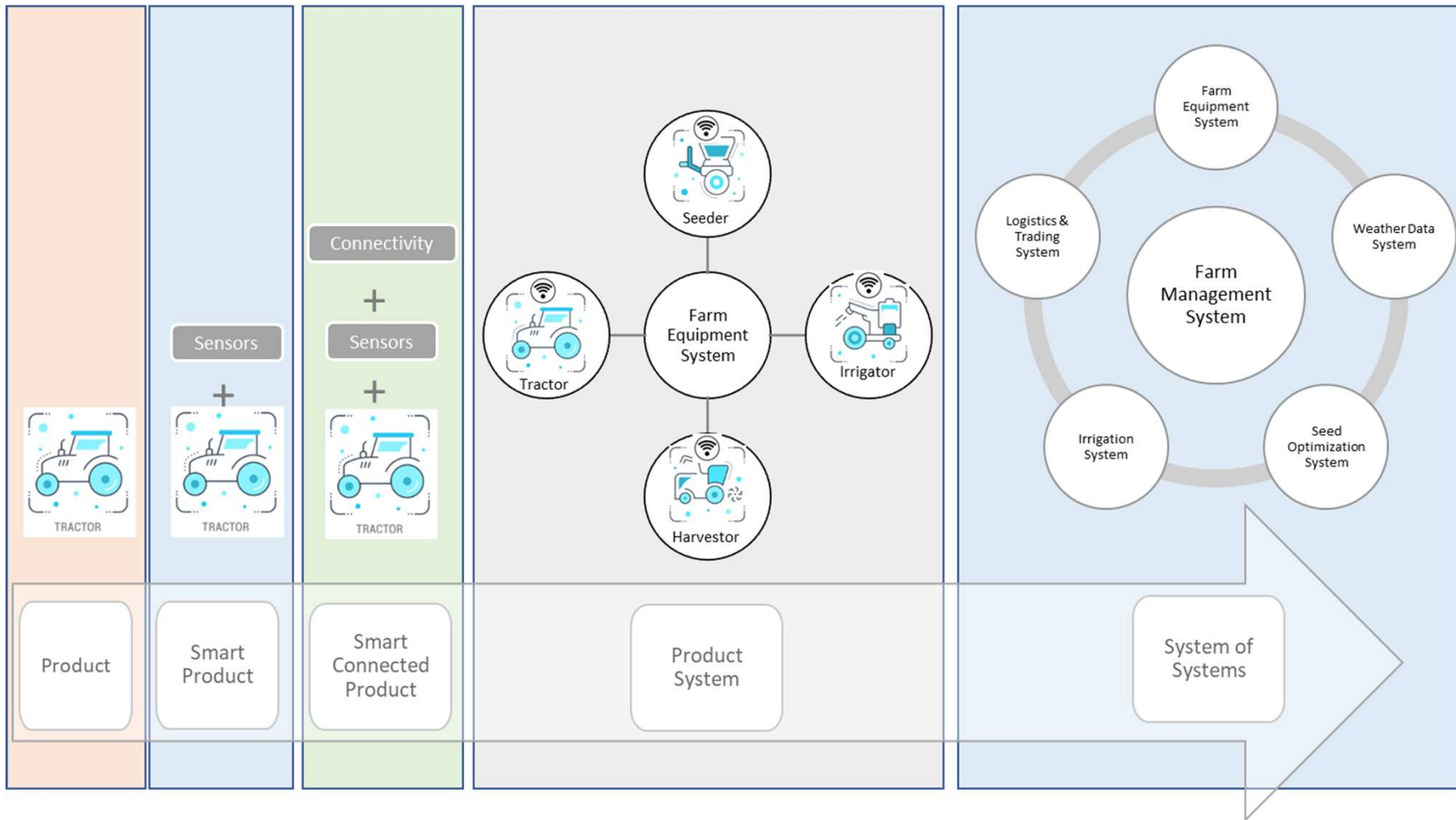
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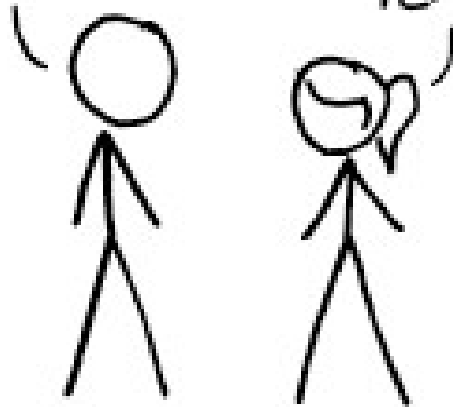
IoT Progression – From Thing to System-of-Systems



HOW STANDARDS PROLIFERATE:
(SEE: A/C CHARGERS, CHARACTER ENCODINGS, INSTANT MESSAGING, ETC)

SITUATION:
THERE ARE
14 COMPETING
STANDARDS.

14?! RIDICULOUS!
WE NEED TO DEVELOP
ONE UNIVERSAL STANDARD
THAT COVERS EVERYONE'S
USE CASES.



SOON:

SITUATION:
THERE ARE
15 COMPETING
STANDARDS.

Matter Over WiFi

- Native support for the De-facto protocol within the Smart Home
- Matter compliments WiFi networks with an unified(?) application layer
- WiFi offers better range and penetration compared to BLE & Thread
- An IP-based approach for integrating WiFi + Thread + Ethernet and Matter Bridge for BLE + Zigbee devices should cover most of the connectivity use-cases in the Smart Home.
- Simplified Setup and Commissioning via DCL reduces onboarding friction
- Matter over HaLow? – Promising option to drive adoption of H



Matter Casting

- Amazon supports Matter Casting on Fire TV and Echo Show 15
- Open-source Alternative to Chromecast & AirPlay
- Leverages Matter 1.3 Features



Key Challenges

- Device Interoperability Issues Persist
- Feature Reduction
- High Certification Costs
 - Certification Transfer Program should help products with small initial scale
- Multi-admin is still a 'promise'
- Commoditization conflicts with Manufacturer's need to differentiate
- BLE is a tough incumbent