Podaří se Matter spojit všechny technologie ?

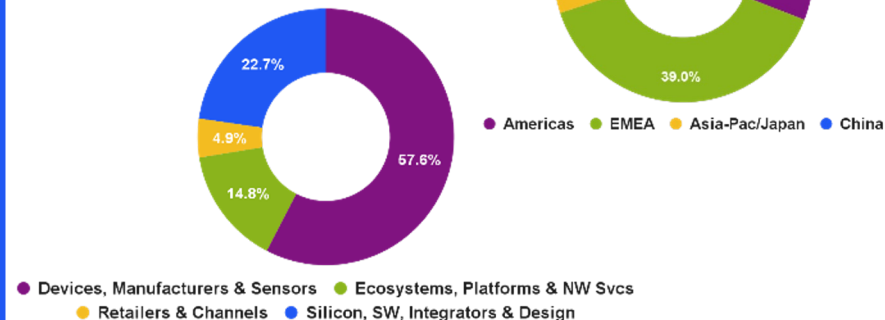Jiří Konečný, CSA member

Global Leadership

History

2002 - Connectivity Standards Alliance (ZigBee)

2019 - CHIP (by Amazon, Apple, Google, ZigBee)

2021 – name change to Matter

585 Engaged Companies, with over 5,500 member individuals participating from 43 countries. Added 143 Members in 2022

Membership by Industry

- Devices, Manufacturers & Sensors — 57.6%
- Ecosystems, Platforms & NW Svcs — 14.8%
- Retailers & Channels — 4.9%
- Silicon, SW, Integrators & Design — 22.7%

- Americas — 30.9%
- EMEA — 39.0%
- Asia-Pac/Japan — 6.0%
- China — 24.1%

Co je to Matter ?

Matter je otevřený standard pro smart home zařízení, který umožňuje interoperabilitu mezi různými výrobci a platformami s cílem vytvořit jednotný standard pro komunikaci a propojení těchto zařízení.

Matter se snaží vyřešit problém, kterým je fragmentace na trhu. Dříve byly tyto zařízení často navzájem nekompatibilní a vyžadovaly používání různých protokolů a hubů. Matter standard usnadňuje komunikaci mezi zařízeními různých výrobců, což zlepšuje uživatelskou zkušenost a umožňuje větší flexibilitu při výběru zařízení pro smart home.
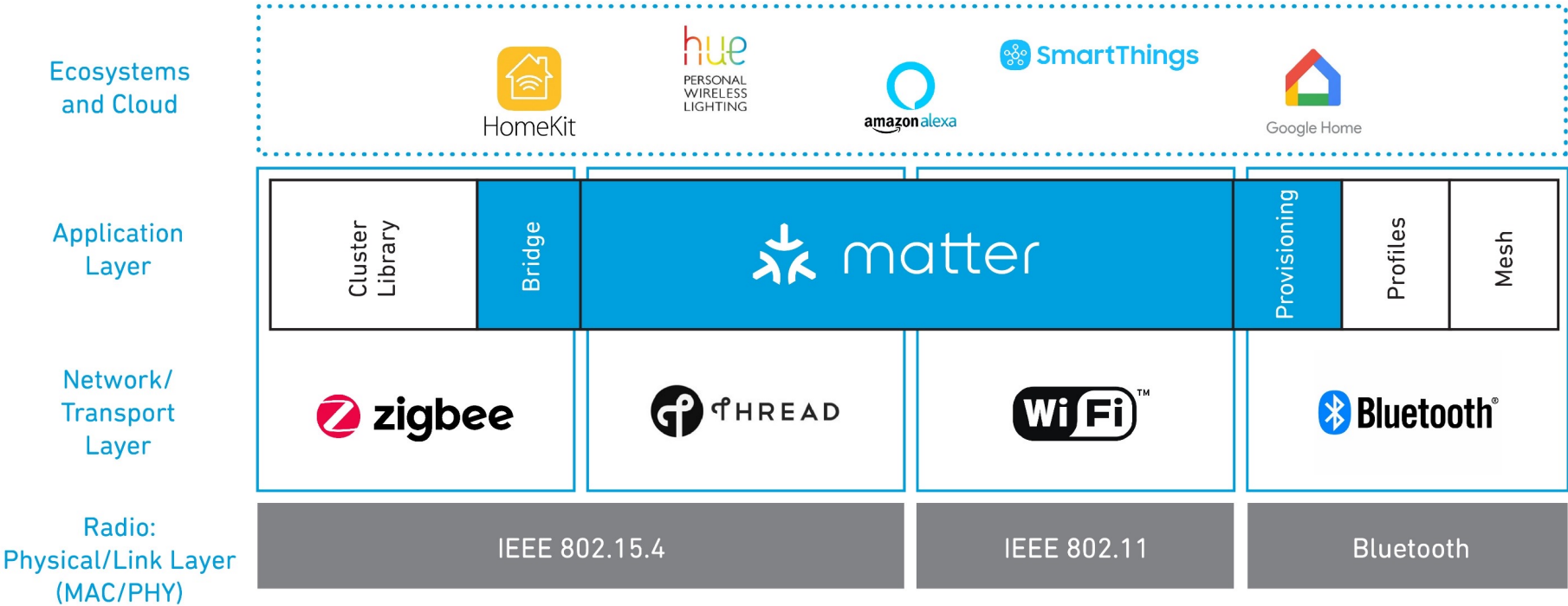
matter

- A single, IP-based protocol
- Simplified development for manufacturers
- Increased choice & compatibility for consumers
- Rapid, global adoption & transformative impact
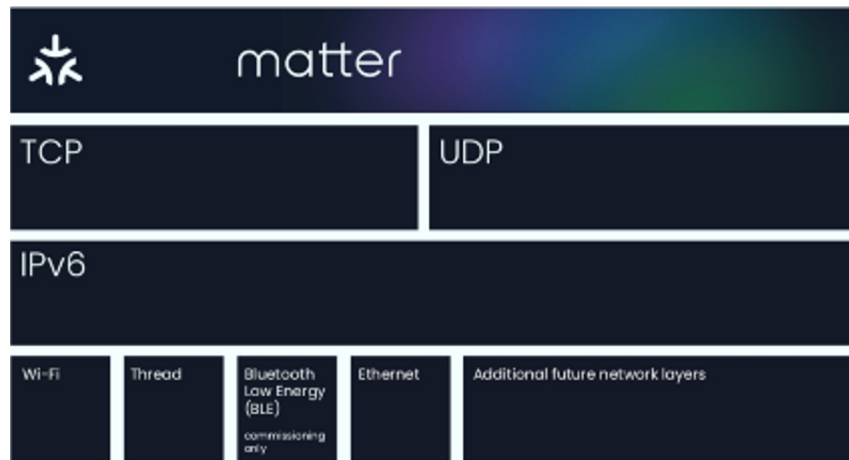- A seal of approval that devices will work seamlessly and securely together

Simple

Interoperable

Reliable

Secure

Architecture

How Matter Stacks Up

Common application layer
Interoperability, simplified setup & control

IP-based
Convergence layer across all compatible networks

Secure
Comprehensive, Layered, Resilient, Agile
AES-128-CCM encryption with 128-bit AES-CBC

Common protocol across devices
Extendible to cloud

Common data model
Core operational functions, multiple device types

Low overhead
MCU-class compute, <128KB RAM, <1MB Flash

Industry groups

Matter

Zigbee

Health and Wellness

Access Control

Data Model

Product Security

Data Privacy

Member Group China

EU Interest Group

Industry Stakeholder Groups

Workgroups link

Active Use Case Teams

- Appliances (White goods)
- Robot vacuum cleaners
- Closure Sensors
- Environmental Sensing / Controls
- Smoke & CO Detectors
- Energy management (EV Charging +)
- Access points, Border Routers
- Ambient motion / presence sensing
- Doorbells & Cameras

Lighting, Electrical

Blinds/Shades

HVAC Controls

TVs

Access Control

Safety & Security

Bridges

Controllers (in a variety of devices and interfaces)

csa connectivity standards alliance

In practice

1) Annual fee: $ 20.000

2) Pass the training

3) Follow the spec

4) Certification

CERTIFICATE OF MEMBERSHIP

ELKO EP, s.r.o.

member since year 2022

is a member in good standing with the Connectivity Standards Alliance. The Alliance is an association of worldwide companies working together to create and develop open, global standards that enable innovative wireless communication for the Internet of Things in connected devices for consumer, commercial, and industrial industries.

Tobin Richardson
President & CEO, Connectivity Standards Alliance

Void upon cancellation of membership

Spec

Matter Specification
Version 0.7-fall2023, 2023-04-18 22:00:37 -0700: Draft

Matter Device Library
Version 0.7-fall2023, 2023-04-18 22:00:37 -0700: Draft

Matter Application Clusters
Version 0.7-fall2023, 2023-04-18 22:00:37 -0700: Draft

New device type

This New Feature Request (NFR) form is used to submit an NFR for review and approval AND track progress of work.

Process Stage / Information	Content
Proposal	**To Be Completed by Submitting Organization(s)**
Note to Author	If necessary, please contact the chairs of relevant groups for time to discuss and recruit participants or develop support for the NFR. Once an author believes the NFR is complete and has sufficient support, please submit for approval to the appropriate WG (SC) Chair.
Name of Feature	Fan control with Step
Author	Cam Williams
Date Submitted	3-Mar-2023
Feature Description	Stateless fan speed step up/down control with optional wrap feature. Also, optional to include fan off as lowest speed.
Scope and Purpose (marketing & technical)	Fan Control cluster command.
Limitations of the current version	Requires knowing the fan state.
Will these features be mandatory or optional?	Optional feature.
SC1 P&P and charter check	**Does this follow our Process & Procedures, and is this within the scope of the WG charter? Does this require an MRD?**
Affected Working Groups	Matter and Data Model
Does this feature change current behavior?	NO
What stack layer does this affect?	Data model
Does this affect existing specs (cluster, device, etc.)	Fan Control cluster
Will this affect interoperability?	NO
Will this be backward compatible?	YES
Security	NO
Technical Requirements	New Step command
Related Documents	Matter Fan Control cluster specification
Resource Requirements	Test scripting, Matter SDK
Supporting Participants (minimum 5, unless SC approves otherwise)	Schneider Electric, Midea, Resideo, Amazon, Legrand
Effort Participants (minimum 3, unless approved otherwise)	Schneider Electric, Midea, Resideo

Marketing Review	**To be completed by SC based on Marketing action. The SC determines if this is needed.**		
Is marketing approval required? Which approving marketing group? Data it was approved?	[YES/NO/NA – Group, Date]		
Comments			
SC1 Review	**To be completed by SC. It is possible to approve SC1 and SC2 approval at once for simple changes.**		
SC1 (+SC2) approval?	[YES/NO – Date]		
Actions from SC1 review	ID	Description	Target Completion Date
	1		
	2		
	3		
	4		
Feature ID or Code Name?	Fan Control Step		
Assigned Champion	Cam Williams – Schneider Electric		
Affected WG(s) and sub-groups for work or review (technical or marketing).	Matter, Data Model		
SC1 Action	**SC to forward to affected technical groups for review.**		
Technical Group Review	**To be completed by technical group (BG, etc). Section should be duplicated if multiple groups are affected.**		
Reviewed by technical groups. Which When? Line for each group.	Matter reviewed spec Q4-2022		
Groups where work performed	Matter		
Author/Champion Action	**Describe major milestones of development including spec text delivery date, ballots for 0.7, test plan development, interoperability testing, ballots for 0.9, SVE testing etc.**		
Deliverables and Actions to Realize Deliverables (examples shown).	ID	Description	Target Completion Date
	1	0.7	April-2023
	2	0.9	May-2023
	3	SVE	June-2023
	4	1.0 IPR Review	May-2023
Additional Comments			
Technical Chair Action	**Chairperson(s) of technical groups to refer to SC for SC2 review**		

SC2 Review	**This is a check to make sure groups have put together an estimated schedule. If the schedule was submitted for the SC1 review, then this may not need an update.**		
SC2 approval:	[YES/NO/NA – Date]		
Actions from review	ID	Description	Target Completion Date
Where will the work be done?	[final decision on what groups do the work and review/approve]		
New groups created?	[list of new groups including link to scope and charter (if needed)]		
Author/Champion Action	**Once specification, and other documents (test plan, PICS, etc.) are created, they must be submitted for final SC review.**		
Final SC Review	**This section to be completed by SC during final review.**		
Final SC approval:	[YES/NO – Date]		
Completion date of errata and CCBs	[Date]		
Feature specification	[specification(s) release containing this new feature]		
Additional Comments			

Certification

1) Attestation with DAC (counterfeits, compliance status)

2) Certification Declaration

   $ 7-10k per product (CSA&ATL)

   any changes (HW, FW, SW) = recertification

   ATL – Authorized Test Laboratory

   https://csa-iot.org/certification/testing-providers/

3) Does not include safety testing (CE, VDE, UL …) !

Authorized Testing Providers

ALLION
AIoT EXPERT

Allion Labs
Contact: Brian Shih
Phone: +886-2-26557877
Email: brianshih@allion.com

Bureau Veritas (China)
Contact: Jian Qiu
Phone: +86 18621021505
Email: jian.qiu@bureauveritas.com

Bureau Veritas (Germany)
Contact: Boris Binger
Phone: +49 (0) 2102 749 359
Email: boris.binger@bureauveritas.com

Bureau Veritas (US)
Contact: Martin Hernandez-Palomares
Phone: +1- (669) 600-5293
Email: martin.hernandez-palomares@bureauveritas.com

CESI

China Electronics Standardization Institute
Contact: Wu Xingyu
Phone: +86 10-64102310
Email: wuxy@cesi.cn

DEKRA

DEKRA Testing & Certification S.A.U. (Spain)
Contact: Noemi Perez
Phone: +34 952-61-98-20
Email: wireless.global.es@dekra.com

DEKRA

element

connectivity standards alliance

Required certifications and qualifications

matter
Bluetooth® THREAD

Matter over Thread device

- Matter certification
- Dependent certifications:
  - Bluetooth LE qualification
  - Thread certification

matter
Bluetooth® Wi-Fi™

Matter over Wi-Fi device

- Matter certification
- Dependent certifications:
  - Bluetooth LE qualification
  - Wi-Fi certification

matter
Bluetooth® THREAD Wi-Fi™

Dual Matter device or Thread Border router + Matter Controller

- Matter certification
- Dependent certifications:
  - Bluetooth LE qualification
  - Thread certification
  - Wi-Fi certification

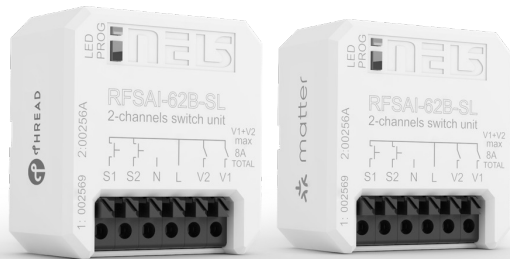# Matter certification process overview
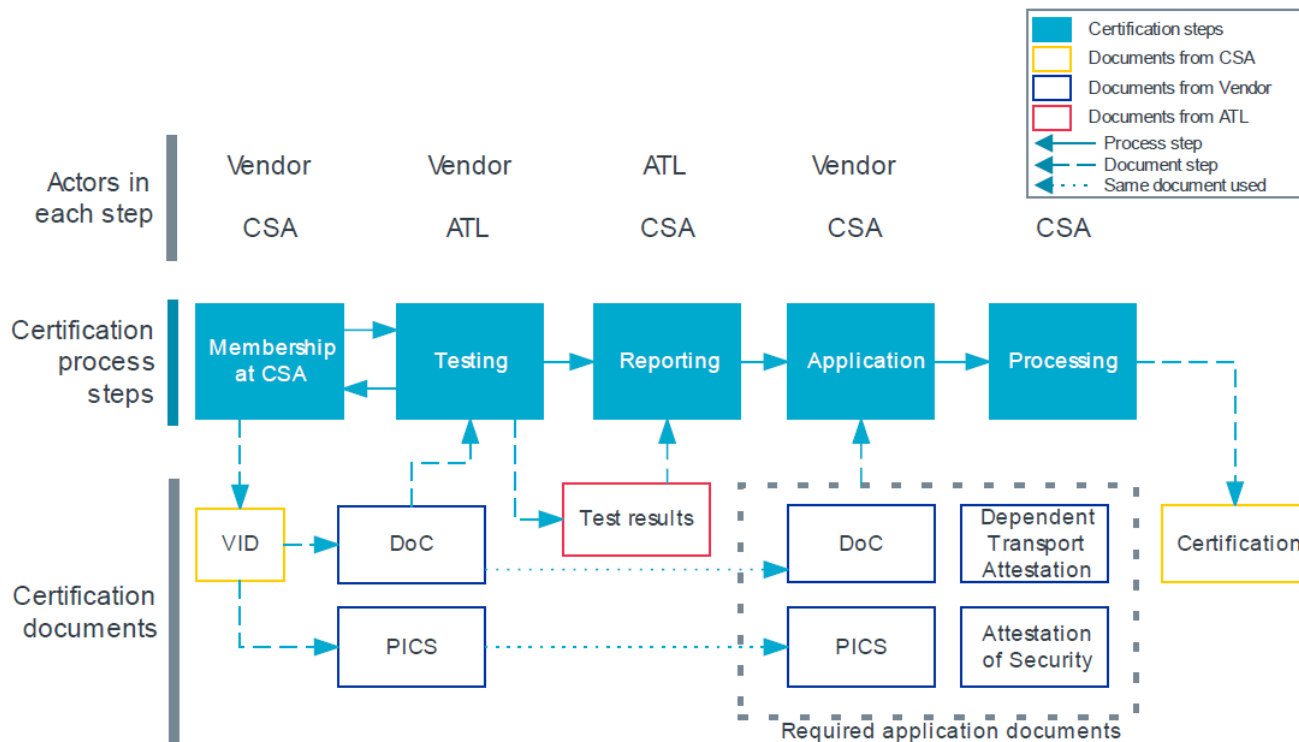
Smart home device badges

What it looks like in practice ?

How is ELKO EP involved ?

Questions:
konecny@elkoep.cz

The Connectivity Standards Alliance is the foundation and future of the Internet of Things (IoT). Established in 2002, its wide-ranging global membership collaborates to create and evolve universal open standards for the products transforming the way we live, work and play. With its Members' deep and diverse expertise, robust certification programs, and a full suite of open IoT solutions the Alliance is leading the movement toward a more intuitive, imaginative, and useful world.

Find out more at www.csa-iot.org or follow us on: Twitter Facebook LinkedIn.