MATTER SERIES

tech t▶lks UPCOMING SESSIONS

| FEB 9TH | Matter: Evaluation to Certification |
MAR 9TH	Certifying a Matter Device: Thread and Wi-Fi
APR 6TH	Getting Started: Matter Over Wi-Fi
MAY 4TH	Start Your Matter Development Journey
JUN 1ST	What's New in Matter?

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Agenda

01   **Matter Certification**

02   **Different Certification Paths**

03   **Optional Ecosystem Certification**

04   **Certification Timing and Cost**

**05**   **Summary**

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Matter Certification

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Matter Certification Steps
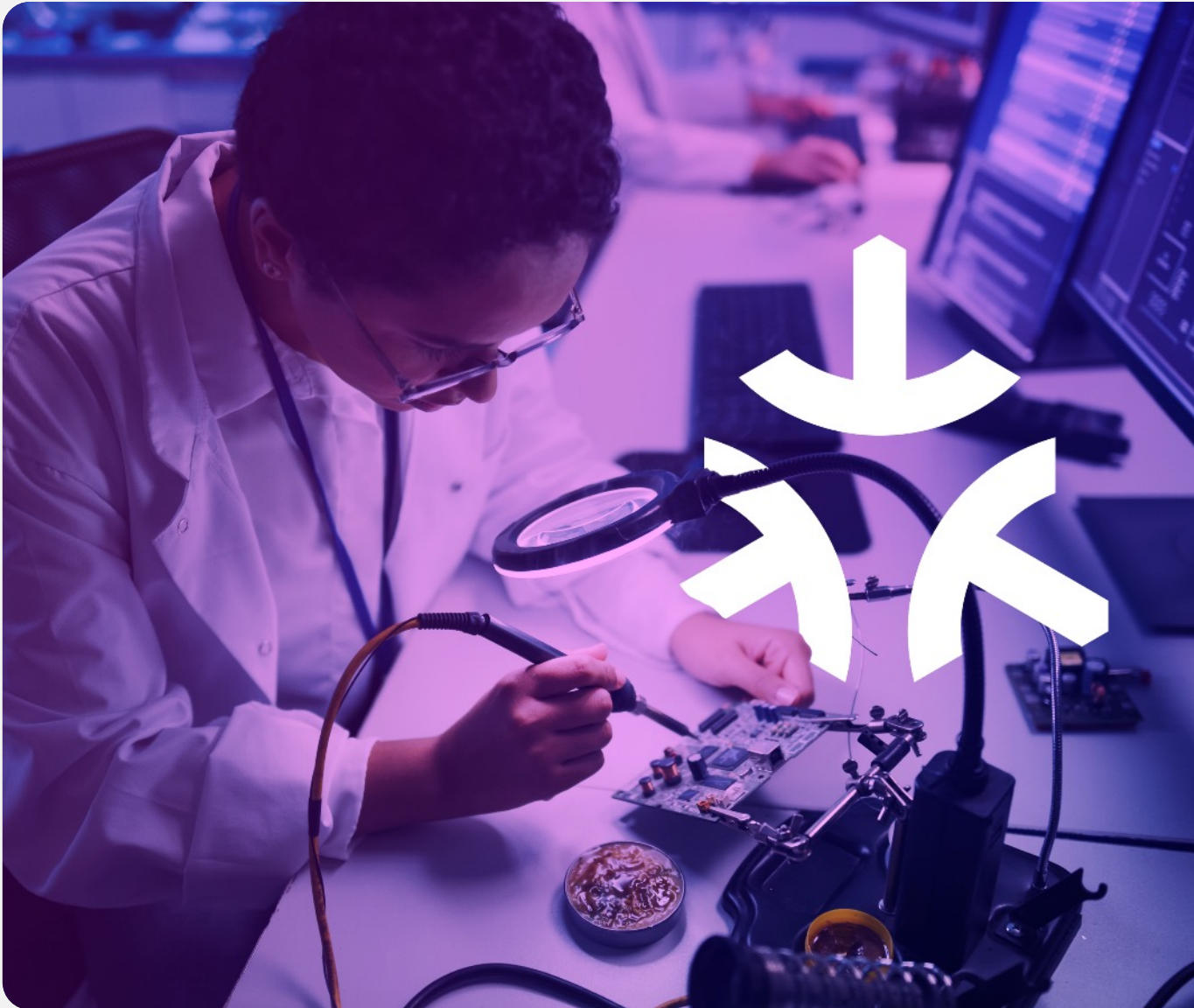
1. **Become a member of the CSA**
2. **Request a Vendor ID code (VID) from CSA Certification**
3. **Select applicable network transports used in your product**
4. **Certification from relevant standards organization**
5. **Matter Product testing**
   a. If product will be Certification by Similarity (CbS) or Certification Transfer Program (CTP) – go directly to step 6
   b. Choose an authorized test provider and submit testing
   c. OR ensure final SVE results are uploaded in TEDS
6. **Submit certification application to the CSA via the Certification Web Tool**
7. **Application review by CSA Certification**
8. **Approval – Certificate of Compliance, CSA website listing, certified logos, Certification Declaration (CD)**
9. **Distributed Compliance Ledger (DCL) compliance record**

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Overview – Certification Steps
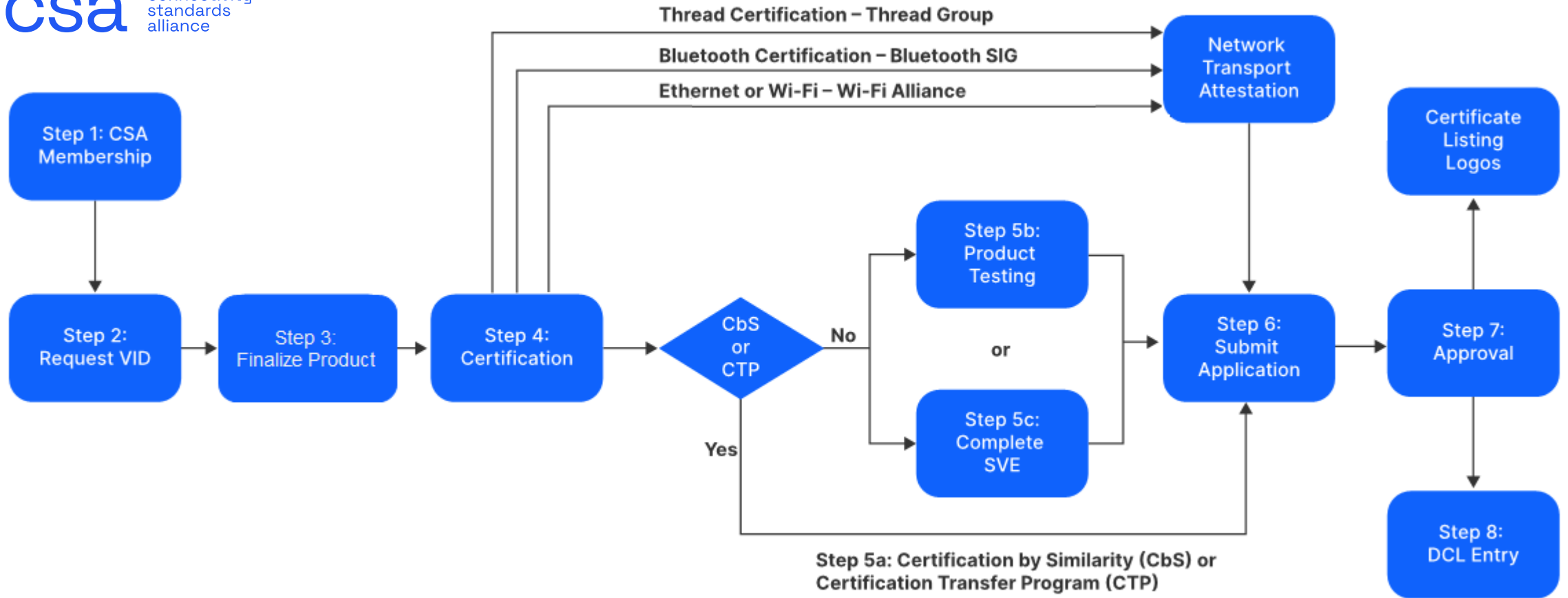
Step 1 – CSA Membership

- **Select a membership level**
  - Adopter or higher needed to develop, test and certify
  - Associate members can only participate in Certification Transfer Program
  - Membership benefits and comparison available on CSA website
- **Ready to join?**
  - Follow three-step process under "How to Become a Member": https://csa-iot.org/become-member/
- **Questions about choosing a membership level? Contact CSA Member Services: help@csa-iot.org**

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Step 2 – Obtain a Vendor ID code (VID) and determine your Product ID (PID)

- **To request a Vendor ID code (also called a Manufacturer ID code), email certification@csa-iot.org**
  - A code will be assigned to your company and sent to you via reply email

- **The Manufacturer Code database is published monthly on for CSA members**
  - https://groups.csa-iot.org/wg/members-all/document/10905

- **VID codes are valid immediately upon assignment**
  - Will appear in the database in the next published update

- **Decide on Product ID(s)**
  - A Product ID is your own unique 16-bit number to identify distinct Matter products.
  - You may have as many product IDs as you want but each has their own unique certification ID

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Steps 3-4 –Product Development & Network Transport Selection/Certification

- ▪ **Products with Thread, Wi-Fi, or Bluetooth need citification for relevant standards**
  - • Must complete before finalizing your Matter certification

- ▪ **Network transports supported at launch:**
  - • Ethernet (IEEE PMA Compliance Attestation required)
  - • Wi-Fi (Wi-Fi 4/802.11n or later – requires WPA3)
  - • Thread (1.3.0 or later)
  - • Bluetooth to support Matter commissioning (LE v4.0 or later)

- ▪ **Complete the relevant CSA Attestation of Network Transport Protocol Conformance/Certification form(s)**
  - • https://groups.csa-iot.org/wg/members-all/document/folder/31
  - • Choose the appropriate form for your network transport(s)
  - • You will need to upload the form(s) to your Matter application

- ▪ **Complete the CSA Security Attestation**
  - • https://groups.csa-iot.org/wg/members-all/document/folder/2255
  - • Includes security recommendations and requirements
  - • Fill out based on how you have implemented your product

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Matter Wi-Fi Certification for Silicon Labs' Customers

Matter Wi-Fi Requirements

- **Must certify Bluetooth with Bluetooth SIG**
  - If using Silicon Labs certified part, can skip testing
    - ‣ Must still submit certification documents to BT SIG

- **May certify Wi-Fi with Wi-Fi Alliance**
  - If using the Wi-Fi Certified logo, you must test and certify

- **Must certify Matter with CSA**
  - Must test a qualified test house
  - Must submit documents to CSA
    - ‣ Bluetooth and Wi-Fi certification IDs
    - ‣ Can use Silicon Labs' Wi-Fi certification ID if not using Wi-Fi Certified logo

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Matter Thread Certification for Silicon Labs' Customers

Matter Thread Requirements

- **Must certify Bluetooth with Bluetooth SIG**
  - If using Silicon Labs certified part, can skip testing
    - Must still submit certification documents to BT SIG

- **Must certify Thread with Thread Group**
  - If using Silicon Labs certified part, can skip testing
    - Must still submit certification documents to Thread Group

- **Must certify Matter with CSA**
  - Must test a qualified test house
  - Must submit documents to CSA
    - Bluetooth and Thread certification IDs

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Step 5b – Matter Certification Testing

- **Generate Product PICS – Protocol Implementation Conformance Statement**
  - A list of all mandatory and optional features implemented
  - Use the CSA PICS Tool to generate/complete XML PICS

- **New product applications require compliance testing at a CSA Authorized Test Provider**
  - Usually done on your own timetable
  - Testing can also be done at a CSA sponsored event

- **A current list of Authorized Test Providers can be found on the CSA website**
  - https://csa-iot.org/certification/testing-providers/
  - Test provider must be validated to perform Matter testing

- **After testing is completed, your test provider will issue a final test report to the CSA**

- **Pre-testing can be completed on your own using the CSA provided Test Harness**
  - This same harness will be used by the testing provider

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Step 5c – Spec Validation Event (SVE) Certification

- **New device types are tested over multiple CSA test events and a final Spec Validation Event (SVE)**
  - Those participating in the SVE and pass all the testing *may be* eligible for a product certification
  - Must still wait for the CSA to announce and approve the new release of the specification
  - Timing, location, and number of events are dictated by the Matter Working Group within the CSA

- **Product is always only eligible for certification with successful completion of full phase testing**
  - Test results from SVE can be used to apply certification provided no software changes are made afterwards
  - If SVE involved running all tests then no additional tests are necessary.
  - If SVE is a subset of tests, remaining tests must undergo ATL testing using the same software version
    - The combined results can be used to apply for certification

- **Final SVE results must be uploaded in TEDS**
  - All submitted tests must have a passing result and be validated by the assigned authorized test lab (ATL)

- **SVEs occur infrequently, and most will be using the normal certification testing process.**
  - Unless you need new features or device types, recommend to use the normal certification testing process.

SVE – Specification Validation Event
ATL – Authorized Test Lab

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Step 6 – Submit Certification Application

- **Certification applications are submitted via the [Certification Web Tool](#)**
 - For instructions on requesting an account, using the tool, and submitting applications see: [Certification Tool User Guide](#)

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Step 6 – Submit Certification Application

- **Required documents and information (tip: gather/prepare these in advance):**
- **Documents**
  - [Declaration of Conformity (DoC)](#)
  - PICS – Protocol Implementation Conformance Statement
  - [Network Transport Attestation](#) (not required for SW Component applications)
  - [Security Attestation](#)
- **Data**
  - Product ID (PID)
  - [Vendor ID](#) (VID) – assigned VID will appear in application
  - Device Type (for End Products, enter this in the "Technical Sub Categories" field of the application)
  - Device Role / Media Device Type (SW Component applications)
  - dac_origin_vendor_id (optional – see Matter specification)
  - dac_origin_product_id (optional – see Matter specification)
  - authorized_paa_list (optional – see Matter specification)

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Step 7 – Application Review
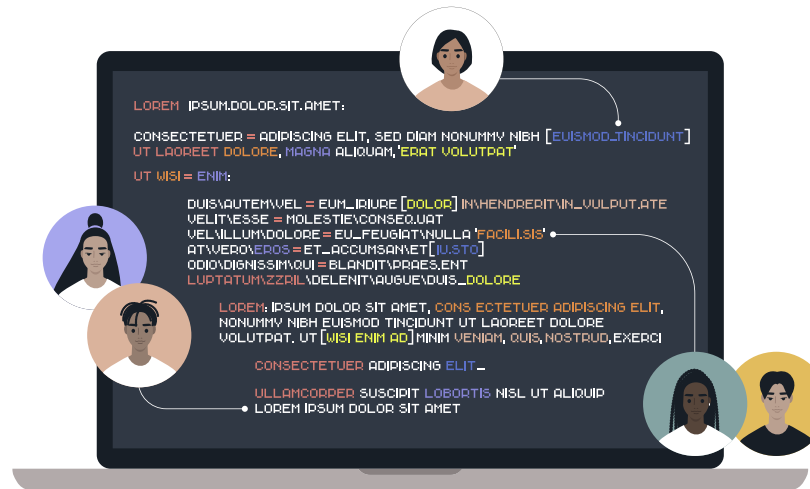
- **Submit your application**
  - It will enter the review queue
- **CSA Certification will review your application**
  - Issuance of a certificate of compliance (if there are no issues with the application after review)
  - Or an e-mail communication back with a list of items that need to be addressed to continue processing

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Step 8 - Approval

- **Certificate of Compliance**
  - PDF certificate document sent via email upon approval
- **Public listing of certified products**
  - Product listing posted to the [CSA Certified Products Database](#) at csa-iot.org
    - ‣ Unless otherwise requested
- **Matter certified logos**
  - Logos authorized for use with your certified products are located on your Certification Tool dashboard
- **Certification Declaration (CD) blob file**
  - A separate email notification will be sent with instructions for download when the CD file for the product is ready
    - ‣ It will be available in the Certification Tool from the account that submitted the application)

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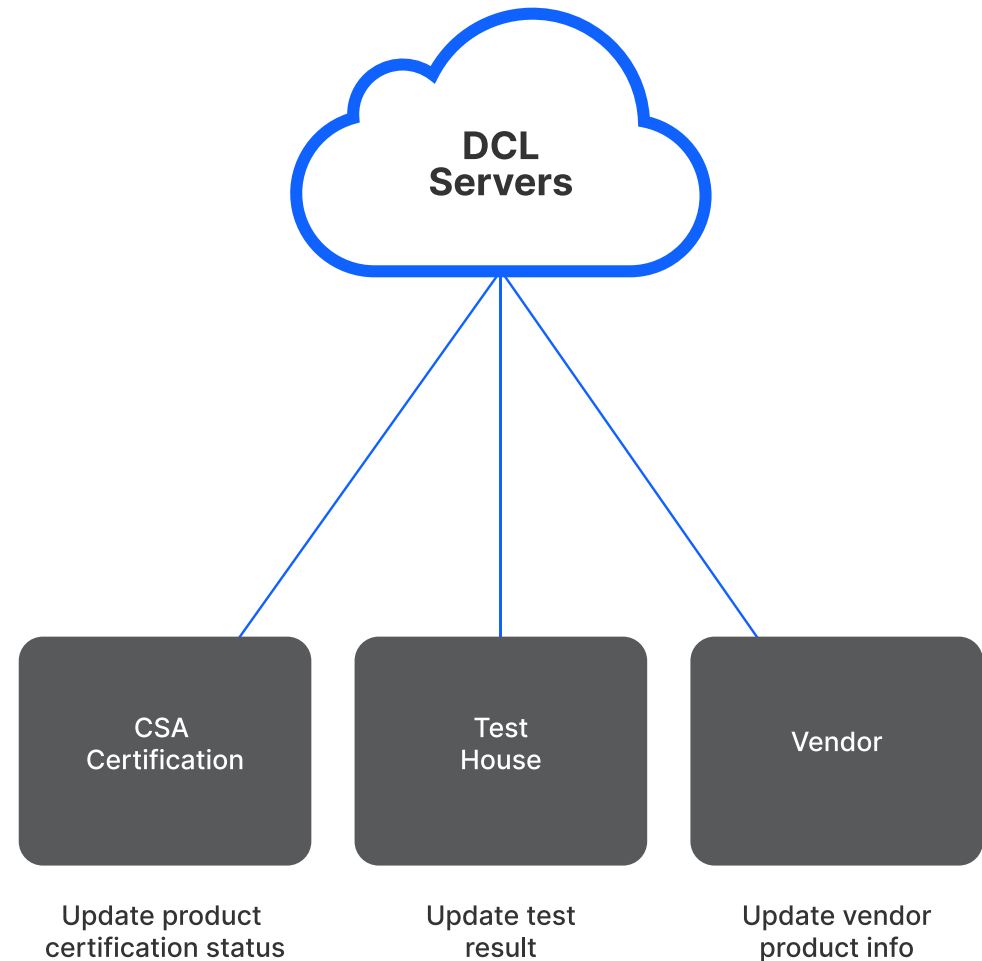# Step 9 – Distributed Compliance Ledger (DCL)

- **What is it?**
  - Distributed database of all certified products
    - ‣ Certification status
    - ‣ Product name / description
    - ‣ Firmware Upgrade URI
- **What is the benefit?**
  - Commissioners can restrict access to only certified devices
  - Users can verify that a device is authentic
- **How is it managed?**
  - All Matter certified products are publicly available
    - ‣ https://webui.dcl.csa-iot.org
  - Write to the DCL is restricted to the following roles
    - ‣ CSA Certification role
    - ‣ Test House role
    - ‣ Vendor role
  - A certified product record is entered by the CSA Certification

DCL Servers

CSA Certification	Test House	Vendor
Update product certification status	Update test result	Update vendor product info

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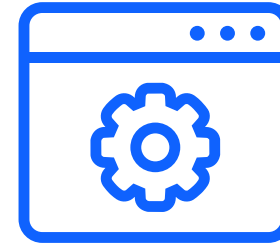# Different Certification Paths

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Main Certification Paths

Matter Hardware Certification
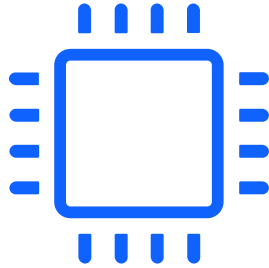
- **Designed for embedded devices and end products**
- **All software and hardware evaluated together**
- **Modifications to the software that impact Matter require re-certification**
- **Limited hardware changes allowed**

Matter Software Component Certification

- **Designed for app-based devices**
- **Mainly for Matter controllers**
- **Component declares a Supported Operating Environment (SOE) that it runs on**
- **Underlying SOE software can change**
- **Underlying SOE hardware can change**

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Additional Certification Choices
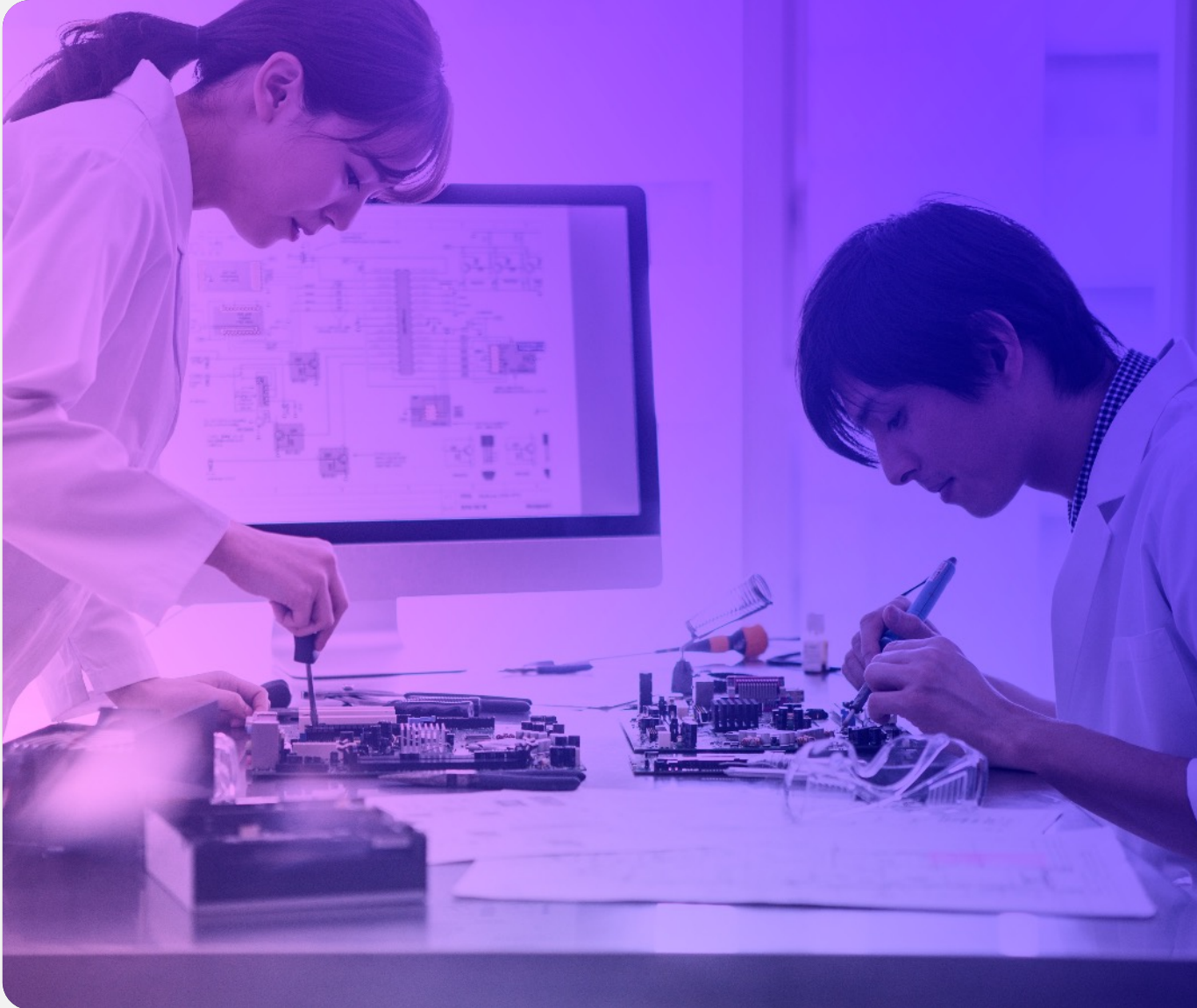
- **Normal Path for single product**
  - Full testing either at SVE and/or ATL
  - Intended for new design products
- **Product Family Certification (PFC) Path**
  - Intended for certification of variants of the SAME product (same SW including Device ID, except language differences)
  - First "Parent" product needs full testing either at SVE or ATL
  - Other "Family" products are certified without the need for testing
- **Certification by Similarity (CbS) Path**
  - Intended for certification of a SIMILAR product (same Matter SW)
    - ‣ SIMILAR product must be certified by either Normal or Product Family Certification
  - Product is certified without the need for testing
  - May be applicable for a re-certification
- **Certification Transfer Program**
  - Available for cases of re-labelling a product manufacturer by another member
  - Available to Associate Members

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Optional Ecosystem Certification

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Reduce Product Costs and Time-to-Revenue

- **Optional Ecosystem certification done after Matter certification**
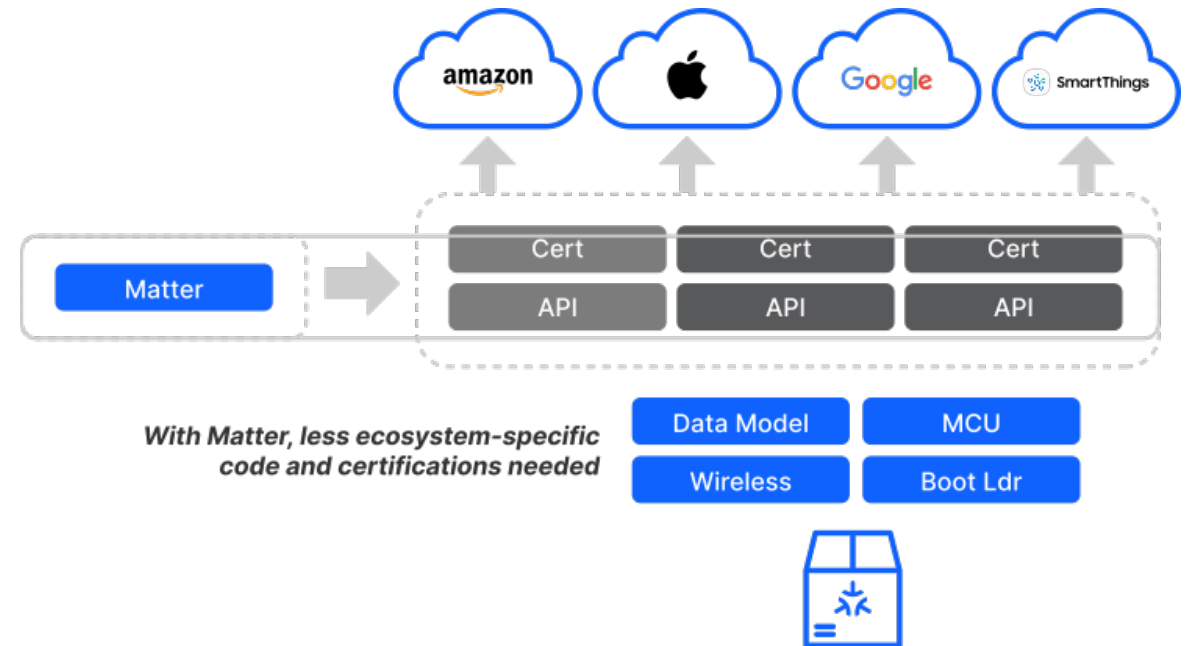 - Only light-effort ecosystem-specific interoperability testing for ecosystem specific features and base functionality
    - ‣ i.e. Google Home and Away Intelligence clusters
    - ‣ i.e. Amazon Matter Simple Setup (MSS)

- **Why would device manufacture want it?**
  - Allows badge to be included on packaging
  - Inclusion in Ecosystem marketing
  - Ensures smooth interoperability with Ecosystems
  - Includes differentiated features with Ecosystems

- **Why do users want it?**
  - Helps guide users to their Ecosystem
  - Provides guarantee of working with their Ecosystem

With Matter, less ecosystem-specific code and certifications needed

Where do you get started?

- Amazon - https://developer.amazon.com/en-US/alexa/matter
- Apple - https://developer.apple.com/apple-home/matter/
- Google - https://developers.home.google.com/matter
- SmartThings - https://developer.samsung.com/smartthings

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Certification Timing and Cost

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Matter Certification Fee Schedule (as of Feb. 27, 2023)

	Associate	Adopter*	Participant*	Promoter*	
New Certification (by Testing)					
Application fee	N/A	3,000	2,000	2,000	**Normal Certification**
Authorized Test Provider Fee	Based on Test Provider				
Certification by Similarity (CbS)					
Application fee	N/A	2,500	1,500	1,500	**Certification by Similarity (CbS)**
Certification Transfer Program					
Application fee	2,500	2,500	1,500	1,500	
CTP listing (annually)**	500	FREE	FREE	FREE	
Family Certification Program					
New family application fee	N/A	8,000	4,000	4,000	**Family Certification**
Recertification (family update) application fee	N/A	8,000	4,000	4,000	
Family extension (adding variants) application fee	N/A	1,000	500	500	

Includes a yearly fee starting at 7000 USD/year

*** CTP listing fees for any existing certified products are immediately removed upon upgrade to Adopter or a higher level membership.*

**** All fees are listed in US Dollars (USD).*

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BLE, Thread and Wi-Fi Fees (as of Feb. 27, 2023)

	Bluetooth SIG	Thread Group	Wi-Fi Alliance
Alliance Membership Levels			
Membership Fees	Adopter - $0		
	Associate* – $9000	Implementer - $7500	Implementer*** - $6000 (2024)
	Associate** – $42000	Contributor - $15000	Contributor - $20000 (2024)
Authorized Test Labs			
Testing Fee	Varies based on ATL	Varies based on ATL****	Varies based on ATL
Product Certifications			
Certification Fees (per Product).	Declaration Fee (Adopter) - $9600	Inheritance (Implementer) - $1500	FlexTrack (Contributor)- $5000
	Declaration Fee (Associate) - $4800	Inheritance (Contributor) - $1000	QuickTrack (Contributor)- $7500
		Certification at ATL**** - $2500	Derivative (Contributor)- $600
			Derivative (Implementer) - $4000

NOTE: *The above info is for guidance only. Visit the respective alliance's website for the most up-to-date information and fees.*
*For companies with annual revenue < $100M
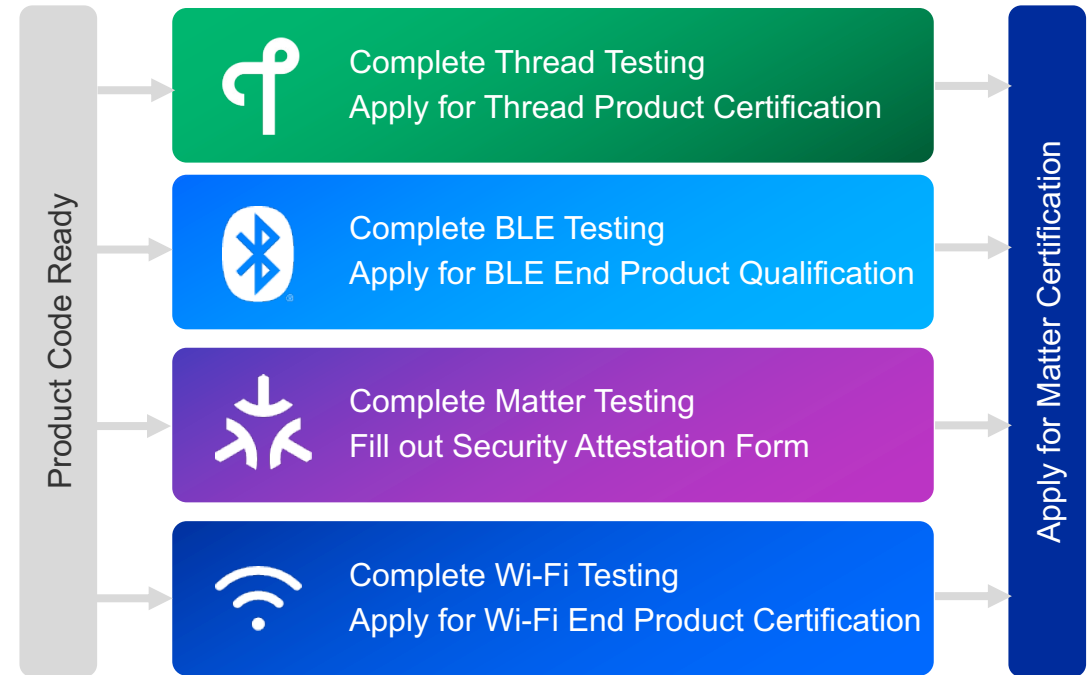***For companies with annual revenue >$100M*
***Wi-Fi Alliance Implementer is for companies that are using unmodified Wi-Fi modules certified by another company and want to use the Wi-Fi Certified brand
**** If using an uncertified thread stack or an altered certified thread component

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Summary

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Matter Certification Summary

Area	Certification Body	Testing Requirement	Certification Requirements
Matter	CSA	Full Matter End Product Testing	• CSA Membership • Matter Testing completed • Certification ID for each transport • CSA Security Attestation completed • Pay CSA Certification fee
Thread	Thread Group	No Testing required if using Silicon Labs Certified Libraries for SOC Authorized Test Lab Testing needed for RCP	• Thread Group Membership required (even for inheritance) • Thread testing completed • Apply for Thread Product Certification • Pay Thread Certification Fee
Bluetooth	Bluetooth SIG	Reduced Testing if using Silicon Labs Bluetooth Qualified Component	• Bluetooth SIG Membership • Completed BLE Testing • Pay BLE Certification Fee
Wi-Fi	Wi-Fi Alliance	No Testing required if using Silicon Labs Certification	• No separate certification at Wi-Fi Alliance required if using Silicon Labs Certified Stack.

Product Code Ready

- Complete Thread Testing
  Apply for Thread Product Certification
- Complete BLE Testing
  Apply for BLE End Product Qualification
- Complete Matter Testing
  Fill out Security Attestation Form
- Complete Wi-Fi Testing
  Apply for Wi-Fi End Product Certification

Apply for Matter Certification

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Three Certification Levels – How Silicon Labs Helps?

STACK CERTIFICATION

- **Bluetooth Low Energy –** Stack is qualified with the Bluetooth SIG and is inheritable.
- **Thread -** Stack is certified and inheritable.
- **Wi-Fi -** solutions are tested and certified with the Wi-Fi Alliance but are not inheritable.

- **Silicon Labs' wireless network stacks are certified with the respective standardization bodies to save development time and costs. Simplicity Studio streamlines testing and certification for your team.**

MATTER CERTIFICATION

- **Matter certification is not inherited**
  - End devices must be certified and do not inherit from platforms
  - Silicon Labs pre-tests our sample apps in the Test Harness

- **Silicon Labs offers CSA-certified Matter solutions and an SDK, including certified application examples. Saving development time and costs.**

ECOSYSTEM CERTIFICATION

Interoperability testing and certifications are optional for smart home ecosystems.

- Certification grants use of the official *Works With* badges and additional features

WORKS WITH alexa   works with Google Home   Works with Apple Home   Works with SmartThings

- **Silicon Labs' implementations have been tested with the popular IoT ecosystems. Our documentation, guides, and tools will streamline your certification processes.**

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Silicon Labs Streamlining Ecosystem Integration

Product

Application

Stack

Radio

Cloud
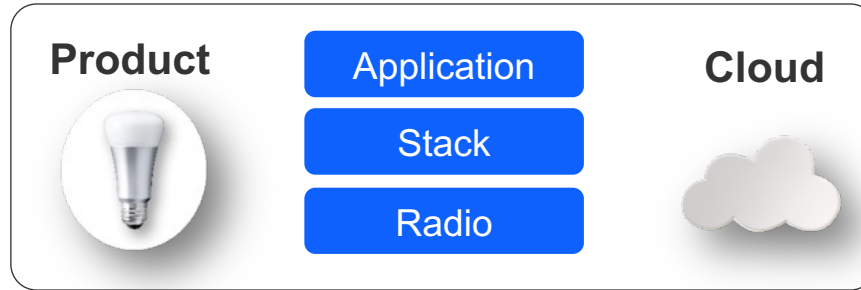
1. Establish relationship
- Work with ecosystem partner

2. Connect product
- Embed wireless technology
- Wireless certification

3. Connect ecosystem
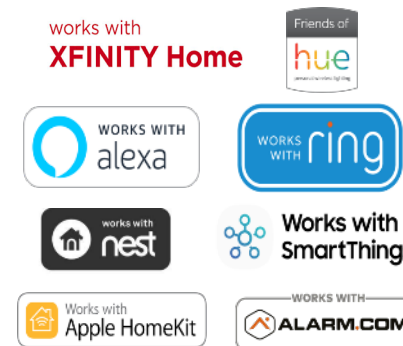- Ecosystem integration
- Ecosystem specific tests

4. Launch
- Works With Badges
- Joint marketing

Making introductions

Supplying suite of developer and certification tools

Providing guidance

- 100% committed to IoT, actively engaged with eco-systems and partners
- Can assist customers at every step through the process

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Q&A

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