



**New Membership Tier, IPR
Considerations and
Certification by Inheritance**

May 30, 2019

THREAD GROUP | Agenda

Introduction

Membership Tiering Updates

Inherited Certifications with Thread Modules

Intellectual Property Rights Scenarios

Call to Action

Q & A

Introduction

THREAD GROUP | Webinar Overview

You will be placed on mute by organizer.

Post your questions for the speakers via the Q&A window at the bottom of your screen.



Questions will be read and addressed after the presentation.

A recording of this webinar will be made available on the Thread Group website.

THREAD GROUP | Today's Speakers



Grant Erickson

President, Thread Group; Principal Software Engineer, Google / Nest

Grant Erickson is a principal engineer at Google in the Nest product area, where he oversees the architecture and technical development of the communications software designed to support Thread and Weave, Google's IoT application framework.

Additionally, he has over 20 years of engineering and product development experience in the enterprise networking and in the mobile entertainment and communications industries.



Tom Sciorilli

Director of Certification, Thread Group

Tom Sciorilli has spent nearly 10 years leading product certification and technical operations for Thread Group and Wi-Fi Alliance. Additionally, he has over 15 years of experience in the semiconductor and aviation industries, in roles ranging from product engineering to management of quality systems and technology development programs.

Membership Tiering Updates

THREAD GROUP | Historical Membership Tiers



Academic

Free



Affiliate

\$2,500



Contributor

\$15,000



Sponsor

\$65,000

THREAD GROUP | Demand for Another Membership Tier



Academic

Free



Affiliate

\$2,500



Contributor

\$15,000



Sponsor

\$65,000

THREAD GROUP | Introducing the Implementer



Academic

Free



Affiliate

\$2,500



Implementer

\$5,000



Contributor

\$15,000



Sponsor

\$65,000

THREAD GROUP | Implementer Benefits (Highlights)

- **Certify by Inheritance**
 - Compliant Components and Products and Utilize Alliance Certification Logo
- **Access to IP**
 - Gain Intellectual Property Rights (IPR) for Thread Technology, Typically with No Royalty Payments
- ***Ability to Purchase Thread Test Bed***
- ***Option to Purchase Thread Test Harness***
- **Participation in General or Annual Meetings**
 - Implementer Track **Only**

THREAD GROUP | Improving Affiliate Value



Academic

Free



Affiliate

~~\$2,000~~
\$750



Implementer

\$5,000



Contributor

\$15,000



Sponsor

\$65,000

THREAD GROUP | Add Inheritance Certification Benefit



Academic

Free



Affiliate

~~\$2,000~~
\$750



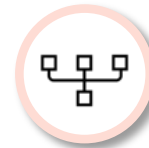
Implementer

\$5,000



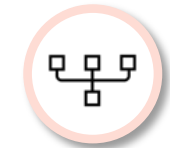
Contributor

\$15,000



Sponsor

\$65,000



🌀 **THREAD GROUP | Availability**

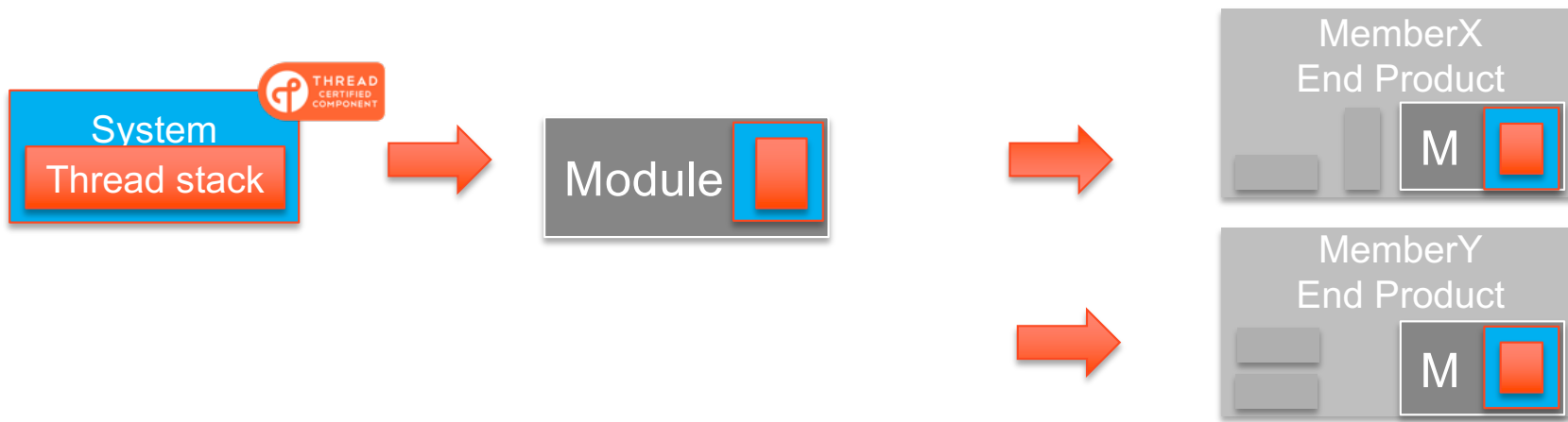
NOW

THREAD GROUP | Membership Level & Benefits

Membership Benefits	Academic	Affiliate	Implementer	Contributor	Sponsor
Receive Member Communications	✓	✓	✓	✓	✓
Access to Members-only Website	✓	✓	✓	✓	✓
Use of Alliance Member Logo	✓	✓	✓	✓	✓
Participation in Press Articles & Interviews	✓	✓	✓	✓	✓
Access Draft Specification / Documents	✓	✓	✓	✓	✓
Access Final Specification / Documents	✓	✓	✓	✓	✓
Participation in General or Annual Meetings			✓	✓	✓
Access to IP - Gain Intellectual Property Rights (IPR) for Thread Technology, Typically with No Royalty Payments			✓	✓	✓
Certify by Inheritance Compliant Components and Products and Utilize Alliance Certification Logo			✓	✓	✓
Certify at ATL Compliant Components and Products and Utilize Alliance Certification Logo				✓	✓
Ability to Purchase Thread Test Bed			✓	✓	✓
Option to Purchase Thread Test Harness			✓		
Free Access to Thread Test Harness				✓	✓
Access to Thread Reference Commissioning App				✓	✓
Participate and Vote in Work Groups and Committees				✓	✓
Chair Work Groups and Committees				✓	✓
Initiate Work Groups or Committees					✓
Approve Operating Budget					✓
Approve Final Deliverables					✓
Automatic Seat on Board of Directors					✓
Annual Fee	\$-	\$750	\$5,000	\$15,000	\$65,000
One-time Initiation Fee	\$-	\$-	\$-	\$-	\$35,000

Inherited Certifications with Thread Modules

THREAD GROUP | Extended Certification With Thread Modules



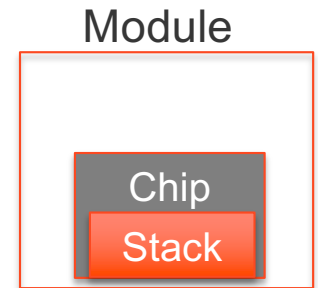
ATL Testing
(by stack vendor)

- Lessening the cost and friction of Thread product certification helps ease adoption
- It is possible to leverage the certification of a certified Thread stack from ingredient to end product while remaining in compliance with Thread Group policies

THREAD GROUP | Certification Inheritance for Thread Modules

Thread Certification is awarded to systems (stack+chip combinations)

- OpenThread + TI CC2538, ARM + Atmel, NXP + KW41Z, SiLabs + EFR32, etc.



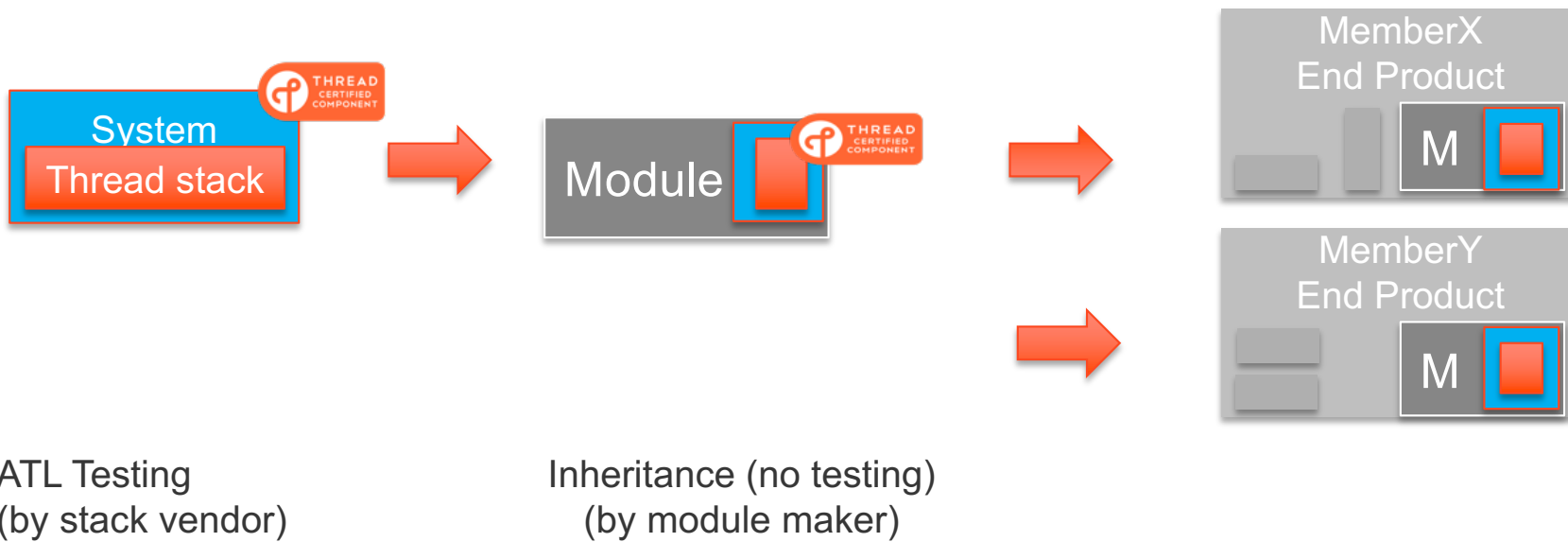
Module

- A standalone device, more than an SOC, may have additional discrete/supporting components
- Has regulatory certification - and potentially RF certification

Modules which reuse a certified system can be certified as a component through Inheritance

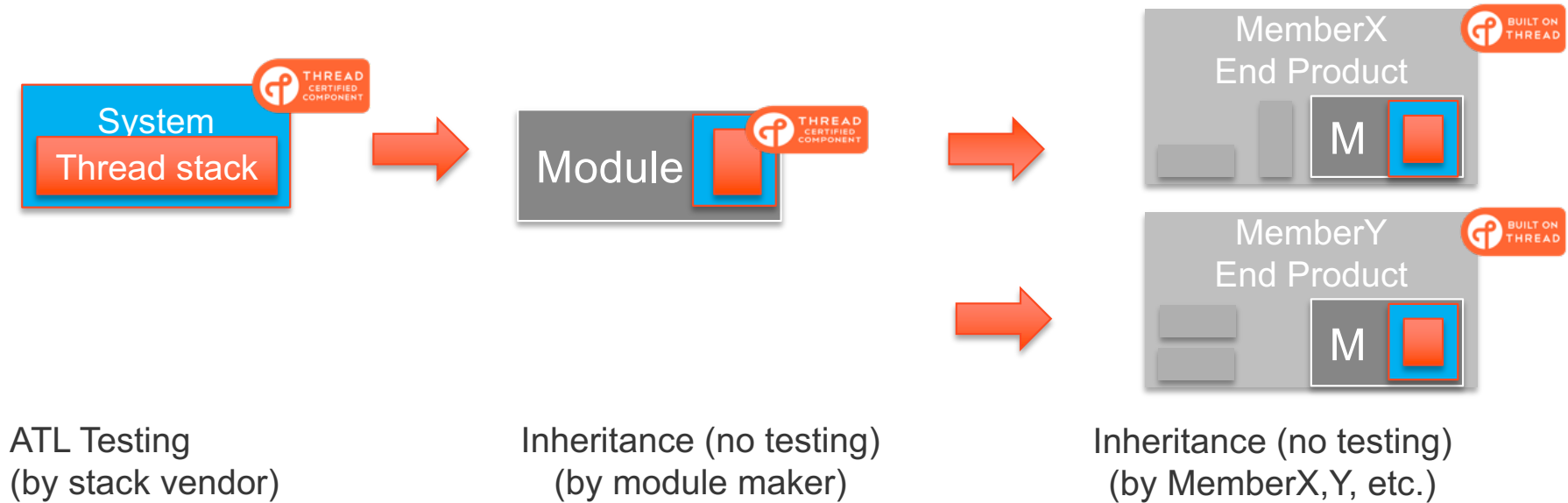
Thread Stack	Chip		Module Certification
Certified	Not Certified	➔	Needs to be tested by ATL
Not Certified	Certified	➔	Needs to be tested by ATL
Certified combination		➔	Certifiable by Inheritance

THREAD GROUP | Extended Certification Inheritance with Modules



- End Products and Dev Kits based on certified modules MAY be certifiable by Inheritance

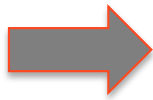
THREAD GROUP | Extended Certification Inheritance with Modules



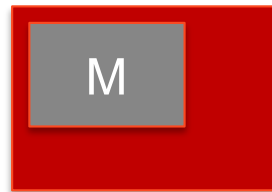
- End Products and Dev Kits based on certified modules **MAY** be certifiable by Inheritance
- Extended Inheritance chain requires protection and abstraction of the Thread network functionality
 - Must ensure that the module inside the end product contains the certified Thread stack
 - Must ensure that the end product maker cannot modify the functionality of the certified Thread stack

THREAD GROUP | Module Customer Usage Examples

Module Product

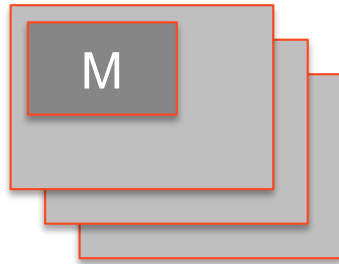


Internal Products



In-house solutions

- Internal projects
- Research projects



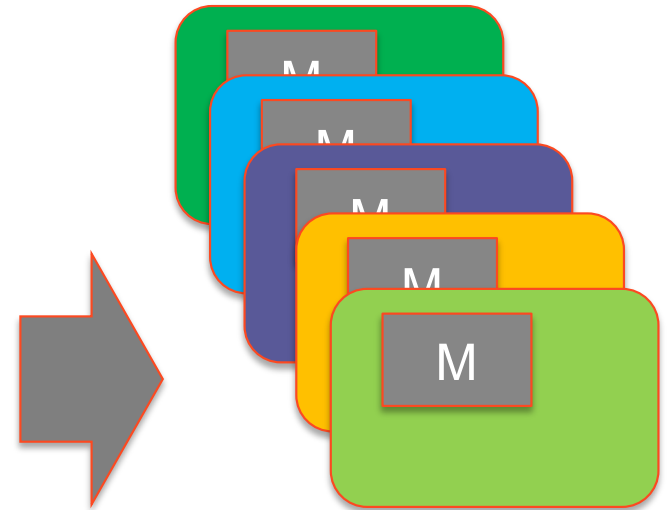
Integrated and/or re-sold solutions

- Customer A
- Customer B
- Customer C
- Customer D
- Customer E
- Customer F
- etc.

Module Product used as a module/component to make an **Internal Product**

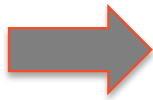
Internal Product may be used internally, resold or integrated into end product or module/component itself

End Products



THREAD GROUP | Membership, Certification and IPR Considerations (Module Customer Usage)

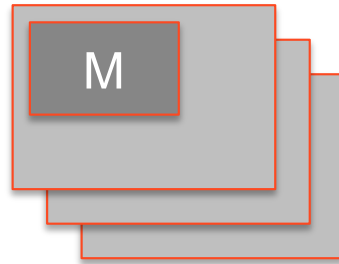
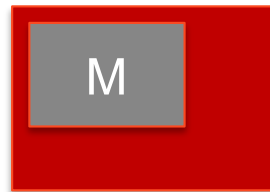
Module Product



Module Maker



Internal Products



In-house solutions

- Internal projects
- Research projects

Integrated and/or re-sold solutions

- Customer A
- Customer B
- Customer C
- Customer D
- Customer E
- Customer F
- etc.



End Products



- MM maintains Implementer or Contributor membership
- MM modules certified via inheritance or ATL
- MM receive IP rights for certified modules

- Integrators / resellers each acquire Implementer membership
- End products are certified via inheritance
- Each end product receives IP rights

Intellectual Property Rights Scenarios

THREAD GROUP | Disclaimers

The following content does not constitute legal advice.

Viewers are encouraged to engage the services of their own internal or outside counsel to guide them on interpretation and compliance with Thread Group Intellectual Property Rights (IPR) policy.

In the case of any inconsistency between the information in this presentation and the Thread Group Intellectual Property and Confidentiality Policy document, that document shall control.

All organization and product names and scenarios described in this presentation are fictitious. No identification with actual organizations or products is intended or should be inferred; any similarity is purely coincidental.

Background

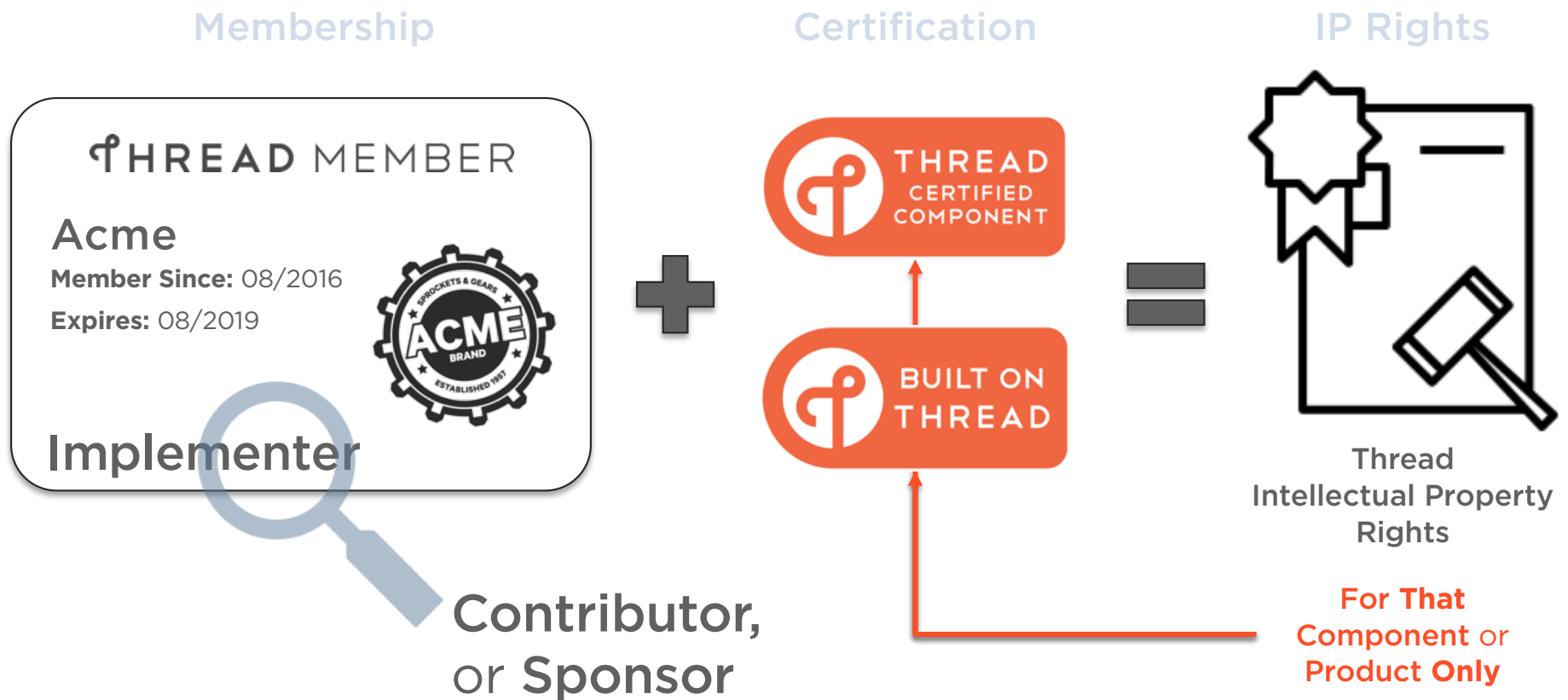
THREAD GROUP | IP Rights and Certification

“Isn’t Membership Enough?”

No.



THREAD GROUP | IP Rights and Certification



Actors

THREAD GROUP | Actors

Fresh Food



Climate Queen



Keep It Cool



More Things



THREAD GROUP | Actors

Fresh Food



Involved in meat, produce, and other perishables warehousing, wholesale, and distribution to the grocery and restaurant industries.

THREAD GROUP | Actors

Climate Queen



Involved in the design, manufacture, and sale of cooling systems for food storage and preservation, both static and mobile.

THREAD GROUP | Actors

Keep It Cool



An HVAC maintenance, services, and support organization that provides as-needed or long-term contractual engagement.

THREAD GROUP | Actors

More Things



An Internet of Things (IoT) technology and platform provider and engineering services and consultant, selling both turnkey platform solutions as well as components that others can embed and engineer into their own products and solutions.

Offers an IoT hardware and software platform using Thread called *Appliqué*.

Scenarios

THREAD GROUP | Legend

Underline

Highlights an Actor

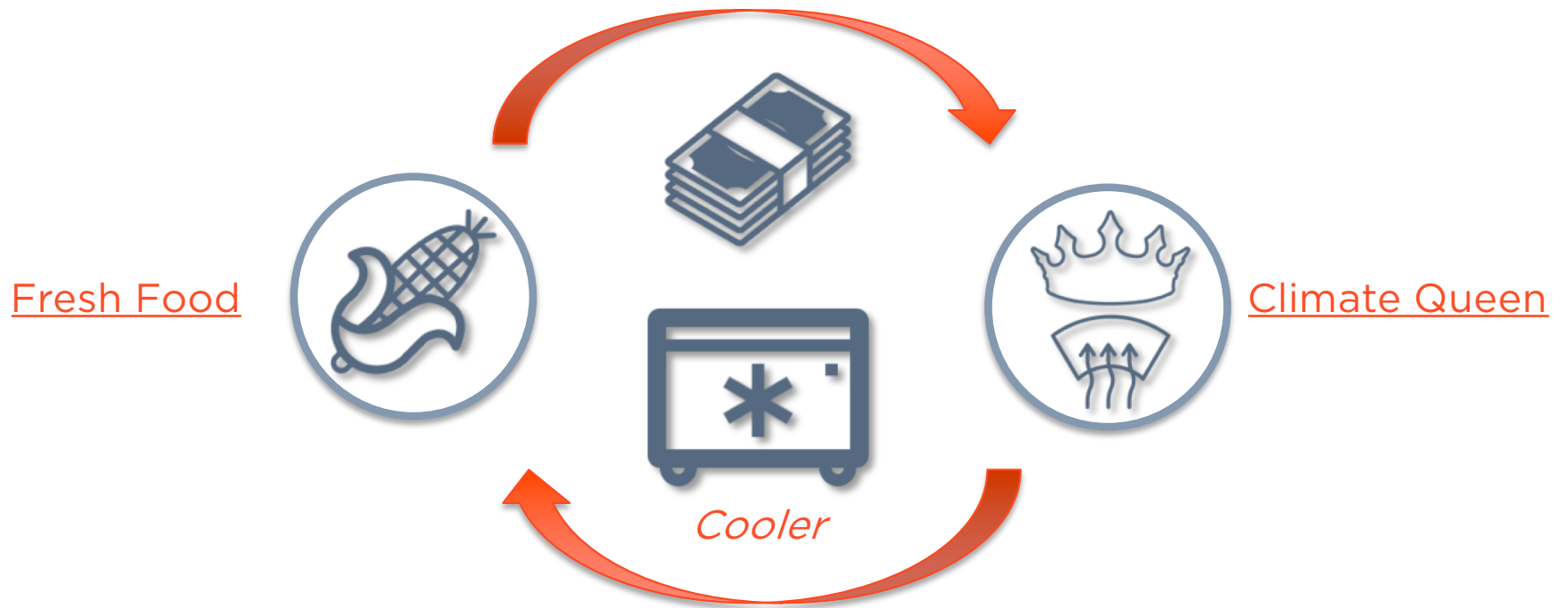
Bold

Highlights a **Membership level** or **certification brand**

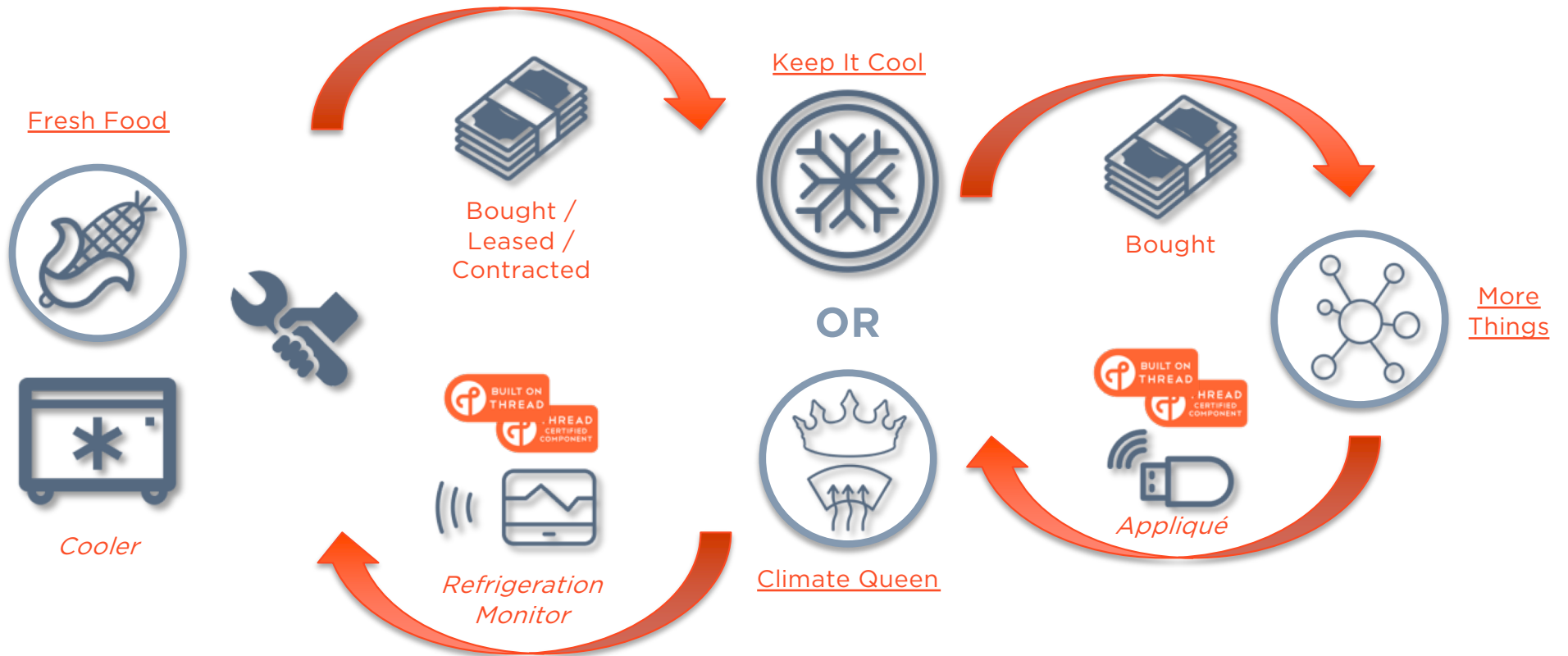
Italics

Highlights a *Product*

THREAD GROUP | Initial Scenario

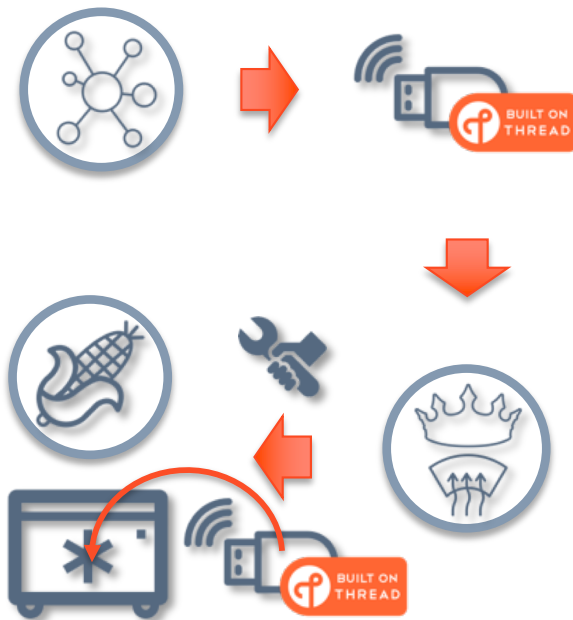


THREAD GROUP | Subsequent Scenarios



Scenario A

THREAD GROUP | Details



Fresh Food engages in a service contract with Climate Queen for *cooler* maintenance.

Climate Queen purchases a More Things Appliqué **Built on Thread** certified product from More Things and effects a *refrigeration monitor* from it.

Climate Queen installs the *refrigeration monitor* into Fresh Food's existing Climate Queen cooler, upgrading its capabilities.

THREAD GROUP | Proposed IPR Impact



More Things

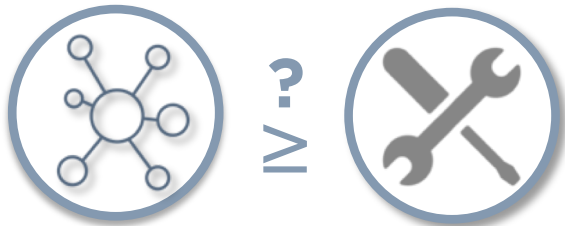
- Is an **Implementer*** Thread Group member or better.
- Certified More Things Appliqué as a **Built on Thread certified product**.
- Has IPR for More Things Appliqué.

No impact to Fresh Food or Climate Queen



- Both are consuming or using a **Built on Thread certified product**; IPR ends at the **Built on Thread certified product** boundary.
- Neither are creating a new product or functionality based on Thread: they are simply using it.

🌀 THREAD GROUP | *Why Implementer or Better?



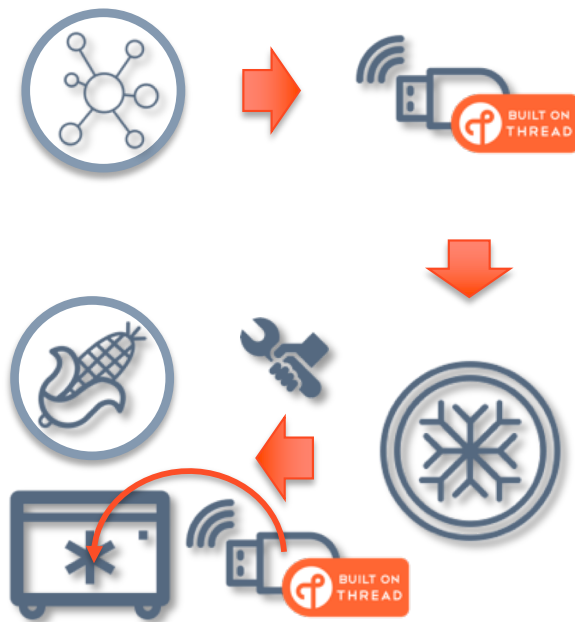
These scenarios are intentionally vague about **authorized test lab** versus **inherited certification** and are meant to be generic and abstract since that is somewhat a separate issue from these scenarios and their considerations.

Inherited → **Implementer** or better.

Authorized test lab → **Contributor** or better.

Scenario B

THREAD GROUP | Details



Fresh Food engages in a service contract with Keep It Cool for *cooler* maintenance.

Keep It Cool purchases a More Things Appliqué **Built on Thread certified product** from More Things and effects a *refrigeration monitor* from it.

Keep It Cool installs the *refrigeration monitor* into Fresh Food's existing *cooler*, upgrading its capabilities.

THREAD GROUP | Proposed IPR Impact



More Things

- Is an **Implementer** Thread Group member or better.
- Certified More Things Appliqué as a **Built on Thread certified product**.
- Has IPR for More Things Appliqué.

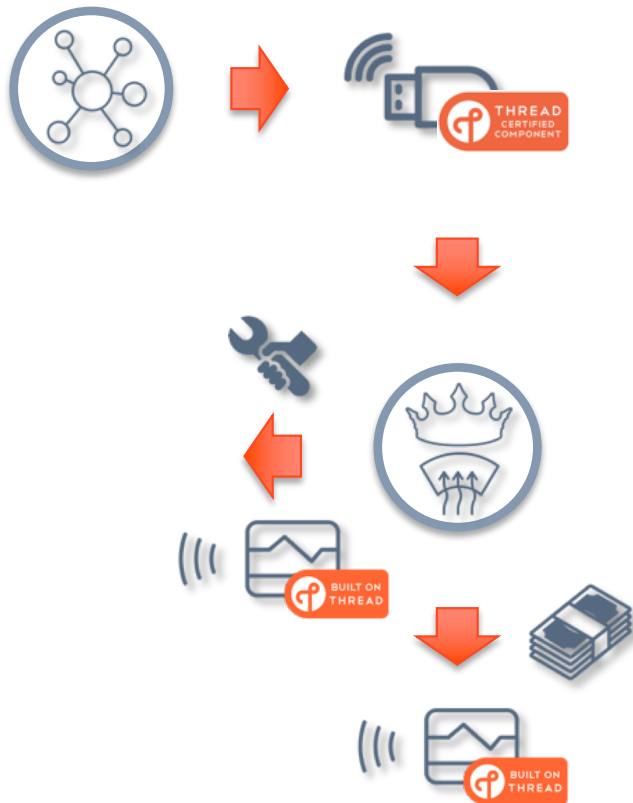
No impact to Fresh Food, Keep It Cool, or Climate Queen



- Climate Queen is not an actor in this scenario at all
- Fresh Food and Keep it Cool are consuming or using a **Built on Thread certified product**, IPR ends at the **Built on Thread certified product** boundary.
- Neither Fresh Food nor Keep It Cool are creating a new product or functionality based on Thread; they are simply using it.

Scenario C

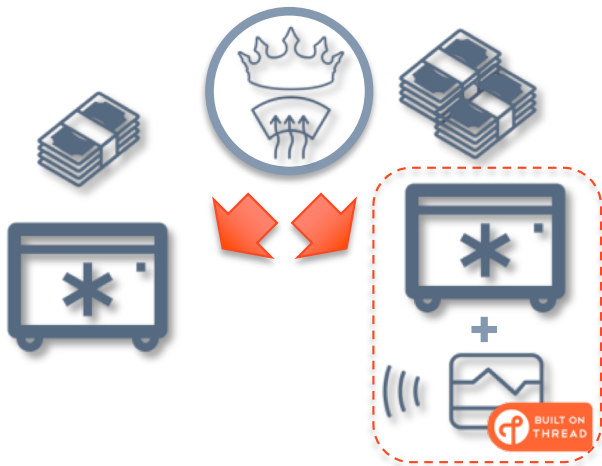
THREAD GROUP | Details



Fresh Food engages in a service contract with Climate Queen for *cooler* maintenance.

Climate Queen purchases More Things **Appliqué Thread Certified Components** from More Things and effects a new *refrigeration monitor* SKU from it, available for direct purchase by Climate Queen customers, such as Fresh Food, or made available free to service contract customers.

THREAD GROUP | Details



In addition, Climate Queen offers a new build-to-order option of its *cooler* with the new *refrigeration monitor* SKU.



Climate Queen upgrades the capabilities of Fresh Food's existing Climate Queen cooler by installing the new *refrigeration monitor*.

THREAD GROUP | Proposed IPR Impact



More Things

- Is an **Implementer** Thread Group member or better.
- Has certified More Things Appliqué as a **Thread Certified Component**.
- Has IPR for More Things Appliqué.



Climate Queen

- Is an **Implementer** Thread Group member or better.
- Has certified its *refrigeration monitor* as a **Built on Thread certified product**.
- Maybe certifies *cooler + refrigeration monitor* as a **Built on Thread certified product**.

THREAD GROUP | Proposed IPR Impact



This is a little different than Scenario A or Scenario B in which a **Built on Thread certified product** is being combined into another product, making a compound product.

Consequently, we believe there is no IPR-motivating decision for Climate Queen.

This may be a marketing and product decision, depending on whether Climate Queen wants to ensure the combined system can easily interoperate with other Thread certified products.

Climate Queen has IPR for *refrigeration monitor* and maybe *cooler + refrigeration monitor*.

THREAD GROUP | Proposed IPR Impact

No IPR impact for Fresh Food



- Fresh Food is consuming or using a **Built on Thread certified product(s)**, IPR ends at the **Built on Thread certified product** boundary.
- Fresh Food is not creating a new product or functionality based on Thread: they are simply using it.



Scenario D

THREAD GROUP | Details



Fresh Food engages in a service contract with Keep It Cool for *cooler* maintenance.



Keep It Cool purchases More Things Appliqué Thread Certified Components from More Things and effects new *refrigeration monitor* SKUs from it, available for direct purchase by Keep It Cool customers, such as Fresh Food, or made available free to service contract customers.



Keep It Cool upgrades Fresh Food's existing Climate Queen cooler by installing the new Keep It Cool refrigeration monitor in it.

THREAD GROUP | Proposed IPR Impact



More Things

- Is an **Implementer** Thread Group member or better.
- Has certified More Things Appliqué as a **Thread Certified Component**.
- Has IPR for More Things Appliqué.



Keep It Cool

- Is an **Implementer** member or better
- Has certified the *refrigeration monitor* as a **Built on Thread certified product**.
- Has IPR for the *refrigeration monitor*.

THREAD GROUP | Proposed IPR Impact

No IPR impact for [Fresh Food](#) and [Climate Queen](#)



- [Fresh Food](#) is consuming or using a **Built on Thread certified product(s)**, IPR ends at the **Built on Thread certified product** boundary.
- [Fresh Food](#) is not creating a new product or functionality based on Thread: they are simply using it.
- [Climate Queen](#) is not an actor in this scenario at all.

Call to Action

THREAD GROUP | Call to Action

- If you're not already a **member**, review our **Member Benefits** <https://www.threadgroup.org/thread-group#Membershipbenefits> and join at the appropriate level for your company's **desired engagement**
- Ready to take a **Thread solution** to market? Join us at the **Implementer level** or **higher** and checkout our **developer resources** page <https://www.threadgroup.org/What-is-Thread/Developers>

THREAD DEVELOPMENT ECOSYSTEM

This page is designed for developers to identify tools, components, solutions and support available to aid in designing Thread applications. This includes silicon, software, development boards, modules and solutions.



- **Just getting started?** Check out our other **resources** at [threadgroup.org](https://www.threadgroup.org) and **Follow Us!**

THREAD GROUP | Follow Us!

For more information, please connect with us at www.threadgroup.org



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 SIGN UP FOR OUR NEWSLETTER



**BRINGING IoT
LEADERS TOGETHER**

Gain access to Thread's global member network.

 WATCH VIDEO

The banner features a top border with icons for various IoT devices: a smart meter, a light bulb, a smart plug, a smart speaker, a smartphone, a smartwatch, a smart thermostat, and a smart door lock. The bottom border contains icons for smart home appliances: a house, a smartphone, a smart thermostat, a smart door lock, a washing machine, a smart radiator, a smart door, and a smart faucet.

THREAD GROUP | Member Meeting

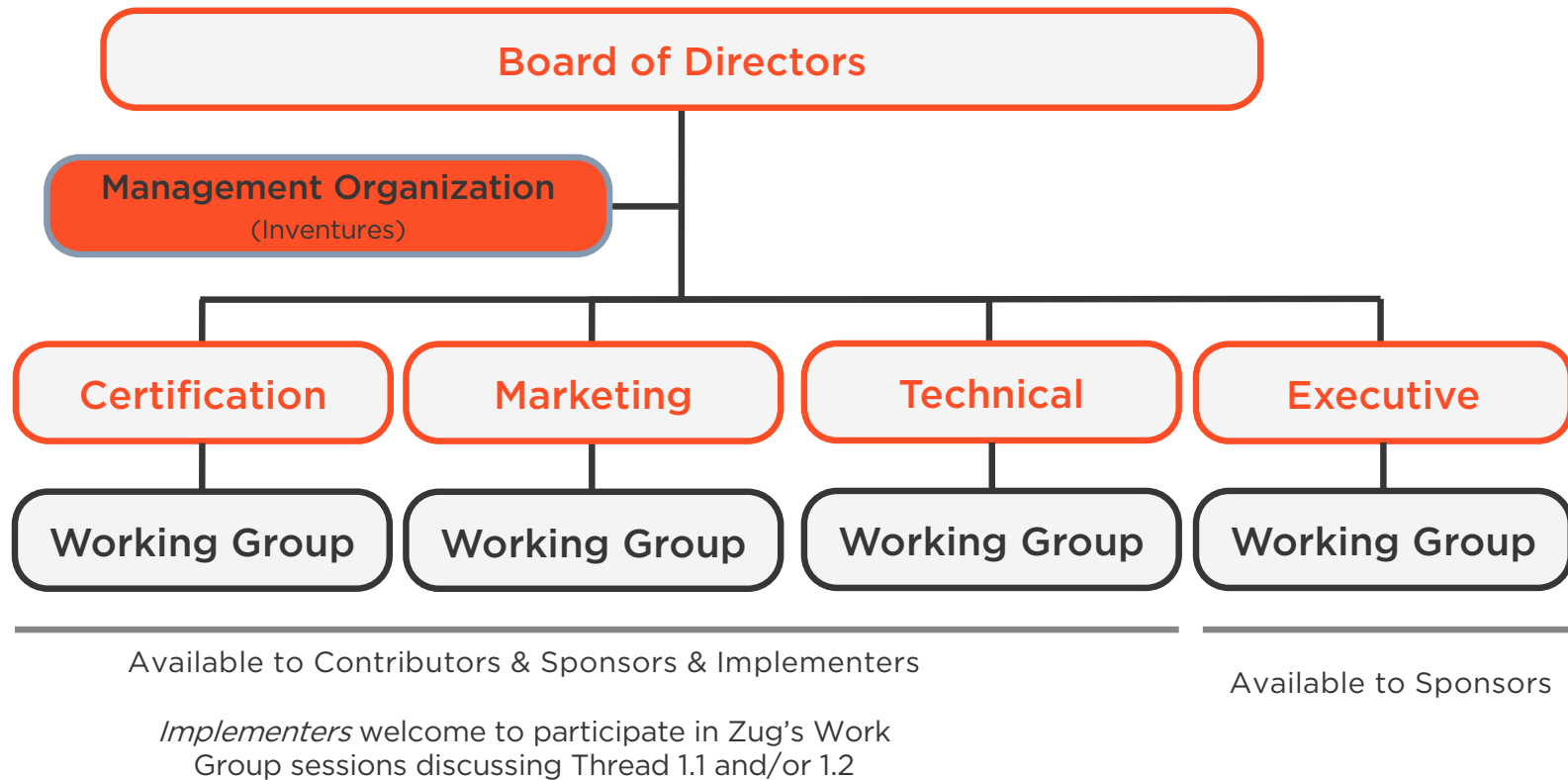
Join us in Zug, Switzerland at the next Thread Group Member Meeting, November 5-7-2019.



This meeting is open to Sponsor, Contributor and Implementer members.

Registration available at www.threadgroup.org

THREAD GROUP | Structure



Q & A

