ALLSEEN ALLIANCE

An Open Source project building the framework for the Internet of Things (IoT)

May 2015

The AllSeen Alliance is a Collaborative Project managed by the Linux Foundation delivering the widespread adoption of billions of products working together in an interoperable “Internet of Everything” through the AllJoyn framework in an open environment, with a thriving technical community and a vibrant ecosystem.

www.allseenalliance.org

What is the AllSeen Alliance?

- A nonprofit **consortium** dedicated to enabling the widespread adoption of billions of products, systems and services that support the Internet of Things through an open environment, vibrant ecosystem and thriving technical community.

- A **community** enabling hardware manufacturers and software developers to create interoperable products that can discover, connect, communicate and interact directly with other devices, systems and services regardless of brand.

- The host and developer of the collaborative AllJoyn **open source project**, an industry-supported software and service framework that makes a world full of smart connected products that work together possible.

The AllSeen Alliance is…

The world's largest collaborative open source project developing code for the Internet of Things.

140 plus member companies committed to developing interoperability standards for devices, applications, and services.

750,000 lines of member written code that powers millions of devices today.

Premier Members

AllSeen Alliance: A collaborative project of the Linux Foundation

Community Members (1-2)

AllSeen Alliance: A collaborative project of the Linux Foundation

- 2lemetry
- ADT Security Services
- Affinegy
- anyractive
- AT&T Digital Life
- Beechwoods Software
- Blackloud
- Bosch
- CA Engineering
- Canary
- Carvoyant
- CenturyLink
- Changhong
- Cirrent
- Cisco
- Cloud of Things
- CoCo Communications
- Connectuity
- ControlBEAM
- Covata
- D-Link
- Dawon
- DeviceHive
- DigiCert
- dog hunter
- Domos Labs
- Elica S.p.A.
- Encored Technologies
- Euronics
- Faber S.p.A.
- FengLian
- FirstBuild
- Fon
- ForgeRock
- Fortune Techgroup
- FreeWings Technologies
- GeoPal Solutions
- Golgi
- Guangdong Pisen Electronics
- Harman
- Heaven Fresh Canada
- Helium
- Homeboy
- Honeywell
- HOUZE® Advanced Building Science
- HTC
- Hubble
- iControl Networks
- iGloo Software
- iiNet
- Imagination Technologies
- Innopia Technologies
- INSTEON
- Inteno Broadband Technology AB
- IOOOTA
- ISI Technologies
- Kii
- Kitu Systems
- Legrand Group
- Lenovo
- LeTV
- LG Uplus
- Lhings
- LIFX
- Lite-On
- Local Motors
- Lumen Cache
- M2Communication
- MachineShop
- MobilityLab LLC
- Modacom
- Musaic
- Muzzley
- NETGEAR
- Octoblu
- Organic Response
- Patavina Technologies
- People Power Company
- Personal Air Quality Systems (PAQS)
- Ping Identity
- Playtabase
- POWERTECH
- Quanta Computer
- Razer

Community Members (2-2)

AllSeen Alliance: A collaborative project of the Linux Foundation

- Red Bend Software
- Resin.io
- Sansa Security
- Sears Brand Mgmt. Corporation
- Seed Labs
- Shenzhen H&T Home Online Network Technology Co.
- Shenzhen Longsys Electronics Co., Ltd.
- Sproutling
- Symantec
- TCL Corporation
- Tellient
- The Sprosty Network
- Things.Expert
- ThroughTek
- Trend Micro
- TTA
- Tuxera
- Two Bulls
- Umbrela
- Universal Devices
- Vedams
- VeriSign, Inc.
- Vestel Group
- Viva Labs
- Waygum.io
- Weaved
- Wireless Things
- WiSilica
- wot.io

Sponsored Members

AllSeen Alliance: A collaborative project of the Linux Foundation

- Beijing University of Posts & Telecommunications
- Bonn-Rhein-Sieg University
- Brno University of Technology
- CableLabs
- CASS
- Duktape
- EnOcean Alliance
- Fundacio Technocampus Mataro-Maresme
- Korea Electronics Technology Institute
- MIT Enterprise Forum of Cambridge
- openHAB
- Politecnico di Milano
- Spanish Red Cross
- Telecommunications Industry Assoc. (TIA)
- University of Messina
- Multiple individual members

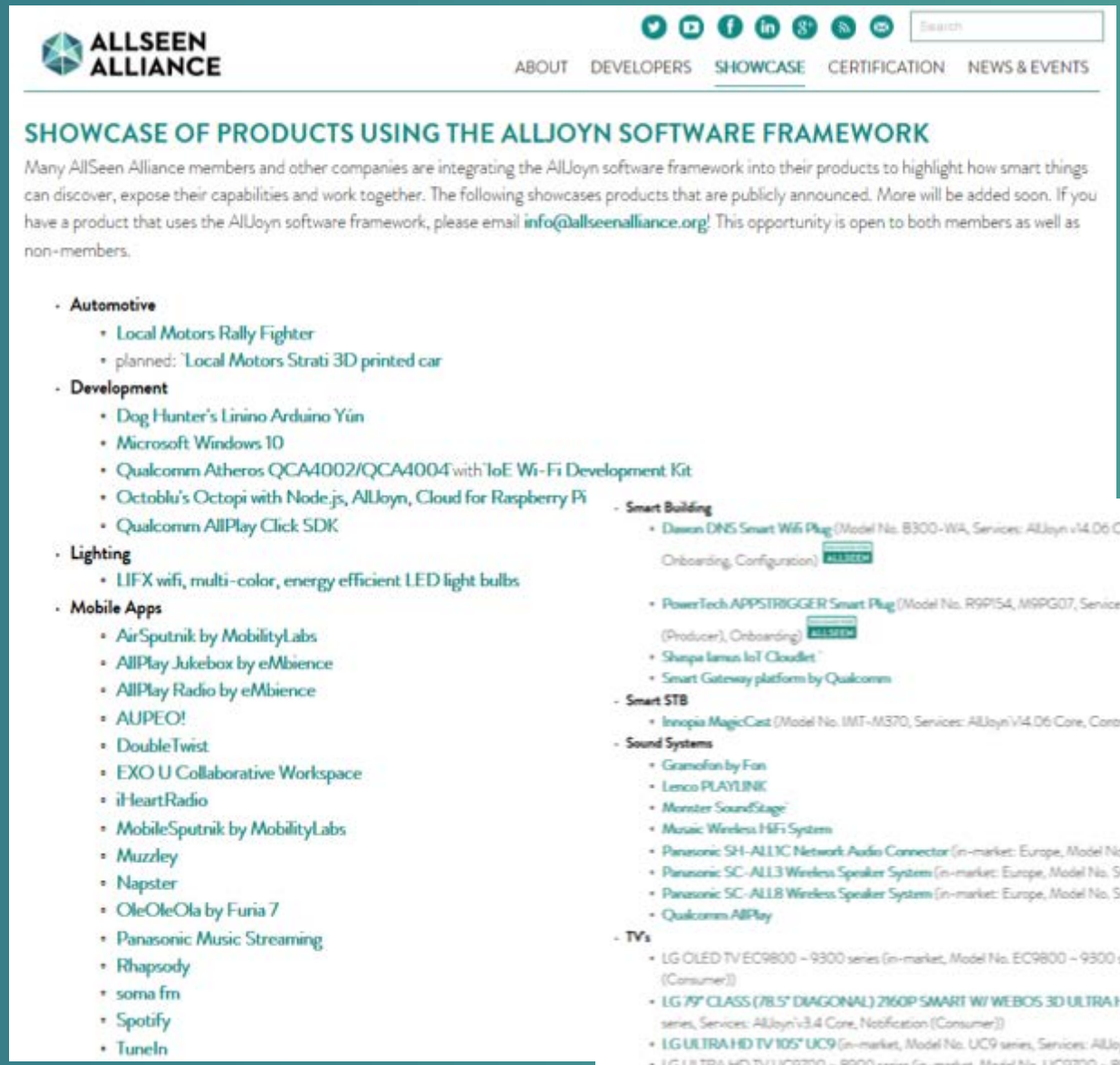
Publicly announced products using AllJoyn

AllJoyn is here and real today in millions of products…

Products are already shipping

https://allseenalliance.org/showcase

- Members are planning & releasing products
- Products launched for Consumer, Home, Commercial, Enterprise & Cloud
- 10 Million plus products in market today!



ALLSEEN ALLIANCE

ABOUT DEVELOPERS SHOWCASE CERTIFICATION NEWS & EVENTS

SHOWCASE OF PRODUCTS USING THE ALLJOYN SOFTWARE FRAMEWORK

Many AllSeen Alliance members and other companies are integrating the AllJoyn software framework into their products to highlight how smart things can discover, expose their capabilities and work together. The following showcases products that are publicly announced. More will be added soon. If you have a product that uses the AllJoyn software framework, please email info@allseenalliance.org! This opportunity is open to both members as well as non-members.

- **Automotive**
  - Local Motors Rally Fighter
  - planned: Local Motors Strati 3D printed car
- **Development**
  - Dog Hunter's Linino Arduino Yún
  - Microsoft Windows 10
  - Qualcomm Atheros QCA4002/QCA4004 with IoE Wi-Fi Development Kit
  - Octoblu's Octopi with Node.js, AllJoyn, Cloud for Raspberry Pi
  - Qualcomm AllPlay Click SDK
- **Lighting**
  - LIFX wifi, multi-color, energy efficient LED light bulbs
- **Mobile Apps**
  - AirSputnik by MobilityLabs
  - AllPlay Jukebox by eMbience
  - AllPlay Radio by eMbience
  - AUPEO!
  - DoubleTwist
  - EXO U Collaborative Workspace
  - iHeartRadio
  - MobileSputnik by MobilityLabs
  - Muzzley
  - Napster
  - OleOleOla by Furia 7
  - Panasonic Music Streaming
  - Rhapsody
  - soma fm
  - Spotify
  - TuneIn
- **Smart Building**
  - Dawon DNS Smart Wifi Plug (Model No. B300-WA, Services: AllJoyn v14.06 Core, Control Panel, Notification (Producer), Onboarding, Configuration)
  - PowerTech APPSTRIGGER Smart Plug (Model No. R9P154, M9PG07, Services: AllJoyn v14.02 Core, Control Panel, Notification (Producer), Onboarding)
  - Shinpa Iamus IoT Cloudlet
  - Smart Gateway platform by Qualcomm
- **Smart STB**
  - Innopia MagicCast (Model No. IMT-M370, Services: AllJoyn v14.06 Core, Control Panel, Notification (Consumer), Onboarding)
- **Sound Systems**
  - Gramofon by Fon
  - Lenco PLAYLINK
  - Monster SoundStage
  - Mosaic Wireless HiFi System
  - Panasonic SH-ALL1C Network Audio Connector (in-market: Europe, Model No. SH-ALL1C, Services: AllJoyn v14.02 Core)
  - Panasonic SC-ALL3 Wireless Speaker System (in-market: Europe, Model No. SC-ALL3, Services: AllJoyn v14.02 Core)
  - Panasonic SC-ALL8 Wireless Speaker System (in-market: Europe, Model No. SC-ALL8, Services: AllJoyn v14.02 Core)
  - Qualcomm AllPlay
- **TV's**
  - LG OLED TV EC9800 – 9300 series (in-market, Model No. EC9800 – 9300 series, Services: AllJoyn v3.4 Core, Notification (Consumer))
  - LG 79" CLASS (78.5" DIAGONAL) 2160P SMART W/ WEBOS 3D ULTRA HD 4K TV (in-market, Model No. UB9800 – 8500 series, Services: AllJoyn v3.4 Core, Notification (Consumer))
  - LG ULTRA HD TV 105" UC9 (in-market, Model No. UC9 series, Services: AllJoyn v3.4 Core, Notification (Consumer))
  - LG ULTRA HD TV UC9700 – 8900 series (in-market, Model No. UC9700 – 8900 series, Services: AllJoyn v3.4 Core, Notification (Consumer))
  - LG CINEMA 3D SMART TV FHD 49" LB8700 (in-market, Model No. LB8700 – 6300 series, Services: AllJoyn v3.4 Core, Notification (Consumer))
  - LG John Lewis TV JL9000 (in-market, Model No. JL9000 series, Services: AllJoyn v3.4 Core, Notification (Consumer))

Joining the AllSeen Alliance is easy!

Join now: https://allseenalliance.org/about/join-allseen-alliance

or contact

Philip DesAutels and Brett Preston

info@allseenalliance.org

AllSeenAlliance.org

Why Build an Alliance?

The Internet of Things is emerging

- Things are getting smarter
- Everything is getting connected
  - Wireless or wired, over a variety of protocols and bearers
- The market wants an Internet of Everything, where ***all*** of their products work together

The IoT ecosystem needs a common language

- Smart things need to be able to recognize, communicate, and interact with each other
  - Independent of manufacturer, type (OS or embedded), transport or use

Billions of interoperating things is a world-changing mission

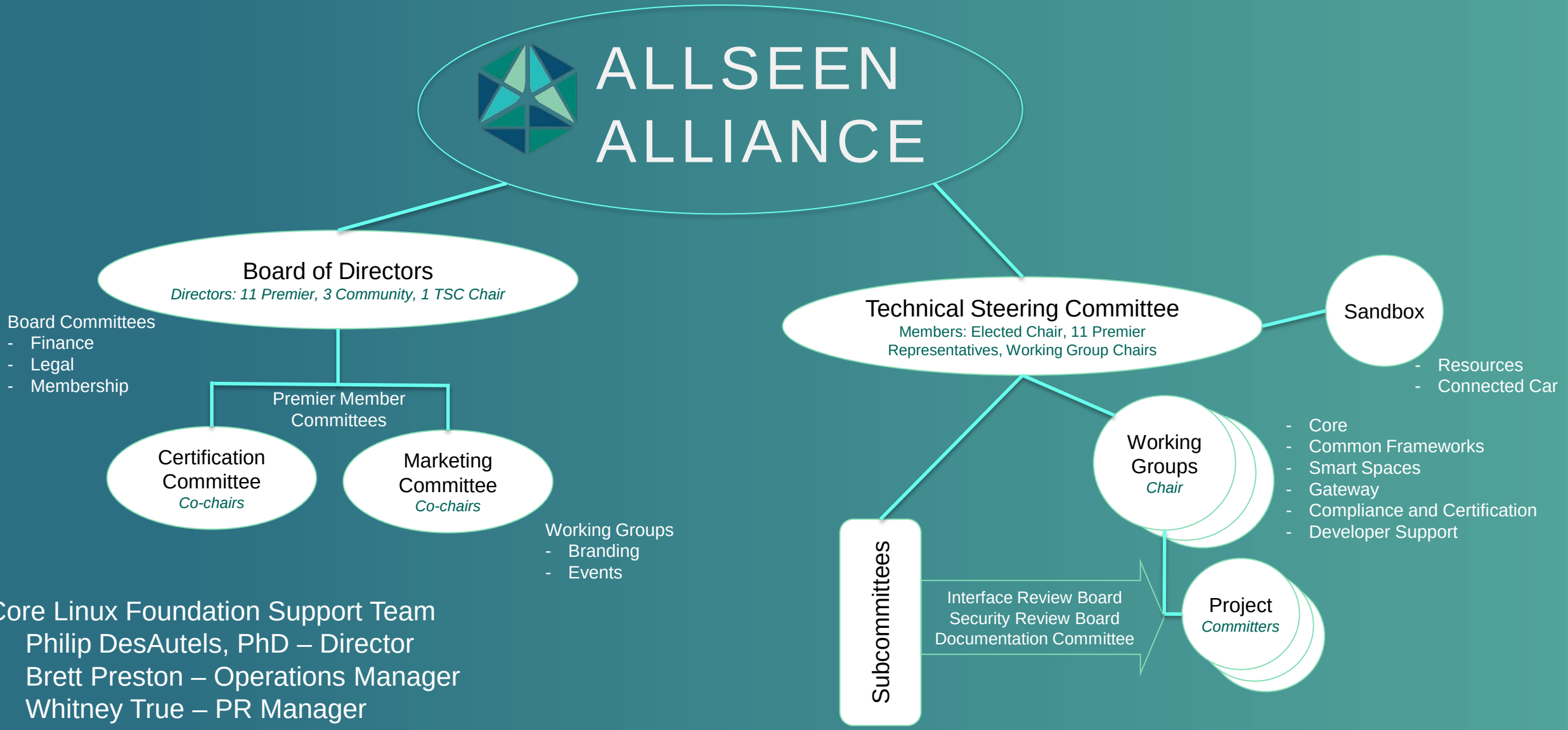
- A shared framework makes billions of interoperating things possible
  - Common code makes implementation easy and speeds time to market
- Certification Testing ensures billions of things work seamlessly together
- Straight-forward IP makes application easy

Delivering the Internet of Everything takes an takes open, dedicated and focused community

What is the Alliance Building?

- The primary goal of the AllSeen Alliance is to create ***AllJoyn*** an open source software framework that makes an Internet of Everything with billions of interoperating devices possible
  - AllJoyn is a shared code base and a common communication protocol
  - AllJoyn provides:
    - A common core for secure discovery, communication and interaction
    - Base services that make fundamental services available to all: onboarding, configuration, control and notification
    - Higher level services for product domains: Lighting, Home Appliance and Entertainment devices, Home Control
    - Simple and interoperable extensibility
    - Managed internetworking, cloud access, remote access and management via the gateway agent
- ***AllJoyn*** - the Alliance's codebase - is here and in millions of real products today
  - Sample applications speed development and customization
  - A complete and growing software and service framework
  - Creates new and exciting experiences with our environment and the things we use every day

AllSeen Alliance Organizational Structure



Core Linux Foundation Support Team

- Philip DesAutels, PhD – Director
- Brett Preston – Operations Manager
- Whitney True – PR Manager

Technical Steering Committee Overview

Working Groups

- **Core Working Group**
  - AllJoyn Core Project
  - Data-Driven API Project
  - Security 2.0 Project
- **Common Frameworks Working Group**
  - Base Services Project
  - Location Services Project
  - Media Delivery Project
- **Smart Spaces Working Group**
  - Connected Lighting Projects
  - Home Appliances & Entertainment (HAE) Service Framework Project
  - Home Controller Project
  - Living Scenarios Project
- **Gateway Working Group**
  - Gateway Project
  - Analytics Connector Project
  - Update Service Project
  - Device System Bridge
- **Compliance and Certification Working Group (C&C WG)**
- **Developer Support Working Group**

Subcommittees

- Interface Review Board Subcommittee
- Security Review Board Subcommittee
- Technical Documentation/Website Subcommittee

Sandbox Incubation

- Connected Car Project Discussion Group
- Resources (Electricity, Water, Gas, Waste) Project Discussion Group

Get engaged today!

- Learn more here: https://allseenalliance.org/about/get-involved
- Sign up for a mailing list: https://lists.allseenalliance.org/mailman/listinfo
- Get your technical questions answered: https://ask.allseenalliance.org/questions/
- Learn about AllJoyn: https://allseenalliance.org/developers/learn
- Take some training: https://wiki.allseenalliance.org/training

Membership Benefits and Dues

All Members can:

- Chair a technical working group/project
- Serve as a committer
- Co-chair the marketing committee or compliance and certification committee
- Participate directly in Alliance event and speaking opportunities
- Benefit from and participate in Alliance PR and marketing efforts

Premier Members

- Designate one representative for the Board of Directors
- Designate one representative for the Technical Steering Committee
- Vote on the Marketing and Certification Committees
- Review and approve the Base Implementation
- Initial 2 year commitment: Year 1 is $300K USD, annual fee thereafter is $250K

Community Members

- Run and vote for 3 community Board of Directors seats
- Fee Structure varies by size of organization
  - 5000 employees = $50K USD
  - 500-4999 employees = $30K USD
  - 100-499 employees = $10K USD
  - < 100 employees = $5K USD
  - Early-stage startup companies meeting specific requirements = $500

Sponsored Members

- Available to any: non-profit entity, association, governmental agency, academic entity, individual contributor
- Sponsored membership is free

The AllSeen Alliance is open! Everybody can:

- Use the open source AllJoyn framework
- Participate in the community and technical working groups
- Join the mail lists
- Contribute to the project

Membership Value

- Influence the direction of AllJoyn framework services and features
- Drive leadership for future enhancements and extensions that matter for your business
- Lead the development of strategic services that are key to optimizing your product experiences
- Guide feature sets in requirements documents and future technology roadmaps of AllJoyn framework through Working Groups, technical contributions and earning committer status
- Feature your AllSeen certified projects and applications at key industry events, website and marketing collateral
- Work together across company lines and industries
- Create the IOT market
- Engage and collaborate with the membership community to enhance your IoT roadmap
- Create products & apps secure in the knowledge that they will be interoperable in the future

2014 Collaboration Scorecard

Projects

37 total projects

20 active

7 new

Contributions

70 individual contributors

13 companies

Over 2,700 contributions

Jira Tickets

1,600 submitted

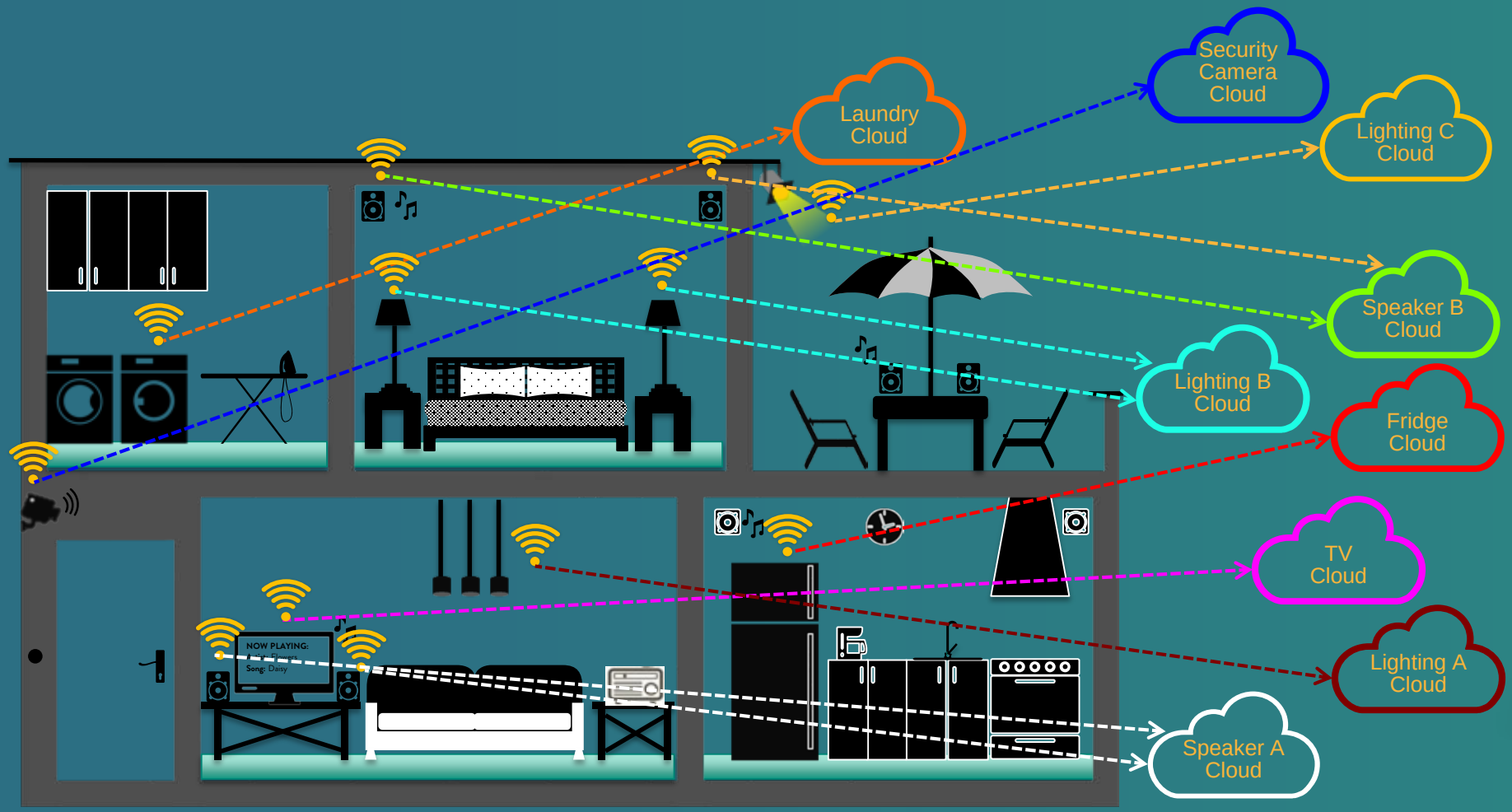
1,250 closed

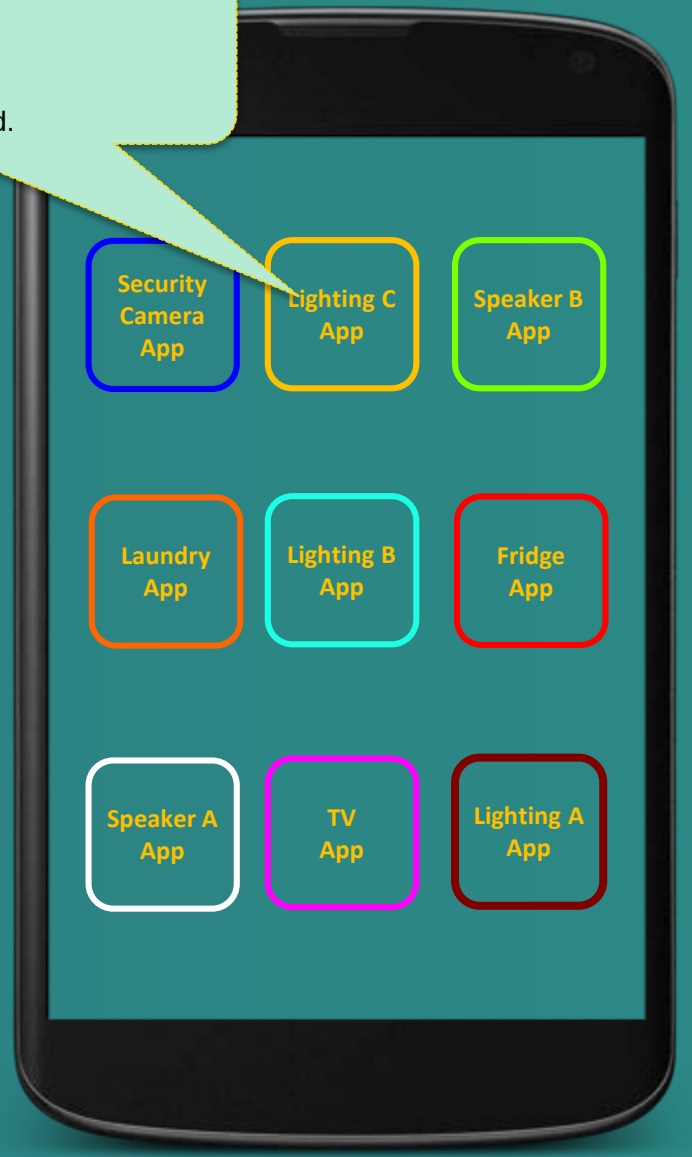
330 open or in progress

The problem AllJoyn solves

The Problem with the Internet of Things Today

- A different app for every device.
- Integration is difficult.
- Devices can't interact locally.
- Cloud connections abound.
- Rich scenarios can't easily be build.

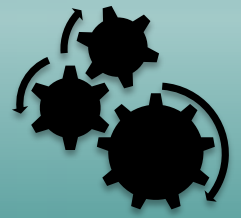




App Overload !

Ubiquitous connectivity promises to make devices “smart”

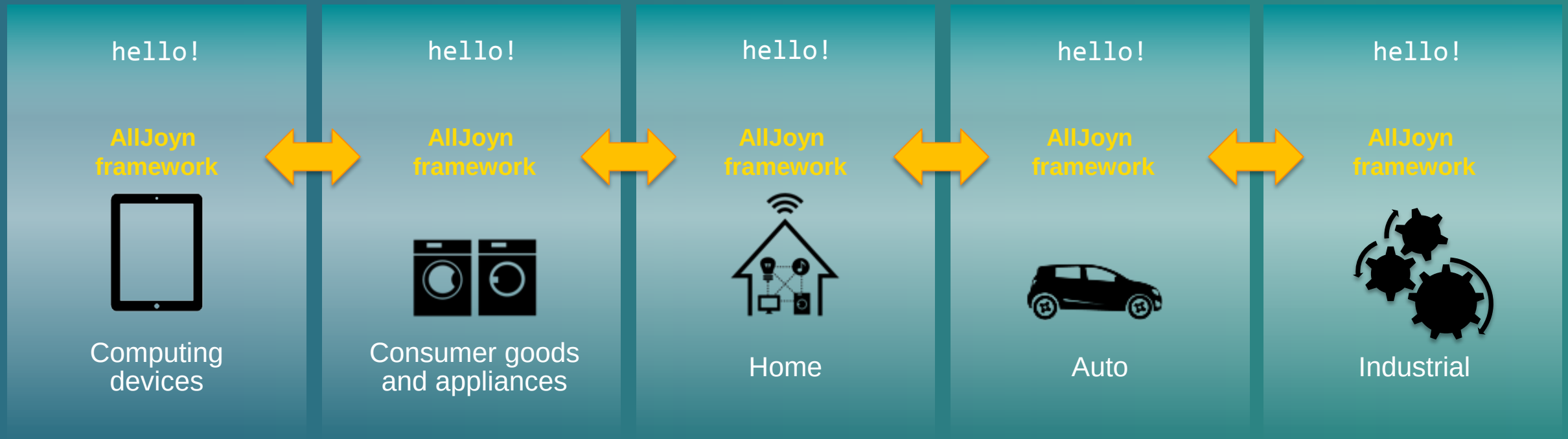
But *ONLY* if they speak the same language

hello world!	당신은 내 말 들려?	Tem alguém aí?	♒♏●●◆□❐♒♏	100010101011
				
Computing devices	Consumer goods and appliances	Home	Auto	Industrial

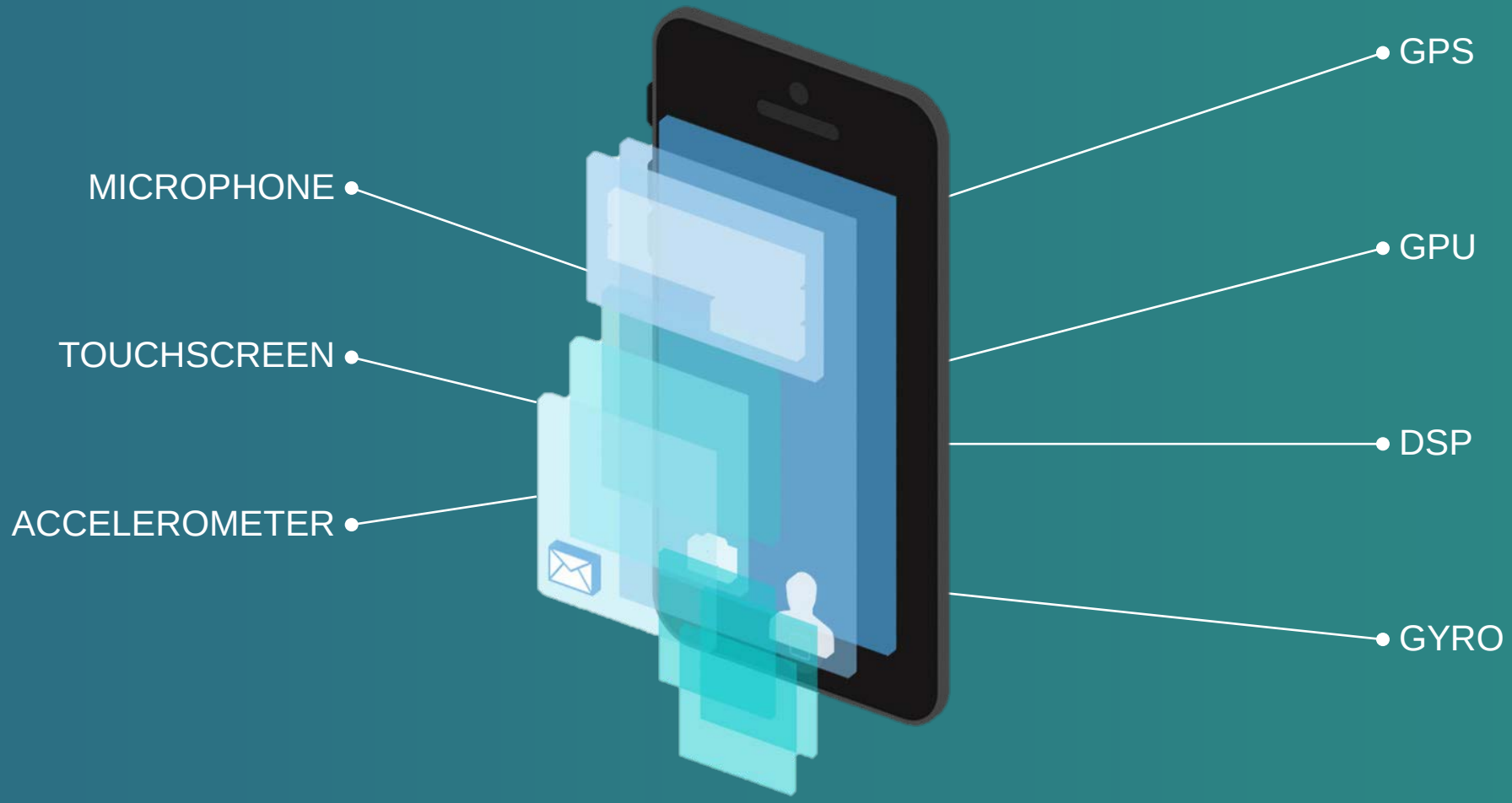
Devices that can’t connect across brands, categories, and operating systems will be left out

AllJoyn framework lets smart things work together

Connect, manage and interoperate across
brands, categories, bearers, transports and OS



Exposing smartphone APIs enabled new experiences that no one had ever thought of before



The AllJoyn framework exposes the capabilities of connected devices in the much the same way.

A single protocol allowing products and apps to expose their capabilities and interact with other devices and apps.

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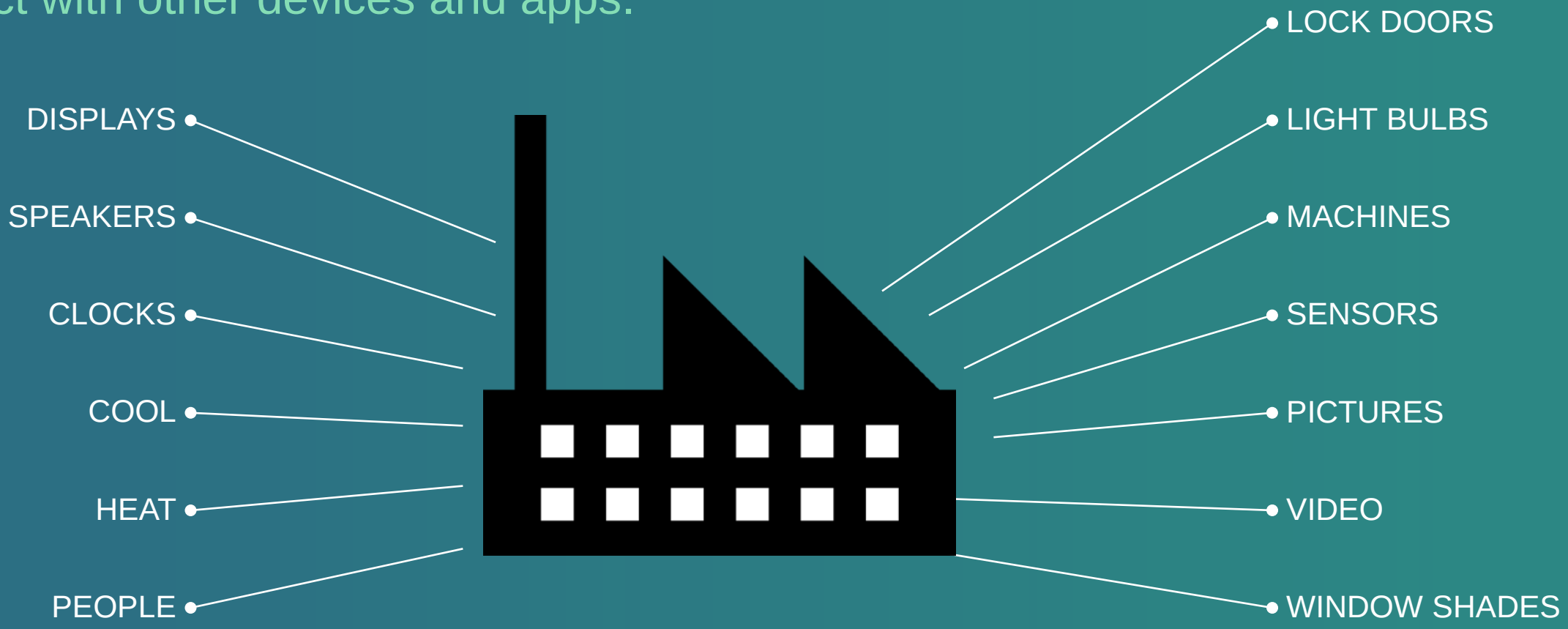
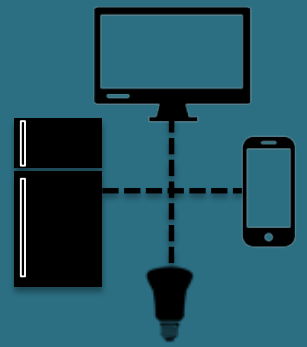
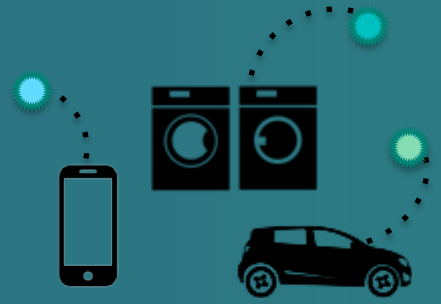


The problems that AllJoyn solves…
in an open interoperable way



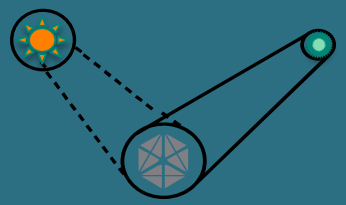
DISCOVER
nearby devices



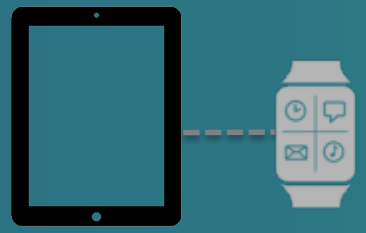
IDENTIFY
services running on those devices

CONTROL
devices near and far

MANAGE
remote and local

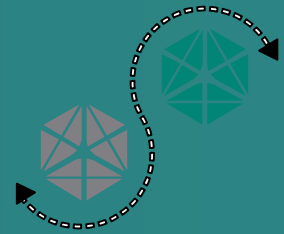


INTEROPERATE
across OS, device & manufacturer



ADAPT
to devices coming and going

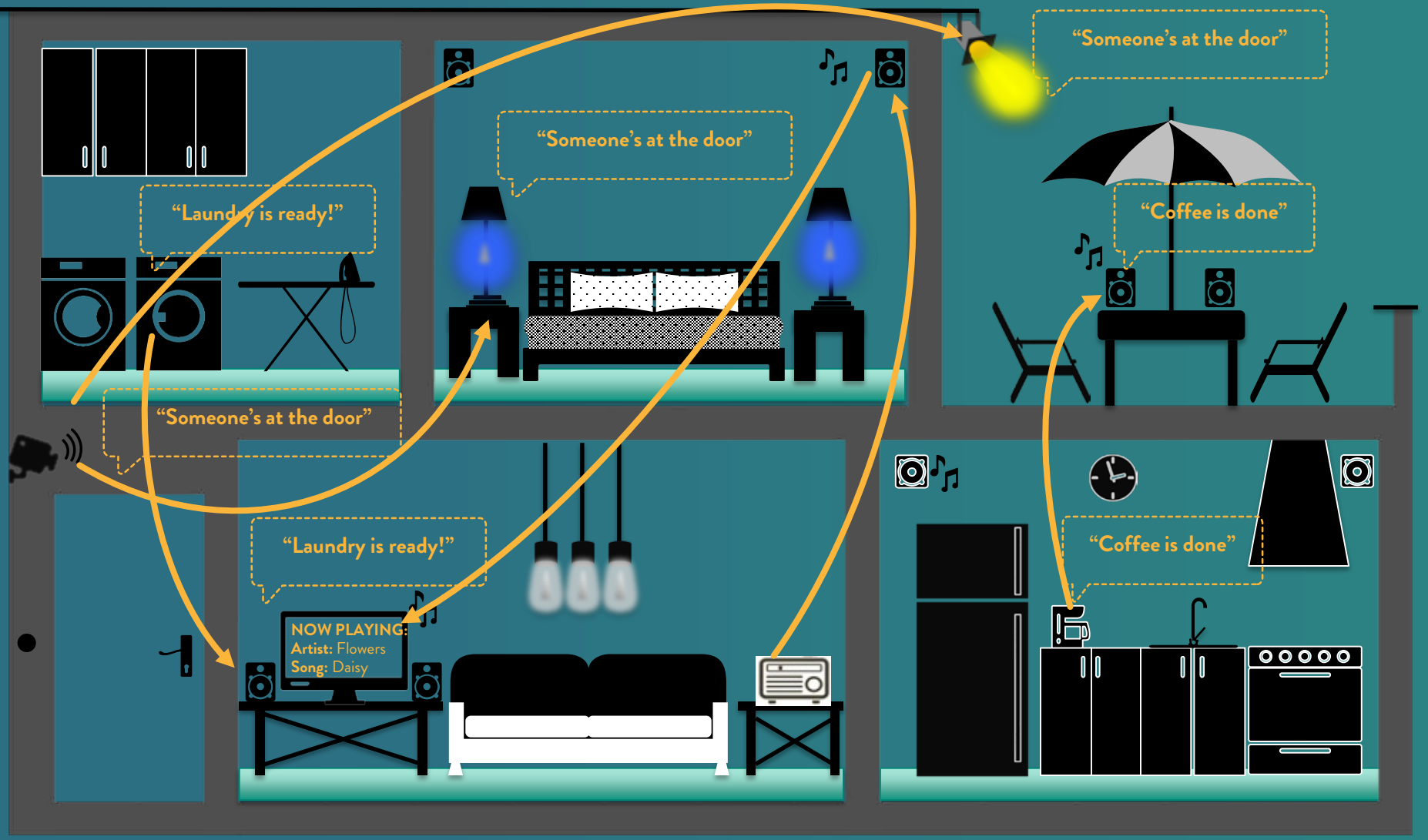
SPAN
diverse transports



EXCHANGE
information

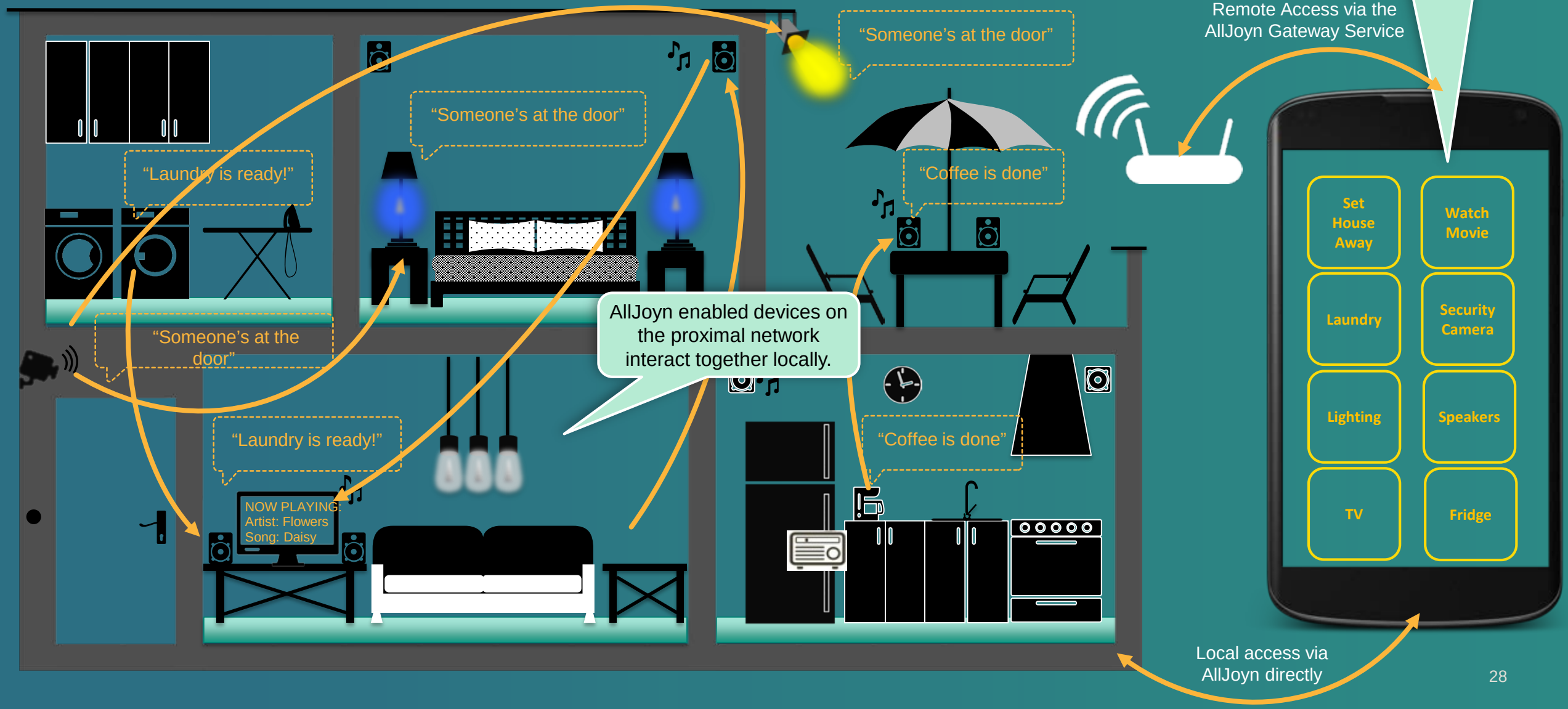
SECURE
against bad actors

Why the AllJoyn proximal network topology matters



- Direct communication between products via the AllJoyn framework is fast, efficient, and secure.
- No need to go out to the cloud to talk to the device right next to you!
- A rich framework enables rich local interactivity between things and people
- Remote access is managed through a common point.

The AllJoyn enabled use case



Architecture

AllJoyn Software Framework: High-level architecture

A comprehensive software framework lets devices and applications communicate

AllJoyn App Layer

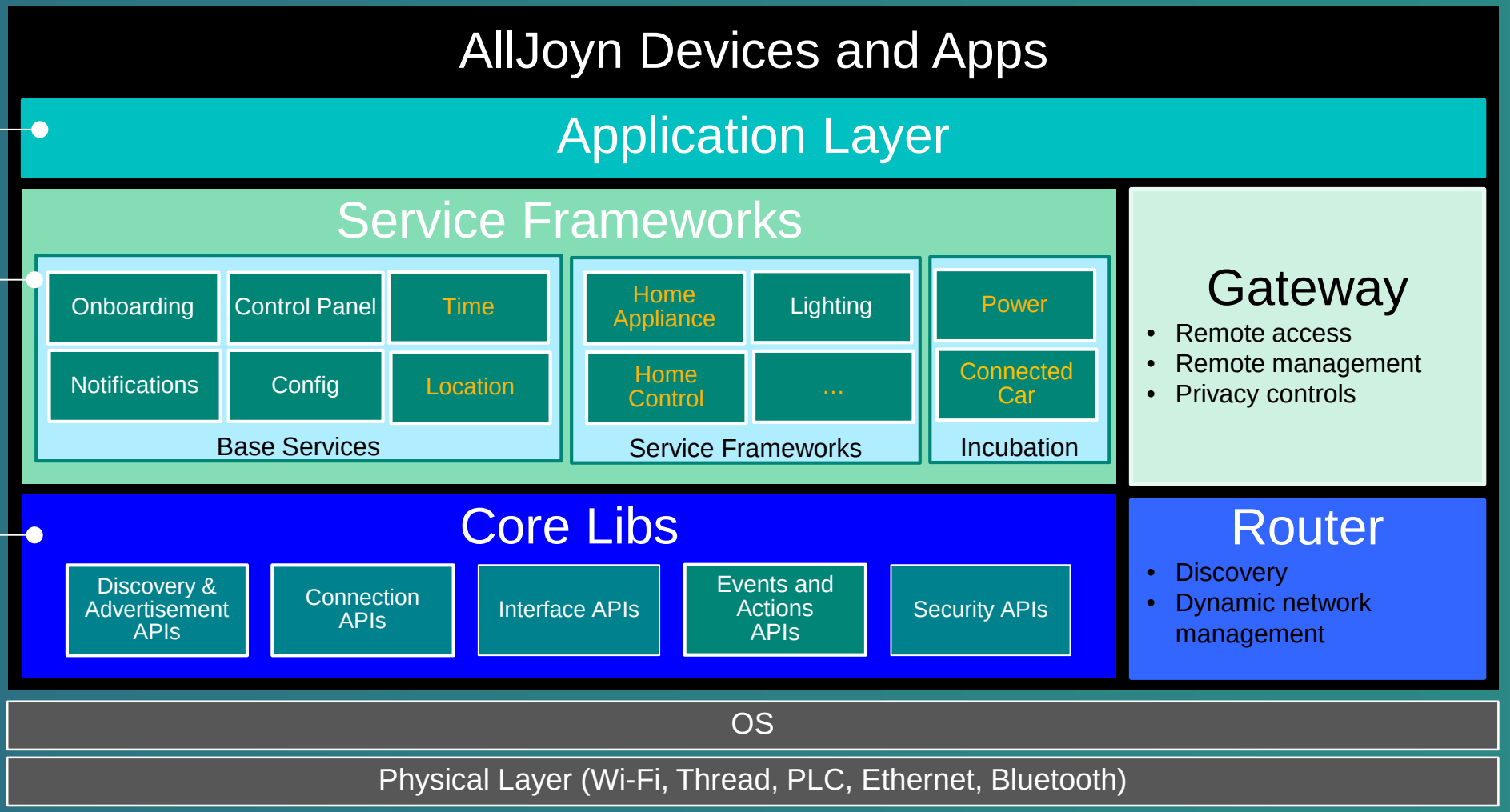
- Defines the User experience

AllJoyn Service Frameworks

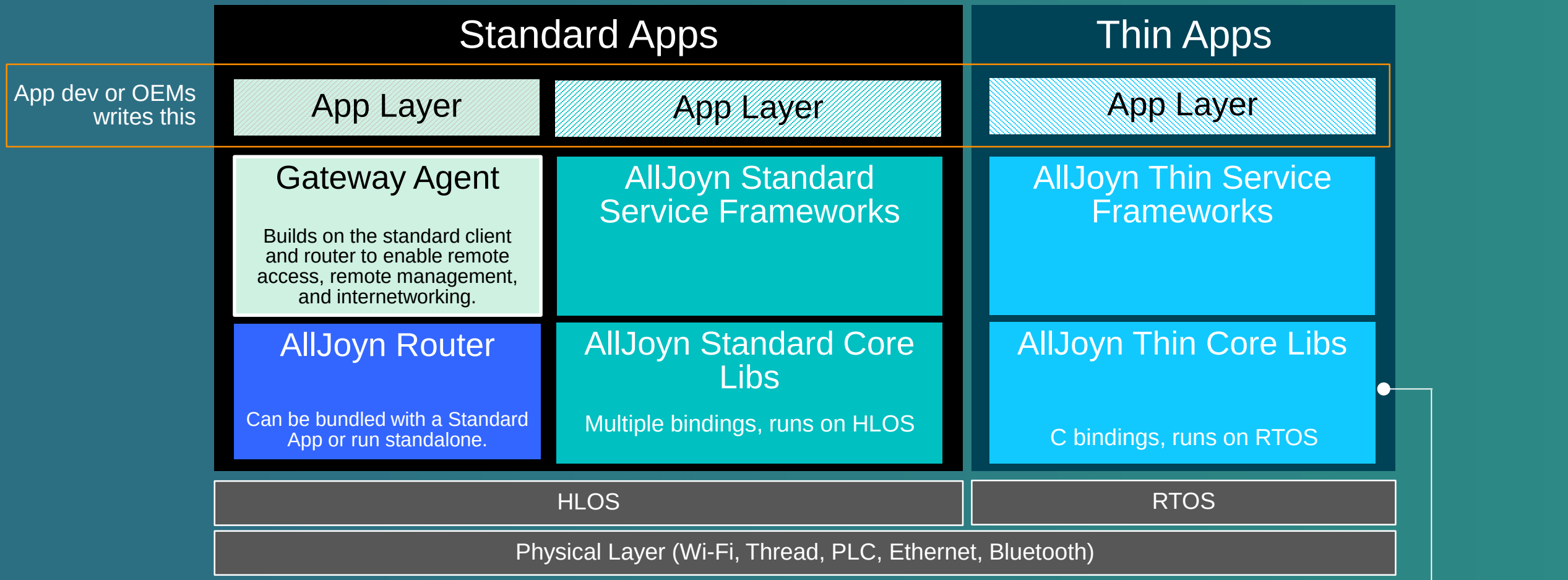
- Interoperable, cross-platform modules for common IoT functionality
- Defines common interfaces between devices

AllJoyn Core Libs

- Provides ability to find and connect to devices to do interesting things.
- Core libraries interact with the AllJoyn Router
- Provides security, access control and encryption



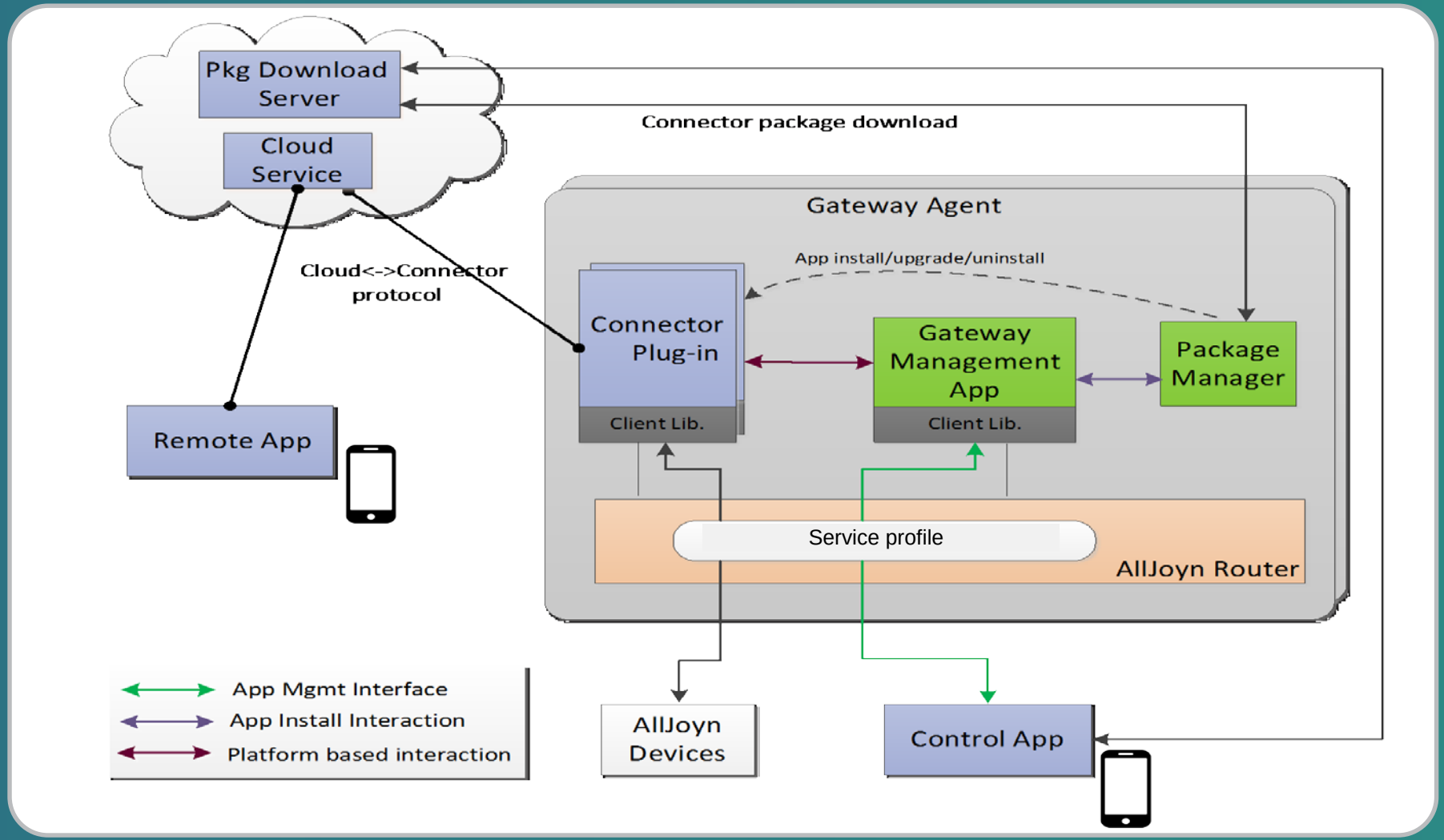
Two Versions of the AllJoyn Framework To Choose



NOTE: Products using Thin Core requires an AllJoyn Router in the network

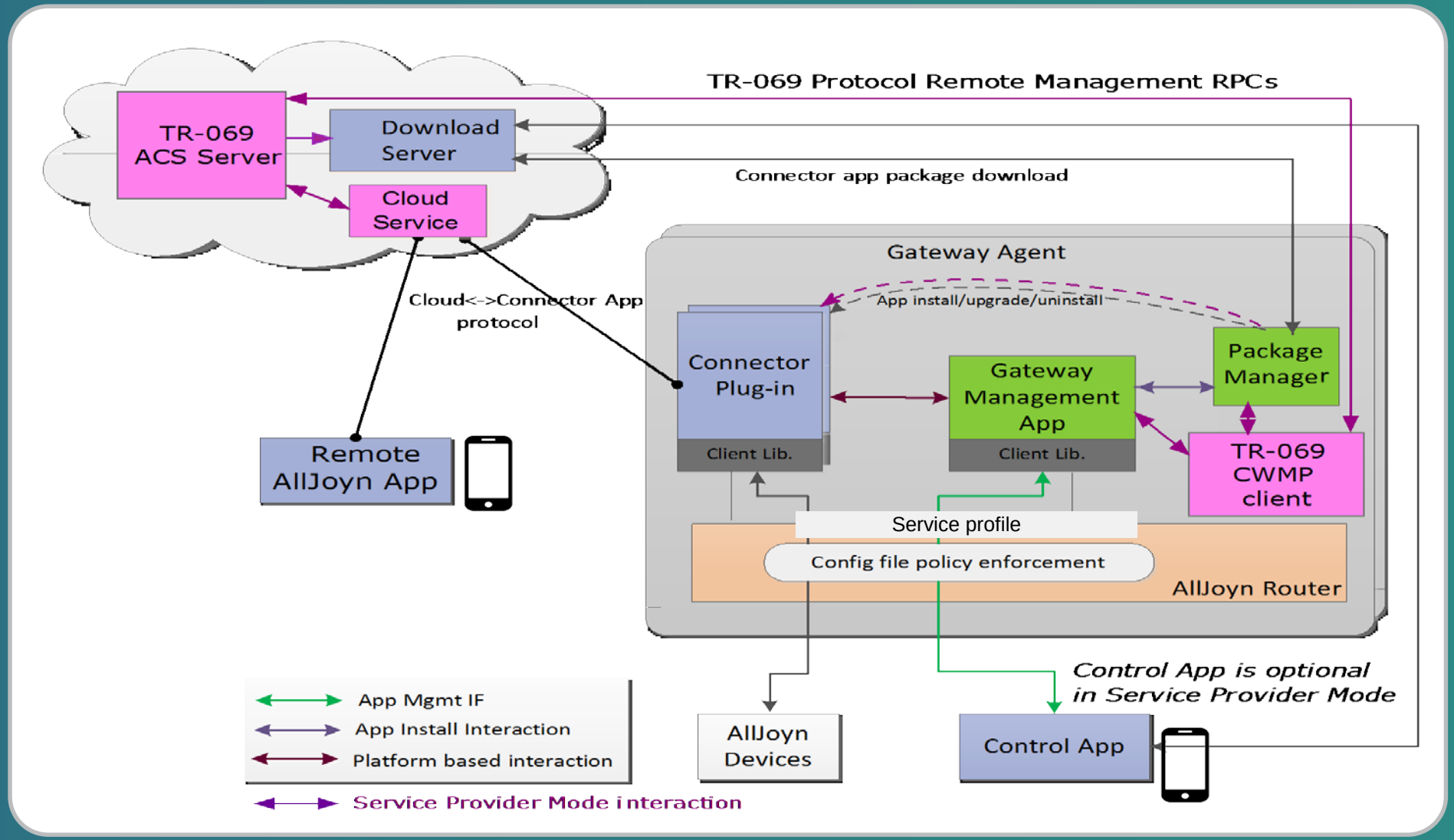
Gateway Agent: Consumer Mode Operation

- User self-manages their AllJoyn connections to external services
- Services provisioned via a mobile app with the Gateway Control App component
  - Connector Plug-in installed
  - Service Profile managed
- Consumer must be at home when configuring their cloud service using Control App



Gateway Agent: Service Provider Mode Operation

- Ideal for Managed Services Providers
- Remote software installation and update management for
  - Connector Plug-in(s)
  - Firmware of the hub or gateway
- Full remote management of
  - AllJoyn Services Profile
  - The overall gateway/hub configuration
- Implemented with TR-069a5 enhanced with XMPP



AllJoyn Mesh of Stars

Spans Network Transports

Bridges

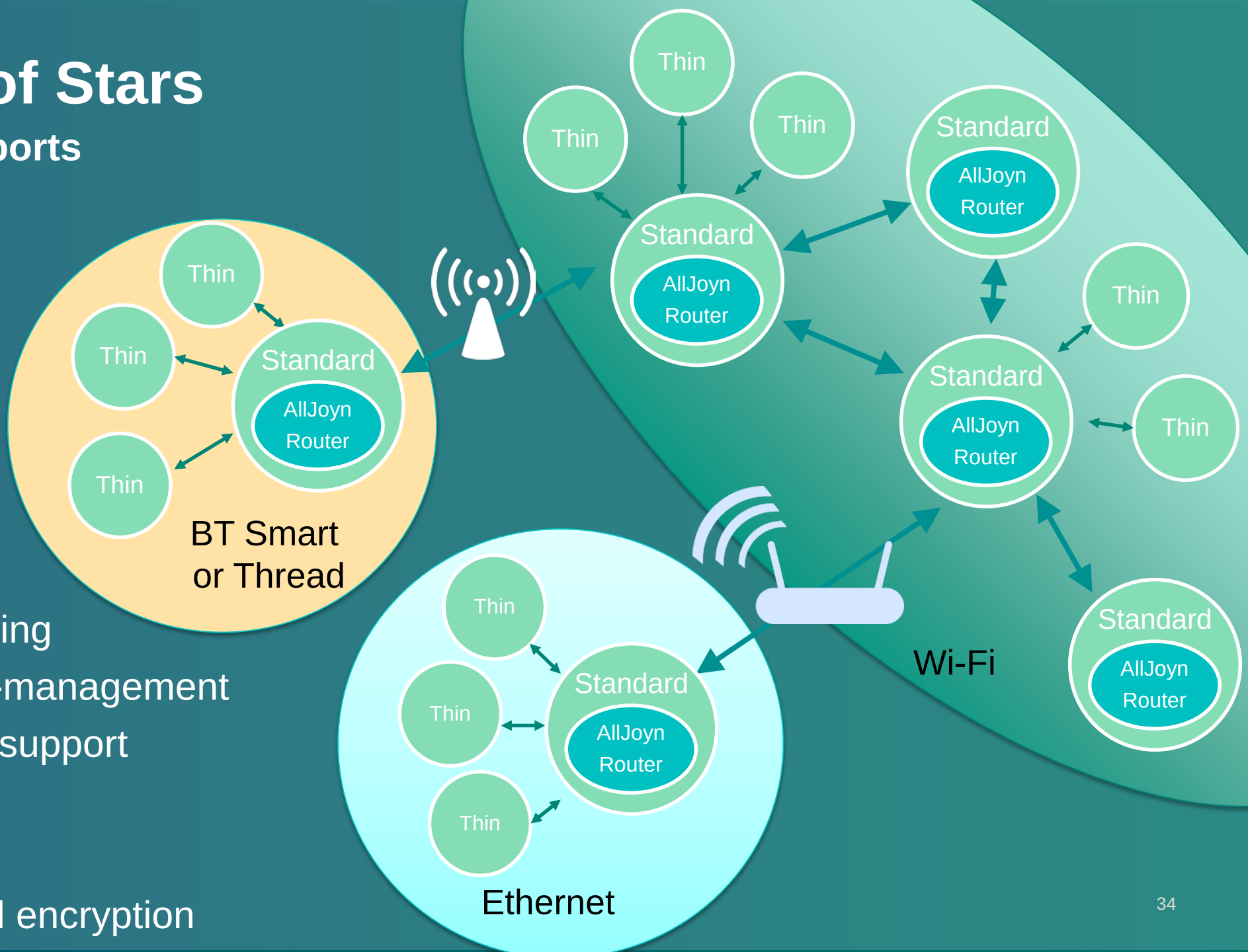
- Interconnect transports

Router nodes

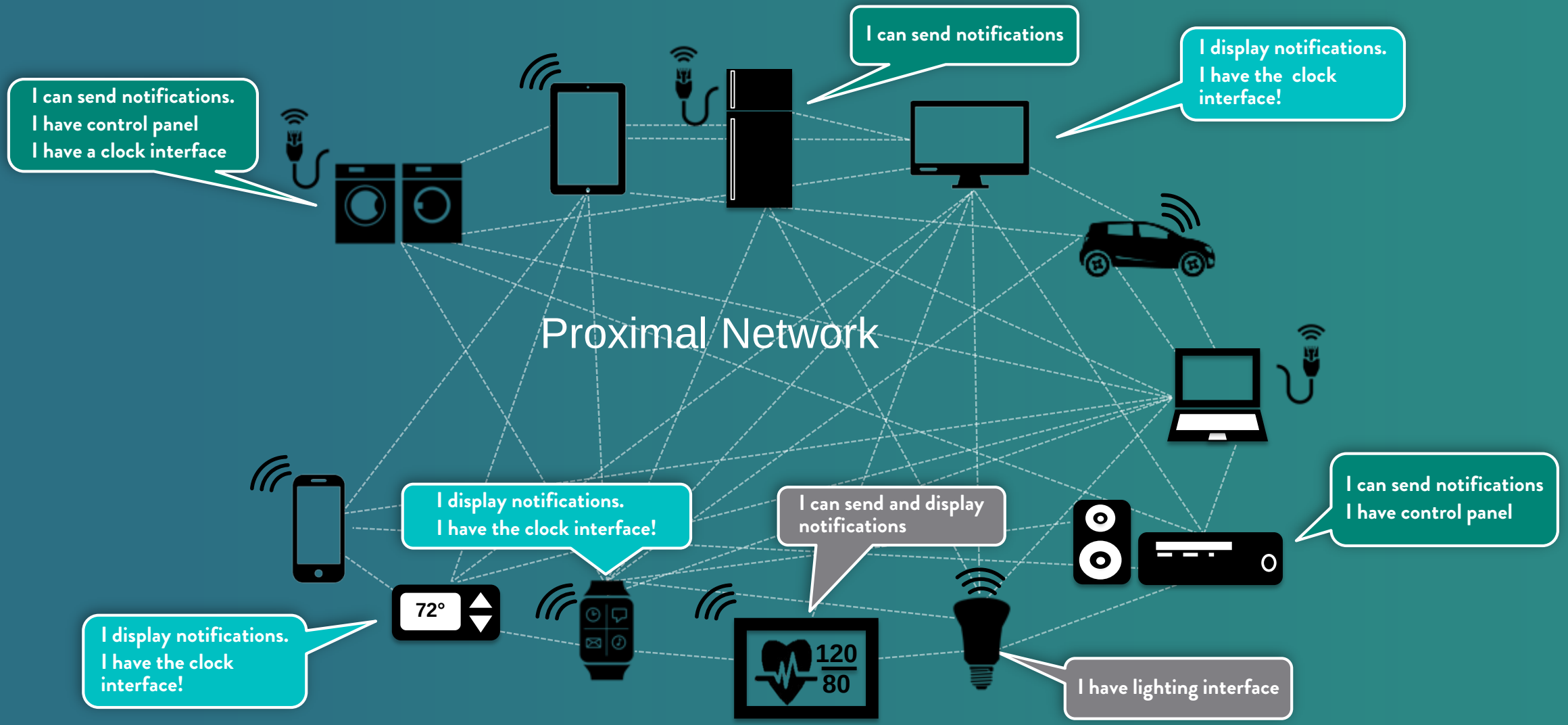
- Discovery/advertising
- Presence/session-management
- Publish/subscribe support

Leaf nodes

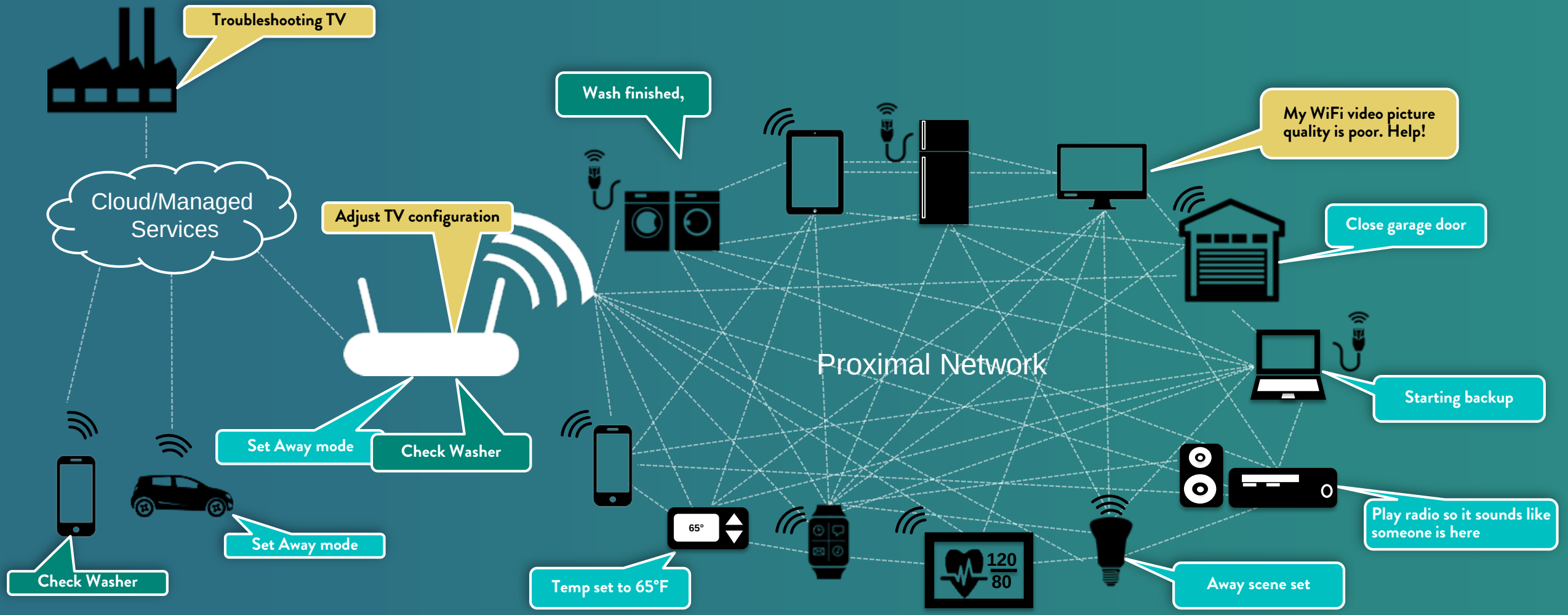
- Application code
- Authentication and encryption



AllJoyn enabled devices describe their capabilities via service interfaces on a virtual bus.



AllJoyn Gateway Agent provides remote access, management and privacy controls for all AllJoyn enabled devices and apps



Remote AllJoyn Apps

AllSeen Alliance IP Policy

Mission Driven IP

Disclaimers

- *This is not intended as legal advice so, as always, when dealing with IP Policies you should consult your legal counsel for advice in your circumstances.*

- *As with any other standards organization or open source software project, the AllSeen Alliance cannot bind companies that are not using AllSeen Alliance code or participating in the Alliance's ecosystem to any IP Policy.*

IP Policy Overview

- This IP framework is designed to enable **contribution** to AllJoyn under clear terms and to facilitate broad **adoption** of AllJoyn in products meeting the **interoperability** goals of the certification program.
- *In simple terms, the IP policy states that if you use a 'compliant base implementation' of the AllJoyn code, and then certify your product as 'AllSeen Certified', you are good to go with a strong 'patent pledge' from all of the AllJoyn contributors.*
- *IP Policy -* https://allseenalliance.org/about/governance/ip-policy
- *Blog post overview -* https://allseenalliance.org/news/blogs/2015/01/simple

Structure of the IP Policy

1. The Alliance will continue to use the permissive ISC License for copyrights http://opensource.org/licenses/ISC.
2. Contributors now make a patent pledge not to assert any of their patents practiced in their contribution against an Alliance-certified implementation of AllJoyn (see “Compliant Base Implementation” in the policy).
3. The policy includes a patent pledge termination provision to create a self-policing community and to deter companies involved in developing and using AllSeen code from asserting patents against compliant base implementations.

Certification

- The ‘AllSeen Certified’ certification program defines the code, compliance and interoperability requirements that must be satisfied by a product.
- To be certified, a product must be based on specific versions of the AllJoyn code identified in the Compliant Base Implementation
- ‘AllSeen Certified’ certification is required to gain the benefits of the patent pledge in the IP Policy
- Phase one – ‘**Designed for AllSeen**’
  - Self certification - https://allseenalliance.org/allseen-alliance-certification
- Phase two – **‘AllSeen Certified’**
  - Final details under development - https://wiki.allseenalliance.org/compliance/overview
  - ***This is the certification level required to gain the benefits of the IP Policy***

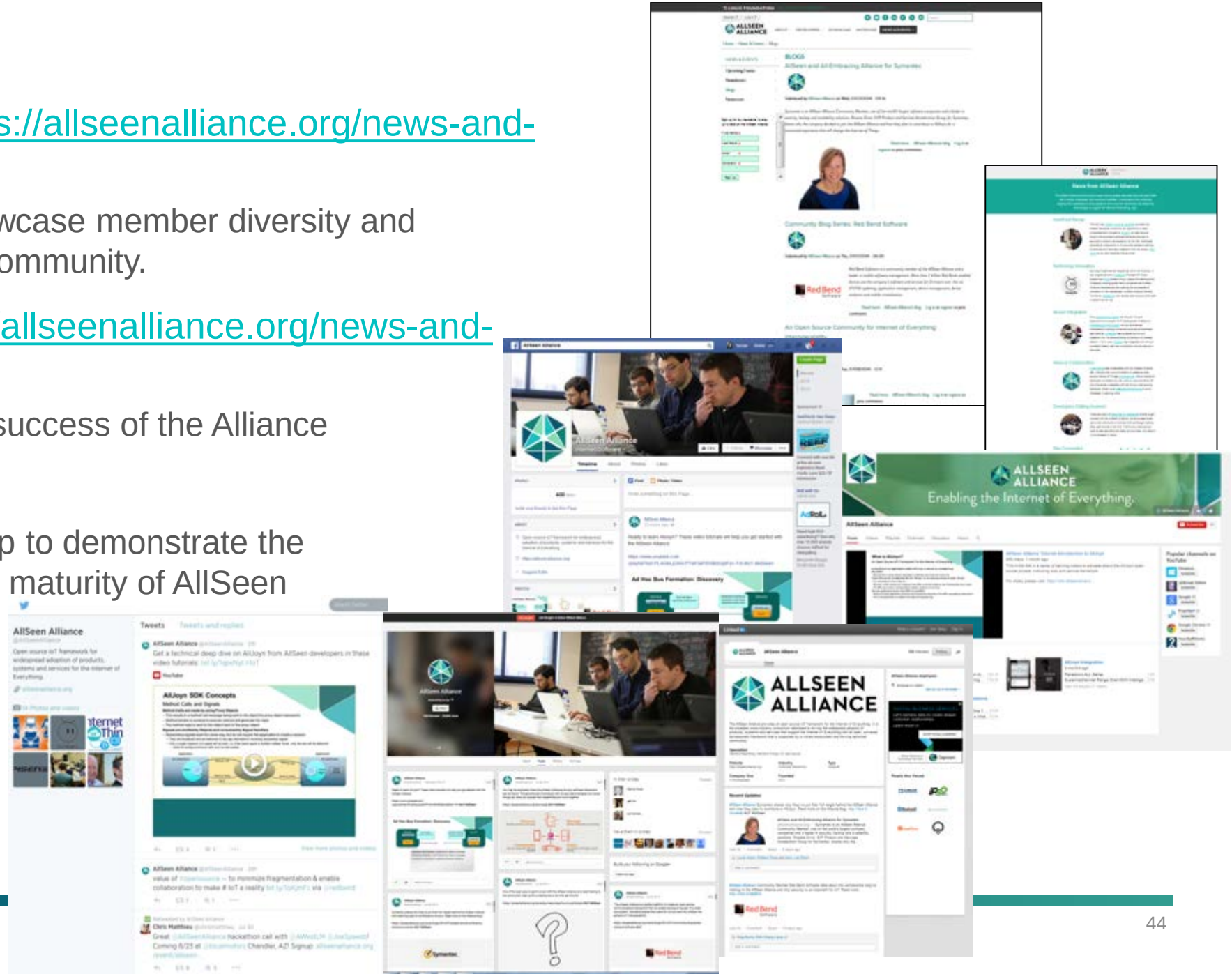
Find out More

For More Information

- Alliance Wiki: https://wiki.allseenalliance.org
  - Documents, downloads, and developer tools
  - Source Code, release overviews, roadmaps
  - Training & Service Framework details
  - Working Groups, New Proposals & meeting minutes
- Forums: https://ask.allseenalliance.org/questions
- Certification: https://allseenalliance.org/certification
- Releases & Roadmaps: https://wiki.allseenalliance.org/release/overview
- Public Mail Lists: https://lists.allseenalliance.org/mailman/listinfo
- Showcase: https://allseenalliance.org/showcase
- Monthly Newsletter: https://allseenalliance.org/news-and-events/newsletters

Marketing/PR

- AllSeen Alliance Blog https://allseenalliance.org/news-and-events/blogs
  - blog from members to showcase member diversity and thought leadership in the community.
- Monthly newsletter https://allseenalliance.org/news-and-events/newsletters
  - continue to showcase the success of the Alliance
- PR / Speakerships
  - to assert thought leadership to demonstrate the pervasiveness and relative maturity of AllSeen to alternative efforts.
- Social media



The AllSeen Alliance is creating the Internet of Everything…

Will You Participate?

Please contact

Philip DesAutels pdesautels@linuxfoundation.org skype: philip.desautels

or

Brett Preston

bpreston@linuxfoundation.org

for questions and next steps.

AllSeenAlliance.org

Thank You

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