ALLSEEN ALLIANCE

Technical Steering Meeting

April 1, 2014

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Reminder:

This call is being recorded

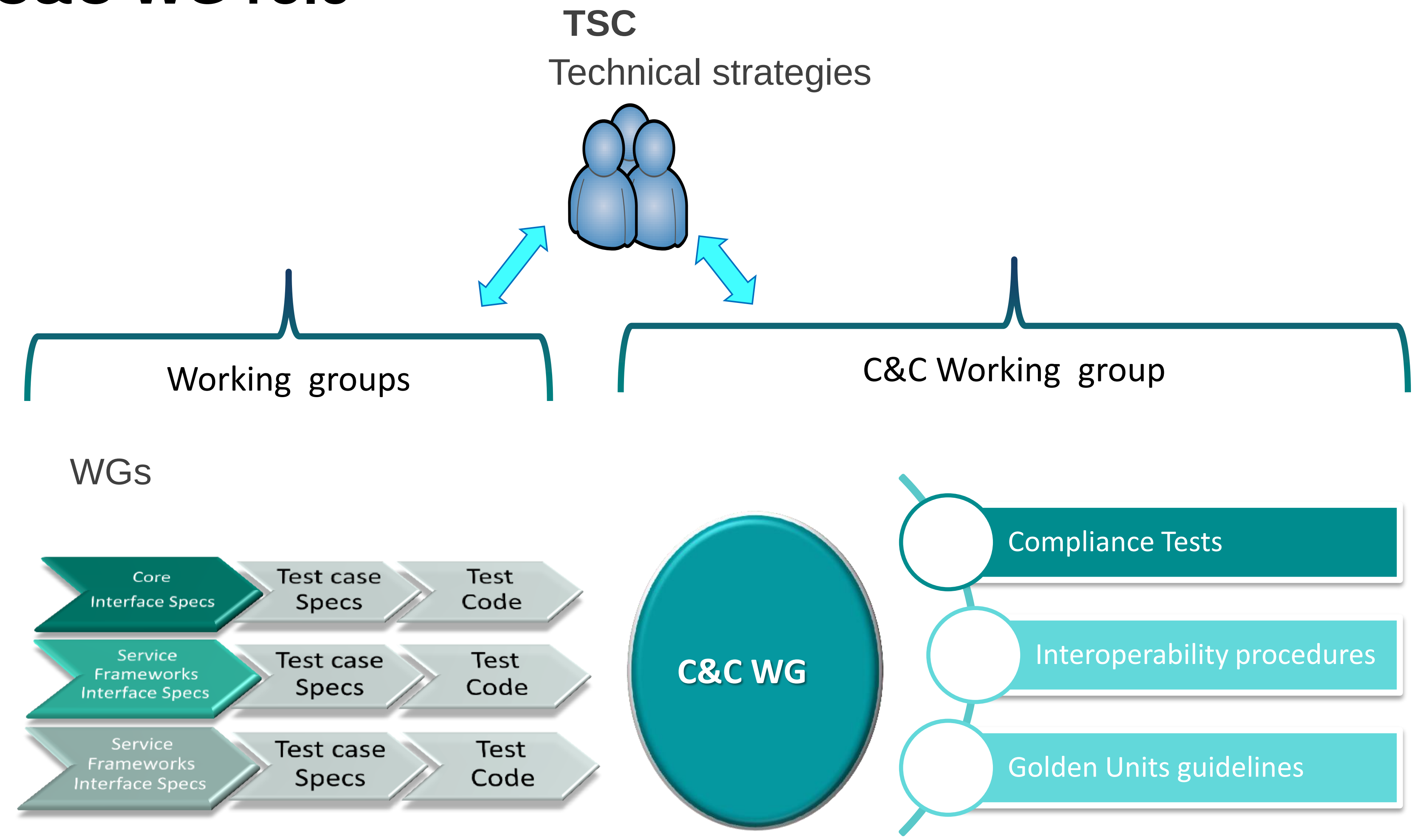
Agenda

- Approve minutes from last call
- C&C WG requirements for core and service compliance testing
  - Discussion and vote
- Hackfest logistics
  - Vote to authorize H/W purchase
- Lighting service proposal
  - Presentation by LIFX and vote on proposal

C&C Requirements for Core and Service WGs

Telis Kaleas

C&C WG role



TSC

Technical strategies

Working groups

C&C Working group

WGs

Core Interface Specs | Test case Specs | Test Code

Service Frameworks Interface Specs | Test case Specs | Test Code

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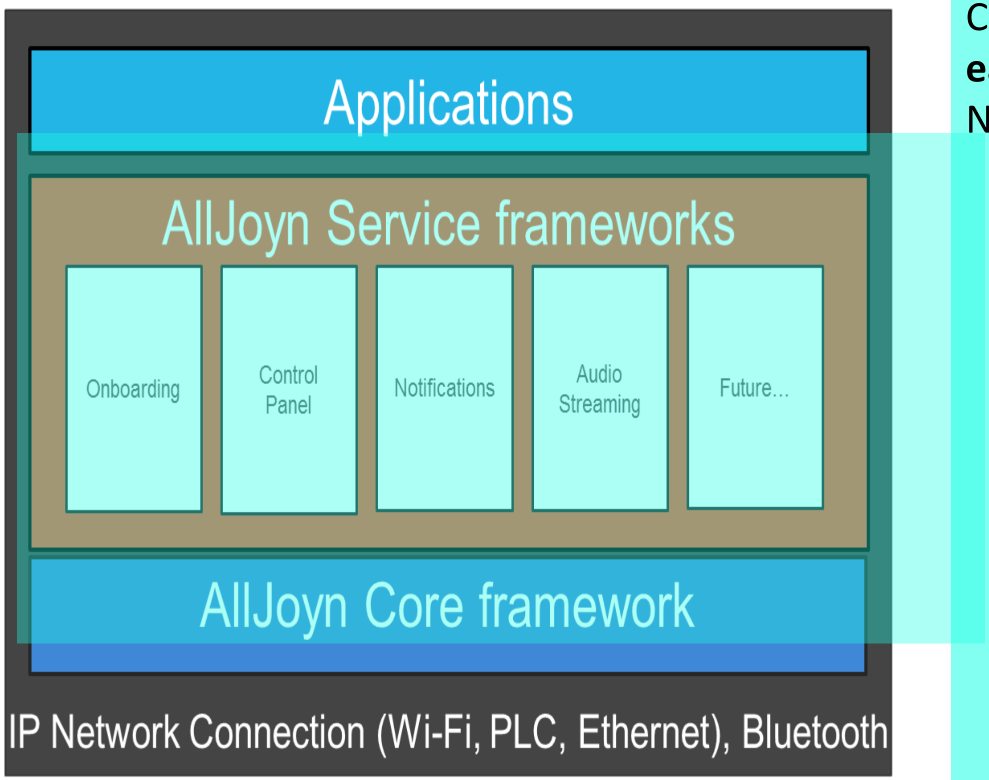
C&C WG

Compliance Tests

Interoperability procedures

Golden Units guidelines

C&C Requirements



Committer or Contributor of **Core** (About…) **and each Service Frameworks** (Config, Control Panel, Notifications,Lighting…) MUST Provide:

- The source code of the new (or updates) of core and Service Frameworks
- Interface Specs associated with that Core Interfaces or Service Framework
- Test case Specs which are written against the Interface Specs
- Provide Test code implementing the Test case Specs

Service Frameworks Interface Specs

- https://allseenalliance.org/sites/default/files/resources/aj_notif_sf_interface_spec.pdf
- Common Template sections:
  - Introduction
  - Service Messages
  - Service Interface
  - Call Flows
  - Introspect XML

Test Case Specification Template

- Proposed template for writing specs
- Includes instructions to assist with writing
- Template sections:
  - Introduction
  - Environment setup (Requirements, Preconditions, Test Execution Notes, and Test Parameters)
  - List of Test Cases (Test Case Id, Title, Objective, Procedure, and Expected results)

Lighting Service Framework Proposal

Marc Alexander
VP Engineering, LIFX Labs

Introduction

- We believe there is a strong need in the market for a connected lighting framework based on open standards to accelerate the pace of innovation of connected lighting over IP-based networks such as Wi-Fi.
- We believe that AllJoyn provides the foundation for delivering a compelling solution for the market with the addition of a lighting service.

LSF Objectives

- **Standard** - Provide a standard AllJoyn Framework for Lighting Control over IP Networks.
- **Interoperable** - Make lighting interoperable with other connected things. Across brands, platforms, and verticals.
- **Open** - Open Source, Open Governance. Code is the specification.

LSF Core Features

- Control
- Groups
- Scenes
- Effects

Control

- Lamps can be controlled via the LSF
- On / Standby
- Hue
- Saturation
- Brightness
- Color Temperature
- Lamp Output (read-only in Lumens)
- Power Draw ((read-only in mA)

Groups

- Lamps can be grouped and controlled together
- Create / Update / Delete Group
- Groups can be nested
- Groups can be named by the user
- Example:
  - Whole Home Group
  - Kitchen, Family Room, Dining Room Groups
  - Kitchen Nook, Kitchen Under Counter, Kitchen Floods

Scenes

- Scenes are preferences saved by the user to set a particular lighting mood or simply store a setting for convenience and future recall.
- Create / Update / Delete Scene
- Scenes can be grouped
- Scenes can be named by the user
- Scenes can contain groups and individual Lamps
- Scenes can contain an effect
- Example “Dining” Scene comprised of:
  - Wall sconce group transitions to blue hue, 30% brightness
  - Art light group transitions to warm color temp, 40% brightness
  - Chandelier group transitions to cool color temp, 15% brightness
  - group transitions to cool color temp, 15% brightness

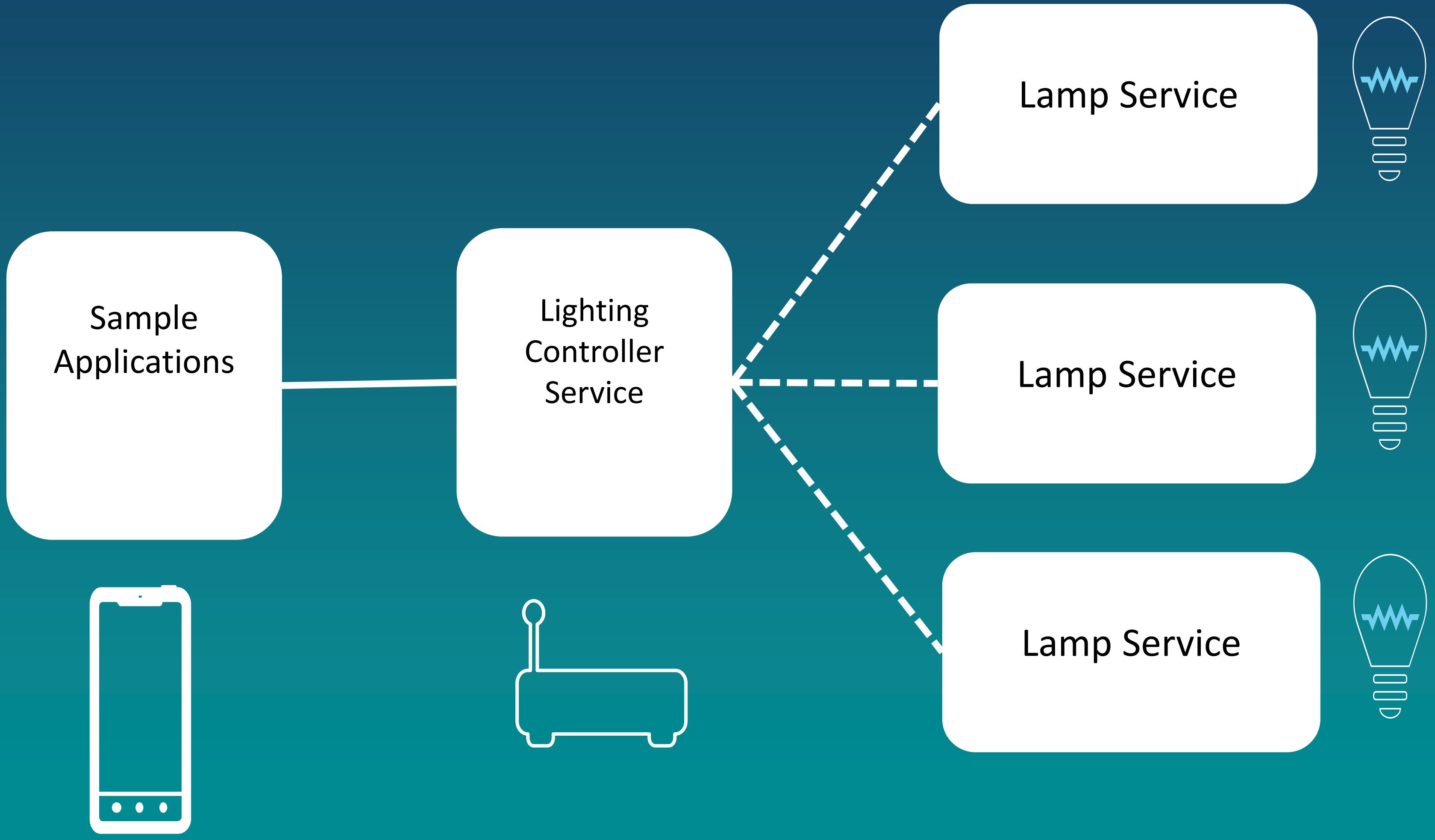
Effects

- The LSF defines a transition effect that the Light OEM may elect to implement.
- Custom effects may be developed by the Light OEM and made discoverable by developers.
- Effects are applied to Lamps or Lamp Groups as a part of a scene.

Developing with LSF

- Sample applications including client API’s available for both Android and iOS.

LSF Software Architecture



AllSeen Alliance
May 1st Hackfest Details

Event Summary

- May 1. 8:30a-5:30p. San Jose. Co-located with Embedded Linux Conference
- Agenda:
  - 4 hours of tutorial/samples + hands-on exercises
  - 4 hours of tinkering in groups of 6
- Maximize time by loaning:
  - LinuxVM on USB stick with build env and software preloaded
  - Arduino Yuns with LED and joystick shields

Goal

- Get developers excited about AllJoyn
  - Hands-on with Linux on Arduino Yuns with LED matrix and joystick shields
    - Everyone likes to make hardware do something
  - Teams of 6 to build something creative

- Teach developers about AllJoyn on Linux:
  - Core AllJoyn: Interfaces, methods, properties, signals, sessions
  - Notifications: sending, receiving.
  - Control Panel: XML, adding buttons, labels,

Detailed Agenda

Start	End	Item
8:30	9:30	Registration, breakfast, equipment loan pickup
9:30	10:00	Intro: Overview, LinuxVM, software, hardware
10:00	10:30	AllJoyn Overview
10:30	11:15	AllJoyn Interface tutorial walkthrough + hands-on exercise
11:15	11:30	Break
11:30	12:15	AllJoyn Notification tutorial walkthrough + hands-on exercise
12:15	1:00	AllJoyn Control Panel tutorial walkthrough + hands-on exercise
1:00	2:00	Lunch
2:00	5:30	Team tinkering and hacking

Provide H/W

- Important to get hands-on with real hardware
  - Closer to real IoT use cases
- Simplifies setup by providing attendees with everything needed to get started
  - Hardware
  - USB Stick with LinuxVM with all software, build pre-loaded
  - Attendees only needs to pre-install VM player.
- Hardware can be reused for future events
  - One time expense for this Hackfest

Equipment Costs

Item	What/Why	Quantity	Unit Cost
Arduino Yun	Linux + Arduino on one board; one per attendee	100	$72
Arduino LED Matrix Shield	14x9 LED matrix for output	75	$40
Arduino Joystick Shield	Joystick for input	25	$10
Wi-Fi Router	One per team of 6	20	$110
USB Stick	32GB for LinuxVM with software preloaded	100	$20
	Total with estimated 20% tax/shipping		**$17,580**

Budget

- Event Costs
  - $30K for venue rental, AV equipment rental, Wi-Fi, breakfast/lunch for attendees, logistics
  - $20K for one time equipment spend
- Budget for 2014: $120K
  - Originally allocated $30K for 4 Hackfests.
  - Will only have 3 Hackfests this year, so should have $10K left:
    - $30K x 3 + $20K (one time)

Tidbits

- Course content will be repurposed for online hands-on tutorial
- Next hack fest can potentially be focused on building service frameworks

Course Content

AllJoyn Interface Tutorial

- Provided software
  - Yun:
    - Sends about announcement with helloworld() method on helloworld interface.
    - Helloworld() prints to console
    - Sends helloworld signal after session joined
  - Linux:
    - Listen for about announcements an calls helloworld() method
    - Signal handler to receive helloWorldSignal() and prints to console
- Exercises (depending on shield)
  - Yun
    - Add putChar() that prints letter to LED matrix. Maybe also add putBitmap() that puts a bitmap on the LED matrix
    - Sends buttonChanged signal when button state changes. Add buttonState property to read buttonState
  - Linux
    - Accepts text from console and calls putChar() and/or putBitmap()
    - Register to receive buttonChanged signal. Calls getProperty on buttonState when signal received and prints to console

AllJoyn Notification Tutorial

- Provided Software
  - Yun
    - Notification consumer prints to console with notification received
    - Add producer code lib (that does nothing)
  - Linux
    - Accepts text from console and sends out as notification
    - When receives notification, prints to console
- Exercises (depending on shield)
  - Yun
    - When receive notification, prints firsts char to LED matrix.
    - When receives button or joystick changes, send notification

AllJoyn Control Panel Tutorial

- Provided Software
  - Yun
    - Implement Control Panel Controllee with basic button and spinner. When activated, prints to console
    - Implements Control Panel Controlee with a counter as a label. Update label and publish every 5 seconds
  - Linux
    - Control Panel CLI viewer
- Exercises (depending on shield)
  - Yun
    - Add button to update the LED maybe blink, modify picker to print different characters,
    - Add label for joystick/button states with publish; add button to change Arduino LED state

Team Project Ideas

- Create a digital scrolling marquee with Yuns with LED matrixes when an AllJoyn notification is received
- Create an AllJoyn Control panel to display fun things on a set of Yuns with LEDs
- Create a simple game (pong, breakout, Flappy Bird!) with the Yuns and the LED matrix and Joystick shields
- Display text on the Yun's LED matrix and scroll with the joystick

Thank You.