Technical Steering Meeting

March 24, 2014

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Reminder:

This call is being recorded

Agenda

- Approve minutes from last call
- Core WG 14.06 features & release plan
  - Target release date June 25th 2014
  - Vote to approve
- Base Services WG 14.06 features & release plan
  - Target release date June 25th 2014
  - Vote to approve
- C&C WG requirements for core and service compliance testing
  - Discussion and vote
- Hackfest reminder
  - Possible TSC F2F before or after Hackfest?

Core Working Group 14.06 release and feature plan

Todd Malsbary
Core WG Committer

High level feature set

- Next Generation Name Service (NGNS)
- UDP Transport
- Sessionless Signal Name Segmentation
- Policy Database
- WMI SPI Layer
- Security enhancements
- Events and Actions
- About integration into Thin Core Library
  - Not sure this warrants mentioning

Next Generation Name Service

- Improve reliability over WiFi
  - Algorithms to support this: bursting messages multicast, changing retransmit times
  - Use of mDNS to support queries
  - Use of unicast for the responses
- Adding support for "who implements" queries
  - Allow discovery of nodes that implement an interface or set of interfaces
  - Response will be the About Announcement signal in a unicast message
    - Folds About Announcements into the discovery framework as they are conceptually related
- Explicit support for presence/absence detection
  - This will work regardless of how peer was discovered (i.e. either name or implementation)
- Reduce chattiness: only send unsolicited advertisements when first appear on a network

UDP Transport

- Allow messages being passed between AllJoyn Routers to use UDP rather than TCP
- Enable better resource management
  - E.g. number of TCP connections, file handles, threads, etc…
- Enable AllJoyn specific handling of messages and connection state
  - Remove messages with expired TTLs from transmit queue
  - When message fails to be received mark receiver as no longer there
- Provide support for prioritizing control traffic over data traffic
  - Both for the system itself, and application control traffic
- Optimized for proximal data transmission rather that over the Internet
  - E.g. congestion control is not required

Sessionless Signal Name Segmentation

- Currently no way to distinguish between contents of SLS
    - apps may only be interested in a specific SLS, but will receive ALL of them
    - E.g. About, or Notification

- Allow apps to specify and fetch SLS only when there is a signal they are interested in

- Implementation will be tied to the NGNS

Policy Database

- Policy database defining permissions for applications
- Database local to a router instance
  - Enforcement only for messages to and from it's applications
- Permissions include:
  - Whether or not an endpoint may connect to the bus
  - Whether or not an endpoint may own an alias (well known bus name)
  - Whether or not an endpoint may send a message
  - Whether or not an endpoint may receive a message
- The granularity for message routing rules is based on the contents of the message header
  - For example: sender, receiver, interface, member, message type

WMI SPI Layer

- Software stack enabling AllJoyn on QCA4002 and QCA4004

- MCU and RTOS independent

- Reference implementation will be for FreeRTOS running on Arduino Due

Security enhancements

- AllJoyn Authentication Interfaces
  - Provide a more efficient way of doing negotiation than the current SASL exchange

- SHA2 support in the Thin Core Library

- Elliptic Curve Cryptography (ECC) based authentication
  - Specifically ECDHE_ECDSA authentication mechanism

- SPKI-style certificates

Events and Actions

- Ability to annotate signals and methods with human readable descriptions
  - Events will be annotated signals
  - Actions will be annotated method calls

- Annotations will be part of introspection information

- Will describe the intended semantics of the signals and methods

About integration into Thin Core Library

- More tightly integrate the About library into the Thin Core Library

Base Services Working Group 14.06 release and feature plan

Josh Hershberg
Base Services WG Chair

High level feature set

- iOS Onboarding Service Client
- Onboarding SDK for Android
- Onboarding Service Fixes for OpenWRT
- Events & Actions Sample Apps

iOS Onboarding Service Client

- Objective C wrapper to existing C++ code
- Sample App

Onboarding SDK for Android

- An SDK that exposes simple API for developers
  - Hides the Android WiFi management
  - Onboarding Service Framework 1.0 feature set
  - Implements the onboarding state machine and uses Android intents to notify the calling application about state changes and error conditions

Onboarding Service Enhancements for OpenWRT

- Onboarding service should run as a deamon and not part of an application

- Enhancements to scripts, command-line arguments and configuration files

- Support for ConnectionResult signal

- Dependency on luci-lib-json to be removed

- Revised GetScanInfo

- Misc. bugs

Events & Actions Sample Apps

- Event Picker
    - Uses introspection to display lists of event emmiters and actionable devices and objects
    - Provides UI to match event and actions

- Rule Engine
    - Stores event→action rules in persistent manner
    - Invokes actions in response to triggering events according to rules

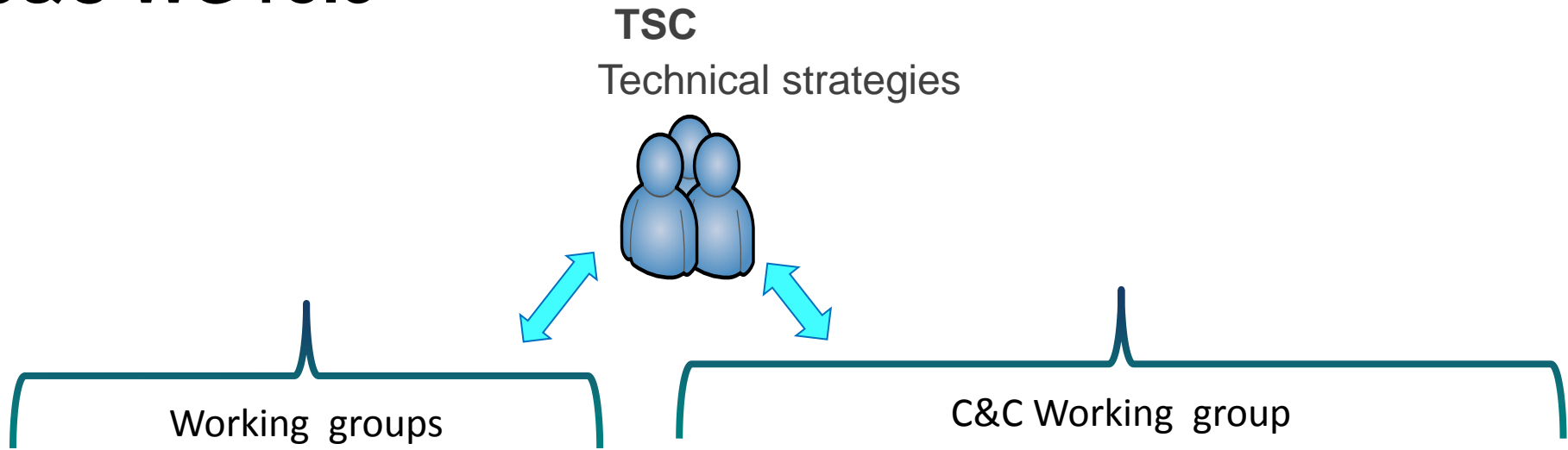# C&C Requirements for Core and Service WGs

Telis Kaleas

Requirements
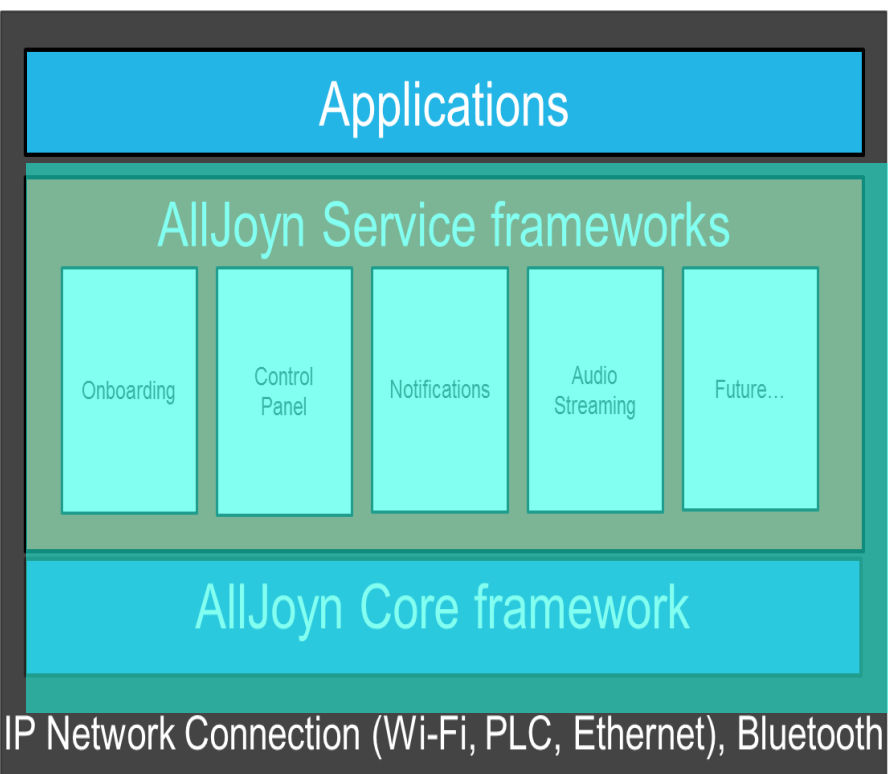
Committer or Contributor of **each Service Frameworks** (Config, Control Panel, Notifications,Lighting...) MUST Provide:

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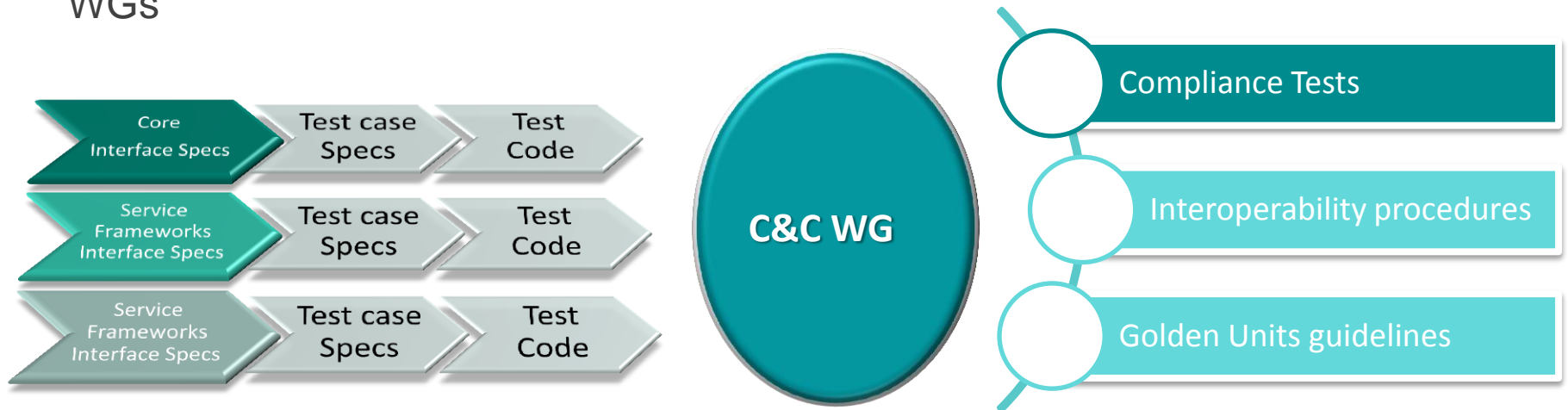- Provide Test code implementing the Test case Specs

Committer or Contributor of **Core** MUST Provide:

- The source code of the new (or updates) Core
- Interface Specs associated with core features
- Test case Specs which are written against the Core features (About..)
- Provide Test code implementing the Test case Specs

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

Service Frameworks Interface Specs → Test case Specs → Test Code

C&C WG

Compliance Tests

Interoperability procedures

Golden Units guidelines

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)

May 1st Hackfest Reminder

AllSeen Alliance Hackfest #1

- Need input from TSC members
  - Focus: embedded vs mobile?
  - Training vs hands-on
- Registration is open:

https://wiki.allseenalliance.org/develop/hackfests/1may2014hackfest

- Can we have a TSC F2F meeting on evening of May 1st?

Thank You.