



**ALLSEEN
ALLIANCE**

Getting Started Android + Linux

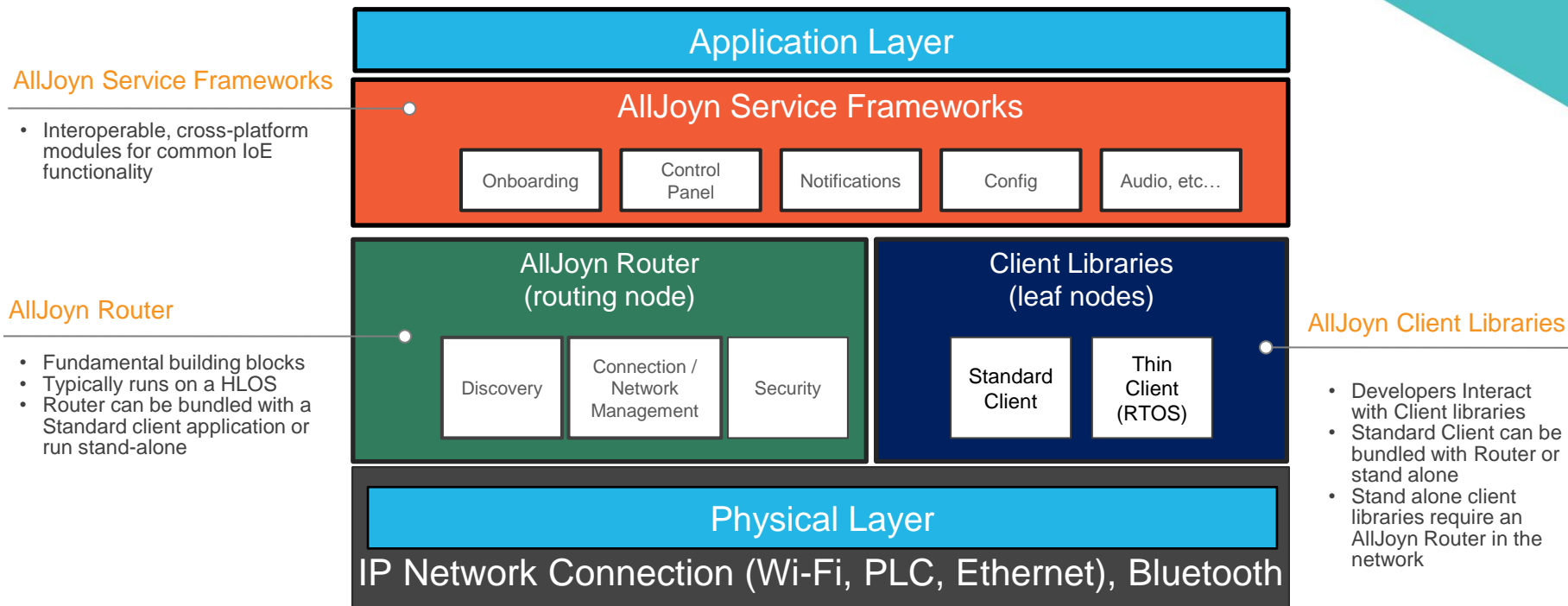
February 27th, 2014

Overview

- AllJoyn: High-level architecture
- Sample AllJoyn Apps for Android, Linux
- Downloading the AllJoyn Android SDKs
- Building the Sample AllJoyn Android Apps
- Sample AllJoyn Android App demos
- Downloading the Source on Linux
- Building and Running on Linux

AllJoyn Software Framework: High-level architecture

A comprehensive software framework lets devices and applications communicate



Sample AllJoyn Apps for Android, Linux

- Android:
 - Onboarding:
 - OnboardingSampleClient – the onboarder app will demonstrate onboarding an onwardee app
 - OnboardingServer – the onwardee app being onboarded
 - Notification:
 - NotificationServiceUISample – run app on two devices
 - Control Panel:
 - ControlPanelBrowser – a Control Panel controller sample app
 - this demo uses a development device SP140-141 running an AC sample app (source code not yet released, but is planned for release in the future)
- Linux:
 - Notification sample apps
 - sample AllJoyn chat application

A Useful (non-AllSeen Alliance) AllJoyn Android app: AllJoynOn

- **AllJoynOn** is a proprietary app created by Qualcomm Connected Experiences (QCE), for Android
- The AllJoynOn app can be used to interact with several AllJoyn Service frameworks, including:
 - Onboarding
 - Notifications
 - Control Panel
 - Config
- Download at <https://www.alljoyn.org/alljoyn-on>
 - Not part of the AllSeen Alliance code

Downloading the AllJoyn Android SDKs

- <https://allseenalliance.org>
 - Source Code -> Access the Archived SDKs
 - Download the Android zips:
 - AllJoyn SDK 3.4.6
 - AllJoyn Configuration Service Framework SDK 1.0.1
 - AllJoyn Control Panel Service Framework SDK 1.0.1
 - AllJoyn Notification Service Framework SDK 1.0.1
 - AllJoyn Onboarding Service Framework SDK 1.0.1

Building the AllJoyn Android apps - 1 of 5

- Extract the Android zips to alljoyn-android:
 - Creates:
 - alljoyn-android / core
 - alljoyn-android / services
 - / alljoyn-config-1.0.1-rel
 - / alljoyn-controlpanel-1.0.1-rel
 - / alljoyn-notification-1.0.1-rel
 - / alljoyn-onboarding-1.0.1-rel

Building the AllJoyn Android apps - 2 of 5

- **Download (more recent) sample code from git.allseenalliance.org**
 - OnboardingSampleClient:
 - https://wiki.allseenalliance.org/develop/downloading_the_source
 - git clone <https://git.allseenalliance.org/gerrit/services/onboarding.git>
alljoyn-android/services/onboarding
 - OnboardingServer (shows up as project “AboutConfOnbServer” in Eclipse):
 - git clone <https://git.allseenalliance.org/gerrit/services/simulators.git>
alljoyn-android/services/simulators

Building the AllJoyn Android apps - 3 of 5

- Import the projects from the following paths into Eclipse:
 - alljoyn-android / core / alljoyn-3.4.6-rel / java / samples
 - alljoyn-android / services
 - / alljoyn-controlpanel-1.0.1-rel
 - / alljoyn-notification-1.0.1-rel
 - / onboarding / java / OnboardingService
 - / onboarding / java / sample_applications / android / OnboardingSampleClient
 - / simulators
- Copy the following files:
 - alljoyn-android/core/alljoyn-3.4.6-rel/java/jar/alljoyn.jar
 - alljoyn-android/core/alljoyn-3.4.6-rel/java/lib/liballjoyn_java.so
 - alljoyn-android/core/alljoyn-3.4.6-rel/about/jar/alljoyn_about.jar
- ... and add them to your Android sample projects as:
 - /libs/armeabi/liballjoyn_java.so
 - /libs/alljoyn.jar
 - /libs/alljoyn_about.jar

Building the AllJoyn Android apps - 4 of 5

- Add service framework jars as needed:
 - For the OnboardingSampleClient project:
 - Place in /libs/ folder the jar copied from:
 - alljoyn-android/services/alljoyn-onboarding-1.0.1-rel/java/libs/alljoyn_apps_android_utils.jar
 - Configure the project Java Build Path to add the “OnboardingService” project
 - Under the “Order and Export” tab, check the box next to the “OnboardingService”
 - For the NotificationServiceUISample project, place in /libs/ folder, copy jars from:
 - alljoyn-android/services/alljoyn-notification-1.0.1-rel/java/libs/*.jar
 - android-support-v4.jar
 - For the ControlPanelBrowser project, to /libs/ folder, add jars from:
 - alljoyn-android/services/alljoyn-controlpanel-1.0.1-rel/java/libs/*.jar
 - android-support-v4.jar
 - ** REMOVE FROM JAVA BUILD PATH (fix coming in next release):
 - alljoyn_services_common.jar

Building the AllJoyn Android apps - 5 of 5

- For the AboutConfOnbServer project (ie. OnboardingServer sample app, from /services/simulators/), to /libs/ folder, add jars from:
 - alljoyn-android/services/alljoyn-config-1.0.1-rel/java/libs/alljoyn_config.jar
 - alljoyn-android/services/alljoyn-onboarding-1.0.1-rel/java/libs/alljoyn_apps_android_utils.jar
- Configure the project Java Build Path to add the “OnboardingService” project
 - Under the “Order and Export” tab, check the box next to the “OnboardingService”

Sample AllJoyn Android app demos – 1 of 3

Onboarding demo

- Illustrates use of **Onboarding Service Framework**
- Load and run the AboutConfOnbServer project onto a device (Device #1)
 - This app shows up as “Onboarding Server” on the device
 - Go to “Settings -> Wireless & Networks -> Tethering & portable hotspot”, and take note of the hotspot name (ex. “AndroidAP”)
 - Start the “Onboarding Server” app – the device should switch to hotspot mode
 - May need to “clear data” from “Settings -> Apps -> Onboarding Server” (before re-running)
- Load and run OnboardingSampleClient on a second device (Device #2)
 - Turn on WiFi on Device #1
 - Press the “Scan WIFI networks” button, select the above hotspot (ex. “AndroidAP”), if needed, enter password
 - Press the “Connect to AllJoyn” button, Hit “OK” on prompt
 - Long Press on the “Hello” entry, select “Onboarding”
 - Select Network (or manually type in network name) to onboard the Onboarder to.
 - Enter auth type and password if needed
 - Press the “Configure” button to push the WiFi Configuration to the Onboarder
 - Press the “Connect” button to connect the Onboarder to the configured WiFi network
 - If configured properly, the Onboarder should shortly be onboarded to the configured WiFi network

Sample AllJoyn Android app demos – 2 of 3

Notification demo

- NotificationServiceUISample
 - Illustrates use of **Notification Service Framework**
 - Run one instance of the app on one device
 - Run a second instance of the app on a second device
 - Start the app, and check the box “Producer” on one device, and check the box “Consumer” on the other.
 - Send messages from the “Producer”, and confirm they are received by the “Consumer”

Sample AllJoyn Android app demos – 3 of 3

Control Panel demo

- ControlPanelBrowser
 - Illustrates use of **Control Panel Service Framework**
 - this demo uses a development device SP140-141 running an AC sample app (source code not yet released, but is planned for release in the future)
 - Load and start ControlPanelBrowser on an Android device
 - Select the “AC” app in the menu
 - Use displayed controls to change the AC temperature and fan settings

Downloading the Source on Linux

- <https://wiki.allseenalliance.org>
 - https://wiki.allseenalliance.org/develop/downloading_the_source
 - Run these commands to download the source:
 - `export AJ_ROOT=`pwd`/alljoyn`
 - `git clone https://git.allseenalliance.org/gerrit/core/alljoyn.git $AJ_ROOT/core/alljoyn`
 - `git clone https://git.allseenalliance.org/gerrit/services/config.git $AJ_ROOT/services/config`
 - `git clone https://git.allseenalliance.org/gerrit/services/onboarding.git $AJ_ROOT/services/onboarding`
 - `git clone https://git.allseenalliance.org/gerrit/services/notification.git $AJ_ROOT/services/notification`
 - `git clone https://git.allseenalliance.org/gerrit/services/controlpanel.git $AJ_ROOT/services/controlpanel`
 - `git clone https://git.allseenalliance.org/gerrit/services/services_common.git $AJ_ROOT/services/services_common`
 - `git clone https://git.allseenalliance.org/gerrit/services/sample_apps.git $AJ_ROOT/services/sample_apps`

Building and Running on Linux – 1 of 2

- <https://wiki.allseenalliance.org>
 - https://wiki.allseenalliance.org/develop/building_and_running
 - Below are very basic instructions for building some AllJoyn core and services and basic sample applications:
 - `cd $AJ_ROOT/core/alljoyn`
 - `scons BINDINGS=cpp WS=off BT=off ICE=off
SERVICES="about,notification,controlpanel,config,onboarding"`
 - `cd $AJ_ROOT/core/alljoyn/build/linux/x86_64/debug/dist/`
 - `export
LD_LIBRARY_PATH=`pwd`/cpp/lib:`pwd`/about/lib:`pwd`/notification/lib:
`pwd`/controlpanel/lib:`pwd`/config/lib:`pwd`/services_common/lib:$LD_
LIBRARY_PATH`

Building and Running on Linux – 2 of 2

- <https://wiki.allseenalliance.org>
 - https://wiki.allseenalliance.org/develop/building_and_running
 - To run a couple of basic Notification Service sample apps:
 - `cd $AJ_ROOT/core/alljoyn/build/linux/x86_64/debug/dist/notification/bin`
 - `./ConsumerService` # run this in one terminal to receive notifications, press enter once after launching ConsumerService
 - `./ProducerBasic` # run this in another terminal to send notifications
 - To run the AllJoyn sample chat application:
 - `cd $AJ_ROOT/core/alljoyn/build/linux/x86_64/debug/dist/cpp/bin/samples`
 - `./chat -s mychatsession` # run this in one terminal
 - `./chat -j mychatsession` # run this in a second terminal

質問は？

Questions?

问题？

Ερωτήσεις?

Questions?

Fragen?

Вопросы?

Spørsmål?

Questions?

Domande?

Questions?

Vragen?

Questions?

질문이 있습니까?

Cwestiynau?

Spørgsmål?

問題？

FRÅGOR?

Preguntas?

Kysymyksiä?



Thank You!

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