

# AllJoyn™ Overview

(Peer-to-Peer 서비스 개발 프레임워크)

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# What is AllJoyn?

AllJoyn is peer-to-peer software development framework that enables ad-hoc, proximity-based, device-to-device communication without the use of an intermediary server

# Open Source / Free SDK?

# YES

Apache License 2.0기반의 Open Source로써 개발사에게  
무료 SDK 및 개발 환경 제공

# Qualcomm Snapdragon chip only?

# NO

Devices간의 Connectivity 지원을 위하여 다양한 H/W, OS  
를 지원.

## Why can't all our smartphones discover & connect with each other?

The core LAN technologies are already ubiquitous and in all our phones (Bluetooth, Wi-Fi)

But ...

Can you discover other phones?

Can you place shift your content?

Why not?

Where mobile links up.



# Why Peer-to-peer (P2P) Is Hard

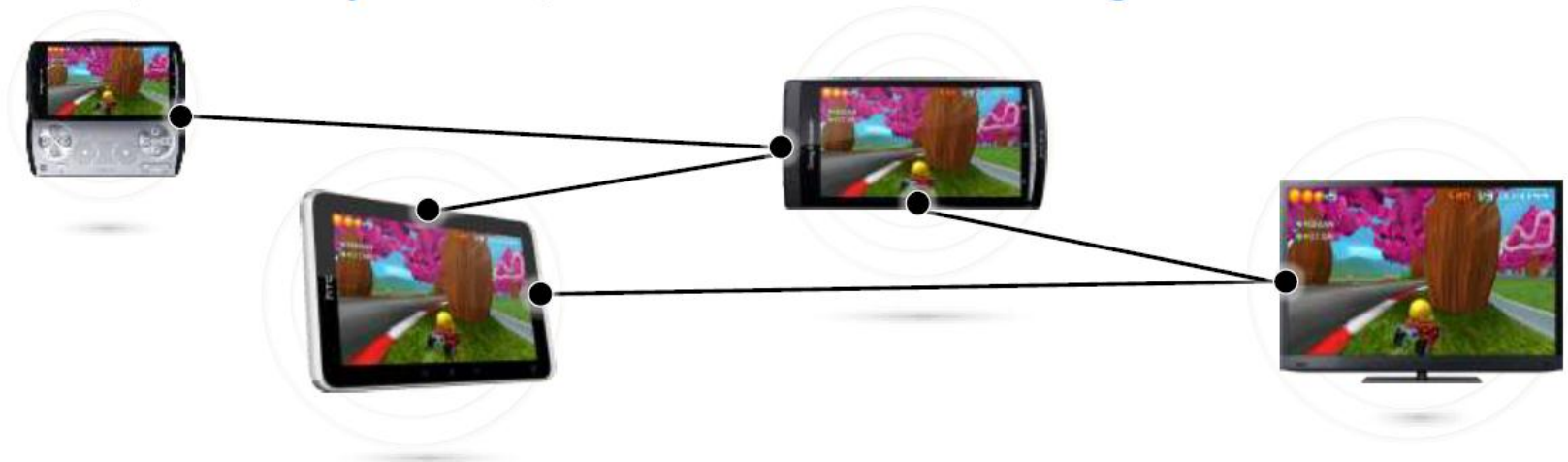
## P2P Friction Developers Face Today



Where mobile links up.

# What Is AllJoyn?

Open Source Application Development Framework to Enable  
Ad Hoc, Proximity-Based, Peer-to-Peer Networking



AllJoyn brings proximity awareness to mobile apps, unleashing a whole new set of user experiences to smartphones, tablets, PCs, TVs and more by abstracting all the complexity of P2P networking from developers

Where mobile links up.



# AllJoyn Is a Software Framework



Open Source (Apache 2.0 License)

Enables Developers to Easily Add P2P Experiences to Their Apps

Application Layer Discovery  
*(What services are running on nearby devices that are reachable)*

Application Layer Security  
*(What information can a service access on your phone, what's off limits)*

Interoperate Across Different OS and Bearers  
*(Developer does not need to know anything about bluetooth, wi-fi, android, windows, etc.)*

Where mobile links up.

# What About Existing Protocols?

	AllJoyn	DLNA®	UPnP	Bonjour
Multiple wireless transports	■			
Application Centric	■			
Device Centric		■	■	■
Network management	■			
App development framework	■			
Media streaming & security	■	■		
Control plane	■	■	■	
Discovery	■	■	■	■
IP Transport	■	■	■	■

WiFi Direct is much like BT with device pairing

- Focus is on establishing IP networks

AllJoyn avoids the complications of pairing devices

- Provides higher level API's that work across different wireless protocols

# What Operating Systems and Languages?

## TODAY

Android  
2.1 (Éclair) and newer

Windows® 7  
and XP

Linux

## IN DEVELOPMENT

iOS

Windows® 8/RT

## LANGUAGE BINDINGS

C++  
(native implementation)

Java

C#  
(Unity)

## IN DEVELOPMENT/DEMONSTRATED

C

JavaScript

C#  
(General)

AllJoyn is open source and available  
<http://www.alljoyn.org>

## AllJoyn (Open소스 기반의 proximity based P2P S/W framework)

### AllJoyn 장점

- ❑ 복잡한 기기간 연결 절차를 제거하여 Application 실행만으로 주변 기기와의 연결을 통한 서비스 제공이 가능
- ❑ Wi-Fi 뿐만 아니라 다양한 통신 채널(Bluetooth, Wi-Fi Direct, \*LTE Direct, \*DLNA)등이 제공. \*내년 Release 예정
- ❑ Content Type에 대한 제한이 없음으로 DLNA기반의 서비스에서 제한되는 다양한 사용자 서비스를 제공할 수 있음.
- ❑ 1 to Multi, Multi to Multi 연결이 가능함으로 다자간의 상호 서비스 연결 및 공유가 가능해짐.
- ❑ Open 소스 기반으로 제공되며 Web을 통하여 SDK 및 관련 문서 그리고 기술 지원이 용이함.
- ❑ 디바이스간의 공유가 아닌 Application간의 연결로 단말에 대한 Content 접근 보안이 강화됨.
- ❑ H/W, OS에 종속적이지 않음으로 다양한 디바이스에서도 동일한 사용자 서비스를 제공할 수 있음
- ❑ AllJoyn은 DLNA기반의 서비스가 지원하지 못하는 영역의 서비스를 제공하기 위한 보안적 S/W으로써, 기존의 DLNA 기반의 서비스를 AllJoyn으로 변환할 필요성은 없음.

### Preloaded시 장점

- ❑ 디바이스에서 AllJoyn 탑재를 통한 P2P서비스 활성화를 위한 기본 환경을 제공함으로써, 개발자는 다양한 P2P 서비스를 개발할 의지가 생기며, OEM/OP는 이를 위한 Ecosystem을 어느 OEM/Operator보다도 먼저 주도 할 수 있는 경쟁력이 생김.  
✓ 모든 LG가전의 스마트 제어, 게임, 정보공유등.
- ❑ AllJoyn을 탑재함으로써 Daemon에 대한 관리 주도권을 행사 할 수 있음. 예로, AllJoyn Update시 각각의 개발사가 수정할 사항을 단말 preload daemon patch만으로 모든 서비스가 빠른 시간에 동시에 Update될 수 있음.
- ❑ Preload된 AllJoyn은 각각의 Application에 포함되는 경우에 비하여 리소스를 현격히 개선할 수 있음.  
✓ CPU, Processing, Storage space, Memory.  
✓ Socket resource 및 단말 Battery 소모 제거.
- ❑ 개발사는 경량의 개발코드, 기간단축 및 Preload에 따른 전력 검토 단축등으로 빠른 서비스 제공 가능.
- ❑ BT, Wi-Fi Direct 및 향후 통신 채널에 대한 지원 및 활성화만으로 One Click Pairing이 가능해짐.
- ❑ Preloaded AllJoyn 실행 환경에서는 Application내의 Daemon이 별도로 실행될 필요가 없음으로 구동 시간 단축.
- ❑ 기기간의 P2P서비스 뿐만 아니라 동일 기기내의 IPC 매커니즘으로도 활용이 가능함으로써 다양한 TV내 프로세스간 통신이 가능함.
- ❑ Web only 환경에서는 Web 특성상 서비스가 daemon을 포함하여 호출하는 구조의 실행 권한이 없음으로 AllJoyn에 대한 Plug-In 또는 Daemon형태의 구동이 필요함.



# What new user experiences will emerge?



## Entertainment Experiences



## Multi-Screen Experiences



## Social Experiences



AllJoyn™ unleashes a whole new set of user experiences that span across mobile, tablets, PCs, TVs and more by abstracting all the complexity of P2P networking from developers





## AllJoyn™ Powered Games

AllJoyn™ is the only free, multi-platform, local multiplayer over Wi-Fi solution available today



**Qwik Draw**  
Draw with your Friends

Each user takes a piece of the drawing and passes it along to the next until it is complete and the drawing is instantly revealed.



**SpudBall**  
Deliver social  
Hot Potato Game

Up to 6 players can discover, connect, and compete to see who is the best at keeping the spud away before it explodes!



**Tower Bloxx  
New York**  
Offer new twist to  
build-a-city game

With AllJoyn players can start a head-to-head multiplayer game and compete to see who has the best reflexes and puzzle skills.



**Zombie Lane**  
Make experience more  
interactive and social

Send your nearby friend more ammo or food on the spot and add your proximal friends as a zombie neighbor



**3D Rollercoaster  
Rush New York**  
Deliver a new way to play

Discover, connect, and compete with people nearby to see who can win the rollercoaster race and who gets left in the dust.





## Multiscreen Experiences

- Multi-screen experiences are the future of the connected home
  - 85% of tablet owners use them while watching TV.\*
  - Xbox SmartGlass and Wii u
- AllJoyn™ enables synchronous multi-screen to power this next generation of experiences
- Applications running on a smartphone or tablet can discover, connect, interact with, and control applications and content on the TV.
- Can provide a synchronized supplemental or interactive experience on the tablet or smartphone to non-linear content or applications on the TV.
- Example: Phunware's Hip Hop Official: VIDEO:  
<http://www.phunware.com/multiscreen>



- Demo 1 : JamJoyn
- Demo 2 : Pins & White board
- Demo 3 : Fight Game Heroes
- Demo 4 : Hip Hop Official



# The AllJoyn™ Peer-to-Peer Framework

Enables Developers and OEMs to Win !

- Developers can easily create new and innovative P2P user experiences
  - AllJoyn APIs abstract all the complexity of P2P networking from developers
  - Achieve scale today across Android/PC/Linux platforms
  - Development under way for OS X/iOS and planned for WP/W8
- QCT OEMs can utilize AllJoyn to deliver branded / proprietary services across their device portfolio to create brand loyalty and deliver a unique user experience.
  - Deliver “Apple like” experience across device classes
  - Ex. Synch/share across TV, Laptop, Desktop, Tablets, Smartphones
  - Differentiated Applications are pre-installed and unique to OEM portfolio

## Go To Market Strategy: AllJoyn Delivered To Consumers in 2 Ways

### SDK Integrated into Apps



- Developers pull the AllJoyn SDK into their Apps (Open Source)
- Then users can download the AllJoyn Applications onto any Android phone and discover & share data with other devices over Wi-Fi
- Fast, large distribution opportunity for AllJoyn developers

### OEM Device Integration



- OEMs Add the AllJoyn Framework into their devices at the Platform level (part of AMSS release)
- Then any AllJoyn Application that runs on that device benefits from “enhanced” P2P capabilities
- Faster, seamless discovery & no need for Wi-Fi Direct pairing
- Differentiates our OEMs





AllJoyn

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OEMS

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FORUMS

## PEER-TO-PEER MADE EASY

**Enable peer-to-peer capabilities with  
all types of apps**

Learn More >

Download AllJoyn SDK >

ANNOUNCEMENT  
10/5/12

### AllJoyn 3.0 Released

See the forum post for more  
information.



Select Language ▾

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## Add Some Peer-to-Peer Magic to Your Application

AllJoyn™ is an open-source application development framework that enables ad hoc, proximity-based device-to-device communication that is OS agnostic. AllJoyn connects people real-time. Utilizing AllJoyn in your apps offers a host of exciting new user experiences from multi-player gaming and entertainment, to media sharing, productivity tools and social networking. The possibilities are endless.

<http://www.allJoyn.org>



AllJoyn

## PEER-2-PEER APP CHALLENGE

♥ FOLLOW



327 followers



About 2 months left to submit ([view all dates](#))



\$171,495 in prizes



Rules

Enter an Application

Updates

Discussions

Resources

FAQ

Build innovative, peer-to-peer mobile apps  
using the AllJoyn SDK and compete for cash  
& prizes with a total value of over \$170,000.

ACCEPT THIS CHALLENGE

OR

FOLLOW

Get notified of important changes and  
opportunities for participants.



- URL : <http://alljoynappchallenge.com>
- 등록기간 : 2012.09.17 ~ 2012.12.27
- 평가투표 : 2013.01.16 ~ 2013.01.29
- 최종발표 : 2013.02.26

質問は？

Questions?

问题？

Ερωτήσεις?

Questions?

Fragen?

Вопросы?

Spørsmål?

Questions?

Domande?

# Questions?

Frågor?

Questions?

질문이 있습니까?

Cwestiynau? Spørsmål?

Kysymyksiä?

Questions?