



**ALLSEEN
ALLIANCE**

**Media
Working
Group
Proposal**

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Media Working Group: Purpose

Media devices such as mobile phones, tablets, smart TVs, set-top boxes and audio speakers are important members of the Internet of Things ecosystem and it is these devices that can help the everyday consumer electronics in our homes, such as toasters and washing machines, exhibit their own intelligence. Media devices can give a voice and life to those devices that don't have the benefit of visual displays, microphones and speakers.

There are a variety of existing, standardized, media delivery frameworks in the market today. Each of these is a broad set of complex specifications that have been implemented by many OEMs in a variety of media devices. These frameworks include a set of certifications to ensure interoperability and to date, none of these frameworks has proven to be truly interoperable. The challenge is the proper interpretation of the specification, so that every OEM that does an implementation does it exactly the same way.

A few of the most well-known frameworks are getting better, but they are still a problem for media application developers. The specifications don't provide a simple, straight-forward set of APIs that any application developer can take advantage of without a steep learning curve. Consequently, those application developers that are working for themselves, working in small shops, lacking resources to build competency in these frameworks choose not to pursue them at all. That is unfortunate because it means that media devices don't benefit from the application innovation that will come through the developers in the Internet of Things ecosystem and vice versa, the Internet of Things is unable to benefit and truly take advantage of media devices.

AllJoyn provides a set of capabilities that includes device discovery and communication between varieties of disparate devices in a proximal environment. This project serves to further expand AllJoyn services by creating a set of modular service frameworks that serve the specific needs of media devices and media application developers. The creation of this foundational set of components, a media delivery framework for AllJoyn, gives everyday consumer electronics and applications a set of APIs to discover media devices, to interrogate their contents, to interrogate their capabilities, to deliver media files to them for the appropriate rendering. This framework is not only fundamental to the expansion of the Internet of Things, but also necessary to realize its full potential.

Media Working Group: Scope of Project

The initial scope of the Media Delivery Framework Project proposes to deliver 2 Foundational Components:

1. AllJoyn Media Content Service (AJ-MCS): this service framework registers as an AllJoyn Service. It exposes media content and associated media content metadata to AllJoyn Media Applications within the AllJoyn proximal network.
 - The AJ-MCS is an implementation for both devices that are content sources/servers and applications that want to query for the content that resides on those devices. It provides a way for a content server to advertise that it is an AllJoyn Content Source and describe the media content's metadata in a standardized format that can be understood by a media application.
 - The media application developer can use the AJ-MCS to discover and interrogate AllJoyn Content Sources, retrieve the metadata for the media content on the source device and present a library of media content through the application's user-interface.
2. AllJoyn Media Control Services (AJ-MCTRLS): this service framework registers as an AllJoyn Service. It exposes media sinks and their capabilities to AllJoyn Media Applications within the AllJoyn proximal network. It also provides for an AllJoyn Control Specification for Media. It provides a common set of semantic controls for media playback, including Play, Pause, Fast Forward, Rewind, Volume Up/Down, Group/Ungroup Media Devices, Invoke Sync.
 - The AJ-MCTRLS is an implementation for both devices that are media renderers and applications that want to query for the capabilities of media renderers. It provides a way for a media renderer to advertise that it is an AllJoyn Playback Sink and describe its media rendering capabilities.
 - The media application developer can use the AJ-MCTRLS to discover and interrogate AllJoyn Playback Sinks, so that it can present a list of appropriate sinks through the application's user-interface.

The project will deliver a common implementation for these components into the open source.

Media Working Group:

Dependencies, Project Name, Proposed Working Group, Project Committers & Contributors

- **Dependencies:** None are known at this time.
- **Project Name:** The proposed name for the project is “Media Delivery Framework” and the proposed git repository is “media_delivery_framework”
- **Proposed Working Group:** We propose that the Media Delivery Framework project become a part of a **new working group**. The proposed name is the “Media Delivery Framework” working group. We propose that this working group be chaired by Phil Kearney, Senior Director, Engineering of Qualcomm Connected Experiences.
- **Project Committers and Contributors**
 - Maintainer: Gerry Rovnick, Engineer, Senior Staff, Qualcomm Connected Experiences
 - Committers:
 - Gerry Rovnick, Engineer, Senior Staff, Qualcomm Connected Experiences
 - Josh Hershberg, Engineer, Senior Staff, Qualcomm Connected Experiences
 - Contributors:
 - Rachelle Lancer, Engineer, Staff, Qualcomm Connected Experiences

Media Working Group: Project Plan

We propose the following high-level Project Plan:

- Project creation, submission of high-level design (HLD) documents for Foundational Components: October 31, 2014
- Foundational Component Implementations for Linux: available on AllSeen Dec 2014.
 - AllJoyn Interfaces
 - Sample command-line implementation
- Certification Test Suite: available on AllSeen Q1 2015
- Reference Implementation Media Application for Android & iOS: available on AllSeen Q2 2015

Media Working Group: Initial Contribution

Upon formation of the working group, initial contributions will include the following:

- HLD documents for each of the 2 foundational components of the AllJoyn Media Delivery Framework.
- The coded linux implementations of each of the foundational components will also be provided as an initial contribution to AllSeen in Dec 2014.