AllJoyn™ About Feature 1.0 Interface Specification

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Contents

Figures

Tables

1 Introduction

1.1 Purpose

This document describes the specification of the AllJoyn™ About interface. This interface is required by an application to provide the discovery mechanism for the service framework interfaces that it supports, as well as providing the basic identification information.

1.2 Scope

This document is targeted to the developers for AllJoyn applications.

1.3 Release history

Release version	What changed
14.02	About interface version 1 was added.
14.06	No updates.

1.4 References

Except for RFCs, the following are reference documents found on the AllSeen Alliance web site's Docs/Downloads section.

- *AllJoyn™ Framework Tutorial*
- *Introduction to AllJoyn™ Thin Client*
- *RFC 5646 (Tags for Identifying Languages)*

2 Specification Overview

The About interface is to be implemented by an application on a target device. This interface allows the app to advertise itself so other apps can discover it. *Figure 1* illustrates the relationship between a client app and a service app.
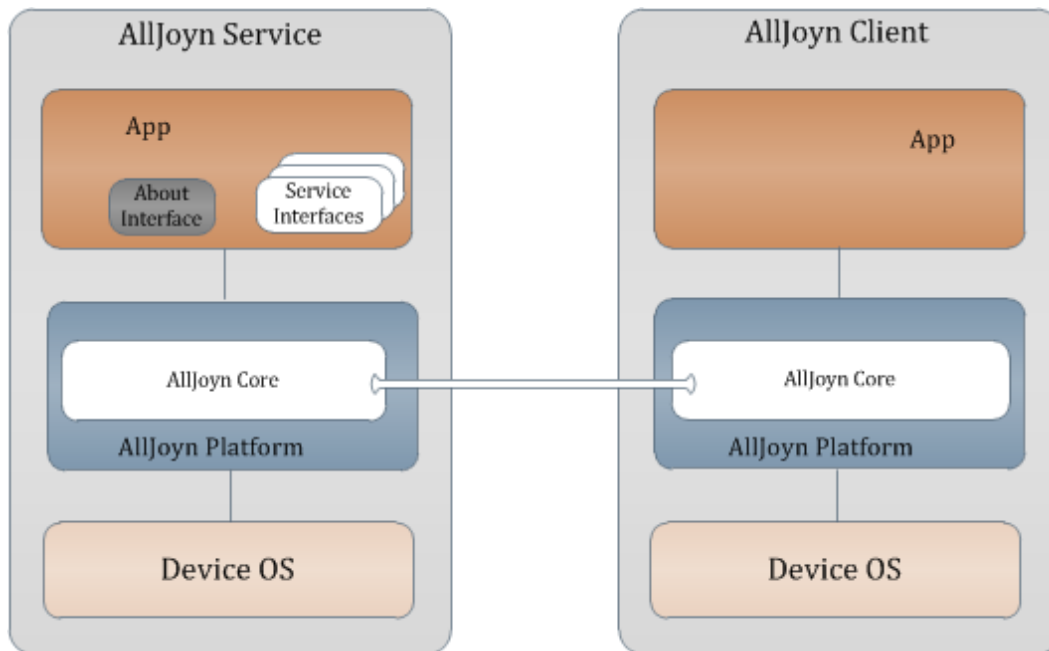
Figure 1: About feature architecture within the AllJoyn framework

3 Discovery

A client can discover the app via an announcement which is a sessionless signal containing the basic app information like app name, device name, manufacturer, and model number. The announcement also contains the list of object paths and service framework interfaces to allow the client to determine whether the app provides functionality of interest.

In addition to the sessionless announcement, the About interface also provides the on-demand method calls to retrieve all the available metadata about the app that are not published in the announcement.

4 Discovery call flows

4.1 Typical discovery flow

Figure 2 illustrates a typical call flow for a client to discover a service app. The client merely relies on the sessionless announcement to decide whether to connect to the service app to use its service framework offering.
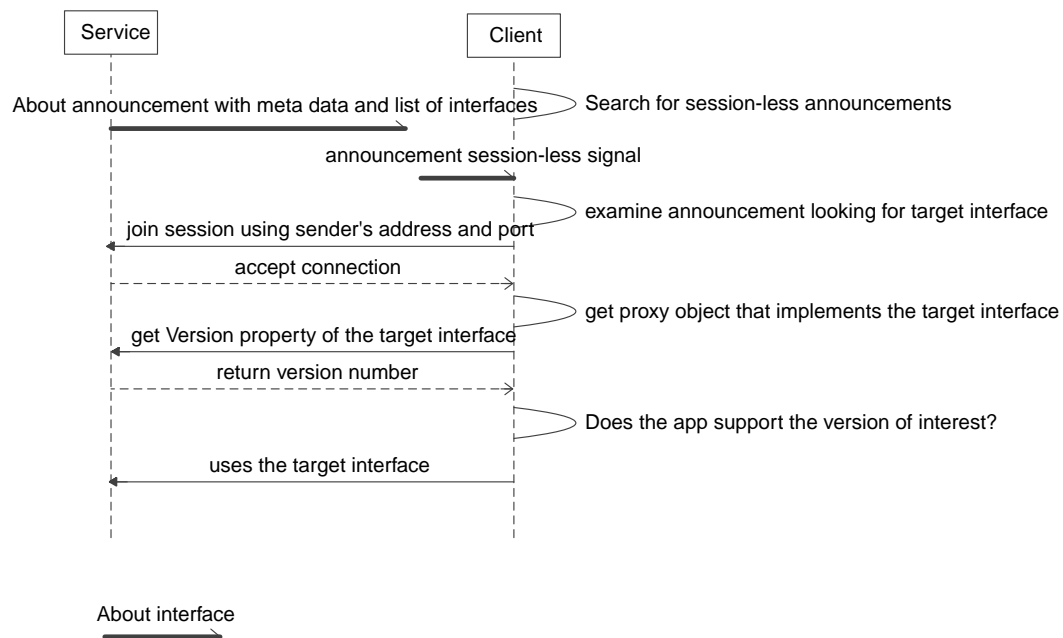
Figure 2: Typical discovery flow (client discovers a service app)

4.2 Nontypical discovery flow

Figure 3 illustrates a call flow for a client to discover a service app and make a request for more detailed information.
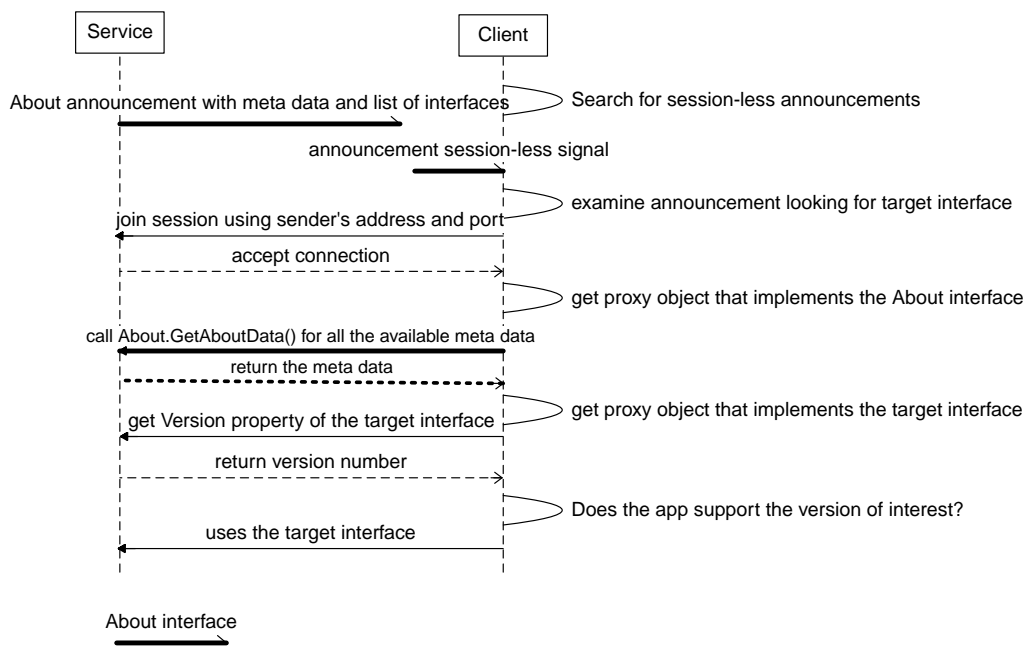
Figure 3: Nontypical discovery call flow

5 Error handling

The method calls in the About interface will use the AllJoyn error message handling feature (ER_BUS_REPLY_IS_ERROR_MESSAGE) to set the error name and error message.

Table 1 lists the possible errors raised by the About interface.

Table 1: About interface error handling

Error name	Error message
org.alljoyn.Error.LanguageNotSupported	Language not supported

6 About interface

6.1 Interface name

Interface name	Version	Secured
org.alljoyn.About	1	no

6.2 Properties

Property name	Signature	List of values	Writable	Description
Version	q	Positive integers	no	Interface version number

6.3 Methods

The following methods are exposed by a BusObject that implements the org.alljoyn.About interface.

6.3.1 GetAboutData

Inputs

Parameter name	Signature	List of values	Description
languageTag	s	IETF language tags specified by RFC 5646	The desired language.

Output

Return signature	Description
a{sv}	A dictionary of the available metadata fields. If language tag is not specified (i.e. ""), metadata fields based on default language are returned.
	If a language tag is not supported, the error org.alljoyn.Error.LanguageNotSupported is returned.

Description

Retrieve the list of available metadata fields based on the language tag.

Field information

Table 2 lists the names of the metadata fields. The fields with a yes value in the Announced column will also be published via the Announce signal. See Signals for more information.

Table 2: About interface data fields

Field name	Required	Announced	Localized	Signature	Description
AppId	yes	yes	no	ay	The globally unique identifier for the application.
DefaultLanguage	yes	yes	no	s	The default language supported by the device. Specified as a IETF language tag listed in RFC 5646
DeviceName	yes	yes	yes	s	Name of the device set by platform-specific means (such as Linux and Android)
DeviceId	yes	yes	no	s	Device identifier set by platform-specific means.
AppName	yes	yes	yes	s	Application name assigned by the app manufacturer (developer or the OEM).
Manufacturer	yes	yes	yes	s	The manufacturer's name of the app.
ModelNumber	yes	yes	no	s	The app model number.
SupportedLanguages	yes	no	no	as	List of supported languages.
Description	yes	no	yes	s	Detailed description expressed in language tags as in RFC 5646.
DateOfManufacture	no	no	no	s	Date of manufacture using format YYYY-MM-DD (known as XML DateTime format).
SoftwareVersion	yes	no	no	s	Software version of the app.
AJSoftwareVersion	yes	no	no	s	Current version of the AllJoyn SDK used by the application.
HardwareVersion	no	no	no	s	Hardware version of the device on which the app is running.
SupportUrl	no	no	no	s	Support URL (populated by the manufacturer).

6.3.2 GetObjectDescription

Inputs

None.

Output

Return signature	Description
a(oas)	Return the array of object paths and the list of supported interfaces provided by each object.

Description

Retrieve the object paths and the list of all interfaces implemented by each of objects.

6.4 Signals

Signal name	Parameters		Session-less	Description
Announce	**Name**	**Signature**	yes	This signal is used to announce the application information and the service framework interfaces that it supports. The following information is provided in the signal:
	version	q		■ version -- Version number of the About interface.
	port	q		■ port -- Session port. The app will listen on this port for incoming sessions.
	objectDescription	a(oas)		■ objectDescription --Array of object paths and the list of supported interfaces provided by each object.
	metaData	a{sv}		■ metaData -- Metadata. All the fields listed in *Table 2* with a yes value in the Announced column are provided in this signal.

7 AllJoyn Introspection XML

The following XML defines the org.alljoyn.About interface.

```
<node name="/About"
     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

xsi:noNamespaceSchemaLocation="http://www.allseenalliance.org/schemas/
     introspec t.xsd">
     <interface name="org.alljoyn.About">
          <property name="Version" type="q" access="read"/>
          <method name="GetAboutData">
               <arg name="languageTag" type="s" direction="in"/>
              <arg name="aboutData" type="a{sv}" direction="out"/>
     </method>
     <method name="GetObjectDescription">
          <arg name="objectDescription" type="a(sas)"
           direction="out"/>
     </method>
     <signal name="Announce">
          <arg name="version" type="q"/>
          <arg name="port" type="q"/>
          <arg name="objectDescription" type="a(sas)"/>
          <arg name="metaData" type="a{sv}"/>
     </signal>
     </interface>
</node>
```