AllJoyn™ Gateway Agent Framework Interface Definition

Version 14.06

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1 Introduction

1.1 Purpose

This document describes the specification of the AllJoyn™ Gateway Agent framework interfaces. These interfaces are required by an application to create and manage Access Control Lists (ACLs) that allow Controller applications that are connected to the cloud to communicate with other AllJoyn applications on the network.

1.2 Scope

This document is targeted to the developers for AllJoyn applications.

1.3 Release history

Release version	Date	What changed
14.06	11/14/2014	The Gateway Agent framework's collection of interfaces were added: ■ org.alljoyn.gwagent.ctrl.AppMgmt interface version 1 ■ org.alljoyn.gwagent.ctrl.App interface version 1 ■ org.alljoyn.gwagent.ctrl.AclMgmt interface version 1 ■ org.alljoyn.gwagent.ctrl.Acl interface version 1 ■ org.alljoyn.gwagent.connector.App interface version 1

1.4 References

- *Introduction to the AllJoyn™ Framework*
- *AllJoyn™ Data Type Signature*
- *AllJoyn™ About Feature Interface Specification*

The following reference document is found on the AllSeen Alliance wiki.

- *AllJoyn™ Gateway Agent High-Level Design*

1.5 Acronyms and terms

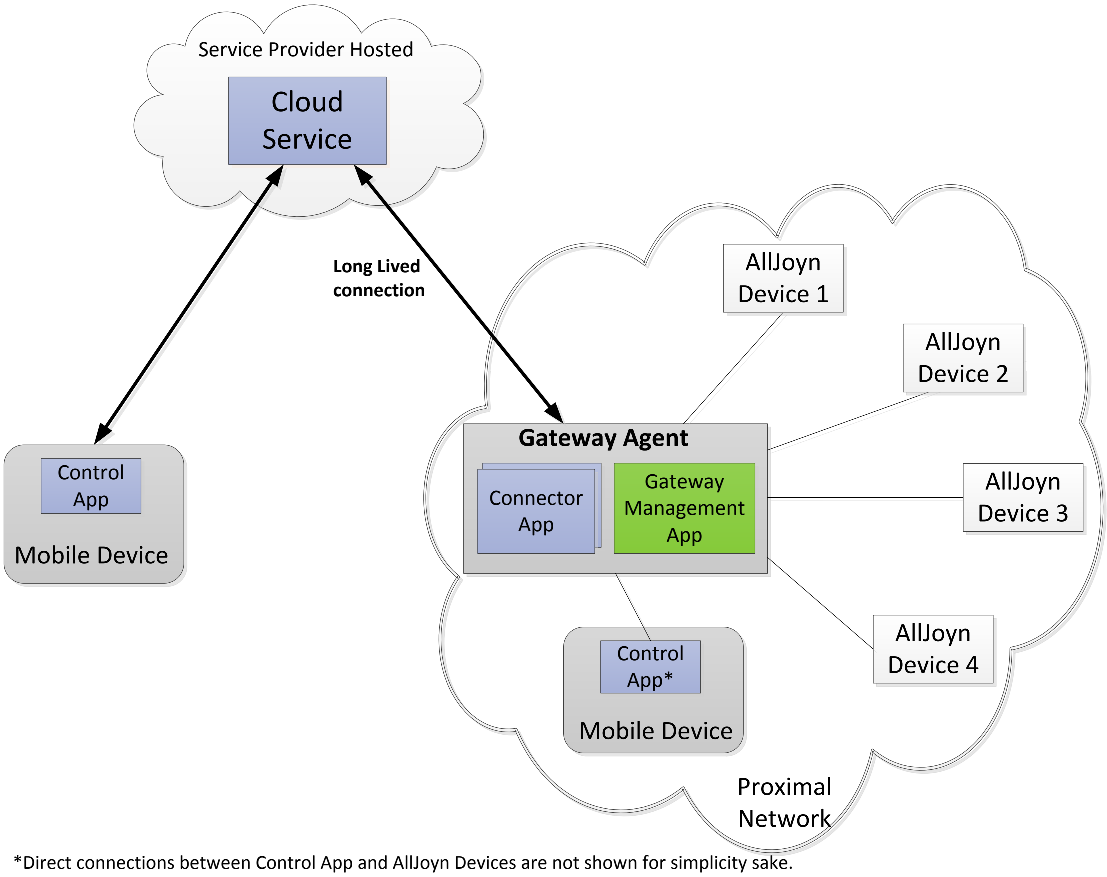
Acronym/Term	Definition
ACL	Access Control List
Announcement	A sessionless signal that exists as part of the About interface. Currently, once an announcement is triggered, it is sent periodically at 40-second interval.
Connector application	An application that communicates with proximal devices via the Alljoyn framework and is connected to the cloud to allow communication with proximal devices from afar.

Acronym/Term	Definition
Controller application	An application that is responsible for communicating with the Gateway Management App in order to define the ACLs that affect the Connector applications.
Gateway Management App	An application that is responsible for ACL Management for Connector applications. Connector applications are by default blocked from communicating with proximal devices for security reasons. By defining ACLs, Connectors can be given permissions to send/receive methods and signals for specific interfaces and/or object paths.
IoE	Internet of Everything
Exposed services	List of AllJoyn services provided by the Connector app which are being exposed for access by devices on the proximal network.
Remoted applications	List of AllJoyn apps which are being remoted (allowed for remote access).
Remoted services	List of AllJoyn services that the Connector app can access if provided by remoted applications on the proximal network.

2 Overview

In a proximal AllJoyn IoE network, producer devices expose functionality-like notifications and control to other consumer devices in this network. This enables consumer devices to receive notifications about events or state changes on producer devices and display them to the user. This also enables user-initiated or machine-initiated control actions to be performed on producer devices, e.g., turning on/off the device, updating device settings etc. It is desirable to have a mechanism to *remote* such device functionality so that users can have the seamless experience of receiving notifications and/or controlling devices while away from the proximal network. This is also desirable for home automation use cases. The Gateway Agent framework is designed to provide such a mechanism.

Figure 1 shows context architecture for enabling remote access to services provided by devices in the AllJoyn network.



*Direct connections between Control App and AllJoyn Devices are not shown for simplicity sake.

Figure 1. Gateway Agent framework context architecture

User sign up with a service provider to access AllJoyn device services remotely. The service provider enables remote services access via a Controller app that can be used to control devices or send/receive notifications. When in the proximal network, the

Control app interacts with devices over the AllJoyn network. When outside the proximal network, the Controller app interacts with a cloud service hosted by the service provider.

A new Gateway Agent framework component is added in the AllJoyn network to enable remote access to AllJoyn applications outside the network. The Gateway Agent framework has a single Gateway Management app and one or more Connector apps. These AllJoyn-enabled applications interact with a single preinstalled AllJoyn router on the Gateway Agent framework. The Gateway Management app enables user to define and manage remote profiles via the Controller app. A remote profile lists the set of devices/apps/interfaces for which the user can enable the remote access. The remote access to AllJoyn-enabled devices is controlled via the config file at the AllJoyn router. The Gateway Management app is responsible for updating the config file to only allow access to remoted AllJoyn-enabled devices. Remote profile information is exposed to Connector apps via an AllJoyn interface provided by the Gateway Management app.

The Connector app maintains a long-lived connection with the service provider's cloud service. This persistent connection is used to receive control actions initiated by the user remotely on the Control app or by the cloud service itself (e.g., in case of home automation). The communication between the Connector app and the cloud service is through the service provider's defined web protocol. This is outside the scope of this document.

The Connector app also acts as a proxy for propagating notifications from the proximal network to the cloud service and vice versa.

When outside the proximal network, the Controller app interacts with a cloud service hosted by the service provider, which interacts with the Connector app on the Gateway Agent framework. The Connector app provide protocol conversion from service provider’s protocol to the AllJoyn-based protocol, and invokes interaction with remoted interfaces on the devices as described above.

NOTE

All methods and signals are considered mandatory to support the AllSeen Alliance Compliance and Certification program. Individual parameters for a given method or signal may be considered mandatory or optional, and are specified accordingly in this document.

2.1 Discovery

The Controller app looks for a Gateway Agent framework that has a Gateway Management app supporting the Gateway app management interface. Figure 2 illustrates the following use cases:

- The Controller app is looking for a specific Gateway Agent framework identified by the AppName in the announcement signal from the Gateway Management app, for example, Service Provider 1 Gateway Agent.
- The Controller app wants to discover any Gateway Agent framework.

2.2 Discovery call flows

2.2.1 Typical discovery flow

Figure 2 illustrates a typical call flow for a client Controller App to discover a Gateway Management App. The client merely relies on the announcement to decide whether to connect to the service app to use its service offering.

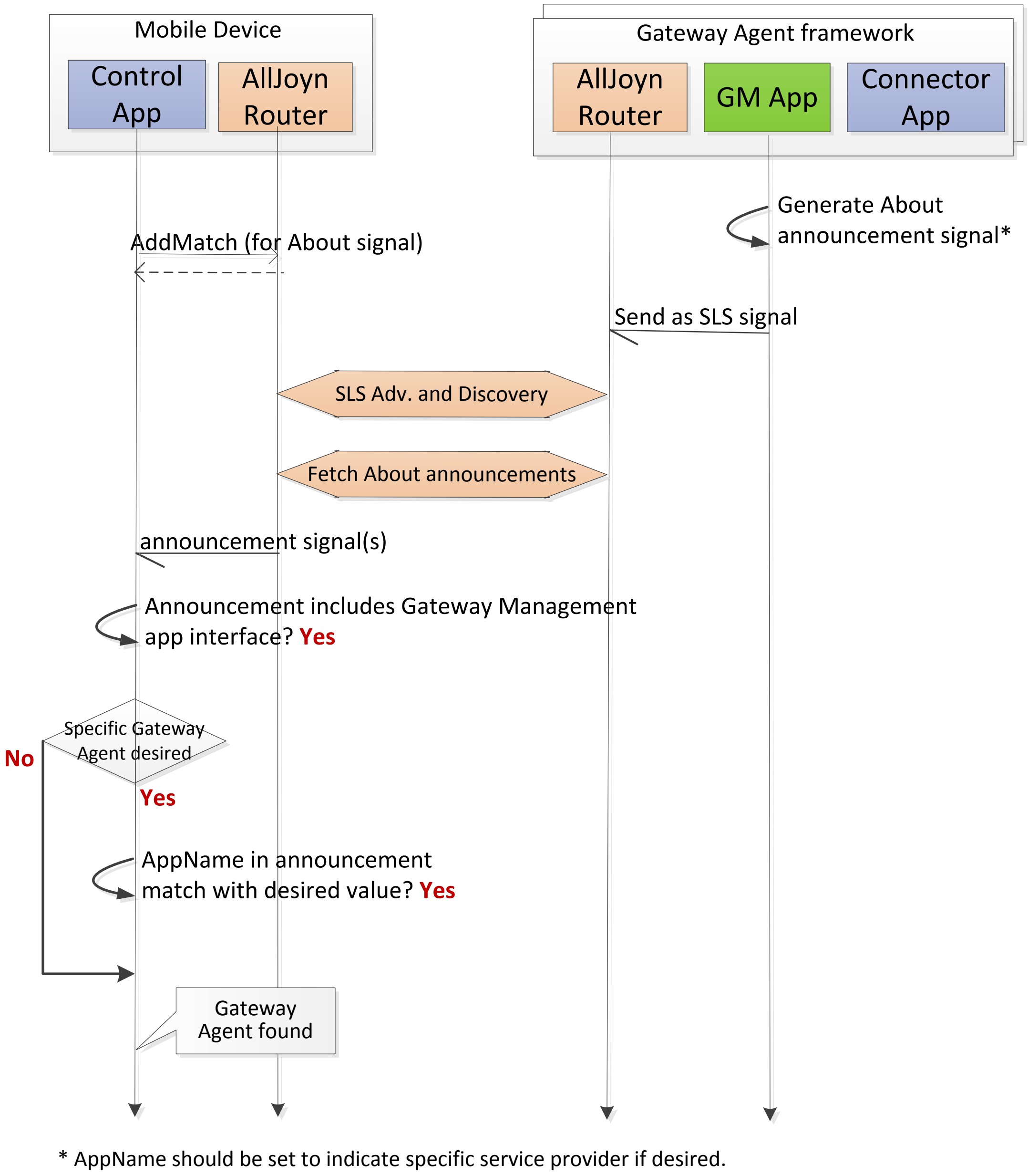

Mobile Device
Control App
AllJoyn Router
Gateway Agent framework
AllJoyn Router
GM App
Connector App
Generate About announcement signal*
AddMatch (for About signal)
Send as SLS signal
SLS Adv. and Discovery
Fetch About announcements
announcement signal(s)
Announcement includes Gateway Management app interface? Yes
Specific Gateway Agent desired
No
Yes
AppName in announcement match with desired value? Yes
Gateway Agent found
* AppName should be set to indicate specific service provider if desired.

Figure 2. Gateway Agent framework discovery

3 Controller Interfaces

This chapter defines the interfaces used by the Controller application.

3.1 App Management interface

3.1.1 Interface name

Interface name	Version	Secured	Object path
org.alljoyn.gwagent.ctrl.AppMgmt	1	yes	/gw

3.1.2 Properties

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

3.1.3 Methods

The following methods are exposed by a BusObject that implements the org.alljoyn.gwagent.ctrl.AppMgmt interface.

3.1.3.1 GetInstalledApps

Inputs

None.

Output

Parameter name	Return signature	Mandatory	Description
installedAppsInfoArray	a(ssos)	yes	An array of structs containing information for the Installed app. ID, Friendly name, Object path, and Version of the installed Connector app.

Description

Returns list of already installed Connector apps on the Gateway Agent framework.

3.1.4 Introspection XML

The following XML defines the org.alljoyn.gwagent.ctrl.AppMgmt interface.

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

```
xsi:noNamespaceSchemaLocation="http://www.allseenalliance.org/schemas/introspec
t.xsd">
   <interface name="org.alljoyn.gwagent.ctrl.AppMgmt">
     <method name="GetInstalledApps">
       <arg name="installedAppsInfoArray" type="a(ssos)" direction="out"/>
     </method>
     <property name="Version" type="q" access="read"/>
     <annotation name="org.alljoyn.Bus.Secure" value="true"/>
   </interface>
</node>
```

3.2 App interface

3.2.1 Interface name

Interface name	Version	Secured	Suggested object path
org.alljoyn.gwagent.ctrl.App	1	yes	/gw/ConnectorId

3.2.2 Properties

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

3.2.3 Methods

The following methods are exposed by a BusObject that implements the org.alljoyn.gwagent.ctrl.App interface.

3.2.3.1 GetAppStatus

Inputs

None.

Output

Return signature	Parameter name	List of values	Mandatory	Description
Qsqq	installStatus	0= GW_IS_INSTALLED 1=GW_IS_INSTALL_IN_PROGRESS 2=GW_IS_UPGRADE_IN_PROGRESS 3=GW_IS_UNINSTALL_IN_PROGRESS 4=GW_IS_INSTALL_FAILED GW_IS_MAX_INSTALL_STATUS	yes	Install status of the application.
	installDescription	N/A	no	Description of the installation.

Return signature	Parameter name	List of values	Mandatory	Description
	connectionStatus	0=GW_CS_NOT_INITIALIZED 1=GW_CS_IN_PROGRESS 2=GW_CS_CONNECTED 3=GW_CS_NOT_CONNECTED 4=GW_CS_ERROR GW_CS_MAX_CONNECTION_STATUS	yes	Connection status of the application.
	operationalStatus	0=GW_OS_RUNNING 1=GW_OS_STOPPED GW_OS_MAX_OPERATIONAL_STATUS	yes	Operational status of the application.

Description

Method to receive information about the state of the application.

3.2.3.2 GetManifestFile

Inputs

None.

Output

Return signature	Parameter name	List of values	Mandatory	Description
s	manifestFile	Dependent on implementation	yes	Contents of the manifest file.

Description

Returns the contents of the manifest file for the application. Refer to the *AllJoyn™ Gateway Agent High-Level Design* document for more information.

3.2.3.3 GetManifestInterfaces

Inputs

None.

Output

Parameter name	Return signature	Mandatory	Description
exposedServices	a((obs)a(ssb))	no	Exposed services defined in the manifest file.
remotedServices	a((obs)a(ssb))	no	Remoted services defined in the manifest file.

Description

Gets the list of exposed services and remoted services, provided by the application, found in the manifest file.

3.2.3.4 RestartApp

Inputs

None.

Output

Return signature	Parameter name	List of values	Mandatory	Description
q	restartResponseCode	0=GW_RESTART_APP_RC_SUCCESS 1=GW_RESTART_APP_RC_INVALID	yes	Code that signals success or failure of restart.

Description

Restarts the application.

3.2.4 Signals

Signal name	Parameters			Sessionless	Description
AppStatusChanged	**Parameter name**	**Signature**	**Mandatory**	no	Tells Controller applications that one of the application's status fields changed. The following information is provided in the signal: ■ installStatus—the installation status of the application ■ installDescription—The Description if installation failed ■ connectionStatus – The connection Status of the application towards the cloud ■ operationalStatus – Status reflecting whether the application is running or not
	installStatus	q	yes		
	installDescription	s	No		
	connectionStatus	q	Yes		
	operationalStatus	q	yes		

3.2.5 Introspection XML

The following XML defines the org.alljoyn.gwagent.ctrl.App interface.

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

xsi:noNamespaceSchemaLocation="http://www.allseenalliance.org/schemas/introspec
t.xsd">
```

```
   <interface name="org.alljoyn.gwagent.ctrl.App">
     <signal name="AppStatusChanged">
       <arg name="installStatus" type="q" direction="out"/>
       <arg name="installDescription" type="s" direction="out"/>
       <arg name="connectionStatus" type="q" direction="out"/>
       <arg name="operationalStatus" type="q" direction="out"/>
     </signal>
     <method name="GetAppStatus">
       <arg name="installStatus" type="q" direction="out"/>
       <arg name="installDescription" type="s" direction="out"/>
       <arg name="connectionStatus" type="q" direction="out"/>
       <arg name="operationalStatus" type="q" direction="out"/>
     </method>
     <method name="GetManifestFile">
       <arg name="manifestFile" type="s" direction="out"/>
     </method>
     <method name="GetManifestInterfaces">
       <arg name="exposedServices" type="a((obs)a(ssb))" direction="out"/>
       <arg name="remotedServices" type="a((obs)a(ssb))" direction="out"/>
     </method>
    <method name="RestartApp">
       <arg name="restartResponseCode" type="q" direction="out"/>
     </method>
     <property name="Version" type="q" access="read"/>
     <annotation name="org.alljoyn.Bus.Secure" value="true"/>
   </interface>
</node>
```

3.3 Access control list management interface

3.3.1 Interface name

Interface name	Version	Secured	Suggested object path
org.alljoyn.gwagent.ctrl.AclMgmt	1	yes	/gw/ConnectorId

3.3.2 Properties

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

3.3.3 Methods

The following methods are exposed by a BusObject that implements the org.alljoyn.gwagent.ctrl.AclMgmt interface.

3.3.3.1 CreateAcl

Inputs

Parameter name	Mandatory	Signature	List of values	Description
aclName	yes	S	N/A	Name of the ACL.
exposedServices	no	a(obas)	N/A	List of exposed services that will be permitted as part of this ACL definition.
remotedApps	no	a(saya(obas))	N/A	List of remoted applications and their object paths/interfaces that the Connector app will be permitted to communicate with as part of this ACL definition.
metadata	no	a{ss}	N/A	Metadata pertaining to this ACL – will be sent and maintained by Controller Management App.
customMetadata	no	a{ss}	N/A	Additional metadata pertaining to this ACL – can be set and maintained by the Controller Application layer.

Output

Return signature	Parameter name	List of values	Mandatory	Description
q	aclResponseCode	0=GW_ACL_RC_SUCCESS 1=GW_ACL_RC_INVALID 2=GW_ACL_RC_REGISTER_ERROR 3=GW_ACL_RC_ACL_NOT_FOUND 4=GW_ACL_RC_PERSISTENCE_ERROR 5=GW_ACL_RC_POLICYMANAGER_ERROR 6=GW_ACL_RC_METADATA_ERROR	no	Success/failure of the ACL creation.
s	aclId	N/A	no	ID of the created ACL.
o	objectPath	N/A	no	Object path of the newly created ACL.

Description

Creates an ACL.

3.3.3.2 DeleteAcl

Inputs

Parameter name	Mandatory	Signature	List of values	Description
aclId	no	s	N/A	ID of the ACL to delete.

Output

Return signature	Parameter name	List of values	Mandatory	Description
q	aclResponseCode	0=GW_ACL_RC_SUCCESS 1=GW_ACL_RC_INVALID 2=GW_ACL_RC_REGISTER_ERROR 3=GW_ACL_RC_ACL_NOT_FOUND 4=GW_ACL_RC_PERSISTENCE_ERROR 5=GW_ACL_RC_POLICYMANAGER_ERROR 6=GW_ACL_RC_METADATA_ERROR	yes	Success/failure of the ACL deletion.

Description

Deletes an existing ACL.

3.3.3.3 ListAcls

Inputs

None.

Output

Parameter name	Return signature	Mandatory	Description
aclsList	a(ssqo)	yes	Array of ACLs defined for this application. For each ACL, the aclId, aclName, aclStatus, and objectPath are returned.

Description

Method used to receive a list of all ACLs defined for the application.

3.3.4 AllJoyn Introspection XML

The following XML defines the org.alljoyn.gwagent.ctrl.AclMgmt interface.

```
<node name="/gw/ConnectorId"
     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="http://www.allseenalliance.org/schemas/introspec
t.xsd">
   <interface name="org.alljoyn.gwagent.ctrl.AclMgmt">
     <method name="CreateAcl">
       <arg name="aclName" type="s" direction="in"/>
       <arg name="exposedServices" type="a(obas)" direction="in"/>
       <arg name="remotedApps" type="a(saya(obas))" direction="in"/>
       <arg name="metadata" type="a{ss}" direction="in"/>
       <arg name="customMetadata" type="a{ss}" direction="in"/>
       <arg name="aclResponseCode" type="q" direction="out"/>
```

```
          <arg name="aclId" type="s" direction="out"/>
          <arg name="objectPath" type="o" direction="out"/>  </method>
        <method name="DeleteAcl">
          <arg name="aclId" type="s" direction="in"/>
          <arg name="aclResponseCode" type="q" direction="out"/>
        </method>
        <method name="ListAcls">
          <arg name="aclsList" type="a(ssqo)" direction="out"/>
        </method>
        <property name="Version" type="q" access="read"/>
        <annotation name="org.alljoyn.Bus.Secure" value="true"/>
      </interface>
</node>
```

3.4 ACL interface

3.4.1 Interface name

Interface name	Version	Secured	Suggested object path
org.alljoyn.gwagent.ctrl.Acl	1	yes	/gw/ConnectorId/AclId

3.4.2 Properties

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

3.4.3 Methods

The following methods are exposed by a BusObject that implements the org.alljoyn.gwagent.ctrl.Acl interface.

3.4.3.1 ActivateAcl

Inputs

None.

Output

Return signature	Parameter name	List of values	Mandatory	Description
q	aclResponseCode	0=GW_ACL_RC_SUCCESS 1=GW_ACL_RC_INVALID 2=GW_ACL_RC_REGISTER_ERROR 3=GW_ACL_RC_ACL_NOT_FOUND 4=GW_ACL_RC_PERSISTENCE_ERROR 5=GW_ACL_RC_POLICYMANAGER_ERROR GW_ACL_RC_METADATA_ERROR = 6	yes	Success/failure of activating an ACL.

Description

Method used to active an ACL.

3.4.3.2 DeactivateAcl

Inputs

None.

Output

Return signature	Parameter name	List of values	Mandatory	Description
q	aclResponseCode	0=GW_ACL_RC_SUCCESS 1=GW_ACL_RC_INVALID 2=GW_ACL_RC_REGISTER_ERROR 3=GW_ACL_RC_ACL_NOT_FOUND 4=GW_ACL_RC_PERSISTENCE_ERROR 5=GW_ACL_RC_POLICYMANAGER_ERROR 6=GW_ACL_RC_METADATA_ERROR	yes	Success/failure in deactivating an ACL.

Description

Method used to deactivate an ACL.

3.4.3.3 GetAcl

Inputs

None.

Output

Parameter name	Return signature	Mandatory	Description
aclName	s	yes	ACL name.
exposedServices	a(obas)	no	Exposed services used with this ACL.
remotedApps	a(saya(obas))	no	Remoted applications used with this ACL.
metadata	a(ss)	no	Metadata used with this ACL.
customMetadata	a(ss)	no	Custom metadata used with this ACL.

Description

Method used to get the contents of an ACL.

3.4.3.4 GetAclStatus

Inputs

None.

Output

Return signature	Parameter name	List of values	Mandatory	Description
q	aclStatus	0=GW_AS_INACTIVE 1=GW_AS_ACTIVE	yes	Status of the ACL.

Description

Method used to get the status of an ACL.

3.4.3.5 UpdateAcl

Inputs

Parameter name	Mandatory	Signature	List of values	Description
aclName	yes	s	N/A	Name of the ACL.
exposedServices	no	a(obas)	N/A	List of services provided by the Connector app that are being exposed for access by devices on the proximal network and is permitted as part of this ACL definition.
remotedApps	no	a(saya(obas))	N/A	List of remoted applications and their object paths/interfaces that the Connector app is permitted to communicate with as part of this ACL definition.
metadata	no	a{ss}	N/A	Metadata pertaining to this ACL – will be sent and maintained by Controller Service layer.

Parameter name	Mandatory	Signature	List of values	Description
customMetadata	no	a{ss}	N/A	Additional metadata pertaining to this ACL – can be set and maintained by the Controller Application layer.

Output

Return signature	Parameter name	List of values	Mandatory	Description
q	aclResponseCode	0=GW_ACL_RC_SUCCESS 1=GW_ACL_RC_INVALID 2=GW_ACL_RC_REGISTER_ERROR 3=GW_ACL_RC_ACL_NOT_FOUND 4=GW_ACL_RC_PERSISTENCE_ERROR 5=GW_ACL_RC_POLICYMANAGER_ERROR 6=GW_ACL_RC_METADATA_ERROR	yes	Success/failure of an ACL update.

Description

Method used to update an ACL.

3.4.3.6 UpdateAclMetadata

Inputs

Parameter name	Mandatory	Signature	List of values	Description
metadata	no	a{ss}	N/A	Metadata pertaining to this ACL – will be sent and maintained by Controller Service layer.

Output

Return signature	Parameter name	List of values	Mandatory	Description
q	aclResponseCode	0=GW_ACL_RC_SUCCESS 1=GW_ACL_RC_INVALID 2=GW_ACL_RC_REGISTER_ERROR 3=GW_ACL_RC_ACL_NOT_FOUND 4=GW_ACL_RC_PERSISTENCE_ERROR 5=GW_ACL_RC_POLICYMANAGER_ERROR 6=GW_ACL_RC_METADATA_ERROR	yes	Success/failure of the metadata update.

Description

Method used to update the metadata of an ACL.

3.4.3.7 UpdateAclCustomMetadata

Inputs

Parameter name	Mandatory	Signature	List of values	Description
metadata	no	a{ss}	N/A	Additional metadata pertaining to this ACL – can be set and maintained by the Controller Application layer.

Output

Return signature	Parameter name	List of values	Mandatory	Description
q	aclResponseCode	0=GW_ACL_RC_SUCCESS 1=GW_ACL_RC_INVALID 2=GW_ACL_RC_REGISTER_ERROR 3=GW_ACL_RC_ACL_NOT_FOUND 4=GW_ACL_RC_PERSISTENCE_ERROR 5=GW_ACL_RC_POLICYMANAGER_ERROR 6=GW_ACL_RC_METADATA_ERROR	yes	Success/failure of the metadata update.

Description

Method used to update custom metadata of an ACL.

3.4.4 AllJoyn Introspection XML

The following XML defines the org.alljoyn.gwagent.ctrl.Acl interface.

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

xsi:noNamespaceSchemaLocation="http://www.allseenalliance.org/schemas/introspec
t.xsd">
     <interface name="org.alljoyn.gwagent.ctrl.Acl">
  <method name="ActivateAcl">
    <arg name="aclResponseCode" type="q" direction="out"/>
  </method>
  <method name="DeactivateAcl">
    <arg name="aclResponseCode" type="q" direction="out"/>
  </method>
  <method name="GetAcl">
    <arg name="aclName" type="s" direction="out"/>
    <arg name="exposedServices" type="a(obas)" direction="out"/>
    <arg name="remotedApps" type="a(saya(obas))" direction="out"/>
    <arg name="metadata" type="a{ss}" direction="out"/>
    <arg name="customMetadata" type="a{ss}" direction="out"/>
  </method>
  <method name="GetAclStatus">
```

```
    <arg name="aclStatus" type="q" direction="out"/>
  </method>
  <method name="UpdateAcl">
    <arg name="aclName" type="s" direction="in"/>
    <arg name="exposedServices" type="a(obas)" direction="in"/>
    <arg name="remotedApps" type="a(saya(obas))" direction="in"/>
    <arg name="metadata" type="a{ss}" direction="in"/>
    <arg name="customMetadata" type="a{ss}" direction="in"/>
    <arg name="aclResponseCode" type="q" direction="out"/>
  </method>
  <method name="UpdateAclMetadata">
    <arg name="metadata" type="a{ss}" direction="in"/>
    <arg name="aclResponseCode" type="q" direction="out"/>
  </method>
  <method name="UpdateAclCustomMetadata">
    <arg name="metadata" type="a{ss}" direction="in"/>
    <arg name="aclResponseCode" type="q" direction="out"/>
  </method>
  <property name="Version" type="q" access="read"/>
  <annotation name="org.alljoyn.Bus.Secure" value="true"/>
</interface>
</node>
```

4 Connector Interfaces

This chapter defines the Connector interfaces used by the Connector application.

4.1 App interface

4.1.1 Interface name

Interface name	Version	Secured	Suggested object path
org.alljoyn.gwagent.connector.App	1	yes	/gw/ConnectorId

4.1.2 Properties

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

4.1.3 Methods

The following methods are exposed by a BusObject that implements the org.alljoyn.gwagent.connector.App interface.

4.1.3.1 GetMergedAcl

Inputs

None.

Output

Parameter name	Return signature	Mandatory	Description
exposedServices	a(obas)	no	Returns the exposedServices defined in all active ACLs for this application.
remotedApps	a(saya(obas))	no	Returns the remotedApps defined in all active ACLs for this application.

Description

Method to receive information about the active ACLs of the application.

4.1.3.2 UpdateConnectionStatus

Inputs

Parameter name	Mandatory	Signature	List of values	Description
connectionStatus	yes	q	0=GW_CS_NOT_INITIALIZED 1=GW_CS_IN_PROGRESS 2=GW_CS_CONNECTED 3=GW_CS_NOT_CONNECTED 4=GW_CS_ERROR GW_CS_MAX_CONNECTION_STATUS	Current connection status of the Connector application.

Output

None.

Description

Updates the GatewayManagementApp with the current connection status of the Connector app.

4.1.4 Signals

Signal name	Mandatory	Parameter name	Sessionless	Description
MergedAclUpdated	no	None	no	Tells Connector applications that an ACL was created, deleted, updated, activated, or deactivated.
ShutdownApp	yes	None	no	Used by the GatewayManagementApp to tell the Connector application that it should shut down.

4.1.5 AllJoyn Introspection XML

The following XML defines the org.alljoyn.gwagent.connector.App interface.

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

xsi:noNamespaceSchemaLocation="http://www.allseenalliance.org/schemas/introspec
t.xsd">
<interface name="org.alljoyn.gwagent.connector.App">
  <method name="GetMergedAcl">
    <arg name="exposedServices" type="a(obas)" direction="out"/>
    <arg name="remotedApps" type="a(saya(obas))" direction="out"/>
  </method>
  <signal name="MergedAclUpdated">
  </signal>
  <signal name="ShutdownApp">
  </signal>
  <method name="UpdateConnectionStatus">
    <arg name="connectionStatus" type="q" direction="in"/>
    <annotation name="org.freedesktop.DBus.Method.NoReply" value="true"/>
  </method>
  <annotation name="org.alljoyn.Bus.Secure" value="true"/>
</interface>
</node>
```