Vehicule 2 Cloud
AGL Open Identity Agent
Use Cases

- Car to Cloud
- Cloud to Car
- Mobile to Car
- Fleet Management to Car
- Multi SoC
- Untrusted Application Authentication
Car → cloud

• Telematics
  • CAN/Signal acquisition
  • Local processing in Car
  • Push useful data to the cloud
Cloud → Vehicle

- Retrieve user preferences
  - UI Skin
  - Music Playlist
  - Etc...

- Streaming services
  - e.g. Spotify

- Provisioning
  - Rental car push user preferences (e.g. language, navigation)
  - Car sharing (provision of keys)
  - Etc.
Car to Infrastructure

- Payment
  - Toll Road
  - Parking
  - Etc.

- Car to City
  - Retrieving local traffic
  - Retrieving tourist information

- Car to Home
  - Automatic synchronization music
  - Opening garage doors
Global Architecture

Local Binding

ws-client:tcp://hostname:port/MyAPI

(1) Request API

(3) Forward AuthZ Request

(10) Forward AuthCode

Identity Agent

(9) Return AuthCode

Consent/Authentication User UI

Remote Binding

ws-server:tcp://hostname:port/MyAPI

(11) Forward AuthCode

(13) Receive User Info

IDP (Identity Provider)
e.g. www.mycarportal.net

(12) Provide AuthCode

(4) Request AuthZ on behalf Remote (clientId, scope, ..)

(5) Redirect Authentication URL for User consent

(7) Forward IDP redirect

(7) User Consent/Authentication Interaction
Data Model

Identity Agent Data Structure

(UsrID) Local User Profile
- Name
- Email
- Etc.

(AppID) Local App Profile
- ClientID
- Authority, Scope
- Session Token/Timeout
- Persistent Data
- Etc.

(FedID) IDP pseudonym
- usrID@IDP
- usrProfile@IDP
- AuthZ token
- Session Token/Timeout
- Etc.
Work To Be Done

- AGL Binding Protocol Extension
  - Native integration of OpenID Connect
  - Support for use interaction (consent, authentication)
- Access Controls
  - LOA
  - Hook for roles/group
  - Link with existing privilege model
- Authentication
  - Webview for Authentication/Consent
  - Map authentication devices (NFC, FiDO)
  - Define API for custom API
Further Information

• Specifications: http://openid.net/connect
• Introduction http://openid.net/connect/faq

• Deep dive in protocols: [Following videos are pretty technical, while they relates to one of previous live project they may help to understand OpenID protocols. Please ignore 1st videos which are related to the installation of the project, last ones demonstrate protocols through a live debug session]
  • French http://breizhme.net/fr/video-technique (2nd & 3rd videos)
  • English http://breizhme.net/en/ (last video)

Warning: When searching for information you should be aware that OpenID-connect has 100% different from OpenID-v1/v2.