

Silicon Valley Automotive Open Source Meetup


<http://www.meetup.com/Silicon-Valley-Automotive-Open-Source/>

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People in this Meetup are also in:

**Scala** Bay Area Scala Enthusiasts
475 software technologists

Hosted by: Alison Chaiken (Organizer)

Tizen-IVI: Intel and Samsung's Automotive Linux

Intel Front Lobby
3600 Juliette Lane, Santa Clara, CA (map)



Joel Clark, Tizen IVI program manager, Open Source Technology Center of Intel Corporation Building upon the legacy of MeeGo for In-vehicle Infotainment (IVI), the... [LEARN MORE](#)

Hosted by: Alison Chaiken (Organizer)

Thu Jun 14
7:00 PM

[✓ I'M ATTENDING](#)

24 attending
0 comments

Android, Arduino and CAN: the OpenXC Platform

Intel Front Lobby
3600 Juliette Lane, Santa Clara, CA (map)



presented by T.J. Giuli, Ford Motor
<http://openxcplatform.com/> [LEARN MORE](#)

Hosted by: Alison Chaiken (Organizer)

Tue Jul 24
7:00 PM

[✓ I'M ATTENDING](#)

6 attending
0 comments

Recent Meetups

Thursday at 7:00 PM, 28 Members attended [Rate this Meetup](#)

How Bay Area Leaf Owners Group Influenced Nissan Product Development




They rated it ★★★★★ (4 ratings)

“ It was a great meeting with a great speaker.
—Gary Lieber




“ Great talk on BayLeaf influence on Nissan. ...
—Anton Narusberg





As Congress Mulls Mandate on Car Black Boxes, Data Ownership Remains Unclear

By [Doug Newcomb](#)  May 16, 2012 | 6:15 am | Categories: [Miscellaneous](#)



AUTOPIA

ROAD TO THE FUTURE



“no data are recorded by the ([Event Data Recorder](#)) EDR under normal driving conditions and no personal data . . . are recorded.”

Source: Insurance Institute for Highway Safety

Is this a “non-traditional” use of FOSS?



Open Source Information

This vehicle contains open source software, including without limitation, software distributed and/or modified under the GNU General Public License, Version 2, June 1991, and the GNU Lesser General Public License, Version 2.1, February 1999.

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2011 Chevrolet Volt

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OnStar Files Patents for *Minority Report*-Style Billboards

By [Keith Barry](#) [✉](#) May 15, 2012 | 6:15 am | Categories: [Infotainment](#)

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AUTOPIA

ROAD TO THE FUTURE



Status of Automotive Open Source

Manufacturer	Confirmed Operating system
Fiat-Chrysler Blue&Me (500, Delta), Kia Uvo, BYD, Nissan Leaf	Microsoft Windows Embedded Automotive
Ford (all?)	MyTouch/Sync-Microsoft; OpenXC-Android
General Motors (new 2012 Cadillacs), Chevy Volt	MontaVista's GNU/Linux
Geely (China); Hawtai (China)	GNU/Linux: Moblin (MeeGo predecessor)
Renault R-Link	Android
Honda (Accord, Odyssey, Pilot), Audi, BMW (7-series and M models), Chrysler, Daewoo, GM (OnStar), Hyundai, Land Rover, Porsche, Saab (9-3) Renault (SM7)	QNX

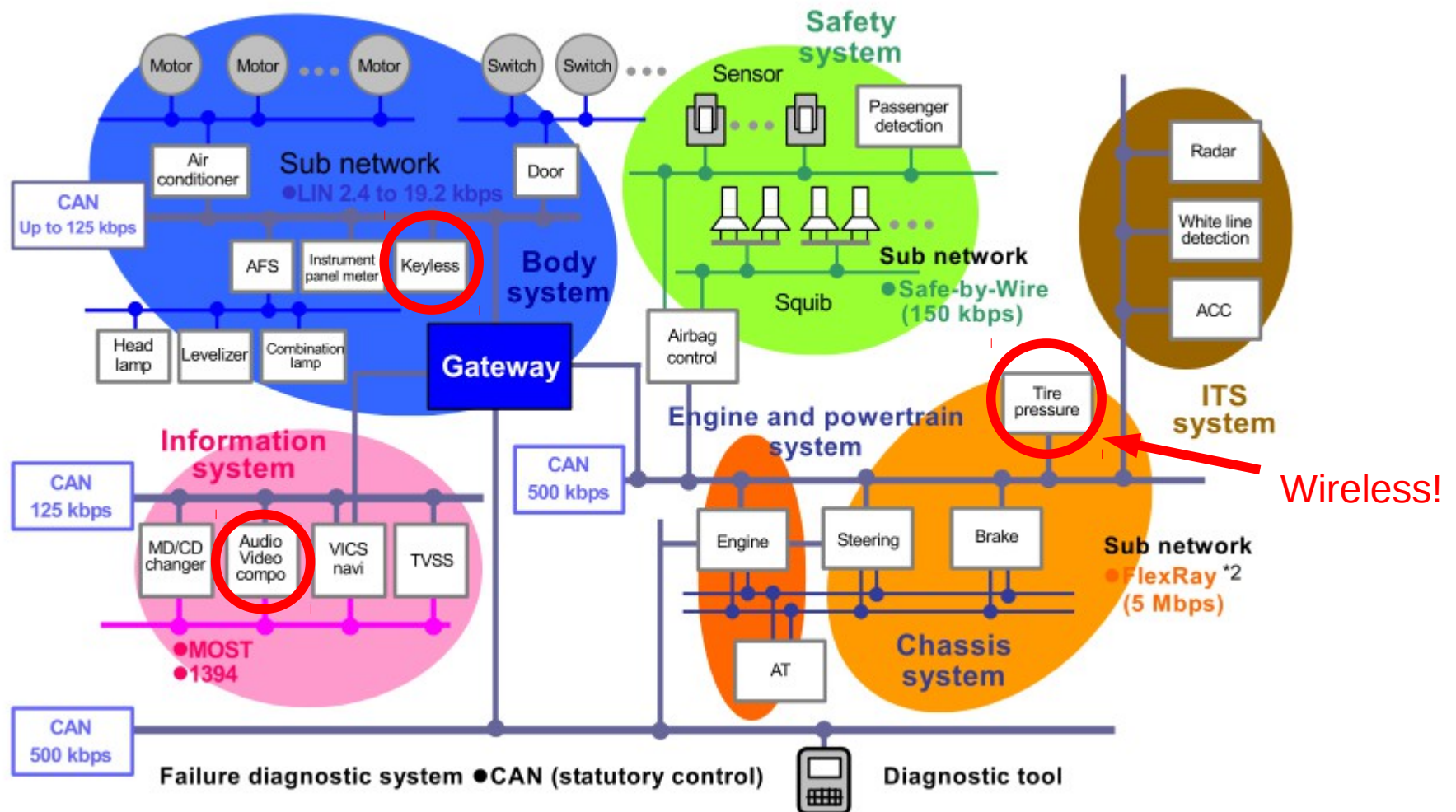
Linux Foundation members: Toyota, Pelagicore, Symbio, Tieto.

Automotive Linux Summit 2011 presenters: Toyota, Nissan, BMW.

MeeGo Conference 2011 presenter: Nissan.

Volkswagen has a pilot using Maemo (Linux).

Automotive data buses have little security

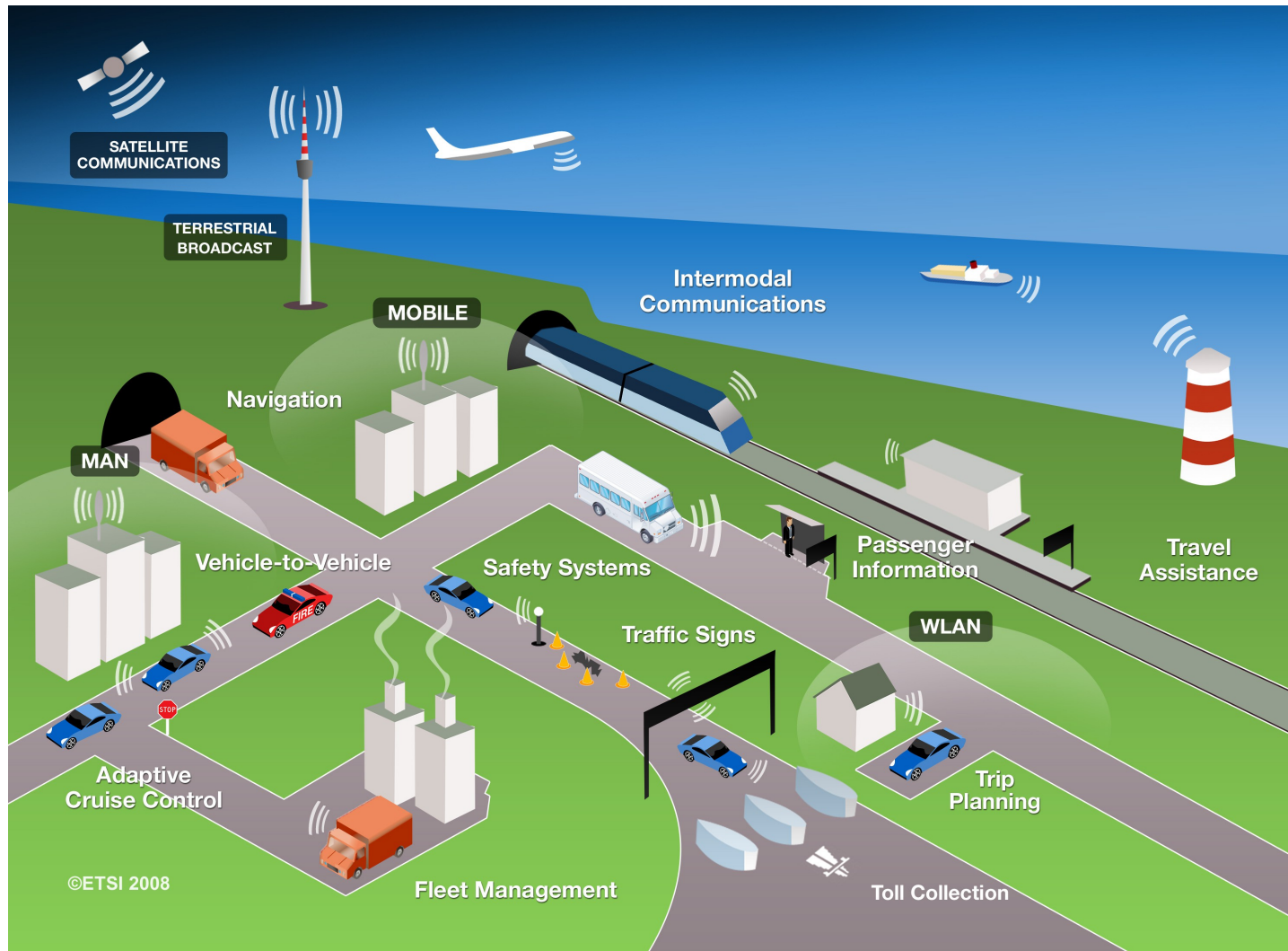


CAN bus is **not** ready for Internet age



UCSD, UWa, Rutgers: <http://autosec.org/>

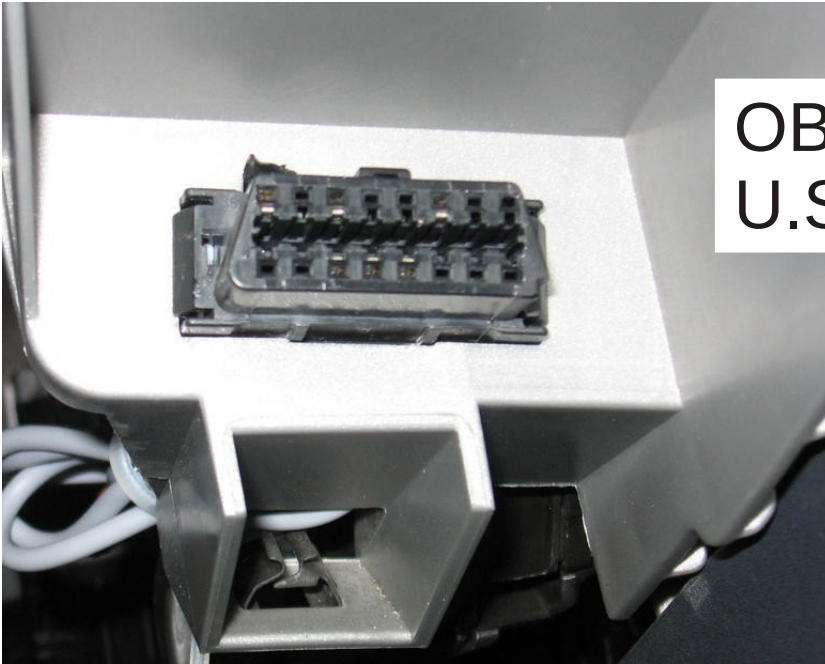
V2V and V2I: making use of real-time data



Courtesy ETSI.

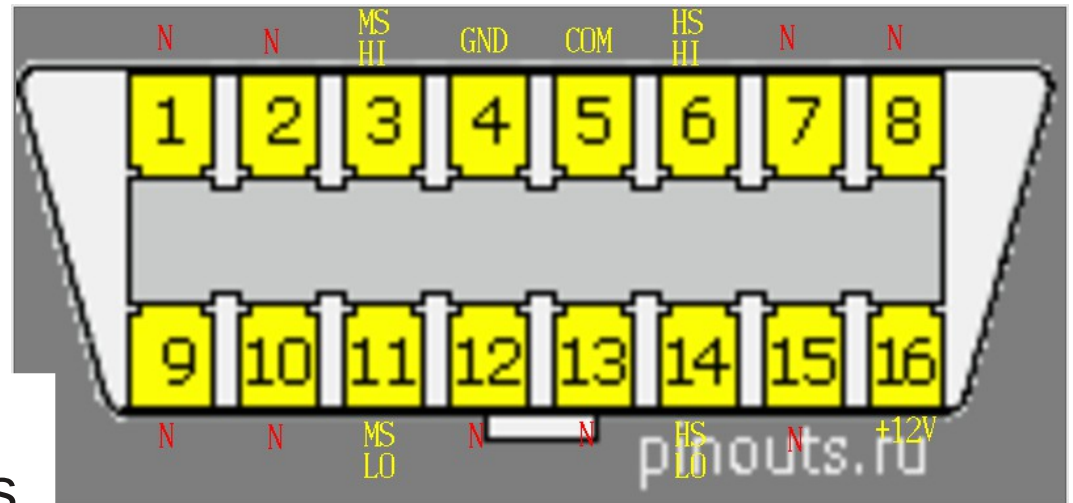
Early-warning hazard alert system **pilots** already in U.S., **Germany**.

How to access a car's data: the connector



OBDII connector found in every U.S. car since 1996.

Determine protocols in use by examining populated pins.



2005 Mazda 3: <http://tinyurl.com/6usk2hv>

How to access a car's data: the scantool

Entry level: USB, limited protocol set, read-only comms, \$40



Experienced user: Bluetooth, expanded protocols, some risk, \$250

Scantool.net has great documentation and community support.

Roll your own scantool: [BeagleBone](#) from TI



\$89, widely available

CAN “cape” for BeagleBone



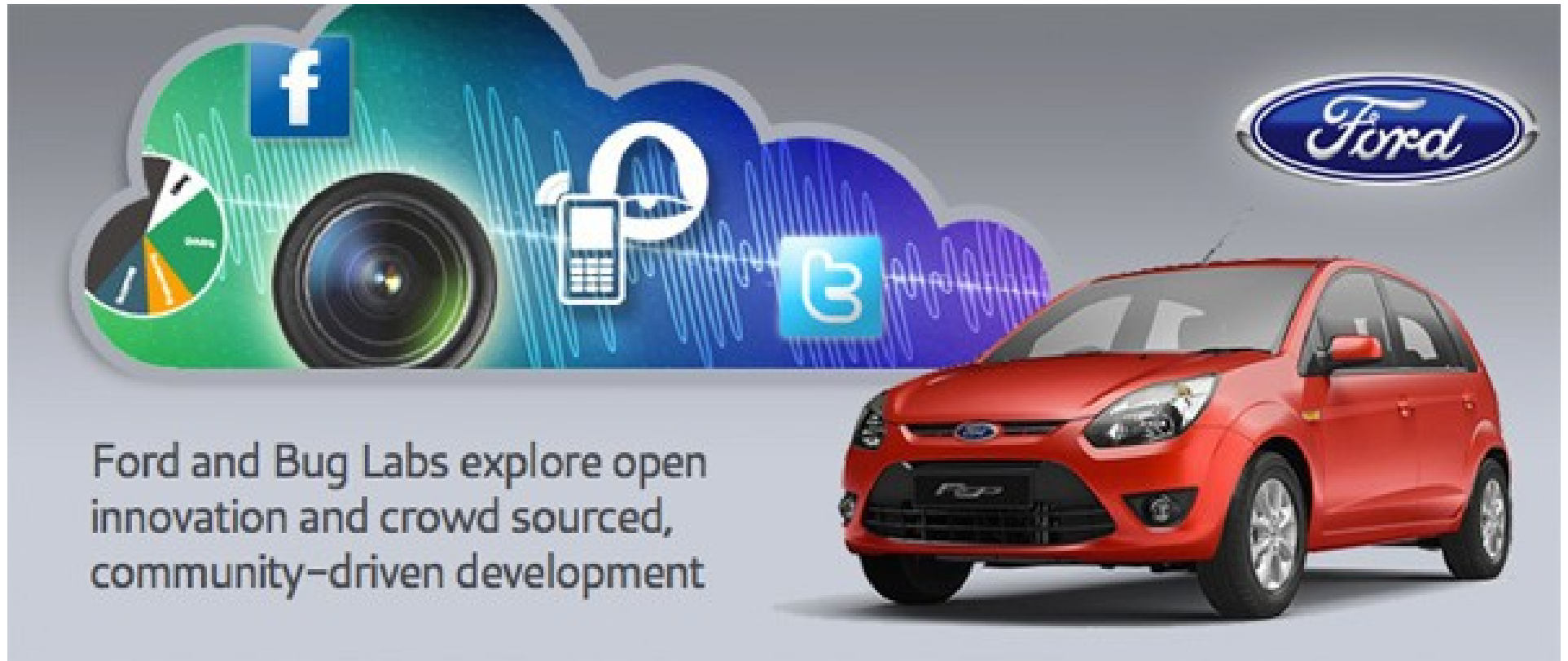
Runs [QCanObserver](#) based on Qt
€79, available via mail-order

Scantool-based status display for Nissan Leaf



<http://tinyurl.com/7wngdsj>, <http://tinyurl.com/7ttz24h>

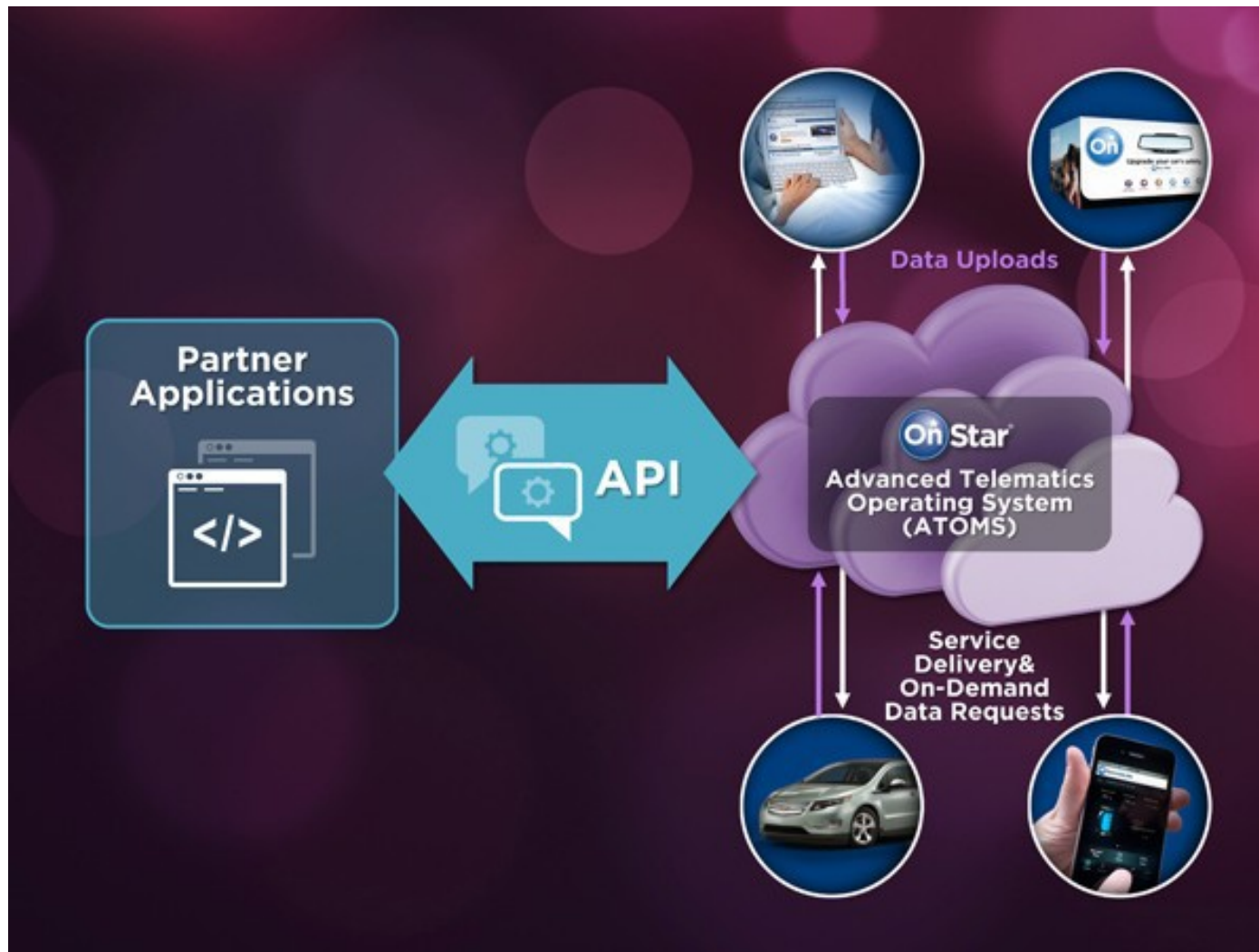
OpenXC Platform: Android/Arduino Scantool



<http://openxcplatform.com/>

Status: limited pre-release to selected developers

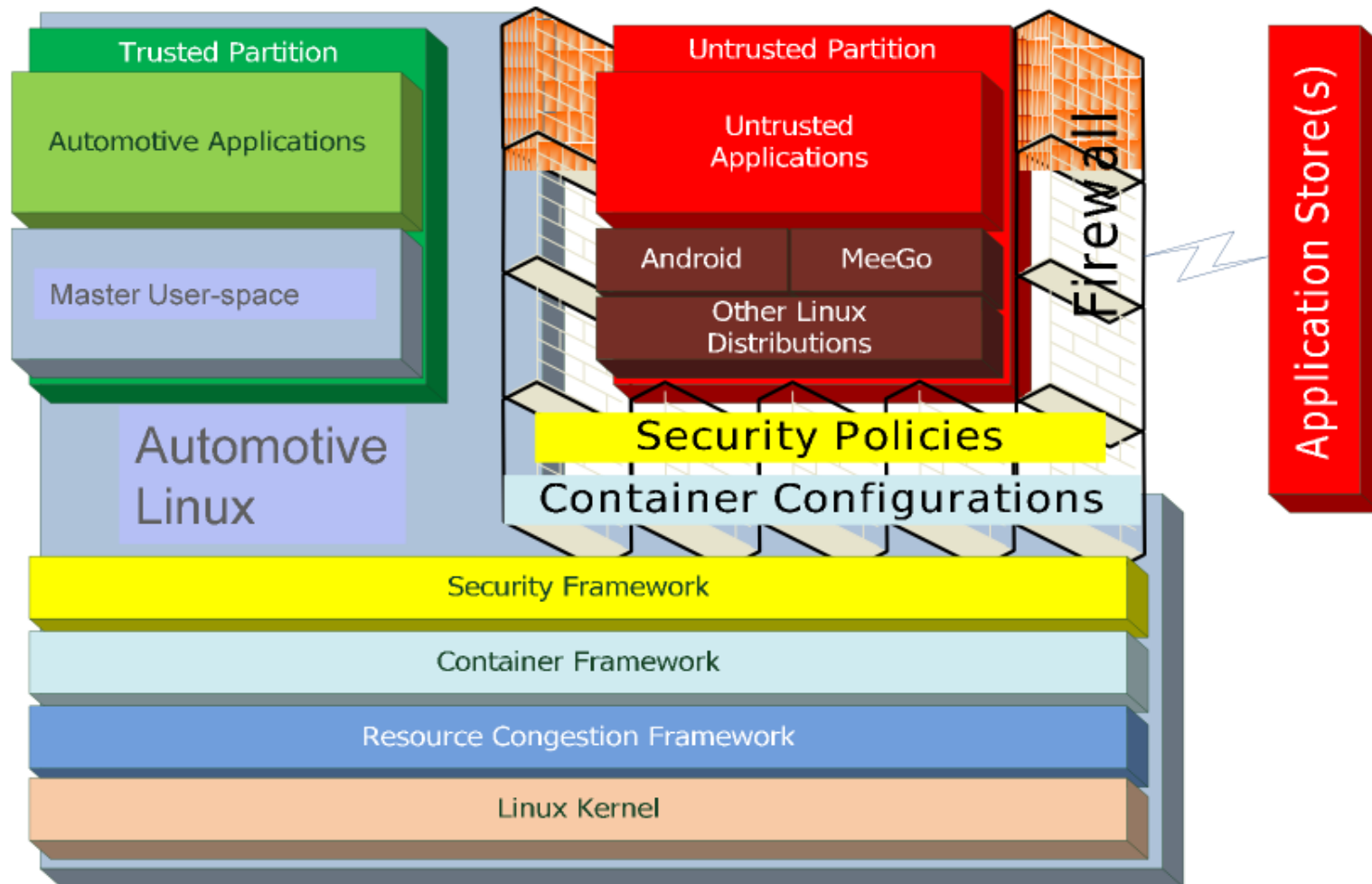
Cadillac User Experience based on MontaVista Linux



OnStar is
RIM's
QNX.

Status: SDK expected, Summer 2012

MontaVista's Automotive Linux stack



Courtesy [Iisko Lappalainen](#), MontaVista, Embedded Linux Conf Europe 2011

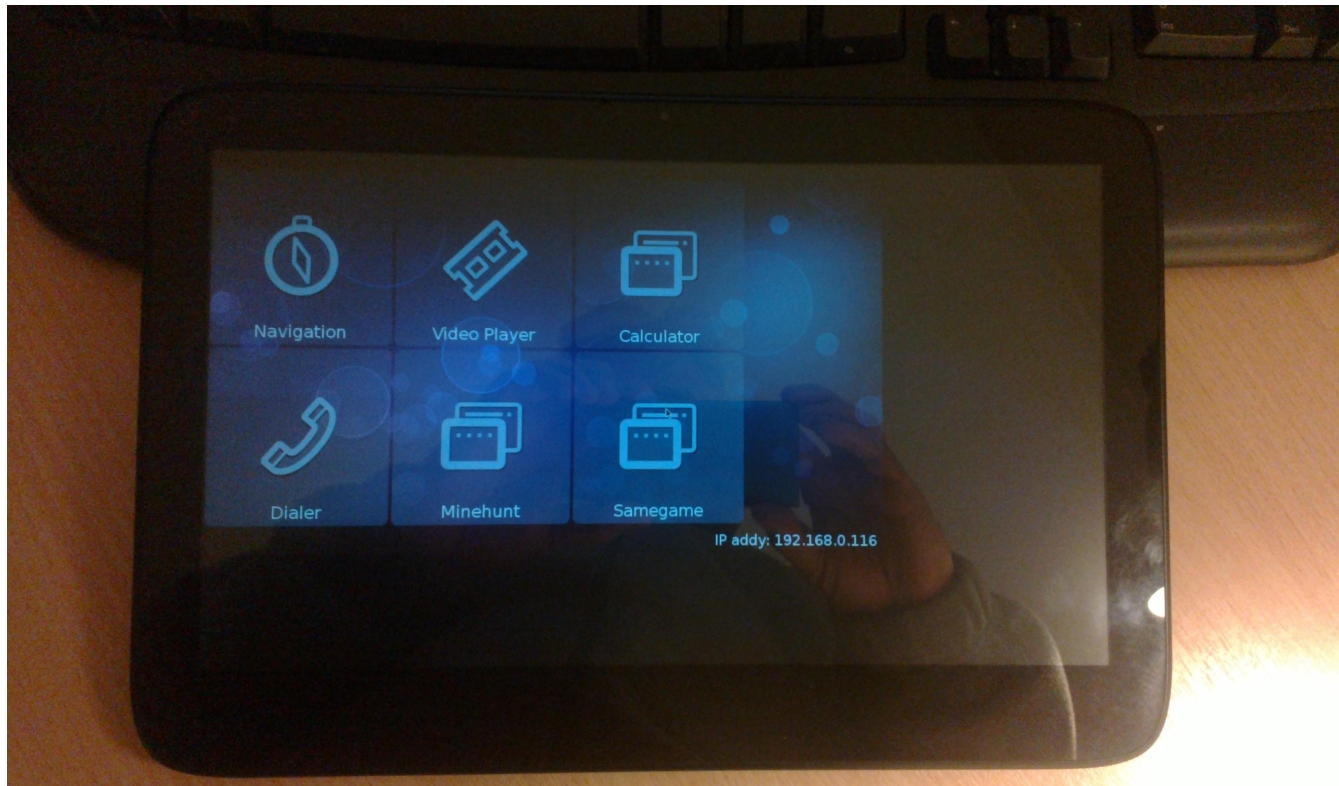
Ubuntu IVI Remix, released 12/2011



<http://news.softpedia.com/news/Ubuntu-IVI-Remix-Beta-2-Officially-Released-242300.shtml>

<https://oem-share.canonical.com/share/ivi-remix/release-beta2-dec2011/>

Tizen-IVI (Intel-Samsung) on Atom-based Slate



Intel-Samsung Automotive Linux for x86 and ARM



Dear Dr. Chaiken,
 I thought you'd like to know that I'm once again a cosponsor of the ***Motor Vehicle Owners Right to Repair Act*** in the 112th Congress. . . . [it] requires vehicle manufacturers to provide the same service information to independent shops that they offer to their franchised dealers. . . . The Act has been referred to the House Committee on Energy and Commerce . . . Sincerely, ***Anna G. Eshoo***

ORGANIZATIONS IN SUPPORT OF THE BILL

CONSUMER GROUPS



AFTERMARKET PARTNERS



How to get involved: corporate-backed FLOSS

- Tizen-IVI (Intel-Samsung): <https://wiki.tizen.org/wiki/IVI>
- OpenXC (Android): <http://openxcplatform.com/>
- Ubuntu IVI Remix:
<http://linux.softpedia.com/progDownload/Ubuntu-IVI-Remix-Download-78078.html>
- Renault R-Link (Android):
<http://www.renault.com/en/innovation/plaisir-et-confort/pages/r-link.aspx>
- Bosch-ETAS Busmaster (Windows):
<https://github.com/rbei-etas/busmaster>

How to get involved: community projects

- NOBDy wiki:

<http://wiki.openice.org/index.php?title=Nobdy>



- OBDGPSLogger: <http://icculus.org/obdgpslogger/>



- LibOBD:

http://libobd.wikia.com/wiki/Libobd_Wiki



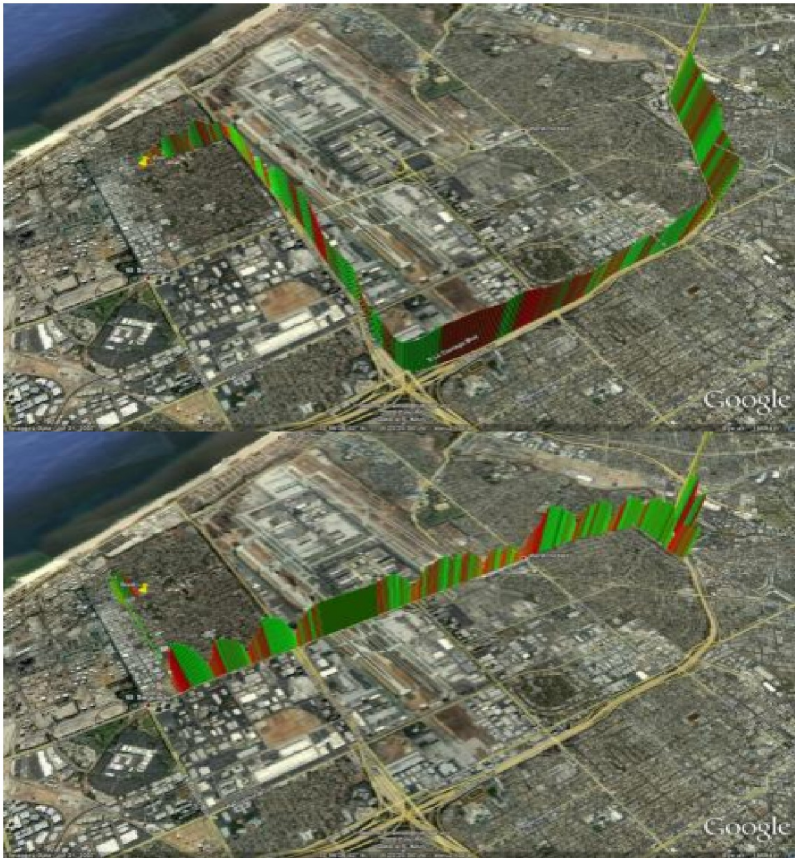
- OBDref: <https://github.com/canurabus/obdref>
- Mp3car: <http://www.mp3car.com/>

OBDGPSLogger: Real-time Vehicle Diagnostics

Just going down to El Segundo for lunch, taking slightly different paths each way. By the airport, there's a large apparently blank bit; that's where I was in a tunnel and my GPS couldn't get a lock.

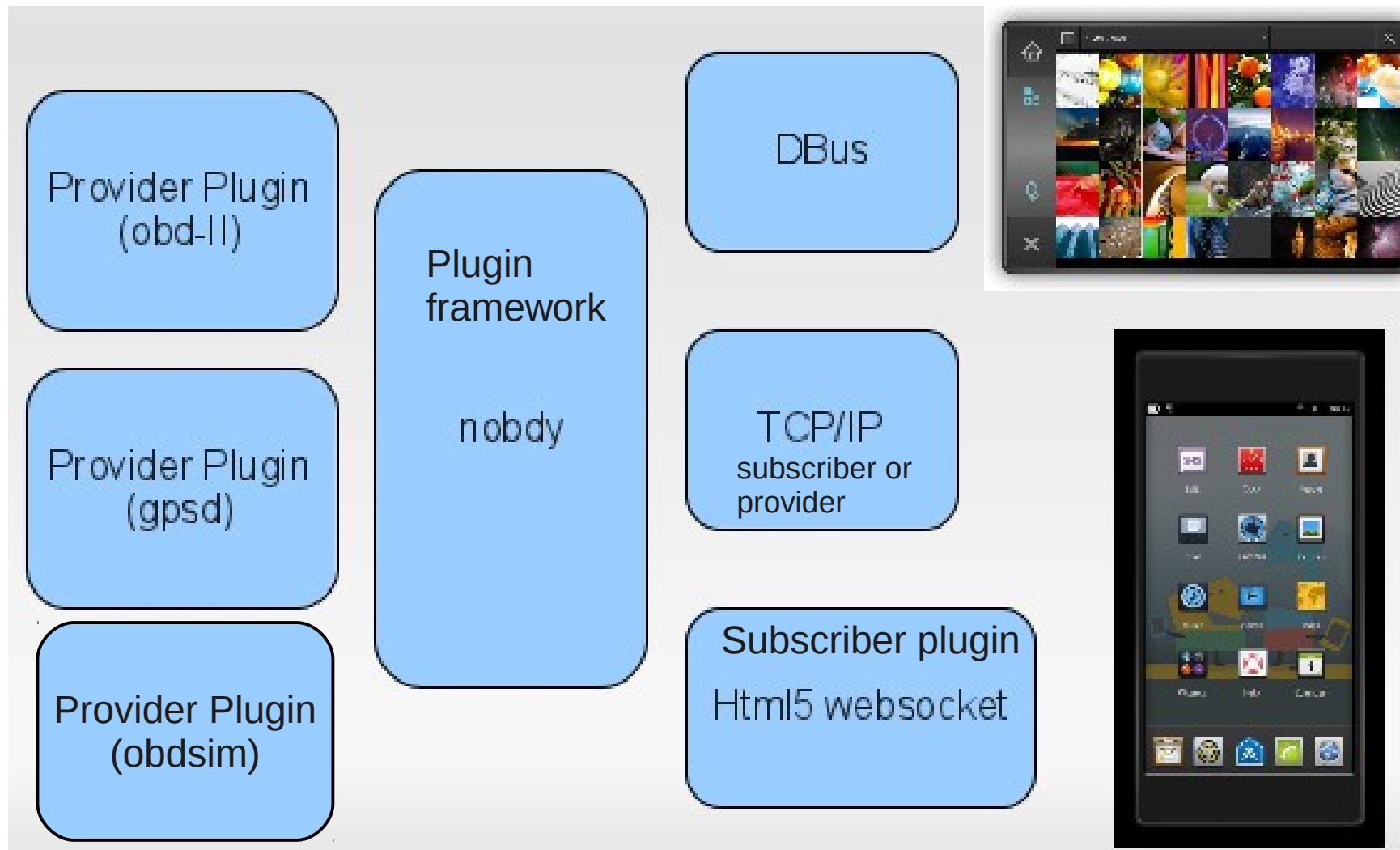
This trip was driving my Mini Cooper S.

Google Earth Screenshots



<http://icculus.org/obdgpslogger/>

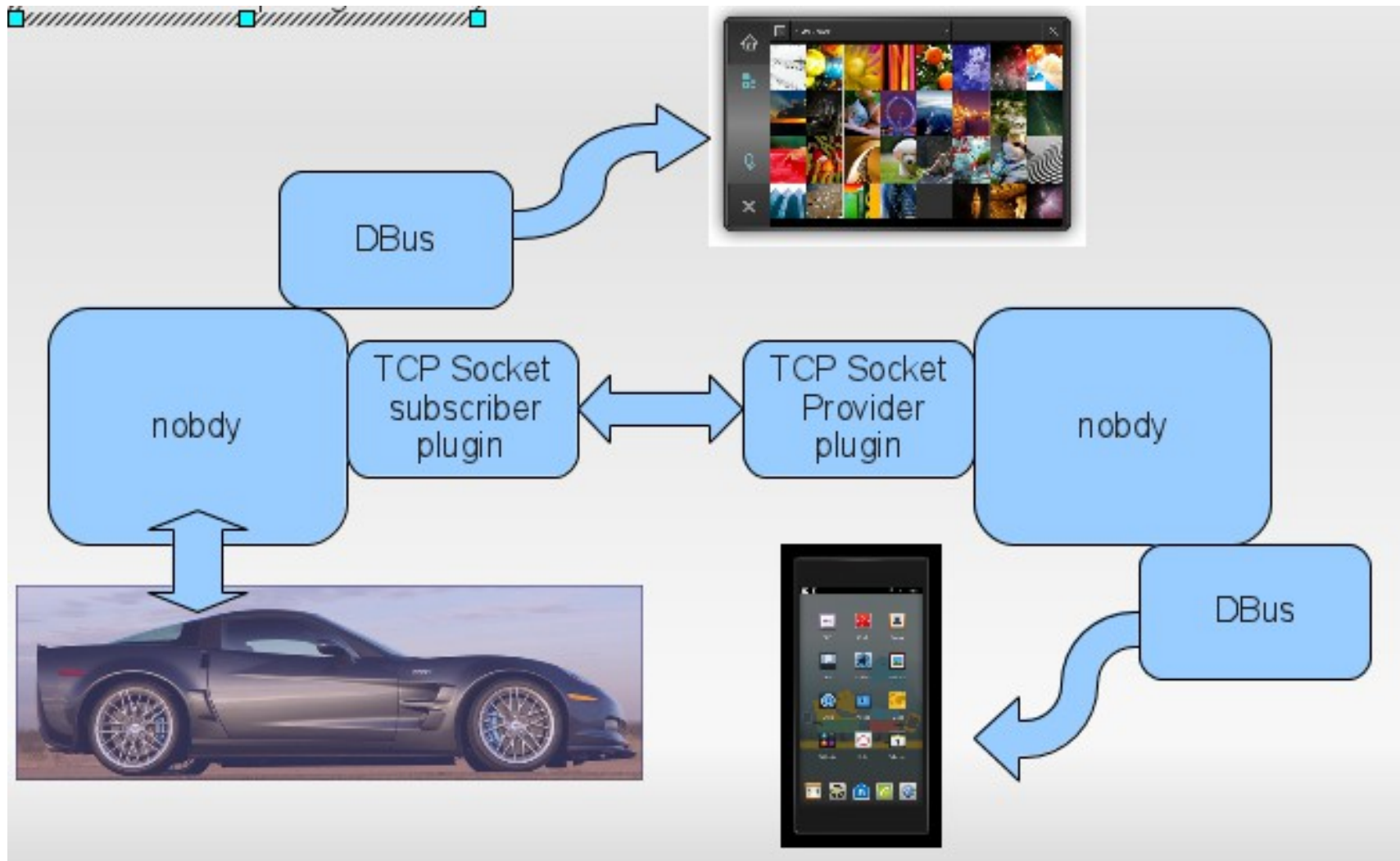
nOBDy is a plug-in framework akin to gstreamer or pulseaudio



Features of nOBDy

- Language-agnostic Websocket (TCP), Bluetooth and D-Bus API: use with python, Javascript or Java
- Written using Qt (C++) toolkit and QML (Javascript-like Qt Modelling Language)
- Browser interface based on JQuery Mobile
- Provides communications interface to CAN (Controller Area Network) vehicle data bus
- GPLv2, source on gitorious
- Based on libobd, OBDGPSLogger, obdref and gpssd projects
- Available as .deb and (soon) RPM packages

Use cases for nOBDy plug-in framework



nOBdY's stack

Your Qt, QML or Javascript application here!

nOBdY plugin framework

QML

jQuery

HTML5

Qt

OpenLayers

OBDGPSLogger

OpenStreetMap

gpsd

libobd

Linux kernel and device drivers

New plugins that talk TCP can be written in any language.