



Overview of GENIVI projects

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Open Source IVI git repo

user-management/user-data-migration-service.git	Data migration service	GENIVI Git User	<i>NO COMMITS</i>
common-api/c-poc.git	Common API C implementation PoC	GENIVI Git User	<i>13 hours ago</i>
lbs/positioning.git	Positioning services	GENIVI Git User	<i>4 days ago</i>
lbs/navigation-application.git	LBS Navigation application	GENIVI Git User	<i>6 days ago</i>
persistence/persistence-administrator.git	Administrator application...	GENIVI Git User	<i>9 days ago</i>
lbs/navigation.git	LBS Navigation services	GENIVI Git User	<i>10 days ago</i>
dlt-viewer.git	Diagnostic Log and Trace clien...	GENIVI Git User	<i>11 days ago</i>
dlt-daemon.git	Diagnostic Log and Trace daemon	GENIVI Git User	<i>11 days ago</i>
genivi-demo-platform.git	Demonstration Platform and...	GENIVI Git User	<i>2 weeks ago</i>
meta-genivi-demo.git	Yocto based GENIVI Demo Platform	GENIVI Git User	<i>2 weeks ago</i>
wayland-ivi-extension.git	Extensions to the Wayland...	GENIVI Git User	<i>2 weeks ago</i>
browser-poc.git	Browser proof of concept.	GENIVI Git User	<i>3 weeks ago</i>
gdp-test-suite.git	Test suite for demo platform	GENIVI Git User	<i>5 weeks ago</i>
persistence/persistence-health-monitor.git	Persistence Health Monitor...	GENIVI Git User	<i>7 weeks ago</i>
persistence/persistence-client-library.git	Client library for persistent...	GENIVI Git User	<i>7 weeks ago</i>
AudioManager.git	Low level audio manager /...	GENIVI Git User	<i>8 weeks ago</i>
ivi-speech.git	API for Speech services	GENIVI Git User	<i>2 months ago</i>

Release Cadence





GENIVI Open Source Projects

Admin

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Projects

- [AF_BUS D-Bus Optimization](#)
- [Audio Manager](#)
- [Browser Proof-of-Concept](#)
- ▼ [Diagnostic Log and Trace](#)
 - [DLT-Transport](#)
- [Franca Validator](#)
- [GENIVI Demo Platform](#)
- [IPC CommonAPI C++](#)
- [IVI Layer Management](#)
- [IVI Navigation](#)
- [IVI Radio](#)
- [LXCBench](#)
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GENIVI Open Source Project

GENIVI was launched with a mission of driving the broad adoption of an In-Vehicle Infotainment (IVI) open-source development platform. (for more on the IVI platform, see [What](#)). The code behind this platform comes from three main sources:

- Upstream projects where the required functionality is already built (e.g., kernel.org)
- Upstream projects where a good starting point for required functionality exists upon which GENIVI can build additional automotive functionality (e.g., connman.net)
- GENIVI member projects where IVI code is developed because nothing is available in the open source community as a good starting point.

GENIVI has moved these member projects into the open source and invites all interested parties to participate in building the code (for more information, see [Why](#)). GENIVI hosted projects facilitate the development of required IVI functionality in an open and collaborative manner, consistent with the best practices of other FOSS projects (for more information, see [How](#)).

Common API C

Project Name	Common API C
Description:	Common API C is a C implementation of Common API. The purpose of the project is to enable programs written in C to work with interfaces defined in Franca IDL .
Source code:	GENIVI Git repository
Issue tracker:	JIRA Stats
Documentation:	

Common API C++

Project Name	Common API C++
Description:	IPC CommonAPI C++ is a C++ based abstraction API for communication stacks, which enables applications to use different communication middleware - so called language bindings - as backend without any changes to the application code.
Source code:	GENIVI Git repository [runtime]
Issue tracker:	Bugzilla
Documentation:	Doxygen code documentation

GENIVI Demo Platform

- Holds nearly all of the GENIVI components including dependencies and subsystems
- Evolving into a complete SDK or ADK
- A good starting point for the latest code
- Supported by multiple hardware vendors



Getting code

```
$ git clone http://git.projects.genivi.org/dlt-daemon.git
```

```
. . .
```

```
$ git commit -asm "Fixed magic code"
```

→ Create a patch



Contributing to Audio Manager

== Working on the code & contribution

.First get the code from the git:

```
git clone
```

.Get an overview of all branches:

```
git branch
```

.Switch to the branch you want to work on (see versioning scheme, the master is the feature branch) and verify that it has switched (* changed)

```
git checkout <your branch>
```

```
git branch
```

.Best practice is to create a local branch based on the current branch:

```
git branch working_branch
```

Start working, best practice is to commit smaller, compilable peaced during the work that makes it easier to handle later on.

If you want to commit you changes, send them to the audiomanager-dev list, you can create a patch like this:

```
git format-patch working_branch <your branch>
```

This creates a set of patches that are published via the mailing list. The patches will be discussed and then merged & uploaded on the git by the maintainer.

Patches can be accepted either under GENIVI Cla or MPL 2.0 (see section License). Please be sure that the signed-off-by is set correctly. For more, check out <http://gerrit.googlecode.com/svn/documentation/2.0/user-signedoffby.html>

Communication

- Important to remember that GENIVI software developers are distributed throughout the world, North America, Europe, Asia
- Requires a distributed communication channel that is asynchronous, that channel is email quite often
- The mailing list serves as a database of searchable discussion that aggregates by subject matter
- Use the mailing lists!
- It is in the open, so mailing lists are public
- English is not everyone's first language and that is totally fine

Tracking bugs

- GENIVI has a public bug tracker which holds bugs for GENIVI components as well as for the GENIVI Demo platform
- Easy to sign up to the bug tracker and file bugs, add patches, triage bugs
- Sometimes it can be good to discuss the issue on the mailing list first to see if it is a known issue or a local issue

- Public ssh key from the machine you develop on
- Subscription to (at least) genivi-projects
- git (there are numerous GUI git clients)
- Login to bugzilla, wiki
- non-html mail client (nice to have)

Managed Applications

"Apps", e.g. Commercial Music Services Weather Social Networks...

E.g. Vehicle Functions Climate (HVAC) Navigation Radio ...

Native Applications

System User Interface

Application Manager

Web App Runtime

Java App Runtime

Prog. framework/abstraction (Qt and others)

Business Logic / Platform Adaptions (optional, dep. on circumstance)

Radio & Tuners

AM/FM	DAB/DRM	Broadcast Data services	
SDARS	Terrestrial TV	HD Radio	TMC/VICS

Telephony

Telephony Stack (eg.0fono)

Navigation/LBS

Traffic Info	Navigation Core	Map Viewer
Map Data Service	Positioning	POI Mgr

Media Framework

Playback Control	Browser
Indexer	Music Identification

Media Sources

USB Mass Storage	Commercial Streaming	Bluetooth Stream		
MTP	Internet Radio	AUX	DLNA	iAP

Internet Functions

DUMM	Web Browser
Cloud Based Services	

Bluetooth

Messaging	Phone Book	Bluetooth Stack (eg.Bluez)
Hands-free	Media Playback	Tethering

Camera Functions

Rear View Camera
Guidance / Overlay

Speech

Speech Input (ASR)	Speech Output (TTS)
Speech Dialog	Speech to Text Dictation

HMI Support

Internationalization	Graphical Framework	
Pop-Up Mgr	Buttons	Handwriting

CE Device Integration

Smart Device Link	CarPlay™
Android Auto	MirrorLink

PIM

Shared Address Book	Internet Account Manager	
Device Sync	Calendar	Internet Account Sync

Vehicle Interface

Seat Heating	Climate Control
Vehicle Settings	Vehicle Interface API (Eg.AMB)

Device Mgmt

Advanced Handover Support
uevent / udev

Audio Mgmt

Audio Manager
Pulse Audio

Audio/Video Processing

EC/NR	Alsa	Video Inputs (i.e. V4L)
Src	Codecs	Gstreamer

Graphics Support

Layer Management	OpenGL (EGL)
IVI Compositor (Wayland Protocol)	

Network Mgmt

ConnMan	Traffic Shaping
Firewall Rule Mgmt	DUMM

Networks

EAVB	SOME-IP	Vehicle Bus Proxy (CAN, FlexRay)		
Wifi	Tethering	NFC	INC	ICC

IPC

DBus	CommonAPI Runtime
Message Broker/Routers	

Persistence

Persistence Client Lib	Pers. Admin
SQLite, Custom storage	Pers. Health Monitor

SW Management

SW Loading Mgr	Package Mgr
Module Loader	SOTA Client

Lifecycle

Node State Mgr	Node Startup Controller
Node Resource Mgr	Node Health Monitor

User Mgmt

User Identification	
User Switch	User Data Migration

Housekeeping

Error/Event Logging(DLT)	Exception Handling
Statistics	Coding / System Config.

Security Infrastructure

HSM	Encryption, Signatures
LSM	Anomaly Detection

Diagnostics

UDS	Automotive Diagnostics
DTCs	
Remote Diagnostics	

Generic libraries (libc, etc.)

Low-level system libraries (libusb etc.)

Drivers, BSP, Linux Kernel



Links

GENIVI git repository

<http://git.projects.genivi.org>

GENIVI wiki

<http://wiki.projects.genivi.org>

GENIVI project pages

<http://wiki.projects.genivi.org>

GENIVI bugzilla

<http://bugs.genivi.org>

Internal OSS launch dashboard

<https://collab.genivi.org/wiki/display/genivi/Open+Source+Project+Launch+Dashboard>

OpenHub

<https://www.openhub.net/orgs/genivi>

Checklist for pushing code into the open

<https://collab.genivi.org/wiki/display/genivi/Checklist+for+pushing+code+into+the+open>

Q & A