



# The Automotive Grade Linux Build Service

ALS Tokyo '14, Jan-Simon Möller



# The Automotive Grade Linux (AGL) initiative ...

- is about improving open source components for automotive use cases
- using a common reference platform for test and integration purposes



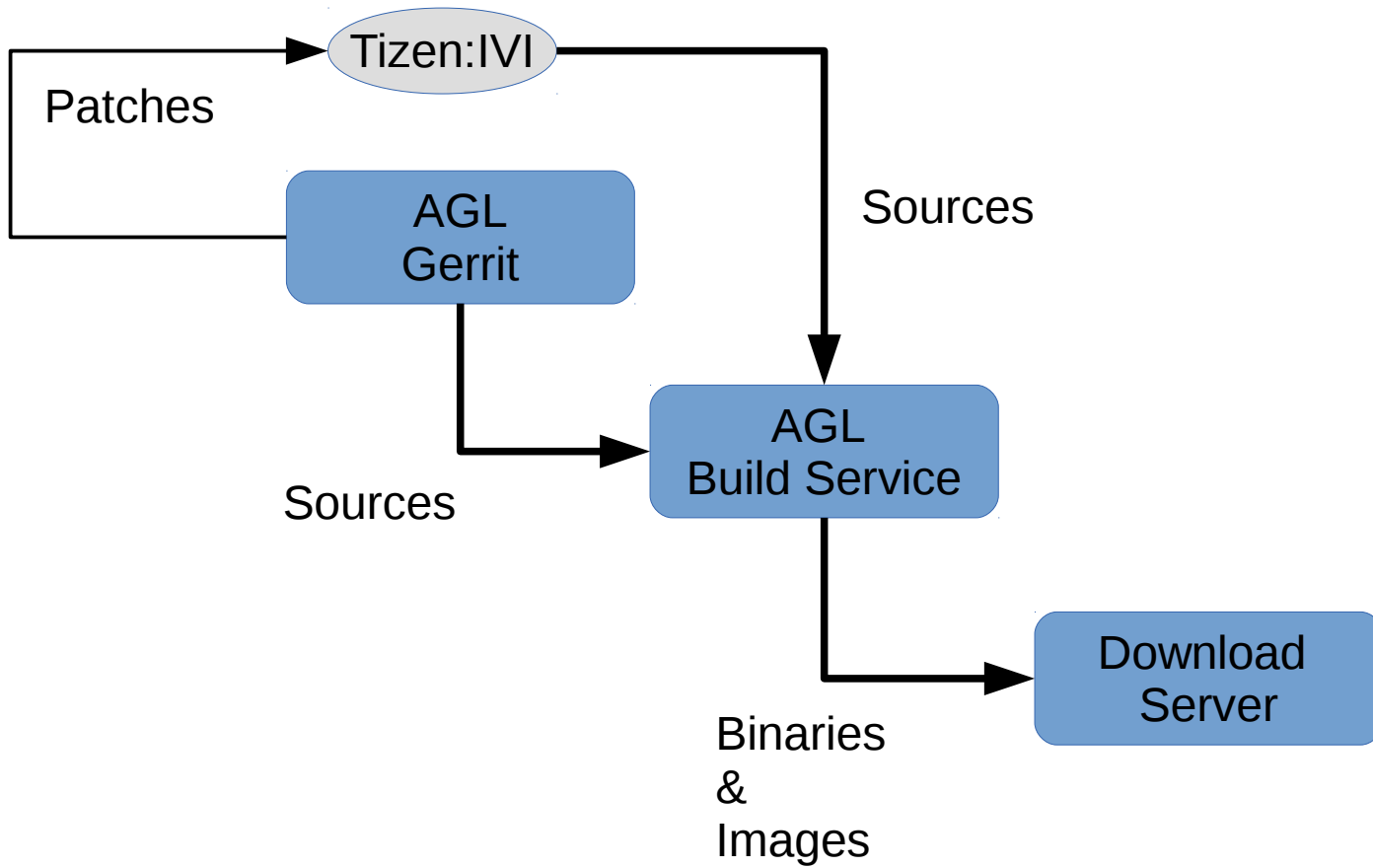
# NEW:

- A set of new services is available now:
  - [wiki.automotivelinux.org](http://wiki.automotivelinux.org)
  - **[download.automotivelinux.org](http://download.automotivelinux.org)**
  - **[build.automotivelinux.org](http://build.automotivelinux.org)**
  - **[gerrit.automotivelinux.org](http://gerrit.automotivelinux.org)**
  - **[jira.automotivelinux.org](http://jira.automotivelinux.org)**
- Work in Progress:
  - Doors Database / Jazz Team Server

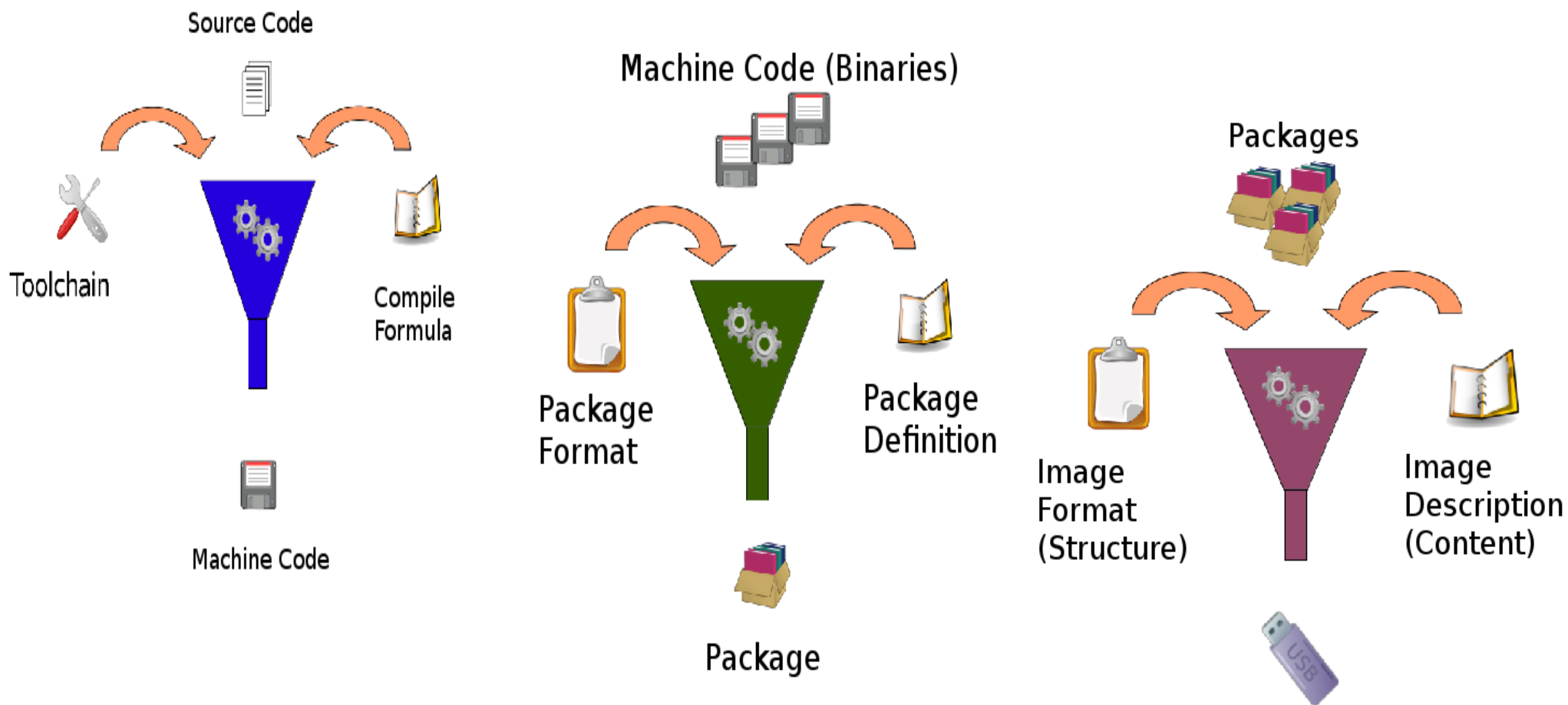


# IVI Reference Platform

- AGL plans to support 2 approaches to build a reference platform
  - yocto-based
    - good for engineering builds on workstations
  - OBS-based
    - good for large groups and maintainance
- Talk is about the OBS approach ...



# Sourcecode to image workflow





or gbs

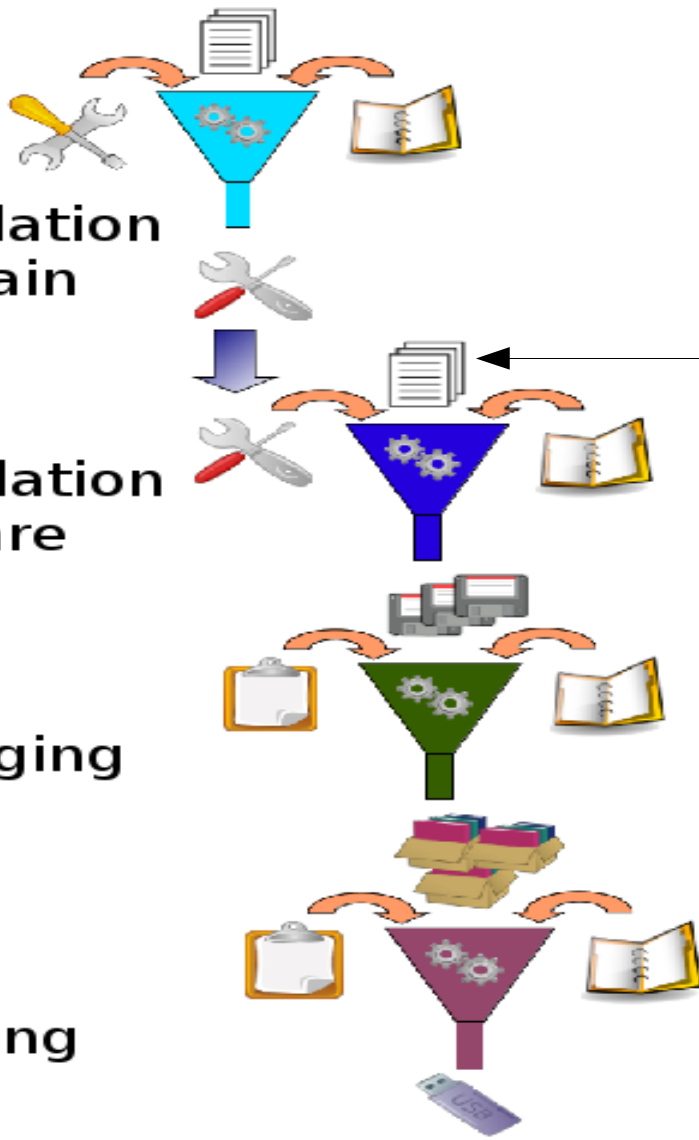
mic2

Compilation  
Toolchain

Compilation  
Software

Packaging

Imaging



repo

git +  
gerrit

# build.automotivelinux.org

The screenshot shows the web interface of the AGL Build Service. At the top, the browser address bar displays `https://build.automotivelinux.org`. The site's logo, 'obs', is in the top left, and a 'Watchlist' button is in the top right. Below the logo, the text 'AGL Build Service' is visible. In the top right corner, there are links for 'Admin', 'Home Project', and 'Logout'. The main content area features a large green heading 'Welcome to AGL Build Service' followed by a brief description and a link to a wiki page. Below this are four navigation icons: Configuration, All Projects, Search, and Status Monitor. On the right side, there is an 'Announcements' section with a recent post from 'Admin' about Tizen:IVI imports, and a 'Latest Updates' section below it.

https://build.automotivelinux.org

obs

Watchlist


AGL Build Service


Admin | Home Project | Logout


## Welcome to AGL Build Service


This is the automotivelinux.org build service.

For more information see [this wiki page](#). Have fun and fast build times!


 Configuration

 All Projects

 Search

 Status Monitor

### Announcements

 Admin wrote 9 minutes ago

Tizen:IVI imported and built for i586, x86\_64 and armv7l (hardfloat).

[Add new status](#)

### Latest Updates



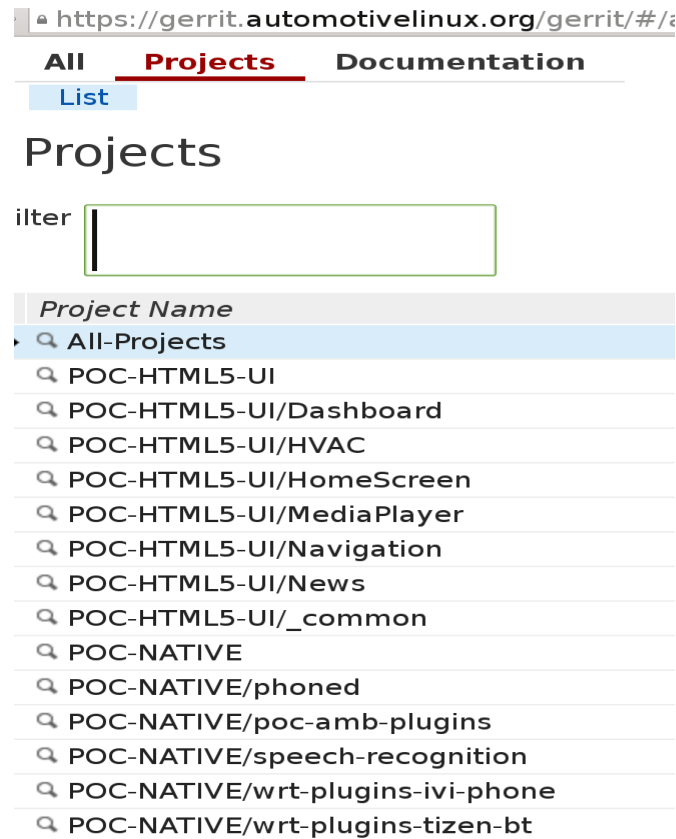


build.automotivelinux.org

- AGL uses Tizen:IVI as reference distro
  - enhanced by components provided by AGL-Members
  - incubator for new platforms
  - driving development and pushing back upstream

# gerrit.automotivelinux.org

- gerrit instance for development work on AGL components and
- incubator for upstream changes until submitted



The screenshot shows the Gerrit web interface for gerrit.automotivelinux.org. At the top, there are navigation tabs for "All", "Projects" (which is selected and underlined in red), and "Documentation". Below the tabs is a "List" button. The main heading is "Projects". There is an "filter" input field. Below the filter is a table of projects with a search icon in the first column and the project name in the second column. The first project, "All-Projects", is highlighted in blue.

	Project Name
🔍	All-Projects
🔍	POC-HTML5-UI
🔍	POC-HTML5-UI/Dashboard
🔍	POC-HTML5-UI/HVAC
🔍	POC-HTML5-UI/HomeScreen
🔍	POC-HTML5-UI/MediaPlayer
🔍	POC-HTML5-UI/Navigation
🔍	POC-HTML5-UI/News
🔍	POC-HTML5-UI/_common
🔍	POC-NATIVE
🔍	POC-NATIVE/phoned
🔍	POC-NATIVE/poc-amb-plugins
🔍	POC-NATIVE/speech-recognition
🔍	POC-NATIVE/wrt-plugins-ivi-phone
🔍	POC-NATIVE/wrt-plugins-tizen-bt



# download.automotivelinux.org

- hosts build results of the build service
- installable images (currently POC)

← <https://download.automotivelinux.org>

## Index of /

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-  [AGL/](#) - AGL Build Service output
  -  [POC/](#) - AGL Reference Platform resources
-

# Build Service I

- Available Build Targets
  - Tizen:IVI 3.0  
(reference distribution)
- Other components
  - POC UI code provided  
by AGL

## Public Projects

Exclude user home projects

Search






Name

AGL
Tizen:IVI
Tizen:IVI:bootstrap
Tizen:IVI:import
Tizen:IVI:snapshot
Tizen:IVI:snapshot:2014.03-1

Showing 1 to 6 of 6 entries (filtered from 8 total entries)

# Build Service II

- Available Architectures:
  - i586
  - x86\_64
  - armv7l (hardfloat)
- Experimental
  - aarch64 (wip)

Build Results 		
standard	 aarch64	unresolvable: 883 disabled: 1 excluded: 19
	 armv7l	succeeded: 550 failed: 3 unresolvable: 330 disabled: 1 excluded: 19
	 i586	succeeded: 900 disabled: 1 excluded: 2
	 x86_64	succeeded: 851 failed: 30 unresolvable: 19 disabled: 1 excluded: 2

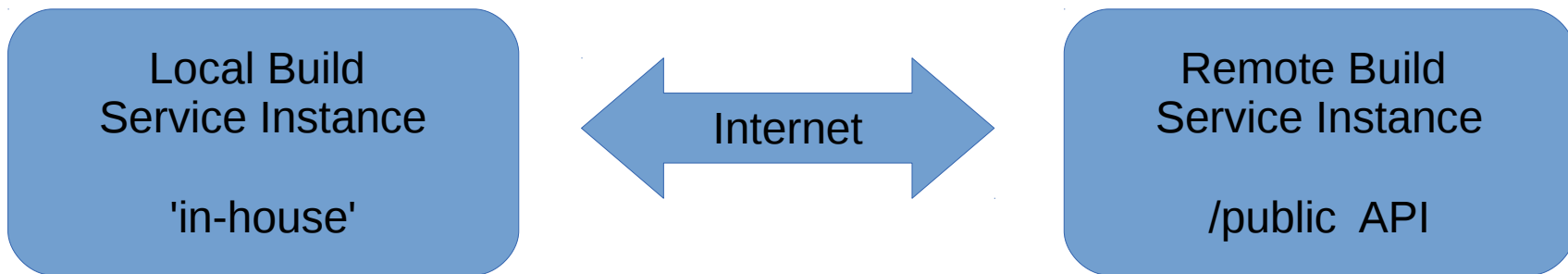


# Build Service III

- Availability / Access to the build service
  - open for read access by \*
  - open for interlinking
  - write access to home:\*  
moderated initially

# Using the Build Service

- Interlink with own OBS instance
  - what is an 'OBS-Interlink'





# Using the Build Service

- Interlink with own OBS instance
- point your instance to:

Local project name: AGL

Remote OBS api url:

`https://api.automotivelinux.org/public`

Title: Remote AGL OBS instance

Description: Remote build service  
instance for AGL





# Using the Build Service II

- OSC
  - osc is the cmdline tool of the build service
  - this needs an account

```
osc -Ahttps://api.automotivelinux.org
```

```
alias aosc='osc -Ahttps://api.automotivelinux.org'
```

# Using the Build Service III

- with gbs (git build system)
  - no account needed for just building
  - gbs.conf:

```
[general]
profile = AGL
```

```
[obs.AGL]
url = https://api.automotivelinux.org
```

```
[repo.AGL]
url = https://download.automotivelinux.org/AGL/Tizen:/IVI/standard/
```

```
[profile.AGL]
obs = obs.AGL
repos = repo.AGL
buildconf = ~/aglbuild.conf
```



## Using the Build Service III

- with gbs (git build system)
  - no account needed for just building
  - allows to compile with gbs for all supported architectures  
(including armv7l hardfloat !)
  - still experimental



# Using the Build Service IV

- mic - imaging tool
  - kickstart file :

...

```
repo --name=ivi --baseurl=https://download.automotivelinux.org/AGL/  
Tizen:/IVI:/import/standard/
```

...

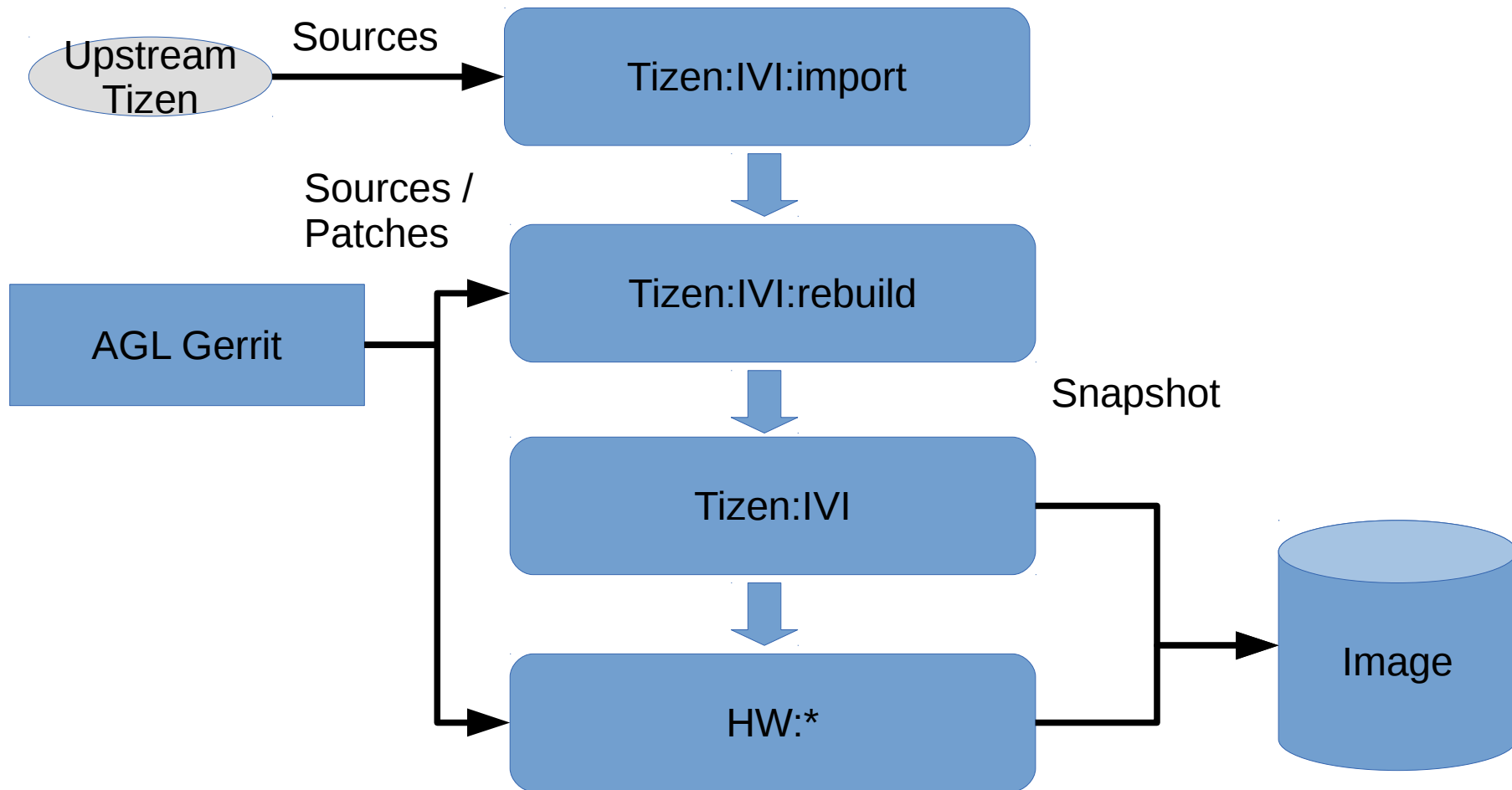
- same package groups



# Build Service Repositories

- **Tizen:IVI:import**
  - import of unchanged upstream sources
- **Tizen:IVI:rebuild**
  - rebuild of imported sources with needed patches applied (if any)
    - (support for armv7l, aarch64 & incubator)
- **Tizen:IVI**
  - Snapshot of Tizen:IVI:rebuild (weekly)
- **HW:\***
  - HW adaptations as add-ons providing the HW specifics

# Build Service Repositories





# Build Service Repositories II

- H/W Adaption Layers
  - provide kernel, bootloader, gfx driver, gfx libraries.
- E.g.:
  - HW:omap5uevm
  - HW:cubieboard
  - HW:IFC6410
  - ...
- They are build on-top of the available platforms/architectures



# Roadmap

- extend armv7 support
- hardware adaptations for boards
- add aarch64
  
- incubator for AGL components





END

Questions ?!  
Comments ?!

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Contact: AGL Mailinglists

<http://automotive.linuxfoundation.org/what-is-automotive-grade-linux/automotive-grade-linux-mailing-lists>