



*the debile project*

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## Debian

+ 20 000 source packages  
~13 architectures  
3 kernels

The biggest database of FLOSS code (?)

## How to:

- Build all these packages with a new compiler
- Run static analyzers on their codes
- Provide reports at the same place for both upstreams and packagers



For now, good luck with that !



Started as a requirement for the clang transparent builds and scan-build static analyzers (Léo Cavallé's GsoC 2013)

Not trying to redevelop yet a new build system

Also related to the work presented by Zack this afternoon on [sources.debian.net](http://sources.debian.net)

## To build packages in Debian:

- wanna-build / buildd (the official services)  
<http://buildd.debian.org/>
- <http://www.debian-ports.org/> (also based on  
wanna-build / buildd)
- Rebuildd
- Open Build Service
- ...



Decided to work on [debuild.me](http://debuild.me)  
with Paul Tagliamonte

Python + flask + sqlalchemy

Goal : easy to hack / lightweight / expendable

Pluggable in the fedmsg bus



Renamed to Debile

After propositions by the DPL cabals (Lucas + Zack)



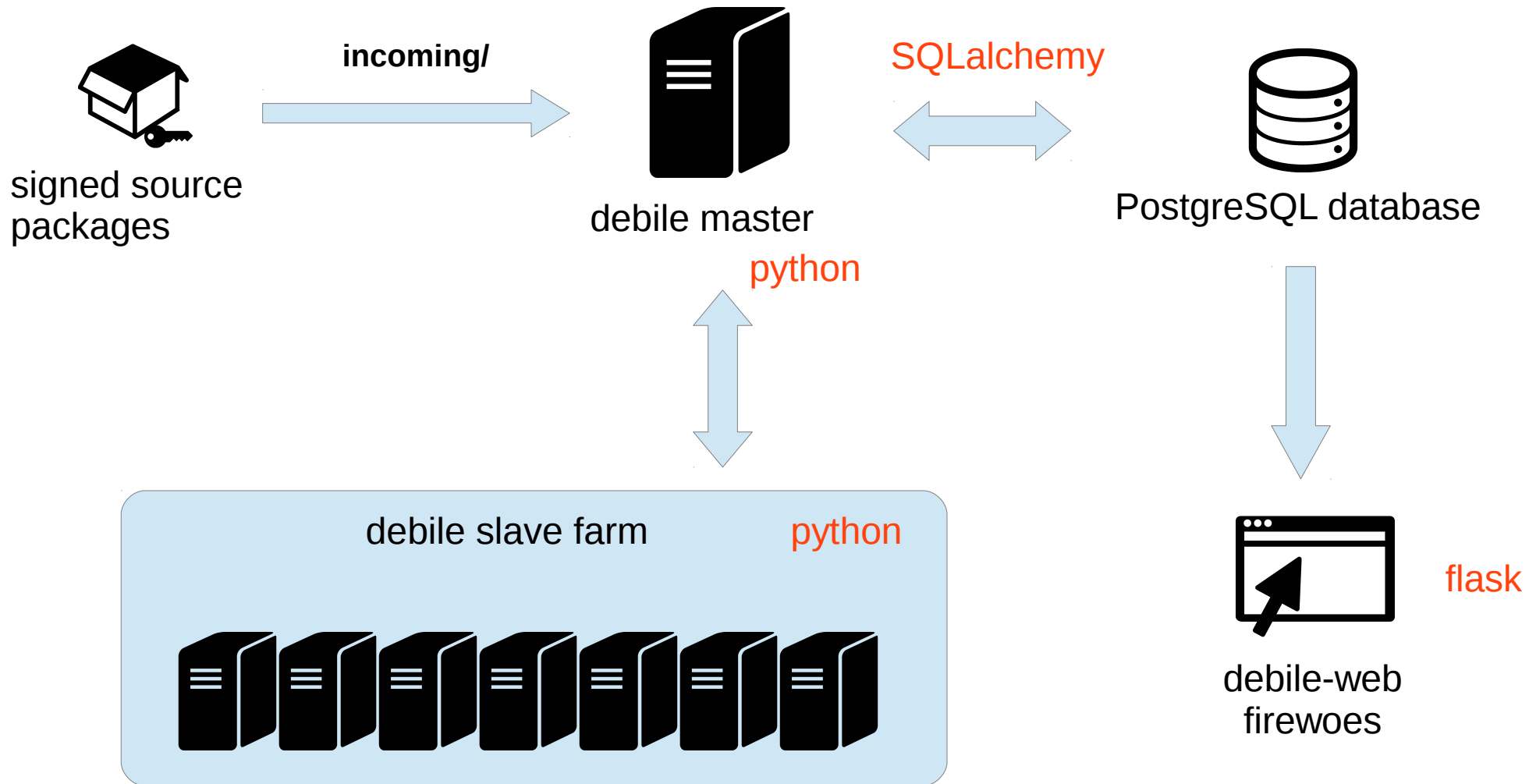


# Architecture Infrastructure

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The Debile Project  
Sylvestre Ledru & Léo Cavallé

# Basic architecture



- One slave = a docker instance of debile-slave
- A slave executes one job (build, static analysis...) at a time on binaries/sources.
- Build jobs upload their results to incoming/



Devices :

Master node (~ 8 To of HD)

M1000e with :

4 blades (8 cores, 16G)

12 blades (4 cores, 16G)





Plus :

7 various powerful Dell servers

Thanks to Google and IRILL

Hosted by IRILL on Renater



- Build nodes will run Debian jessie
- Installation done through PXE
- Configuration done with Salt Stack



SALTSTACK



# Results



Provides build workers:

- Normal (ie gcc) builds
- Clang
- gcc snapshot ?

With repository of clang-built packages

Uploads binaries to debile's own APT repository



Provides analyzer workers:

- Scan-build (C, C++, Objective-C)
- Lintian (Debian packages)
- Coccinelle (C, C++)
- Cppcheck (C++)
- Findbugs (Java)
- ...



## debile

This experimental infrastructure aims to provide a generic rebuild platform. Normal build, custom builds (clang based) or static analyzers (coccinelle, scan-build, etc) are managed through this infrastructure.

### Work in progress

By package	<input type="text"/>	<input type="button" value="Search"/>
By maintainer	<input type="text"/>	<input type="button" value="Search"/>

### Active Jobs

Source Package	Type	Arch	Suite	Assigned	Builder
<a href="#">icedove</a> 17.0.9-2	cppcheck	all	unstable	2 months ago	<a href="#">irill4-builder3</a>
<a href="#">iceweasel</a> 24.0-2	cppcheck	all	unstable	2 months ago	<a href="#">irill4-builder2</a>

### Pending jobs

There are currently 1701 jobs to assign.

Browse by prefix: [0](#) [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [a](#) [b](#) [c](#) [d](#) [e](#) [f](#) [g](#) [h](#) [i](#) [j](#) [k](#) [l](#) [lib3](#) [liba](#) [libb](#) [libc](#) [libd](#) [libe](#) [libf](#) [libg](#) [libh](#) [libi](#) [libj](#) [libk](#) [libl](#) [libm](#) [libn](#) [libo](#) [libp](#) [libq](#) [libr](#) [libs](#) [libt](#) [libu](#) [libv](#) [libw](#) [libx](#) [liby](#) [libz](#) [m](#) [n](#) [o](#) [p](#) [q](#) [r](#) [s](#) [t](#) [u](#) [v](#) [w](#) [x](#) [y](#) [z](#)

Last [uploads](#)

	<i>debile</i>		
<a href="#">r-cran-slam/0.1-29-1</a>	auto-rebuild	Fred the autobuilder	✓ ✓ ✓ ✓ ✓ ✓ ✓
<a href="#">latex2rtt/2.3.3-0.3</a>	rebuild	autobuilder	✓
<a href="#">pjproject/2.1.0~ast20130801-1</a>	auto-rebuild	Fred the autobuilder	
<a href="#">lynkeos.app/1.2-6.1</a>	auto-rebuild	Fred the autobuilder	× × ✓ ✓ ✓ ✓ ⊗ ⊗
<a href="#">jssip/0.3.7-1</a>	auto-rebuild	Fred the autobuilder	✓ × ✓ ✓ ✓ ✓ ⊗ ⊗
<a href="#">libtaint-runtime-perl/0.3-1</a>	auto-rebuild	Fred the autobuilder	✓ ✓ × ✓ ✓ ✓ ✓ ✓ ✓
<a href="#">grace/1:5.1.23-2</a>	auto-rebuild	Fred the autobuilder	✓ × × × ✓ ✓ ✓ ✓ ✓
<a href="#">berusky2/0.9.1-1</a>	auto-rebuild	Fred the autobuilder	✓ × ✓ × ✓ ✓ ✓ ✓ ⊗
<a href="#">choose-mirror/2.49</a>	auto-rebuild	Fred the autobuilder	✓ × × × ✓ ✓ ✓ ✓ ✓
<a href="#">debian-installer-launcher/19</a>	auto-rebuild	Fred the autobuilder	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓
<a href="#">libpwiz/3.0.4624-1</a>	auto-rebuild	Fred the autobuilder	✓ × ✓ × ✓ ✓ ✓ ✓ ⊗
<a href="#">libparse-netstat-perl/0.4-1</a>	auto-rebuild	Fred the autobuilder	✓ ✓ × ✓ ✓ ✓ ✓ ✓ ✓

## Package info

Name vim  
Version 2:7.4.027-1  
Maintainer Debian Vim Maintainers <pkg-vim-maintainers@lists.aliases.debian.org>  
Built by [Fred the autobuilder](#)  
Available on [Repository](#)

7/8

Remain

## source jobs

launched on the source package provided

Type	Version	Machine	Results
<a href="#">build/clang-3.3 (amd64)</a>	2:7.4.027-1	<a href="#">irill4-builder2</a>	Uploaded
<a href="#">build/gcc-4.8 (amd64)</a>	2:7.4.027-1	<a href="#">irill4-builder2</a>	Uploaded
<a href="#">clanganalyzer (all)</a>	2:7.4.027-1	<a href="#">irill4-builder3</a>	✓ Nothing found
<a href="#">coccinelle (all)</a>	2:7.4.027-1	<a href="#">irill4-builder3</a>	✓ Nothing found
<a href="#">cppcheck (all)</a>	2:7.4.027-1	<a href="#">irill4-builder2</a>	✗ Errors found
<a href="#">lintian (all)</a>	2:7.4.027-1	<a href="#">irill4-builder3</a>	✓ Nothing found
<a href="#">pep8 (all)</a>	2:7.4.027-1	<a href="#">irill4-builder3</a>	✗ Errors found
<a href="#">pericritic (all)</a>	2:7.4.027-1	<a href="#">irill4-builder2</a>	✓ Nothing found

## binary jobs

launched on the binaries uploaded after the build of the source package

Type	Name	Status	Machine	Results
<a href="#">adequate (amd64)</a>	vim	finished	<a href="#">irill4-builder1</a>	✓ Nothing found
<a href="#">adequate (amd64)</a>	vim	finished	<a href="#">irill4-builder1</a>	✓ Nothing found
<a href="#">adequate (amd64)</a>	vim-athena	finished	<a href="#">irill4-builder1</a>	✓ Nothing found
<a href="#">adequate (amd64)</a>	vim-athena	finished	<a href="#">irill4-builder1</a>	✓ Nothing found
<a href="#">adequate (amd64)</a>	vim-common	finished	<a href="#">irill4-builder1</a>	✓ Nothing found
<a href="#">adequate (amd64)</a>	vim-common	finished	<a href="#">irill4-builder1</a>	✓ Nothing found
<a href="#">adequate (amd64)</a>	vim-dbg	finished	<a href="#">irill4-builder1</a>	✓ Nothing found
<a href="#">adequate (amd64)</a>	vim-dbg	finished	<a href="#">irill4-builder1</a>	✓ Nothing found
<a href="#">adequate (amd64)</a>	vim-doc	finished	<a href="#">irill4-builder1</a>	✓ Nothing found
<a href="#">adequate (amd64)</a>	vim-doc	finished	<a href="#">irill4-builder1</a>	✓ Nothing found
<a href="#">adequate (amd64)</a>	vim-gnome	finished	<a href="#">irill4-builder1</a>	✓ Nothing found
<a href="#">adequate (amd64)</a>	vim-gnome	pending	not assigned yet	
<a href="#">adequate (amd64)</a>	vim-gtk	finished	<a href="#">irill4-builder1</a>	✓ Nothing found
<a href="#">adequate (amd64)</a>	vim-gtk	pending	not assigned yet	
<a href="#">adequate (amd64)</a>	vim-gui-common	finished	<a href="#">irill4-builder1</a>	✓ Nothing found
<a href="#">adequate (amd64)</a>	vim-gui-common	pending	not assigned yet	
<a href="#">adequate (amd64)</a>	vim-lesstif	pending	not assigned yet	



## Next steps



Next steps :

- Finalize the Debian packages
- Deploy on the new servers
- Relaunch all the workers on the whole Debian Archive
- Send the reports to a visualisation interface based on Firehose, a Fedora XML format  
On going work with Zack & Matthieu



# Future

## TODO in Debile v2.0:

- Debian PPA
- Support others archs (example : arm)
- Plug new analyzers (flake8, etc)
- Ship the slaves as Docker instances
- Reverse dependencies rebuild
- Make it an official service



## Want to contribute ?

<https://alioth.debian.org/projects/pkg-debile/>

<http://anonscm.debian.org/gitweb/?p=pkg-debile/debile.git;a=summary>

<http://anonscm.debian.org/gitweb/?p=pkg-debile/debile-web.git;a=summary>

<irc://irc.oftc.net/#debile>





Any questions ? Remarks ?