debcı and the
Debian Continuous Integration project

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DebConf 2014, Portland, OR, USA
It all started with autopkgtest

- by Ian Jackson
- first prototype from Jan 2006!
- currently maintained by Martin Pitt
One day someone will run this over the entire archive ...

-- Famous last words
Dec 2013: **debcı** is born
Jan 2014: soft open announcement at mini-Debconf France
Apr 2014: GSOC 2014 starts
  - two debcı-related projects
Aug 2014: GSOC 2014 finishes
<table>
<thead>
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<th>Date</th>
<th>Duration</th>
<th>Status</th>
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</table>
Package Testing Data
Pass/Fail

unstable/amd64

Pass Percentage

unstable/amd64
Debian Bug report logs: Bugs submitted by kanashiro.duarte@gmail.com in unstable

Note that people may use different email accounts for different bugs, so there may be other reports filed under different addresses.

- **Outstanding bugs -- Normal bugs; Patch Available** (7 bugs)
- **Outstanding bugs -- Normal bugs; Unclassified** (1 bug)
- **Pending Upload bugs -- Normal bugs** (1 bug)
- **Resolved bugs -- Normal bugs** (12 bugs)

**Outstanding bugs -- Normal bugs; Patch Available (7 bugs)**

- [#756969](https://lists.debian.org/debian-bug-tracking-list/2023/01/msg00057.html) [n+i+1] [crash] crash: Fail of tests in debci (autopkgtest)
- [#757019](https://lists.debian.org/debian-bug-tracking-list/2023/01/msg00058.html) [n+i+] [nsscache] nsscache: Fail of tests in debci (autopkgtest)
- [#757713](https://lists.debian.org/debian-bug-tracking-list/2023/01/msg00059.html) [i+libnotify] libnotify: Fail of tests in debci (autopkgtest)
- [#758130](https://lists.debian.org/debian-bug-tracking-list/2023/01/msg00060.html) [i+srcamidTk] camtk: Fail of tests in debci (autopkgtest)
- [#759413](https://lists.debian.org/debian-bug-tracking-list/2023/01/msg00061.html) [i+r-cran-learnbayes] r-cran-learnbayes: Fail of tests in debci (autopkgtest)
- [#759527](https://lists.debian.org/debian-bug-tracking-list/2023/01/msg00062.html) [i+srcmarisa] marisa: Fail of tests in debci (autopkgtest)
- [#759529](https://lists.debian.org/debian-bug-tracking-list/2023/01/msg00063.html) [i+srcgerris] gerris: Fail of tests in debci (autopkgtest)

**Outstanding bugs -- Normal bugs; Unclassified (1 bug)**

- [#759569](https://lists.debian.org/debian-bug-tracking-list/2023/01/msg00064.html) [i+debc++] [debc] debchk: Unable to see the data of nut package

**Pending Upload bugs -- Normal bugs (1 bug)**


**Resolved bugs -- Normal bugs (12 bugs)**

- [#756156](https://lists.debian.org/debian-bug-tracking-list/2023/01/msg00066.html) [i+srcgnuplot] gnuplot: Fail of tests in debci (autopkgtest)
- [#756971](https://lists.debian.org/debian-bug-tracking-list/2023/01/msg00067.html) [i+srcpygts] pygts: Fail of tests in debci (autopkgtest)
- [#757503](https://lists.debian.org/debian-bug-tracking-list/2023/01/msg00068.html) [i+r-cran-batchjobs] r-cran-batchjobs: Fail of tests in debci (autopkgtest)
- [#757506](https://lists.debian.org/debian-bug-tracking-list/2023/01/msg00069.html) [i+r-cran-chipmunk] r-cran-chipmunk: Fail of tests in debci (autopkgtest)
debci:
http://packages.debian.org/debci

Debian CI:
http://ci.debian.net/
The debci team

- Antonio Terceiro
- Martin Pitt
- Brandon Fairchild
- Lucas Kanashiro
How to help

- Report bugs
- Send patches
- Fix broken test suites
- Add test suites
- Donate hardware (esp. non-x86)
debci architecture
Technology stack

- autopkggtest + backends
  - e.g. schroot, lxc
- languages: Ruby and shell
- has a test suite
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<td>0h 2m 17s</td>
<td>pass</td>
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*dogfooding FTW*
Future

- incoming.d.o now public \o/
- Distributed worker nodes
- migration to Debian infrastructure
Future (2)

- more suites
  - experimental
  - testing
- stable
- stable + backports
- oldstable + lts
- functional upgrade tests
whishlist

- email notifications
- per-maintainer news feed
- «your request here»
Writing tests for your package

a mini tutorial
Reading list

- /usr/share/doc/autopkgtest/README.*
- http://ci.debian.net/doc/
Important points

- test the package as installed
  - don't use code from the source tree
- Please avoid full builds if possible
Basic structure

» debian/tests/control
Tests: foo bar

» debian/tests/foo
#!bin/sh -e
true

» debian/tests/bar
#!bin/sh -e
false
Running tests

# from devscripts
$ sadt

# equivalent
$ adt-run ./ --- null

# against clean system
$ adt-run ./ --- schroot «chroot»
You want an APT proxy (e.g. apt-cacher-ng)
Testbed setup

# easiest way
$ sudo apt install debci
$ sudo debci setup
$ sudo addgroup «you» debci

# running tests
$ adt-run --user debci ./ --- \schroot debci-unstable-amd64
Without trivial wrapper scripts

» debian/tests/control
Test-Command: foo --with-bar

Test-Command: foo --without-bar
Explicit dependencies

» debian/tests/control
Tests: foo bar
Depends: @ # the default

Test-Command: /usr/bin/my-test-runner test/
Depends: @, my-test-runner
Restrictions

» debian/tests/control
Tests: foo bar
Restrictions: needs-root, needs-recommends

Test-Command: /usr/bin/my-test-runner test/
Restrictions: allow-stderr
Common problems

- Missing dependencies
- Missing restrictions
  - assuming root
- Simple programming errors
- Locale assumptions
Real example: ruby-ffi

» debian/tests/control
Tests: smoke

Test-Command: gem2deb-test-runner --autopkgtest
Depends: @, gem2deb-test-runner, build-essential, ruby-rspec
Real example: ruby-ffi (2)

    » debian/tests/smoke
    #!/usr/bin/ruby

    require 'ffi'

    module MyLib
        extend FFI::Library
        ffi_lib 'c'
        attach_function :puts, [ :string ], :int
    end

    MyLib.puts 'Hello, World using libc!'
That's all, folks

*a hands-on adhoc session anyone?*
Contact

*General discussion*

`#debian-qa (OFTC)`

`debian-qa@lists.debian.org`

*debci development*

`#debci (OFTC)`

`autopkgtest-devel@lists.alioth.debian.org`