

Migration to testing and visualization

or how do I beat the freeze deadline...

Cyril Brulebois <cyril@debamax.com>

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Outline

1. Context
2. Migration to testing
3. Visualization
4. Perspectives

Context

Show of hands

Who maintains a package?

Who keeps an eye on the migration status (unstable to testing)?

Who already had packages blocked by some other packages?

Who had troubles getting the whole picture?

Some very quick words (1/2)



DEBAMAX company:

- ▶ Free Software consulting
- ▶ Debian-focussed

Services:

- ▶ systems administration
- ▶ packaging
- ▶ development, integration
- ▶ Debian Installer support

→ <https://debamax.com/>

Some very quick words (2/2)

Weapon of choice: Puppet

- ▶ centralized deployment, maintenance
- ▶ automation
- ▶ problem: monitoring?

Solutions:

- ▶ full-blown solutions: Foreman, Puppet Enterprise
- ▶ home-brew scripts: parse YAML reports, send XMPP notices
- ▶ PuppetBoard: replaces Puppet Dashboard; web interface to PuppetDB

New problem: **PuppetDB is not in testing!**

Migration to testing

Why is a package not migrating to testing?

Many reasons:

- ▶ not old enough
- ▶ new RC bugs
- ▶ unsatisfiable (build-)dependencies
- ▶ piuparts or CI issues
- ▶ kept out on purpose (block)
- ▶ kept out by the Debian Installer release manager (block-udeb)
- ▶ all of the above

What do I do then?

Resources to understand why:

- ▶ Package Tracker → [https://tracker.debian.org/pkg/\\$SOURCE](https://tracker.debian.org/pkg/$SOURCE)
- ▶ **Excuses** page → https://release.debian.org/britney/update_excuses.html

... and follow the links.

Example 1: easy (Tracker)

Debian Package Tracker - gjtl | X | +

https://tracker.debian.org/pkg/averell

averell

incredibly stupid web server

Jump to package page

Profile | Log out

action needed

- Failed to analyze the VCS repository. Please troubleshoot and fix the issue. **high**
- Standards version of the package is outdated. **high**
- Depends on packages which need a new maintainer **normal**

testing migrations

excuses:

- Migrates after: [erlang-cowboy](#)
- Too young, only 1 of 5 days old
- Puparts tested OK - <https://puparts.debian.org/sid/source/a/averell.html>
- Checking build-dependency on amd64
- Not touching package due to block request by freeze (please contact debian-release if update is needed)
- Not considered

news

- [2019-05-23] [Accepted averell 1.2.5-1.1 \(source\) into unstable](#) (Micha David Rosenbaum) (signed by: Gianfranco Costamagna)
- [2018-10-31] [averell REMOVED from testing](#) (Debian testing watch)
- [2016-04-25] [Accepted averell 1.2.5-1 \(source all\) into unstable, unstable](#) (Jean Parpaillon) (signed by: Gianfranco Costamagna)

bugs

all:

links

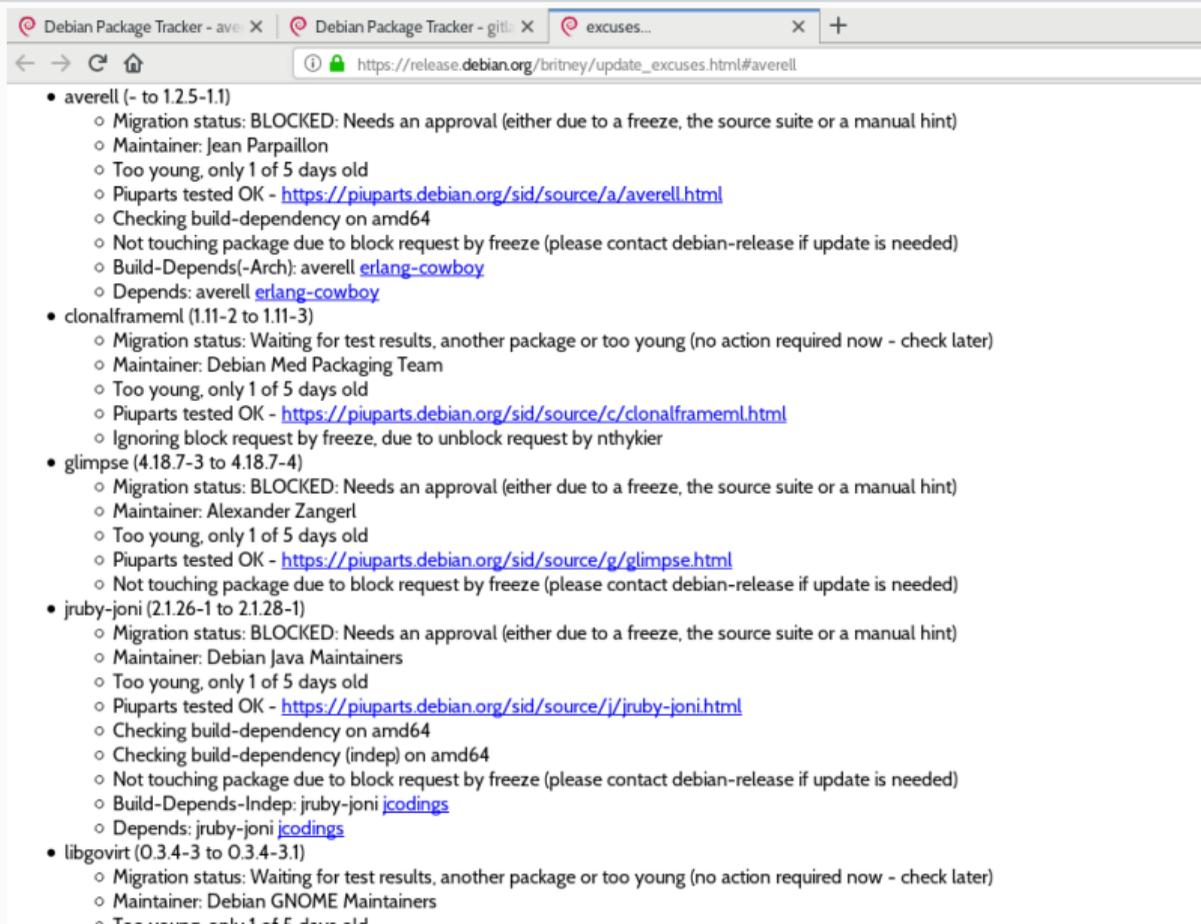
[homepage](#)
[lintian](#)
build: [logs](#),
[popcon](#)
[browse source](#)

search source
[edit tags](#)
[screenshots](#)

ubuntu

version: 1.

Example 1: easy (Excuses)



The screenshot shows a web browser window with three tabs: "Debian Package Tracker - ave...", "Debian Package Tracker - git...", and "excuses...". The address bar displays the URL "https://release.debian.org/britney/update_excuses.html#averell". The main content area lists several Debian packages with their migration status and reasons for being blocked.

- **averell** (- to 1.2.5-1.1)
 - Migration status: **BLOCKED**: Needs an approval (either due to a freeze, the source suite or a manual hint)
 - Maintainer: Jean Parpaillon
 - Too young, only 1 of 5 days old
 - Piuparts tested OK - <https://piuparts.debian.org/sid/source/a/averell.html>
 - Checking build-dependency on amd64
 - Not touching package due to block request by freeze (please contact debian-release if update is needed)
 - Build-Depends(-Arch): averell [erlang-cowboy](#)
 - Depends: averell [erlang-cowboy](#)
- **clonalframeml** (1.11-2 to 1.11-3)
 - Migration status: Waiting for test results, another package or too young (no action required now - check later)
 - Maintainer: Debian Med Packaging Team
 - Too young, only 1 of 5 days old
 - Piuparts tested OK - <https://piuparts.debian.org/sid/source/c/clonalframeml.html>
 - Ignoring block request by freeze, due to unblock request by nthykier
- **glimpse** (4.18.7-3 to 4.18.7-4)
 - Migration status: **BLOCKED**: Needs an approval (either due to a freeze, the source suite or a manual hint)
 - Maintainer: Alexander Zangerl
 - Too young, only 1 of 5 days old
 - Piuparts tested OK - <https://piuparts.debian.org/sid/source/g/glimpse.html>
 - Not touching package due to block request by freeze (please contact debian-release if update is needed)
- **jruby-joni** (2.1.26-1 to 2.1.28-1)
 - Migration status: **BLOCKED**: Needs an approval (either due to a freeze, the source suite or a manual hint)
 - Maintainer: Debian Java Maintainers
 - Too young, only 1 of 5 days old
 - Piuparts tested OK - <https://piuparts.debian.org/sid/source/j/jruby-joni.html>
 - Checking build-dependency on amd64
 - Checking build-dependency (indep) on amd64
 - Not touching package due to block request by freeze (please contact debian-release if update is needed)
 - Build-Depends-Indep: jruby-joni [jcodings](#)
 - Depends: jruby-joni [jcodings](#)
- **libgovirt** (0.3.4-3 to 0.3.4-3.1)
 - Migration status: Waiting for test results, another package or too young (no action required now - check later)
 - Maintainer: Debian GNOME Maintainers
 - Too young, only 1 of 5 days old

Example 2: less easy (Tracker)

Debian Package Tracker - gitlab X +

https://tracker.debian.org/pkg/gitlab

gitlab

git powered software platform to collaborate on code (non-omnibus)

Jump to package | Profile | Log out

action needed

- A new upstream version is available: [11.11.0](#) **high**
- Debc1 reports [failed tests](#) (log) **high**
- 2 bugs tagged patch in the [BTS](#) **normal**
- The package has not entered testing even though the delay is over **normal**
- Depends on packages which need a new maintainer **normal**

testing migrations

excuses:

- Migrates after: [gitlab-shell](#), [golang-gitlab-proto](#), [pdf.js](#), [ruby-asana](#), [ruby-attr-encrypted](#), [ruby-default-value-for-factor](#), [ruby-doorkeeper-openid-connect](#), [ruby-gitlab-sidekiq-fetcher](#), [ruby-google-api-client](#), [ruby-googleauth](#), [ruby-kubeclient](#), [ruby-omniauth-azure-oauth2](#), [ruby-premailer-rails](#), [ruby-seed-fu](#), [ruby-truncato](#)
- 18 days old (5 needed)
- gitlab/armel unsatisfiable Depends: nodejs (>= 6~)
- gitlab/armel unsatisfiable Depends: ruby-hamlit (>= 2.8.8~)
- Updating gitlab introduces new bugs: [#915050](#)
- Piuparts tested OK - <https://piuparts.debian.org/sid/source/g/gitlab.html>
- Checking build-dependency on amd64
- Not touching package due to block request by freeze (please contact debian-release if update is needed)
- Not considered

news

- [2019-05-21] [Accepted gitlab 11.10.4+dfsg-2 \(source\) into experimental](#) (Utkarsh Gupta)
- [2019-05-18] [Accepted gitlab 11.10.4+dfsg-1 \(source\) into experimental](#) (Utkarsh Gupta)
- [2019-05-06] [Accepted gitlab 11.8.9+dfsg-1 \(source\) into unstable](#) (Utkarsh Gupta) (signed by: Praveen Arimbrathodiyil)
- [2019-04-19] [Accepted gitlab 11.8.6+dfsg-1 \(source all\) into unstable](#) (Abhijith PA)
- [2019-03-21] [Accepted gitlab 11.8.3-1 \(source\) into unstable](#) (Sruthi Chandran)
- [2019-03-17] [Accepted gitlab 11.8.2-2 \(source all\) into unstable](#) (Praveen Arimbrathodiyil) (signed by: Praveen Arimbrathodiyil)

11.4.9+dfsg-2~bpo9+1

11.8.9+dfsg-1

11.10.4+dfsg-2

+1: [edit] [view] [delete] [comment]

[edit] [view] [delete] [comment]

[edit] [view] [delete] [comment]

bugs

all:

RC:

I&N:

M&W:

F&P:

patch:

links

homepage

build: [logs](#), [e](#)

popcon

debci

browse source

search source

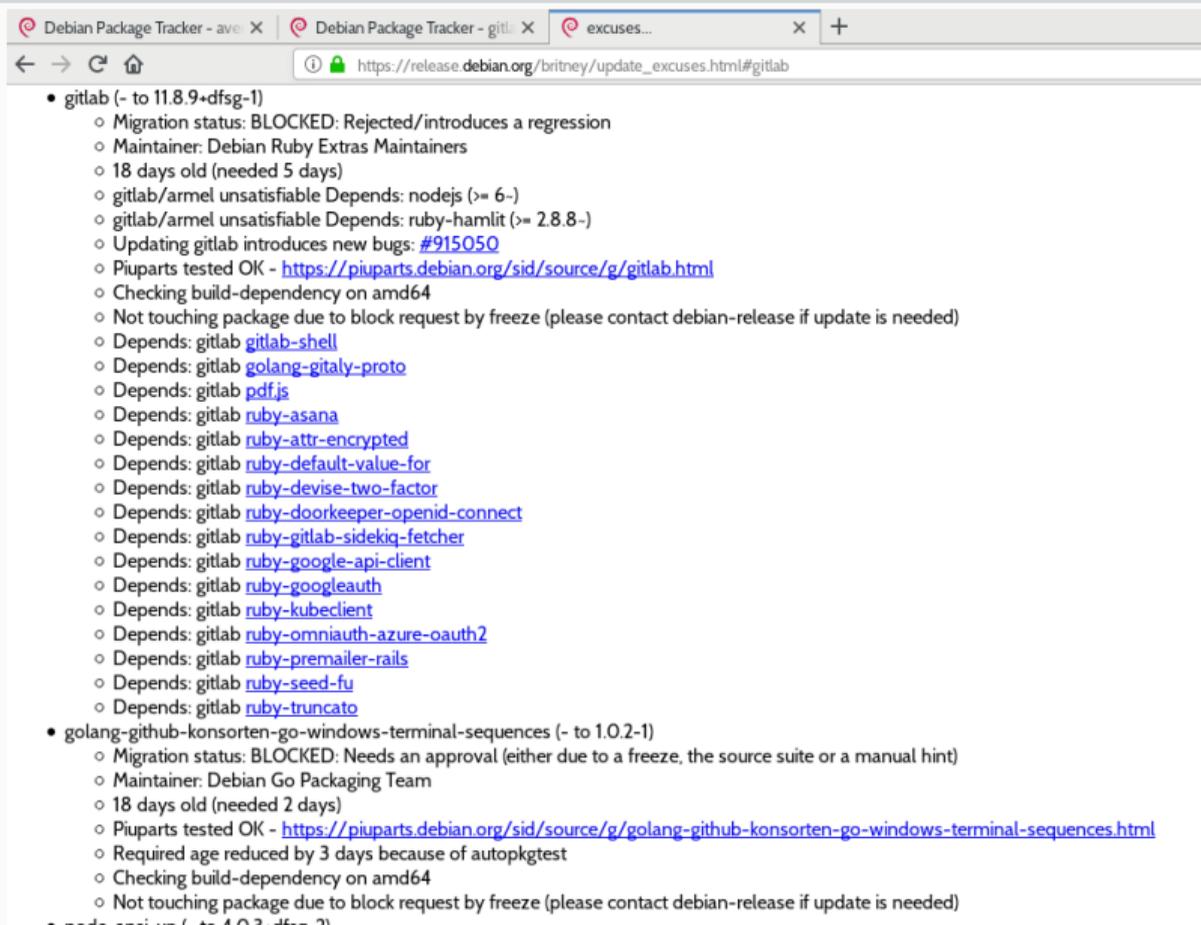
edit tags

security track

screenshots

9/25

Example 2: less easy (Excuses)



The screenshot shows a web browser window with three tabs: "Debian Package Tracker - ave", "Debian Package Tracker - gitlab", and "excuses...". The address bar shows the URL: https://release.debian.org/britney/update_excuses.html#gitlab. The main content area displays a list of package updates that are blocked, with the following details:

- gitlab (- to 11.8.9+dfsg-1)
 - Migration status: BLOCKED: Rejected/introduces a regression
 - Maintainer: Debian Ruby Extras Maintainers
 - 18 days old (needed 5 days)
 - gitlab/armel unsatisfiable Depends: nodejs (>= 6-)
 - gitlab/armel unsatisfiable Depends: ruby-hamlit (>= 2.8.8-)
 - Updating gitlab introduces new bugs: [#915050](#)
 - Piuparts tested OK - <https://piuparts.debian.org/sid/source/g/gitlab.html>
 - Checking build-dependency on amd64
 - Not touching package due to block request by freeze (please contact debian-release if update is needed)
 - Depends: gitlab [gitlab-shell](#)
 - Depends: gitlab [golang-gitaly-proto](#)
 - Depends: gitlab [pdf.js](#)
 - Depends: gitlab [ruby-asana](#)
 - Depends: gitlab [ruby-attr-encrypted](#)
 - Depends: gitlab [ruby-default-value-for](#)
 - Depends: gitlab [ruby-devise-two-factor](#)
 - Depends: gitlab [ruby-doorkeeper-openid-connect](#)
 - Depends: gitlab [ruby-gitlab-sidekiq-fetcher](#)
 - Depends: gitlab [ruby-google-api-client](#)
 - Depends: gitlab [ruby-googleauth](#)
 - Depends: gitlab [ruby-kubeclient](#)
 - Depends: gitlab [ruby-omniauth-azure-oauth2](#)
 - Depends: gitlab [ruby-premailer-rails](#)
 - Depends: gitlab [ruby-seed-fu](#)
 - Depends: gitlab [ruby-truncato](#)
- golang-github-konsorten-go-windows-terminal-sequences (- to 1.0.2-1)
 - Migration status: BLOCKED: Needs an approval (either due to a freeze, the source suite or a manual hint)
 - Maintainer: Debian Go Packaging Team
 - 18 days old (needed 2 days)
 - Piuparts tested OK - <https://piuparts.debian.org/sid/source/g/golang-github-konsorten-go-windows-terminal-sequences.html>
 - Required age reduced by 3 days because of autopkgtest
 - Checking build-dependency on amd64
 - Not touching package due to block request by freeze (please contact debian-release if update is needed)

But what if there are too many packages involved?

Visualization

Solutions

Solution 1: pen and paper

Solution 2: manual Graphviz

Solution 3: automated Graphviz

Solution: manual Graphviz

Simple algorithm:

- ▶ start from your favorite package
- ▶ add links to all involved packages
- ▶ iterate on each such package, recursively
- ▶ gotcha: keep track of processed packages!

Manual Graphviz: step 1

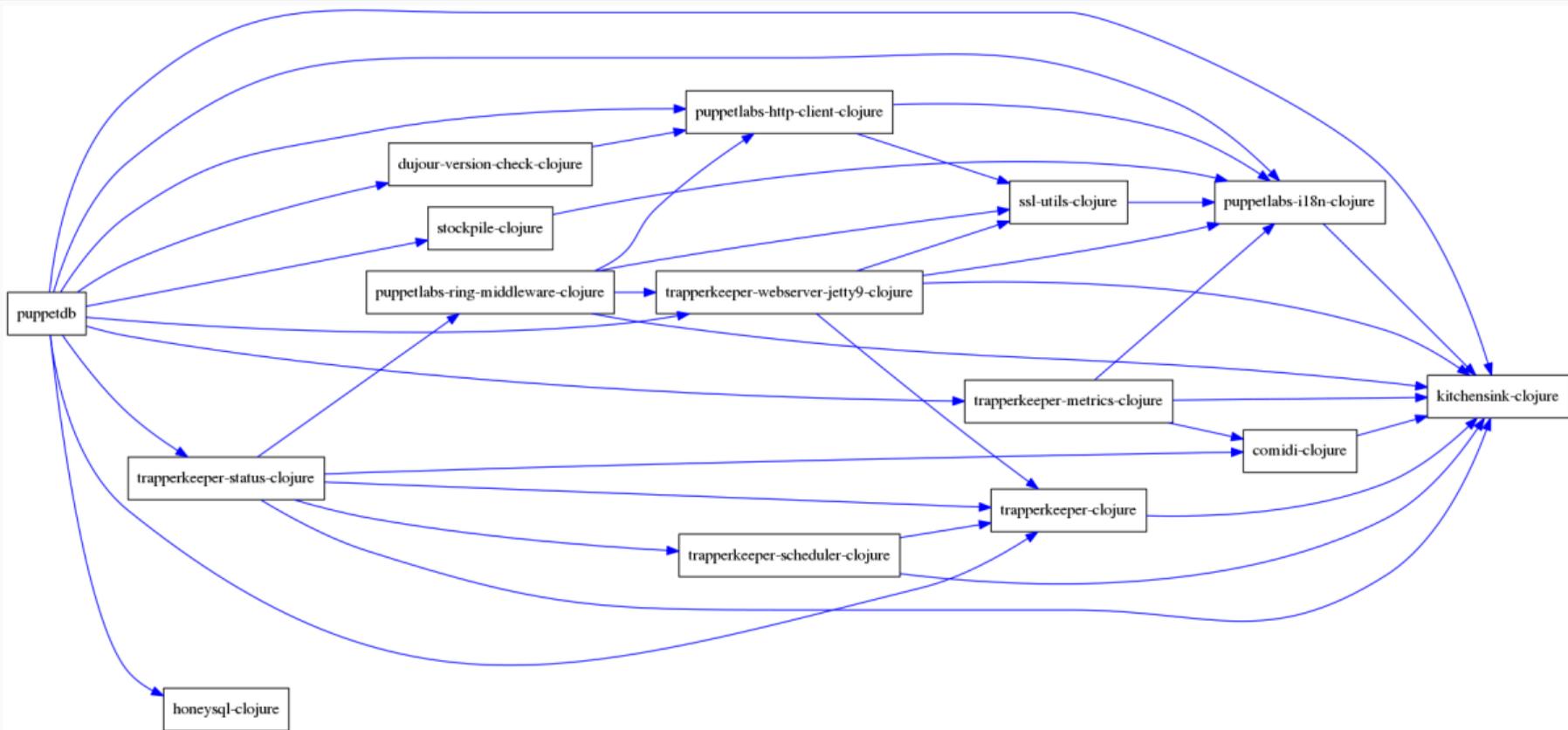
```
digraph {
  rankdir=LR;
  node[shape=box];

  "puppetdb" -> "dujour-version-check-clojure" [color=blue];
  "puppetdb" -> "honeysql-clojure" [color=blue];
  "puppetdb" -> "kitchensink-clojure" [color=blue];
  "puppetdb" -> "puppetlabs-http-client-clojure" [color=blue];
  "puppetdb" -> "puppetlabs-i18n-clojure" [color=blue];
  "puppetdb" -> "stockpile-clojure" [color=blue];
  "puppetdb" -> "trapperkeeper-clojure" [color=blue];
  "puppetdb" -> "trapperkeeper-metrics-clojure" [color=blue];
  "puppetdb" -> "trapperkeeper-status-clojure" [color=blue];
  "puppetdb" -> "trapperkeeper-webserver-jetty9-clojure" [color=blue];
  ...
}
```

Manual Graphviz: step 2

```
...  
  
"dujour-version-check-clojure"  -> "puppetlabs-http-client-clojure" [color=blue];  
  
"puppetlabs-http-client-clojure" -> "puppetlabs-i18n-clojure"       [color=blue];  
"puppetlabs-http-client-clojure" -> "ssl-utils-clojure"             [color=blue];  
  
"ssl-utils-clojure"              -> "puppetlabs-i18n-clojure"       [color=blue];  
  
"puppetlabs-i18n-clojure"        -> "kitchensink-clojure"          [color=blue];  
  
"stockpile-clojure"              -> "puppetlabs-i18n-clojure"       [color=blue];  
  
"trapperkeeper-clojure"         -> "kitchensink-clojure"          [color=blue];  
  
...
```

Manual Graphviz: step \$T00_MANY (36 transitions total)



Great overview, job done?

Next steps:

- ▶ check RC / FTBFS bugs for involved packages, and fix or downgrade
- ▶ common bugs: test failures for Clojure packages
- ▶ after a few days: packages fixed and RC bugs closed/downgraded

What now? Let's do the same dance again?!

Solution 3: automated Graphviz

Despite the urgency (beat the freeze): let's script it!

Preliminary work (years ago):

- ▶ based on parsing `update_excuses.html`
- ▶ parsing HTML
- ▶ parsing non-stable strings

→ time to switch to **machine-readable** things!

Machine-readable excuses (1/3)

→ <http://release.debian.org/britney/excuses.yaml> (20190201000001.yaml)

```
- dependencies:
  migrate-after:
  - dujour-version-check-clojure
  - honeysql-clojure
  - kitchensink-clojure
  - puppetlabs-http-client-clojure
  - puppetlabs-i18n-clojure
  - stockpile-clojure
  - trapperkeeper-clojure
  - trapperkeeper-metrics-clojure
  - trapperkeeper-status-clojure
  - trapperkeeper-webserver-jetty9-clojure
excuses:
- 'Updating puppetdb introduces new bugs: <a href="https://bugs.debian.org/878193">#878193</a>'
- Piuparts tested OK - <a href="https://piuparts.debian.org/sid/source/p/puppetdb.html">https://p
- Checking build-dependency on amd64
is-candidate: false
...
```

Machine-readable excuses (2/3)

```
...
item-name: puppetdb
maintainer: Puppet Package Maintainers
migration-policy-verdict: REJECTED_PERMANENTLY
new-version: 4.4.1-2
old-version: '-'
policy_info:
  age:
    age-requirement: 5
    current-age: 113
    verdict: PASS
  autopkgtest:
    puppetdb/4.4.1-2:
      amd64:
        - ALWAYSFAIL
        - https://ci.debian.net/data/autopkgtest/testing/amd64/p/puppetdb/1126285/log.gz
        - https://ci.debian.net/packages/p/puppetdb/testing/amd64
      verdict: PASS
...
```

Machine-readable excuses (3/3)

```
...
  block:
    verdict: PASS
  build-depends:
    check-build-depends-on-arch: amd64
    verdict: PASS
  built-using:
    verdict: PASS
  piuparts:
    piuparts-test-url: https://piuparts.debian.org/sid/source/p/puppetdb.html
    test-results: pass
    verdict: PASS
  rc-bugs:
    shared-bugs: []
    unique-source-bugs:
      - '878193'
    unique-target-bugs: []
    verdict: REJECTED_PERMANENTLY
source: puppetdb
```

See summary page and specific graphs in a browser nearby

Perspectives

Next steps

Open questions/problems:

- ▶ put more data on the graphs
 - ▶ RC bugs
 - ▶ aging
 - ▶ hints by release managers
- ▶ clickable/zoomable/expendable format
- ▶ accessibility

Infrastructure:

- ▶ integration: <https://release.debian.org/> & <https://tracker.debian.org/>
- ▶ source/binary mapping automation: <https://snapshot.debian.org/>

But what happened to puppetdb?

It's in!

```
$ rmadison -s testing,unstable puppetdb
puppetdb | 6.2.0-3 | testing | source, all
puppetdb | 6.2.0-3 | unstable | source, all
```

My beloved supporting cast:

- ▶ Santiago Vila: connecting dots with FTBFSes
- ▶ Elana Hashman, Clojure team: happy to get bugfixes
- ▶ Emmanuel Bourg, security team: tika
- ▶ Apollon Oikonomopoulos, release team: cherry on the cake, puppetdb!
 - ▶ 2019-02-08: upload
 - ▶ 2019-02-12: soft freeze
 - ▶ 2019-02-11: migration!

Thanks for your attention!

More Debian-related write-ups and news:

- ▶ <https://debamax.com/blog/>
- ▶ Twitter : @debamax et @CyrilBrulebois

Questions are welcome!