

Debian Science

Umbrella for scientific packages or dustbin for scientific code

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Overview

- 1 Current status
- 2 Better science support in Blends
- 3 Problems and suggested solutions

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History of Debian Science

- DebConf 5: "Using Debian for science research" Helen Faulkner (video)
- Started simply with a mailing list
- Competing packaging teams evolved due to lack of coordination
- Today merged to Debian Science packaging team
- Debian Science is using Blends framework since 2008

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Debian Pure Blends

- Specific adaptations to certain workfields
- Reside completely inside Debian (**no derivative**)
- Form packaging team around specific topic
- Advertising and QA of packages in web sentinel

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Umbrella for potetial specific Blends

- "Science" in itself is to wide area
- Enable spin-offs of more specific Blends
- Sustainable Blend needs a critical mass of
 - packages
 - maintainers doing the actual work
- Blends framework should help to create that critical mass

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Specific scientific Blends

[Debian Med](#) Strong focus on Microbiology
[Debian GIS](#) Geographical Information Systems
[DebiChem](#) Chemistry
[Debian Astro](#) Astronomy

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Why not more?

- Idea of Debian Pure Blends needs some time to penetrate
- Advantages are not widely known
- In my talk @ DebConf 13 Asheesh Laroia (in [video](#) at about minute 38):
"We should try hard to run around asking users and developers: Is there a topic you care about create a Blend today."
- Nobody likes to do the grunt work
- Idea for of the umbrella for spin-offs should be better advertised

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Debian Science Blend

- Blends provide straightforward access to package pool
- No need for searching interesting packages
- Engagement for packaging more scientific Free Software
- Not yet implemented but possible
 - Further add-ons like user menus, preconfiguration, ...
 - Installer with adapted package selection

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Web sentinel providing

- Tasks web pages (featuring citations!)
- Specific bugs overview
- Status in releases including backports and Ubuntu (=Thermometer)
- Maintainer stats from teammetrics

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Rise attractivity for upstream

- The difference between a single maintainer and a Blend is like approaching upstream as
 - a. "random" person or
 - b. member of Debian Science
- Advertise upstream publications
- Link to registration
- Provide popcon stats
- Giving credit to upstream

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Science specific metapackages

- Brain-computer interface (science-bci)
- Biology (science-biology)
- Chemistry (science-chemistry)
- Economics (science-economics)
- Electronics (science-electronics)
- Electrophysiology (science-electrophysiology)
- Engineering (science-engineering)
- Financial engineering (science-financial)
- Geography (science-geography)
- Geometry (science-geometry)
- High Energy Physics (science-highenergy-physics)
- Linguistics (science-linguistics)

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Science specific metapackages (continued)

- Logic (science-logic)
- Machine Learning (science-machine-learning)
- Mathematics (science-mathematics)
- Meteorology (science-meteorology)
- Nanoscale Physics (science-nanoscale-physics)
- Cognitive Neuroscience (neuroscience-cognitive)
- Modeling of neural systems (science-neuroscience-modeling)
- Numerical Computation (science-numericalcomputation)
- Physics (science-physics)
- Psychophysics (science-psychophysics)
- Robotics (science-robotics)
- Social (science-social)

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Common science utilities

- Data acquisition (science-dataacquisition)
- Device (science-devices)
- Distributed Computing (science-distributedcomputing)
- Image analysis (science-imageanalysis)
- Presentation (science-presentation)
- Simulations (science-simulations)
- Statistics (science-statistics)
- Tools (science-tools)
- Typesetting (science-typesetting)
- Viewing (science-viewing)
- Workflow (science-workflow)

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Development

- Data acquisition development (science-dataacquisition-dev)
- Engineering Development (science-engineering-dev)
- High Energy Physics Development (science-highenergy-physics-dev)
- Image analysis development (imageanalysis-dev)
- Mathematics development (science-mathematics-dev)
- Meteorology development (science-meteorology-dev)
- Nanoscale Physics Development (science-nanoscale-physics-dev)
- Physics Development (science-physics-dev)
- Robotics Development (science-robotics-dev)
- Viewing Development (science-viewing-dev)

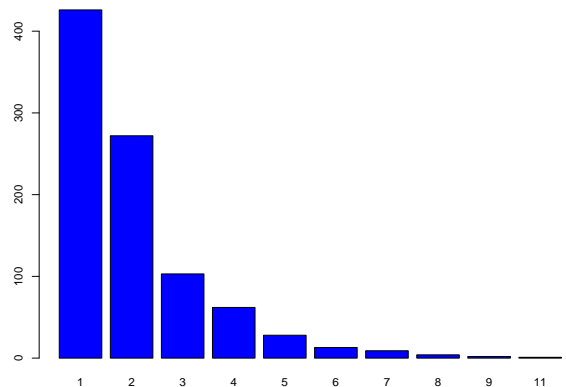
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Developers not aware of Debian Science

- Single maintainers ITPs of scientific software
 - Read ITPs and redirect to Debian Science team
- Single maintainers orphaned packages featuring RC bugs
 - Ping maintainer, may be team hijack package
- Developers don't care about tasks
 - UDD query what packages are not mentioned in tasks

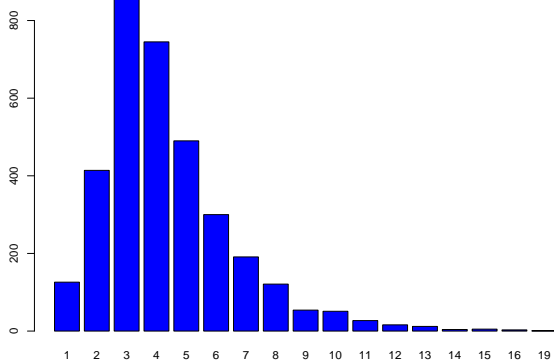
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Bad maintainer per package relation



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Compare the graph with the one from pkg-perl team



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Short term contribution of scientists

- Scientific work is driven by projects with limited time frame
- Quite specific software frequently packaged by single maintainer (example: paw+cernlib)
- Software frequently hard to package (old libraries, FORTRAN, etc.)
 - Try hard to get more than one Uploader

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Team orphaned packages

- Scientific work is driven by projects with limited time frame
- Quite specific software frequently packaged by single maintainer (example: paw+cernlib)
- Software frequently hard to package (old libraries, FORTRAN, etc.)
- Try to salvage un(der)-maintained packages
- Team orphaned packages are easier to update
- Team hijacks

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Strengthening team by sponsoring

- *Sponsoring of Blends* (SoB)
- Blends concept remains widely unknown amongst newcomers (but also amongst DDs)
- Newcomers might desperately seek for sponsors and simply do not know how to find one
- Kill two birds with one stone: Get the package sponsored after proving that you understood the Blends techniques

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SoB results

- SoB was heavily used by Debian GIS team - now sponsees are DDs/DMs themselves
- It helped to drastically reducing waiting time for very active Debian Science members
- Watching Wiki page and take mostly immediate action
- Lurking on relevant mailing lists as well on debian-mentors to catch maintainers in need of a sponsor
- If you notice a candidate for SoB please redirect them to me

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Is Debian Science doing bad in QA?

- Debian Science team was blamed about not caring about bugs
- High number of packages leaves wrong impression
- Team policy permits anybody to do team uploads
- If you are really bored by a bug in Debian Science simply use

```
dch -team
```

and fix it.
- Barrier is lower than NMU

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What to do next?

- If you are maintaining some scientific software, please contact Debian Science on the mailing list and join the team.
- If you intend to package new scientific software do it right inside the team.
- If you found some DDs maintaining similar software like you leave the umbrella and create your own Blend.

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This talk is available at
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