Debian Science

Umbrella for scientific packages or dustbin for scientific code

Andreas Tille

DebConf 17

Montreal, 6th August 2017
Overview

1. Current status

2. Better science support in Blends

3. Problems and suggested solutions
Overview

1. Current status

2. Better science support in Blends

3. Problems and suggested solutions
Overview

1. Current status

2. Better science support in Blends

3. Problems and suggested solutions
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
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
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
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
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
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
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
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
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
"Science" in itself is too wide an 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
Umbrella for potential specific Blends

- "Science" in itself is too wide an 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

Andreas Tille (DebConf 17) Debian Science Montreal, 6th August 2017
Umbrella for potential specific Blends

- "Science" in itself is too wide an 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
Umbrella for potential specific Blends

- "Science" in itself is too wide an 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
Umbrella for potential specific Blends

- "Science" in itself is too wide an 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
"Science" in itself is too wide an 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
Specific scientific Blends

Debian Med  **Strong focus on Microbiology**
Debian GIS  Geographical Information Systems
DebiChem  Chemistry
Debian Astro  Astronomy
Specific scientific Blends

Debian Med  **Strong focus on Microbiology**
Debian GIS  **Geographical Information Systems**
         DebiChem  Chemistry
Debian Astro  Astronomy
Specific scientific Blends

Debian Med  Strong focus on Microbiology
Debian GIS  Geographical Information Systems
DebiChem  Chemistry
Debian Astro  Astronomy
Specific scientific Blends

Debian Med  Strong focus on Microbiology
Debian GIS  Geographical Information Systems
DebiChem  Chemistry
Debian Astro  Astronomy
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
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
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
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
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
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
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
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
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
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
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
Web sentinel providing

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

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

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

- Tasks web pages (featuring citations!)
- Specific bugs overview
- Status in releases including backports and Ubuntu (=Thermometer)
- Maintainer stats from teammetrics
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
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
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
Rise attractiveness 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
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
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
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
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)
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)
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)
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)
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
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
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
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
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
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
Bad maintainer per package relation
Compare the graph with the one from pkg-perl team
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
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
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
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
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
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

Andreas Tille (DebConf 17)
Debian Science
Montreal, 6th August 2017
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
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
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
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
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

Andreas Tille (DebConf 17)
Strengthening team by sponsoring

- **Sponsering 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
Strengthening team by sponsoring

- **Sponsering 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
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
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
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
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
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
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

Andreas Tille (DebConf 17)
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
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
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
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
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
  
  \[ \text{dch } -\text{team} \]

  and fix it.

- Barrier is lower than NMU
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.

Andreas Tille (DebConf 17) Debian Science Montreal, 6th August 2017
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.

Andreas Tille (DebConf 17)
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.
This talk is available at

http://people.debian.org/~tille/talks/

Andreas Tille <tille@debian.org>