

Debugging packages in Debian

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Why do we need debug packages?

- Debug symbols are stripped from binaries to **save space**
- Using **gdb** to debug a program
- Getting **meaningful backtraces** in crash reports
- Debugging a live production system with **user-space probing** (e.g. SystemTap)



Current situation

- Debugging packages are prefixed with `-dbg`
- Most debug packages are for **libraries**
- Package maintainer must **explicitely** create those packages (we have more than 2000 of them now). That is usually quite easy:
 1. Ensure the package is built with debug symbols (`-g`)
 2. Declare debug package in `debian/control`
 3. Call `dh_strip --dbg-package=foo-dbg`



If that's easy, why not automate it?



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The Ubuntu case

- Provide debug packages for **all arch-dependent packages** in a **dedicated repository**
- `pkg-create-dbgsym` package provides an automatic wrapper around `dh_strip`
- **PPA** can optionally provide debug packages too
- If a package ships a `-dbg` package, the debug package will just depends on it



The Fedora case

- Provide debug packages for **all arch-dependent packages** in a **dedicated repository**
- **Source code** is provided in debug packages
- `redhat-rpm-config` will add some RPM macros to automatically generate **debuginfo** packages



Haven't we already discussed that?



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Prior efforts

- A prior implementation with `debug.debian.net`. Not available anymore. Used a whole archive rebuild to provide debug symbols.
- Bug [#508585](#). No much discussion.
- A first [discussion](#) started by Steve McIntyre about the size of `-dbg` packages. Everybody agreed on the usefulness of providing debug packages. Some concerns for space (may be mitigated with the use of XZ compression).
- A [wiki page](#) by Emilio Pozuelo. Good summary. No discussion.
- Another [discussion](#) I started, focused on automatic debug packages. Again, everybody agreed on the usefulness.



What are we waiting for?



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Task list

- Teach `dh_strip` to build debug packages automatically (from a certain compat version, using a dedicated flag or if some special file is present)
- Adapt tools to handle those packages (the same way they handle **udebs**):
 - `apt` and friends
 - `sbuild`, `pbuilder`, ...
 - `dak` and the like (`reprepro`, ...)
- Setup a separate repository (with a **different mirror policy**)
- Try to not harm [reproducible build](#) project by normalizing the debug paths



Not on the task list

- Do source uploads
- Try to have 100% coverage. `debhelper` only is good enough



Thoughts?

