Debian Packages

Evan Broder
broder@mit.edu
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Setting up

- linerva or XVM
- `aptitude install build-essential cdbs debhelper wdiff devscripts dh-make dpatch dpkg-awk dpkg-dev equivs fakeroot lintian quilt`
- `debian-el devscripts-el dpkg-dev-el`

.deb file format

A .deb file is an ar archive of two .tar.gz files.

- ▶ The control information (accessed with dpkg -e)
- ▶ A filesystem tree to be unpacked (accessed with dpkg -x)

The control information

- control file (contains package system metadata: dependencies, description, priority, section, etc.)
- maintainer scripts (preinst,postinst,prerm,postrm), run by dpkg when installing/uninstalling the package.
- conffiles file (lists configuration files and their md5sums)
- md5sums file (contains the md5sums of non-configuration files)

Debian source packages

Most Debian source packages consist of 3 files.

- ▶ A .orig.tar.gz file, which contains the upstream source.
- ▶ A .diff.gz file, a patch that contains the Debian changes (including the debian/ directory)
- ▶ A .dsc file, which contains the metadata about the source package: it's build dependencies, version, architecture, maintainer, etc., and the md5sums of the other files.

The debian/ directory

- debian/compat: debhelper compatability level. Currently 6.
- debian/copyright: human-readable copyright information.
- debian/changelog: authoritative source of version information.
- debian/control: metadata describing the packages built.
- debian/rules: executable makefile for that builds package
- Potentially, various other files; maintainer scripts to be installed, init scripts, files telling debhelper how to install things, patches applied during the build process, etc.

The debian/rules file

The rules file is where all the work happens.

- ▶ Older debhelper-based debian/rules files are around 100 lines long.
- ▶ We'll use CDBS, which makes typical rules files under 10 lines

The rest of this session is organized as follows:

- ► Examples
- ► Exercises (/mit/sipb-iap/www/debpackaging/EXERCISES)