

Piuparts Broken Symlink Analysis

The Debian [Piuparts](#) program performs installation, upgrade, and removal tests against packages in the repositories. The [piuparts.debian.org](#) website provides a resource for collecting and reporting results of these tests.

The `sid` "successfully tested" list has a "[but logfile contains broken symlinks](#)" sublist. As of this writing (Nov 2011) 30,678 of the 31,352 'successfully tested' packages in `sid` report at least one broken symlink, flagged as a warning.

This script will collect broken symlink messages from Piuparts log files, and report the broken symlinks found, with a count of packages reporting each symlink.

This is a typical output, based on 30623 log files containing broken symlinks, collected 11/13/11:

```
# piubsl.py linkreport db
count broken symlink
29706 /etc/motd -> /var/run/motd
6382 /etc/fonts/conf.d/30-defoma.conf -> /var/lib/defoma/fontconfig.d/fonts.conf
877 /usr/lib/python2.6/dist-packages/python-support.pth -> ../../pymodules/python2.6/.path
874 /usr/lib/python2.7/dist-packages/python-support.pth -> ../../pymodules/python2.7/.path
757 /usr/share/pyshared/numpy/core/include/numpy/nummacro.h -> ../../../numarray/numpy/nummacro.h
757 /usr/share/pyshared/numpy/core/include/numpy/ieeespecial.h -> ../../../numarray/numpy/ieeespecial.h
757 /usr/share/pyshared/numpy/core/include/numpy/numcomplex.h -> ../../../numarray/numpy/numcomplex.h
757 /usr/share/pyshared/numpy/core/include/numpy/libnumarray.h -> ../../../numarray/numpy/libnumarray.h
757 /usr/share/pyshared/numpy/core/include/numpy/arraybase.h -> ../../../numarray/numpy/arraybase.h
757 /usr/share/pyshared/numpy/core/include/numpy/cfunc.h -> ../../../numarray/numpy/cfunc.h
536 /usr/lib/gcc/x86_64-linux-gnu/4.6/4.6 -> 4.6
517 /usr/share/doc/libgtk-3-0/README.gz -> ../libgtk-3-common/README.gz
399 /usr/share/dict/words -> /etc/dictionaries-common/words
393 /usr/lib/ispell/default.aff -> /etc/dictionaries-common/default.aff
393 /usr/lib/ispell/default.hash -> /etc/dictionaries-common/default.hash
368 /usr/share/man/man1/2to3.1.gz -> 2to3-2.6.1.gz
362 /usr/include/python2.6/numpy -> ../../lib/pymodules/python2.6/numpy/core/include/numpy
362 /usr/include/python2.6_d/numpy -> ../../lib/pymodules/python2.6/numpy/core/include/numpy
335 /usr/include/python2.7_d/numpy -> ../../lib/pymodules/python2.7/numpy/core/include/numpy
335 /usr/include/python2.7/numpy -> ../../lib/pymodules/python2.7/numpy/core/include/numpy
128 /usr/lib/xulrunner-1.9.1/dictionaries -> ../../share/hunspell
107 /usr/share/doc/libgtk-3-bin/README.gz -> ../libgtk-3-common/README.gz
91 /usr/share/doc/python-simplejson/_static/sidebar.js -> ../../../javascript/sphinxdoc/1.0/sidebar.js
...
```

Usage

Main program help:

```
# piubsl.py -h
usage: piubsl.py [-h] [-v] {initdb,addlog,linkreport,linkdetail} ...
```

Analyze Piuparts broken symlinks

Using log files available under e.g.

http://piuparts.debian.org/sid/broken_symlinks_issue.html

analyze the frequency and source of "Broken symlink" warnings

positional arguments

{initdb,addlog,linkreport,linkdetail}

command help

initdb initialize the database file

addlog add a log file to the database

linkreport print a summary of broken symlinks found

```
linkdetail          print a summary of packages related to a broken link

optional arguments:
  -h, --help          show this help message and exit
  -v

use 'piubsl.py <cmd> -h for command-specific help
```

Initialize a database:

```
# piubsl.py initdb -h
usage: piubsl.py initdb [-h] dbfile

Initialize the sqlite database file to contain symlink stats

positional arguments:
  dbfile          the name of the database file

optional arguments:
  -h, --help      show this help message and exit
```

Add a log to the database:

```
# piubsl addlog -h
usage: piubsl.py addlog [-h] dbfile [logfiles [logfiles ...]]

parse a single Piuparts log file into the database

positional arguments:
  dbfile          the name of the database file
  logfiles        the name of the logfile (omit for stdin)

optional arguments:
  -h, --help      show this help message and exit
```

And output the link report:

```
# piubsl linkreport -h
usage: piubsl.py linkreport [-h] dbfile

Print a report of broken symlinks found in the log files

positional arguments:
  dbfile          the name of the database file

optional arguments:
  -h, --help      show this help message and exit
```