Subject: Package management for non-system locations
Posted by Christopher Huhn on Tue, 16 Aug 2005 17:09:29 GMT
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Simon Lang, who coordinates the Hades software in /misc/hadessoftware, rose the issue of using a package management system for the software management.

After thinking about it for a while, I realized this problem might be tackled on a larger scale as it fits more use cases i.e. to clean up the software installation mess in /usr/local.

I do not have any good solution yet, but these may be requirements for a package management system that installs to non-system locations:

   Package installation shall be possible with normal user privileges
   All parts of a software package must be installed below a single directory tree. No files should require to be installed in (/usr)/bin, /etc, /var or the like
   Multiple versions of the same software shall be installed in different trees at the same time without interference/conflicts
   The package database should also reside below this directory
   Features as known from normal package managers should be available:

 List package contents
 List to which package a specific file belongs
 Tell if a file has been modified since installation
 Obey defined package dependencies

 Maybe wishlist: allow interdependencies between different installation trees (maybe troublesome, but at least explicit)

My ideas on this matter by now are:

Maybe there exists a solution (at another HEP institute)?
Maybe dpkg can be modified to run no-root-privileges chroot or the like?
Tackle this problem with a version control system and make heavy use of tagging and trunking? This may solve at least some issues.
Maybe I install software you (we?) package into system locations instead? This is done by us anyhow, but multiple parallel versions of stuff are generally troublesome.

Did I forget something important?

What do you think?

Subject: Re: Package management for non-system locations
Posted by Christopher Huhn on Wed, 17 Aug 2005 09:11:13 GMT
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Just two potentially interessting links:

http://klik.atekon.de/ - Point'n'click installer for Knoppix
http://smartpm.org/ - Unified package manager for different formats

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Subject: Re: Package management for non-system locations
Posted by Christopher Huhn on Wed, 17 Aug 2005 11:21:00 GMT
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Håkan Johansson wrote on 17.08.2005 12:31 (by email) Hello,

I never thought of that, but it could be useful since it somehow would formalise the build process.

Two problems would be that if one want it on an odd kind of machine, one would need to have the package handling environemnt for that. One example is a small axis box we tested (borrowed from hades). Basically a small computer with serial and ethernet interface, usually with some other custom I/O also. This comes with it's own cross-built environment and is not compatible with any other known distribution.
The other thing is that one gets another step inbetween source and running executables.

The problems above are however more important for hardware related stuff.
For pure software (which also is used by more people), and that usually would run on a standard machine, it makes definately sense to be able to install locally managed packages and by the user.

I'v not tried, but what does dpkg --root=... --admindir=... --instdir=... do for us?

I suppose I should have put this into the forum instead. Feel free.