Management of Open Source tools in a heterogeneous environment

There’s more to Open Source than just Linux!

Open Source tools:

- Very useful
- Used on a lot of different UNIX systems
- Many people want them.

Small System Solution

Put everything in `/usr/local/bin.`

You start with g++ and perl. Then you add

- groff
- TeX
- Ghostscript
- gdb
- GNU diff
- gawk
- bash
- *5000 other packages*

Separate out the tools

Put each tool in `/open_bin/`*`<package>`*

Each directory should:

- Contain the Software
- Have a `cshrc` or `profile` for initialization.
- Contain support information

Platform Issues

- Use a different directory for each platform.
- Define a standard set of supported platforms

  (It’s nice to define a standard set of build machines too!)

Source Files

- Put source files in a separate place
- *Modify the source as little as possible.*

  Discourage tweaks and enhancements!
- Store the tarball and scripts or a `Makefile` to create and install the software.

Versions

or

"My source compiles fine with gcc 1.3, why'd you switch to this new version"

- Use `/open_bin/<`*`package`*`>/<`*`version`*`>` for specific versions.
- Put a `cshrc` and `profile` in each.
- Have the top level `cshrc` and `profile` point to the last *stable* version.

Other Issues

- Privileges
- Security
- Disk Space

Sample Open Source Policy

If you want an open source tool to be added to the standard set of distributed tools, the following criteria must be met:

1) The tool must be useful to more than one department

2) A department account must be provided to which to charge the disk space allocation for this tool.

3) A person must be available to install and maintain the tool.

4) Sufficient time must be allocated to do the job properly.

If users want the system administration department to install and maintain a free tool, then they must convince the head of Computing Services that this tool is useful to the company as a whole.

Before installing any free tool, users must send E-Mail to “tool_admin” so that they can setup the disk space.

Source Files

Place source files in the directory, /open_src/<pgk>, where <pgk> is the name of the package your are installing.

Each <pkg> directory must contain

1) The original tar ball, (or whatever media the software was downloaded to.)

2) A script or Makefile that takes the tar ball, unpacks it, builds the package, and performs installation.

3) Any local patch files.

   Note: Hand configuration and patching is strongly discouraged. Everything should be automatic and under control of the Makefile or script.

Building

The standard supported platforms are:

O/S	Build host
Solaris 6	sunrise
HP-UX	puck
SGI	videotape

Note: The nightly distribution scripts copy the files from /usr/local on these machines to the various servers. Changes you make today will get to the users tomorrow.

Installation

Install packages in the directory, /share/open_bin/<pkg> where <pkg> is the name of the package.

Each package will include:

1) A copy of the description file

2) A cshrc file that sets up the environment for csh and tcsh users.

3) A profile file that sets up the environment for sh, bash, and ksh users.

4) The tool itself.

Versions

Keeping more than one version of a open source tool around is discouraged. When it must be done, store the package in /share/open_bin/<pkg>/<version>.

Each <version> directory should have it’s own “cshrc” and “profile” files. In addition top level “cshrc” and “profile” files should be stored in /share/open_bin/<pkg>, which points to the preferred version. These files can be updated as new versions become available.