A streamlined and fully compatible Linux Filesystem Hierarchy

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etc - host only configuration (possibly ro)
var - host only state/data (rw)
usr - system/distribution (ro by default, shareable)
Multi-lib

- future-proof multilib, tri/quad-quad-arch layout
- strict separation of shared libraries and other lib directory content

```
usr
|-- lib
|  |-- i386-linux-gnu
|     |-- ld-2.15.so
|     |-- ld-linux.so.2 → ld-2.15.so
|     |-- libc-2.15.so
|     | `-- libc.so.6 → libc-2.15.so
|  |-- ld-linux.so.2 → i386-linux-gnu/ld-linux.so.2
|  |-- x86_64-linux-gnu
|      |-- ld-2.15.so
|      |-- ld-linux-x86_64.so.2 → ld-2.15.so
|      |-- libc-2.15.so
|      | `-- libc.so.6 → libc-2.15.so
|     `-- x86_x32-linux-gnu
|        |-- ld-2.15.so
|        |-- ld-linux-x86_x32.so.2 → ld-2.15.so
|        |-- libc-2.15.so
|        | `-- libc.so.6 → libc-2.15.so
|     `-- lib64 → lib/x86_64-linux-gnu
```
- single directory for executables in $PATH
- best possible compatibility with other Linux distributions or UNIX variants
- daemons should not live in /usr/sbin, because they should not be started from an interactive shell anyway
- usermode / consolehelper should be removed and replaced by PolicyKit (pkexec)
- capabilities and security modules blur the distinction between root and non-root

```
/  
|-- bin  →  usr/bin
|-- sbin  →  usr/bin
|-- usr
    |-- bin
    `-- sbin  →  bin
```
Application private directories

- phase out the Fedora-only libexec directory
- do not use /usr/share for things which are not shared between packages

```
/usr/lib/udev/
|-- accelerometer
|-- ata_id
|-- bluetooth_serial
|-- cdrom_id
... 
|-- rules.d
|  |-- 10-dm.rules
... 
| `-- 99-systemd.rules
|-- scsi_id
|-- tascam_fpga
|-- tascam_fw
|-- udevd
... 
`-- v4l_id
```

```
/usr/lib/<package-name>/
```

**LSB:**
"Applications may use a single subdirectory under /usr/lib. If an application uses a subdirectory, all data exclusively used by the application must be placed within that subdirectory."

**udevd** does not belong in /usr/sbin!
Do not mess with /boot via RPMs

/usr/lib/modules/<kernel-version>/
build/
extra/
kernel/
updates/
modules.*
vmlinuz
System.map

- copy vmlinuz to /boot with new-kernel-pkg
- remove old files with new-kernel-pkg (old-kernel-pkg?? :-)
- initramfs created in /boot with modules found in
  /usr/lib/modules/<kernel-version>/
- /boot is owned by the machine, and not by the distribution
/etc

- Should only be configured with host specific configuration data
- Default configuration files deployed in rpm packages should live in 
  /usr/lib/<package-name> or be compiled in.

Example: systemd and udev configuration file overload

- /etc/udev/rules.d/<foo>.rules symlink to /dev/null disables shipped <foo>.rules
/tmp vs /var/tmp

/tmp
● by default a 'tmpfs' filesystem
● ‘small’ temporary files
● not preserved between system reboots
● automatic time-based clean-up

/var/tmp
● needed for ‘large’ files, which might not fit into a tmpfs /tmp
● temporary files preserved between system reboots
● automatic time-based clean-up
Thanks for Listening

Links:

- [http://wiki.debian.org/Multiarch/Tuples](http://wiki.debian.org/Multiarch/Tuples)