

Fedora and its FHS Changes



- Overview of FHS
- Overview of LSB
- FHS/LSB Changes in Fedora 16
 - Pros and Cons of the changes
 - The impact of these changes
- Resources for more information

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Overview of FHS



- Filesystem Hierarchy Standard
- Started in 1993 to standardize filesystem layout, maintained by the Linux Foundation
 - / - root
 - /bin/ - essential commands like cat, ls, cp
 - /sbin/ - essential binaries like init, ip, mount
 - /lib/, /lib64/, library files used by bin and sbin
 - /usr/ - multi-user programs, non essentials
- Ties in with LSB

Overview of LSB



- Linux Standard Base
- Along with FHS, defines how a Linux system should behave
 - Standard libraries, included commands, FHS, run levels, CUPS, etc
- Makes software compatible among distributions
 - Rarely removes, only adds
- Maintained by several Linux distributions under the Linux Foundation

Fedora's Changes



- Fedora 16 breaks FHS/LSB with proposal by Red Hat developers
 - `/bin/` → `/usr/bin/`
 - `/sbin/` → `/usr/sbin/`
 - `/lib/` → `/usr/lib/`, `/lib64/` → `/usr/lib64/`
 - Puts all system binaries into one location, `/usr/`
- Want Linux Foundation to adopt the changes

Positive Impacts



- Simplifies replication of a system
 - Mount 1 volume instead of 4 over a network
- Simplifies backup of a system
 - Backup 1 volume instead of 4
 - Only worry about `/etc/`, `/home/`, `/var/`
- Cleans up the mess of splitting up binaries across the system
- `/usr/` is already required for boot

Negative Impacts



- Breaks FHS and LSB
- Think of the scripts!
 - `#!/bin/bash` → `#!/usr/bin/bash`
 - Symlinks can be used, but is that better?
- Other applications may depend on these locations
- Putting essential binaries in a non essential location

Summary



- FHS – The filesystem layout of a Linux system
- LSB – The standard binaries and commands
- Fedora is going against these standards
 - Potentially better for maintenance and organizing
 - Scripts may break, symlinks can fix this
- Is this good or bad?
 - Good, cleans up the filesystem
 - Bad, scripts/applications may need to be modified

Resources



- News article -
<http://www.itworld.com/it-managementstrategy/218>
- Linux Standard Base -
<http://www.linuxfoundation.org/collaborate/workgro>
- Filesystem Hierarchy Standard -
<http://www.pathname.com/fhs/>