

# Printing in the LSB: 3.2 and Beyond

Jeff Licquia

The Linux Foundation

OpenPrinting Summit 2007, Montreal

# What the LSB Does

The LSB seeks to make Linux a true platform.

- Reduce or eliminate the differences between Linux distributions which get in the way of application compatibility.
- Provide tools for developers to target multiple Linux distributions.
- Provide a certification program.
  - For commercial support: provide some knowledge about the platform being supported.
  - Guide users to software that will reduce their headaches.
- Provide a forum for collaboration.

# Outline

- 1 What the LSB Does
- 2 **LSB 3 Standards**
  - Requirements for LSB 3
    - LSB 3.1
    - LSB 3.2
- 3 LSB 4 Standards
  - Requirements for LSB 4
  - Proposed Extensions

## Requirements for LSB 3

Requirements are driven by what is shipping today in the major distributions.

- Must maintain backward compatibility.
  - Not always as rigorously followed as it should be.
- In general, should be shipped in current certified distros and other major distros.
  - Also not an unbreakable rule; see Qt 4.
  - May standardize optional components that can be shipped with applications, such as xdg-utils.
  - Must be close to the default, or very easy to deploy as an add-on.
- Must not be proprietary.
- Main idea: don't exclude anyone.

# New Standards Process

New technologies can be proposed and included.

- Debate going on in the LSB: optional vs. trial use.
- Must be in good enough shape to be required.
  - Complete specifications.
  - Complete tests.
  - The LSB Database.
- Must be incorporated into the LSB infrastructure.
- Status at release is voted on.

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## Printing in LSB 3.1

System V and BSD command-line tools.

- Two tools: lp and lpr.
- Can print to the default printer or a named printer.

All other details (spooler tech, network support, etc.) are implementation-dependent.

## Printing in LSB 3.1

The generic System V/BSD interfaces are not sufficient for modern printing needs.

- There is no way to discover what printers are available.
- There are no standards for discovering or supporting advanced printer capabilities.
- The user interface is necessarily limited.
- Lack of backend standardization makes delivering a single driver framework nearly impossible.

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# System V and BSD

## System V and BSD command-line tools

- Pretty much unchanged.

# CUPS ABIs

CUPS 1.1 is now the de-facto standard for printing in Linux.

- No other spooler has captured the market.
- Newer versions of CUPS have not yet reached everywhere.

# CUPS ABIs

## ABIs in CUPS

- CUPS Convenience API
- CUPS PPD API
- CUPS Raster API

# GhostScript

GhostScript will be required by the LSB.

- /usr/bin/gs
- Must support a standard set of options.
- Must support a standard set of drivers.
  - CUPS Raster
  - IJS
  - pxlmono, pxlcolor
  - OpenPrinting Vector

## Other New Standards in LSB 3.2

- foomatic-rip
- Standard search path for PPDs.

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# Requirements for LSB 4

Requirements are driven by what's going to be shipped in the next major revisions of the distributions.

- Uplifts of currently shipping standards.
- Finalization of proposed standards.
- New standards.

# Backward Compatibility

All changes to the LSB must be backward compatible, starting with LSB 3.0.

- Six-year deprecation policy.
- Any LSB ABI must have a deprecation policy of their own.
- Strategies for binary compatibility:
  - Library soname increments.
  - Symbol versioning.
- Submitting an interim API must be done with care, as we must support that API for a long time.

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## Ideas for LSB 4

- Uplift of CUPS ABIs.
- SANE.
- PAPI.
- Others?

# Summary

- LSB 3.2 will include CUPS, GhostScript, and foomatic-rip.
- The feature list for LSB 4.0 is somewhat open.
- New standards need to be approved by the community before they can be added to the LSB.

Questions?