Safeguarding the Future of Linux Through Standards

Linux Standard Base (LSB) printing roadmap

Finalized at the FSG Printing Summit

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Goals

- For **printer manufacturers**: make it easier to produce drivers that work across distributions and to get those drivers in the hands of users
- For **application developers**: provide better facilities to add printing to applications in a portable and consistent way
- For **OS vendors**: provide a shared repository of printer drivers so as to share the burden of maintaining the (largely common) driver database with each other

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Deliverables

- Additions to the LSB that enable application developers to add full functionality printing capabilities; and manufacturers to build printer drivers that work on any distribution (6 mos.)
- linuxprinting.org APIs that enable direct linkage between Linux distribution printer management tools and manufacturer supported drivers (6-12 mos.)
- A certification program for printers built around the LSB and linuxprinting.org (6-12 mos.)

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Application level standards

- LSB 3.2 will include the following interfaces from the CUPS convenience API:
  - cupsAddOption, cupsEncryption, cupsFreeDests, cupsFreeOptions, cupsGetDest, cupsGetDests, cupsGetPPD, cupsLangDefault, cupsLangEncoding, cupsLastError, cupsMarkOptions, cupsPrintFile, cupsServer, cupsSetDests, cupsSetPasswordCB, cupsSetUser, cupsUser

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Application level standards (cont.)

- In LSB 4.0+ the primary application interface to printing will be provided by the desktop toolkits (GTK and Qt)
  - Qt 4.0 will be in LSB 3.2
  - GTK 2.10 (which adds the printing APIs) is not yet shipping in the major distros and is thus not a candidate for LSB 3.2
- We will be looking to the Portland project to help solve the printer dialog consistency problem and will move to include it in the LSB when the major distros adopt it

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Driver level standards

- LSB 3.2 will standardize the following interfaces for writing printer drivers:
  - CUPS Raster API
  - IJS API (version 0.35)
  - OPVP (OpenPrinting Vector) API
- LSB 3.2 will also standardize Ghostscript and foomatic-rip
  - Ghostscript must be present and support the following driver APIS: “cups-raster”, “ijs”, “opvp”, “pxlmono”, and “pxlcolor”

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OPVP issues

- Current generation Linux distros implement OPVP 0.2, which has several critical problems that have been fixed in OPVP 1.0
  - OPVP 0.2 does not mandate updf properties (in OPVP 1.0)
  - OPVP 0.2 includes partial text support (in particular font operations) that have been removed in OPVP 1.0
  - Namespace changed between OPVP 0.2 and OPVP 1.0

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OPVP issues (cont.)

- LSB 3.2 will include OPVP 0.2 but remove the partial text support and will require compliant implementations to support updf
  - In practice, all implementations support udf already, so there is no problem adding this
- LSB 4.0 will add text and font support (via OPVP 1.x)

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Action items

- CUPS API
  - Need specification (FSG/Easy Software Products)
  - Need to make sure existing tests cover the interfaces we include (Todd Fujinaka)
- CUPS Raster API
  - Need specification (FSG/Easy Software Products)
  - Need to make sure existing tests cover the interfaces we include (FSG/ESP)

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Action items (cont.)

- IJS API
  - specification exists but need tests (Glen Petrie/Epson will contribute)
- OPVP API
  - need to subset OPVP 0.2 specification (OpenPrinting Japan)
    - can we simply include OPVP 1.0 by reference since OPVP 0.2 and OPVP 1.0 are compatible?
  - need tests (multiple test suites exist, OpenPrinting Japan will contribute)

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Action items (cont.)

- Ghostscript (FSG)
  - may need help with functional tests (i.e. input provided to driver produces expected output)
  - George Liu/Ricoh will contribute pxlmono and pxlcolor specifications/tests
- foomatic-rip (Till Kamppeter)

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More information

http://www.freestandards.org

http://developer.freestandards.org