OpenPrinting Plenary

15 May 2017
Joint PWG/OpenPrinting Summit F2F
Wild Palms Hotel in Sunnyvale, CA
– Ira McDonald (High North) – OP Chair
– Till Kamppeter (Canonical) – OP Manager
Agenda

- Linux Markets and Distributions (Distros)
- OpenPrinting 2017
- Google Summer of Code 2017
- OpenPrinting 2018
- Google Summer of Code 2018
- Next Steps
Linux Markets and Distributions

- Linux Internet public server market share in May 2018
  - 41% Linux / 32% Windows / 27% other
  - https://w3techs.com/technologies/overview/operating_system/all

- Linux Web Server market share in May 2018
  - 45% Linux / 20% Windows / 35% other

- Linux mobile OS market share in April 2018
  - 70% Android / 29% iOS / 1% other

- Linux distributions popularity on Distro Watch in 2018
  - Mint, Manjaro, Debian, Ubuntu, Fedora, openSUSE, CentOS
OpenPrinting 2017 – 1 of 3

- OP Driverless Printing support in Linux
  - Developers – Till Kamppeter and Linux community
  - Ubuntu 17.04 (April 2017) – Driverless Printing
  - Automatic setup / Connecting printer is as easy as a USB stick
  - IPP Everywhere open standard from PWG mainstream in CUPS
  - AirPrint from Apple (iPhone/iPad/etc) beta level support in CUPS

- OP CUPS Filters – v1.13.5 (27 April 2017)
  - Automatic queue setup by cups-browsed
  - “rasterto<xxx>” filters: All understand CUPS/PWG/Apple Raster
  - “<...>toraster” filters: Not all generate PWG/Apple Raster, if needed rastertopwg of CUPS is used
  - “driverless” allows print queue setup w/ conventional setup tools
  - “braille” enhanced Braille printer support from Samuel Thibault
OpenPrinting 2017 – 2 of 3

- OP Printer Driver Repository
  - Printer Manufacturer and Open Source drivers for Linux
  - [https://wiki.linuxfoundation.org/openprinting/database/database intro](https://wiki.linuxfoundation.org/openprinting/database/database intro)

- Distro-independent Linux driver packages support
  - Snappy packaging is the way to go
  - Snaps usually contain an app running in a sandbox
    - Sandbox provides security, even if the app runs as root
  - First work on creating a printing stack Snap done
    - Contains cups, cups-filters, and MuPDF
    - Progress on hold because Snappy is rather new
    - Missing avahi-daemon snap was issued recently
• OP IPP-over-USB support – seamless printing
  • ippusbxd v1.30
  • Support for all IPP-over-USB printers
  • Allows use of IPP (and so driverless printing) on USB printers
  • Printer appears as an IPP network printer
    • URI: ipp://localhost:60000/ipp/print
    • Admin interface: http://localhost:60000/
  • DNS-SD advertising for auto-setup via CUPS and cups-browsed
    • Access from any standard-conforming client
    • Needs small changes in Avahi to support localhost

• OP IPP System Service support – the future
  • Full driverless support for MFDs, including driverless IPP Scan
  • Full system admin support for MFDs and Printers
Google Summer of Code 2017

• GSoC 2017 Recruitment
  • Student selection process started in Jan 2017 – long before GSoC – premier university Computer Science depts approached
    • Record application of 65 students received from different universities to work on Open Printing projects in GSoC 2017
• GSoC 2017 – 2 Project Areas / 7 Students / 6 Mentors
  • Common Print Dialog (CPD) – 5 Students
    • Main development on `qt` CPD and LibreOffice patch
    • No development on `gtk` CPD – due to GNOME print updates
    • Reuse Unity 8 code already developed – Canonical dropped
    • Canonical, Lexmark, IBM, LibreCAD, Red Hat, Millenium IT
  • CUPS Filters – 2 Students
    • Add PCLm extension in the rastertopdf filter
    • CUPS Filters infrastructure enhancements
    • Thanks to HP for providing development printers for testing!
OpenPrinting 2018 – 1 of 3

• OP Driverless Printing support in Linux
  • Developers – Till Kamppeter and Linux community
  • Ubuntu 18.04 LTS (April 2018) – Driverless Printing enhanced
    • https://wiki.ubuntu.com/BionicBeaver/ReleaseNotes
      • Automatic setup / Connect a printer as easily as a USB stick
  • IPP Everywhere open standard from PWG mainstream in CUPS
    • IPP Everywhere certified Printers now entering the market
  • CUPS 2.2.7 (March 27, 2018)
    • Raw print queues deprecated – conflicts w/ sandboxed apps
  • CUPS 2.3b4 (March 27, 2018)
    • Printer drivers deprecated – instead use Printer Application
• OP CUPS Filters – accomplishments this year
  • cups-browsed:
    • Support for CUPS' own temporary queues for remote IPP/CUPS printers
    • Highly configurable print queue clustering
    • Support for all driverless printing standards (IPP Everywhere, AirPrint, Wi-Fi Direct, Mopria)
  • filters:
    • PCLm support
    • pdftooopvp and pdftoijs deprecated
    • Flattening of interactive PDF forms
  • ippusbxsd:
    • Communication vastly improved by David Valleau (Google): Better compatibility, reliability, prepared for IPPS
    • Improved DNS-SD records: Use of URF info, PCLm
    • General ease of use
  • http://www.openprinting.org/download/cups-filters/
• OP CUPS Filters – the future
  • cups-browsed restartable in-process, e.g., to re-read its config.
  • cups-browsed restarts on "kill -HUP" (like most other daemons).
  • cups-browsed treats IPP network printers and remote CUPS printers as equal, allowing clustering of any printers.
  • cups-browsed auto-selects printers based on Job option settings.
  • QPDF-based solutions for bannertopdf and form-flattening.

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Google Summer of Code 2018

- **GSoC 2018 - Recruitment**
  - Student selection process started in Jan 2018 – long before GSoC – premier university Computer Science depts. approached
    - Screened over 100 students from different universities
- **GSoC 2018 – 5 Projects / 6 Students / 9 Mentors**
  - PDF updates for cups-filters – use standard Poppler API or QPDF
  - Enhancements for ipptool – scripts for new operations/attributes
  - New tool ippdoclint – check PWG Raster structure & report errors
  - Backends for Common Print Dialog (CPD) – D-Bus interface
  - Content-oriented printer auto-selection based on Job options
- **Bonuses in 2018 – 2 Projects outside GSoC 2018**
  - Enhancements for ippserver – add support for all IPP data types
    - Special thanks to Aakash Lahoti
  - Completion of Qt Print Dialog – update for CPD support
    - Special thanks to Gaurav Purohit
Next Steps

• Call for Participation
  • OP is cost-effective for printer vendor support of Linux

• Collaboration of PWG and OP
  • IPP Everywhere/1.0 – complete in GSoC 2018
  • Common Print Dialog – complete in GSoC 2018
  • IPP Shared Infrastructure Extensions (Cloud) – future
  • IPP FaxOut, IPP Scan (MFD) – future
  • IPP System Service (System Admin) – future
  • IPP 3D Printing and IPP 3D PJT – future

• OP monthly teleconferences on Tuesdays
  • Tuesday 5 June 2018 1-2pm US EDT (F2F review/GSoC)
  • Tuesday 10 July 2018 1-2pm US EDT (GSoC status)
  • Tuesday 7 August 2018 1-2pm US EDT (GSoC status)