



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
 - https://secure1.securityspace.com/s_survey/data/201804/index.html
- Linux mobile OS market share in April 2018
 - 70% Android / 29% iOS / 1% other
 - <https://www.netmarketshare.com/operating-system-market-share.aspx>
- Linux distributions popularity on Distro Watch in 2018
 - Mint, Manjaro, Debian, Ubuntu, Fedora, openSUSE, CentOS
 - <https://distrowatch.com/dwres.php?resource=popularity>

OpenPrinting 2017 – 1 of 3



- OP Driverless Printing support in Linux
 - Developers – Till Kamppeter and Linux community
 - Ubuntu 17.04 (April 2017) – Driverless Printing
 - <https://wiki.ubuntu.com/ZestyZapus/ReleaseNotes>
 - 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
 - <http://www.openprinting.org/download/cups-filters/>

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
- Distro-independent Linux driver packages support
 - Snappy packaging is the way to go
 - [https://en.wikipedia.org/wiki/Snappy_\(package_manager\)](https://en.wikipedia.org/wiki/Snappy_(package_manager))
 - 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

OpenPrinting 2017 – 3 of 3



- 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](http://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



- Common Print Dialog
 - 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
 - Target GUI toolkits
 - No development on **gtk** CPD – due to GNOME print updates
 - Main development on **qt** CPD and **LibreOffice** patch
 - Reuse some Unity 8 code already developed – *Canonical dropped*
 - 6 students from 4 universities selected for CPD project
 - 6 mentors selected from industry (3 previous GSoC mentors)
 - Canonical, Lexmark, IBM, LibreCAD, Red Hat, Millenium IT
 - Students were given basic training on the code, especially CUPS and the backends, to make them accustomed to the code base

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

OpenPrinting 2018 – 2 of 3



- OP CUPS Filters – v1.20.3 (12 April 2018)
 - braille: Do not remove read permission on cups-brf.
 - braille: Get braille table descriptions from liblouis metadata.
 - braille: Select liblouis tables by metadata before using file names.
 - cups-browsed: Fix identification of remote CUPS queues.
 - gstoraster: Improved detection whether input is PostScript or PDF.
 - <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.

OpenPrinting 2018 – 3 of 3



- OP IPP-over-USB support – seamless printing
 - ippusbxd v1.30 (26 April 2017)
 - <https://github.com/tillkamppeter/ippusbxd>
 - 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
- OP IPP System Service support – the future
 - [IPP driverless support for MFDs, including driverless IPP Scan](#)
 - [IPP system admin support for MFDs, Printers, Scanners, Faxes](#)

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 – 6 Projects / 7 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
 - Completion of Qt Print Dialog – update for CPD support
 - Content-oriented printer auto-selection based on Job options
- Bonus in 2018 – Project outside GSoC 2018
 - Enhancements for ippserver – add support for all IPP data types
 - Our special thanks to Aakash Lahoti

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)