



# OpenPrinting Plenary

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2 May 2017

Joint PWG/OpenPrinting Summit Virtual F2F

- Ira McDonald (High North) – OP Chair
- Till Kamppeter (Canonical) – OP Manager

# Agenda

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- Linux Markets and Distributions (Distros)
- OpenPrinting 2016
- Google Summer of Code 2016
- OpenPrinting 2017
- Google Summer of Code 2017
- Next Steps

# Linux Markets and Distributions



- Linux Internet public server market share in 2017
  - 36% Linux / 32% Windows / 32% other
  - [https://en.wikipedia.org/wiki/Usage\\_share\\_of\\_operating\\_systems#Public\\_servers\\_on\\_the\\_Internet](https://en.wikipedia.org/wiki/Usage_share_of_operating_systems#Public_servers_on_the_Internet) (2017)
- Linux server virtualization market share
  - 11% Linux / 88% Windows / 1% UNIX
  - <https://community.spiceworks.com/networking/articles/2462-server-virtualization-and-os-trends> (2016)
- Linux mobile/tablet OS market share in Q1 2017
  - 63% Android / 33% iOS / 1% Windows / 3% other
  - <https://www.netmarketshare.com/operating-system-market-share.aspx?qprid=8&qpcustomd=1> (2017)
- Linux – mobile devices to enterprise servers
  - Mint, Debian, Ubuntu, Manjara, openSUSE, Fedora, CentOS
  - <https://distrowatch.com/dwres.php?resource=popularity> (2017)

# OpenPrinting 2016 – 1 of 2



- OP projects for IPP Everywhere support in Linux
  - Developers – Till Kamppeter and Linux community
  - Ubuntu 15.10 (October 2015) – Wily Werewolf
  - Ubuntu 16.04 (April 2016) – Xenial Xerus – 6<sup>th</sup> LTS release
  - Coming soon – IPP Everywhere in other Linux distros
- OP CUPS Filters – v1.8.3 (23 March 2016)
  - Filters for OP introduced PDF-centric printing workflow
    - January – v1.6.0, 1.7.0, 1.8.0, 1.8.1
    - February – v1.8.2
    - March – v1.8.3
  - Backends, filters, and other software that was formerly part of the core CUPS distribution but is no longer maintained by Apple
  - <http://www.openprinting.org/download/cups-filters/>

# OpenPrinting 2016 – 2 of 2



- OP Printer Driver Repository
  - Printer Manufacturer and Open Source drivers for Linux
  - Alps, Apple, Brother, CalComp, Canon, Dell, Epson, Fuji Xerox, Genicom, Gestetner, Heidelberg, Hitachi, HP, IBM, InfoPrint, Konica-Minolta, Kyocera, Lanier, Lexmark, NEC, OCE, Oki, Panasonic, QMS, Ricoh, Samsung, Savin, Sharp, Toshiba, Xerox
  - <http://www.openprinting.org/drivers>  
<http://www.linuxfoundation.org/collaborate/workgroups/openprinting/database/databaseintro>
- *Issue – Debian dropped Linux Standard Base support*
  - *How to support distro-independent Linux driver packages?*
- OP Google Summer of Code 2016 – muPDF Renderer
  - 2 students accepted by GSoC for OP projects

# Google Summer of Code 2016



- Add MuPDF support to CUPS Filters for a lightweight mobile printing stack
  - Currently cups-filters supports Ghostscript and Poppler as PDF renderers – keep these options
  - Add support for MuPDF (from Artifex, creators of Ghostscript) as a new lightweight renderer for cups-filters
  - Modify all filters which need a PDF renderer (pdftops, pdftoraster, pdftoijs, pdftoopvp, perhaps also pdftopdf)
  - Add support for switching between renderers at run time
  - Make binary packages of cups-filters suitable for systems of different form factors
  - 2 Developers accepted by GSoC on Friday 22 April 2016
    - Pranjal Bhor (from India)
    - Kevin Naughton Jr. (from New York)
  - [Critical path for high-quality lightweight mobile printing](#)

# 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
  - <http://www.openprinting.org/drivers>
  - <http://www.linuxfoundation.org/collaborate/workgroups/openprinting/database/databaseintro>
- 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>
    - 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

# Next Steps

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- Call for Participation
  - OP is cost-effective for printer vendor support of Linux
- Collaboration of PWG and OP
  - IPP Everywhere – complete
  - Common Print Dialog – [in progress in GSoC 2017](#)
  - 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 9 May 2017 12pm US EDT (PWG/OPS review)
  - Tuesday 6 June 2017 12pm US EDT (GSoC status)