



## Open Printing Plenary - 2019

Joint PWG/Open Printing Summit - Lexington, KY  
16 April 2019

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- **Linux Markets and Distributions (Distros)**
- **OpenPrinting 2018**
- **Google Summer of Code 2018**
- **OpenPrinting 2019**
- **Google Summer of Code 2019**
- **OpenPrinting New Look**
- **Next Steps**



# Linux Markets and Distributions (Distros)

- **Linux Internet public server market share in April 2019**
  - 32% Linux / 30% Windows / 38% other/unknown
  - [https://w3techs.com/technologies/overview/operating\\_system/all](https://w3techs.com/technologies/overview/operating_system/all)
- **Linux Web Server market share in April 2019**
  - 45% Linux / 21% Windows / 34% other/unknown
  - [https://secure1.securityspace.com/ε\\_survey/data/201804/index.html](https://secure1.securityspace.com/ε_survey/data/201804/index.html)
- **Linux mobile OS market share in April 2019**
  - 75% Android / 22% iOS / 1% other/unknown
  - <http://gs.statcounter.com/os-market-share/mobile/worldwide>
- **Linux distributions popularity on Distro Watch in 2019**
  - Manjaro, Mint, Ubuntu, Debian, Fedora, openSUSE, CentOS
  - <https://distrowatch.com/dwres.php?resource=popularity>



## OP Driverless Printing support in Linux

- **Developers – Till Kamppeter and Linux community**
- **Ubuntu 18.04 LTS (April 2018) – Driverless Printing enhanced**
  - Automatic setup / Connect a printer as easily as a USB stick

<https://wiki.ubuntu.com/BionicBeaver/ReleaseNotes>
- **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

- **Developers – Till Kamppeter and Linux community**  
<http://www.openprinting.org/download/cups-filters/>
- **cups-browsed**
  - Support for CUPS' own temporary queues for remote IPP/CUPS printers
  - Highly configurable print queue clustering
  - Support for all standards (IPP Everywhere, AirPrint, Wi-Fi Direct, Mopria)
- **filters**
  - PCLm support
  - pdftoopvp and pdftoijs deprecated
  - Flattening of interactive PDF forms
- **ippusbxd**
  - Better compatibility, reliability, prepared for IPPS, improved DNS-SD



## 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

## 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 2018

## GSoC 2018 – Recruitment

- Student selection process started in Jan 2018 – long before GSoC – premier university Computer Science departments approached – Screened over 100 students from different universities

## GSoC 2018 – 5 Projects / 6 Students / 9 Mentors

- PDF updates for cups-filters – use standard Poppler APIs or QPDF
- Enhancements for iptool – 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
- Completion of Qt Print Dialog – update for CPD support



## OP Driverless Printing support in Linux

- **Developers – Till Kamppeter and Linux community**
- **Ubuntu 19.04 (18 April 2019) – Driverless Printing enhanced**
  - Automatic setup / Connect a printer as easily as a USB stick

<https://wiki.ubuntu.com/Releases> – Disco Dingo
- **IPP Everywhere open standard from PWG mainstream in CUPS**
  - 365 IPP Everywhere Printers now certified
- **CUPS 2.2.10 (7 December 2018) – included in Ubuntu 19.04**
  - ‘lpoptions’ for IPP Everywhere, USB & PPD fixes, Page accounting (2.3)
- **CUPS 2.2.11 (22 March 2019) – *not in Ubuntu 19.04 release***
  - Bug fixes in Scheduler, IPP Everywhere, CUPS library, and USB printers
- **CUPS 2.3b7 (14 December 2018)**
  - Bug fixes and build failure fixes





## OP CUPS Filters – accomplishments this year

- **Developers – Till Kamppeter and Linux community**  
<http://www.openprinting.org/download/cups-filters/>
- **cups-browsed**
  - No new features added after last year's OpenPrinting Summit 2018
  - Focus on reliability this year
  - Bug fixes in Cluster Printing, IPPS upgrade, HTTP timeouts, etc.
- **filters**
  - pdftoopvp and pdftoijs deprecated
  - QPDF-based solutions – pdftopdf, bannertopdf
  - New options for scaling/fitting images/page content
- **ippusbxd**
  - No code changes, no new features, no functional changes
  - Need Avahi patch (not just Ubuntu) – now in progress



## OP CUPS Filters – the future

- Make cups-browsed re-startable in-process
- Make cups-browsed not use CUPS PPD APIs any more
- Make cups-browsed treat IPP network printers and remote CUPS printers equal
- Make cups-browsed auto-select printers in a cluster of very different printers depending on Job and option settings
- Make cups-filters not use CUPS PPD APIs any more

## OP IPP System Service support – the future

- Full system admin support for MFDs and Printers (GSoC 2019)
- Full driverless support for MFDs, including driverless IPP Scan



# Google Summer of Code 2019

## GSoC 2019 – Recruitment

- Student selection process started in Jan 2018 – long before GSoC
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## GSoC 2019 – 5 Projects

- Generic Framework to turn legacy drivers consisting of CUPS filters and PPDs into Printer Applications
- IPP: ipptool test suite for IPP System Service
- IPP: ipptool test suite updates for IPP errata updates
- Update pdftoraster to only use standard Poppler APIs
- Turn the scp-dbus-service of system-config-printer into C (from current Python implementation)

## GSoD 2019 – OP Participation in Google Season of Docs

- Bring open source and technical writer communities together

## GCI – OP Participation in Google Code In

- Pre-university students (ages 13-17)



## OpenPrinting New Logo



# Open Printing

making printing just work

## OpenPrinting New Website

- **Migration Tasks**
  - Migration work for foomatic and other areas are going on in parallel
- **Development Repository**
  - <https://openprinting.github.io/#>



### Call for Participation

- OP is cost-effective for printer vendor support of Linux and UNIX

### PWG and OP Collaboration

- IPP Everywhere/1.0 – complete in GSoC 2018
- Common Print Dialog – complete in GSoC 2018
- IPP System Service (System Admin) – coming in GSoC 2019
- IPP Shared Infrastructure Extensions (Cloud) – future
- IPP FaxOut, IPP Scan (MFD) – future
- IPP Job Extensions/2.0, IPP Document Object/1.1 – future
- IPP 3D Printing and IPP 3D PJT – future

### OP monthly teleconferences on Tuesdays

- Tuesday 7 May 2019 1-2pm US EDT (F2F review/GSoC)
- Tuesday 4 June 2019 1-2pm US EDT (GSoC status)
- Tuesday 2 July 2019 1-2pm US EDT (GSoC status)