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# OpenPrinting

– Joint PWG/OP Summit

OpenPrinting Plenary – 6 May 2024

**Ira McDonald (High North) – OP Chair**

**Till Kamppeter (Canonical) – OP Manager**

# OP Plenary Agenda



- **Administrivia**
- **OpenPrinting Highlights 2023**
- **OpenPrinting GSoC 2023**
- **OpenPrinting Highlights 2024**
- **OpenPrinting GSoC 2024**
- **OpenPrinting Next Steps**

# PWG Antitrust Policy and IPR Policy



- **PWG Antitrust Policy:**
  - [https://www.pwg.org/chair/membership\\_docs/pwg-antitrust-policy.pdf](https://www.pwg.org/chair/membership_docs/pwg-antitrust-policy.pdf)
  - The IEEE-ISTO Printer Working Group ("PWG") will not become involved in the business decisions of its Members. The PWG strictly complies with applicable antitrust laws. Every PWG meeting attendee shall comply with this policy. The PWG Officers and PWG Workgroup Officers are responsible to ensure that this policy is adhered to in all PWG activities.
- **PWG Intellectual Property Policy:**
  - [https://www.pwg.org/chair/membership\\_docs/pwg-ip-policy.pdf](https://www.pwg.org/chair/membership_docs/pwg-ip-policy.pdf)
  - TL;DR: Anything you say in a PWG meeting or email to a PWG address can be used in a PWG Document
  - (but please do read the IP policy above if you haven't done so)
- **This meeting is being recorded**

# OP Agenda Overview – Monday



(All times are US Eastern Daylight Time)

## Monday – 6 May 2024 – Day 1

- 10:00 AM to 10:30 AM OpenPrinting : Plenary
- 10:30 AM to 11:15 AM OpenPrinting : GSoC Project Updates
- 11:15 AM to 12:00 PM OpenPrinting : ChromiumOS Printing
- 12:00 PM to 12:45 PM Lunch
- 12:45 PM to 1:45 PM OpenPrinting : CUPS Plenary
- 1:45 PM to 2:45 PM OpenPrinting : Printer Applications
- 2:45 PM to 3:15 PM Break
- 3:15 PM to 4:15 PM OpenPrinting : Distribution Mechanisms Roadmap

# OP Agenda Overview – Tuesday



**(All times are US Eastern Daylight Time)**

## **Tuesday – 7 May 2024 – Day 2**

**10:00 AM to 10:45 AM OpenPrinting : cups-filters, CPDB**

**10:45 AM to 12:00 PM OpenPrinting : Desktop Integration**

**12:00 PM to 12:45 PM Lunch**

# OpenPrinting Highlights 2023– 1 of 4



## CUPS OpenPrinting

- See CUPS Plenary presentation tomorrow
- Developers – Mike Sweet, Zdenek Dohnal, and Linux community
- Latest CUPS v2.0 Release – v2.4.2 (26 May 2022)  
<https://openprinting.github.io/cups-2.4.2/>
- Ubuntu 23.04 (20 April 2023) shipped with CUPS v2.4.2
- CUPS v3.0 Release – v3.0b1 (9 February 2023)  
<https://github.com/OpenPrinting/libcups/releases/v3.0b1>
- CUPS Snap uses GIT master of OpenPrinting CUPS  
<https://github.com/OpenPrinting/cups-snap>  
<https://snapcraft.io/cups>

## CUPS Filters Highlights

- See CUPS Filters presentation tomorrow
- Developers – Till Kamppeter and Linux community
- Latest CUPS Filters v1.0 Release – v1.28.17 (24 January 2023)  
<https://github.com/OpenPrinting/cups-filters/releases/tag/1.28.17>
- Ubuntu 23.04 (20 April 2023) shipped with CUPS Filters v2.0rc1
- CUPS Filters v2.0 Release – CUPS Filters v2.0rc1 (12 April 2023)  
<https://openprinting.github.io/cups-filters-Second-Generation-Release-Candidate/>

# OpenPrinting Highlights 2023– 2 of 4



## **PAPPL (Printer Application)**

- See Printer Applications presentation tomorrow
- Developers – Mike Sweet and Linux community
- Latest Release – v1.3.2 (6 May 2023)  
<https://github.com/michaelsweet/pappl/releases/tag/v1.3.2>

## **PostScript Printer Application**

- See Printer Applications presentation tomorrow
- Developers – Till Kamppeter and Linux community
- PostScript Printer Application is now in Snap Store  
<https://github.com/OpenPrinting/ps-printer-app>  
<https://snapcraft.io/ps-printer-app>

## **Ghostscript Printer Application**

- See Printer Applications presentation tomorrow
- Developers – Till Kamppeter and Linux community
- Ghostscript Printer Application is now in Snap Store  
<https://github.com/OpenPrinting/ghostscript-printer-app>  
<https://snapcraft.io/ghostscript-printer-app>



## Gutenprint Printer Application

- See Printer Applications presentation tomorrow
- Developers – Till Kampeter and Linux community
- Gutenprint Printer Application is now in Snap Store  
<https://github.com/OpenPrinting/gutenprint-printer-app>  
<https://snapcraft.io/gutenprint-printer-app>

## HPLIP Printer Application

- See Printer Applications presentation tomorrow
- Developers – Till Kampeter and Linux community
- HPLIP Printer Application is now in Snap Store  
<https://github.com/OpenPrinting/hplip-printer-app>  
<https://snapcraft.io/hplip-printer-app>

## Retro-Fitting Printer Applications

- See Retro-Fitting Printer Applications presentation tomorrow
- Developers – Till Kampeter and Linux community  
<https://github.com/OpenPrinting/pappl-retrofit>





## **Common Print Dialog Backends for GTK and QT**

- **See Printer Applications presentation tomorrow**

## **Driverless Printing**

- **See Printer Applications presentation tomorrow**
- **Driverless Printing is now available on all major OS platforms**

## **IPP over USB**

- **See Printer Applications presentation tomorrow**
- **ipp-usb replaces ippusbxd in most Linux distributions**
- **Google Chrome OS has its own IPP-over-USB daemon in Rust**

## **Driverless Scanning**

- **See Driverless Scanning presentation tomorrow**
- **Driverless Scanning is a GSoC 2023 project**

# OpenPrinting

## Google Summer of Code 2023



### **OP in GSoC 2023 – Recruitment and Projects**

- **Student recruitment process started in late 2022**
  - **GSoC 2023 contributors do not have to be students**
- **Accepted contributor projects announced on 4 May 2023**

### **GSoC 2023 – Timeline Highlights**

- **23 January 2023 – Organization Applications Open – LF applied**
- **7 February 2023 – Organization Application Deadline**
- **22 February 2023 – Organizations Announced – LF accepted**
- **20 March 2023 – Contributor Applications Open – OP projects**
- **4 April 2023 – Contributor Applications Deadline**
- **27 April 2023 – Contributor Proposal Rankings by Organization Admins**
- **4 May 2023 – Contributor Projects Announced – 6 OP slots approved**
- **4-28 May 2023 – Community Bonding Period**
- **29 May 2023 to 28 August 2023 – Coding (standard period)**
- **5 September 2023 – Results Announced (standard period)**
- **4 September 2023 to 6 November 2023 – Coding (extended period)**
- **13 November 2023 – Results Announced (extended period)**

# OpenPrinting Highlights 2024– 1 of 6



## CUPS OpenPrinting

- See CUPS Plenary presentation
- Developers – Mike Sweet, Zdenek Dohnal, and Linux community
- Latest CUPS v2.0 Release – v2.4.8 (26 April 2024)  
<https://openprinting.github.io/cups-2.4.8/>
- Ubuntu 24.04 LTS (25 April 2024) shipped with CUPS v2.4.7
- libcups3 v3.0 Release – v3.0b2 (6 October 2023)  
<https://github.com/OpenPrinting/libcups/releases/v3.0b2>
- CUPS Snap always uses the latest release of CUPS, taken from GIT via release tag  
<https://github.com/OpenPrinting/cups-snap>  
<https://snapcraft.io/cups>

## CUPS Filters Highlights

- See CUPS Filters presentation
- Developers – Till Kamppeter and Linux community
- Latest CUPS Filters v1.0 Release – v1.28.17 (24 January 2023)  
<https://github.com/OpenPrinting/cups-filters/releases/tag/1.28.17>
- Ubuntu 24.04 (25 April 2024) shipped with cups-filters v2.0.0
- CUPS Filters v2.0 Release – CUPS Filters v2.0.0 (22 September 2023)  
<https://openprinting.github.io/cups-filters-Second-Generation-Final-2.0.0-Release/>



## Retro-Fitting Printer Applications

- See PAPP/Printer Applications and Distribution Methods presentations
- Developers – Till Kamppeter and Linux community
- Release numbering schemes for the Snaps added
  - Version number of principal upstream component & package release number
  - ps-printer-app based on Foomatic: 20240209-5
  - ghostscript-printer-app on Ghostscript: 10.03.0-5
  - hplip-printer-app based on HPLIP: 3.22.10-8
  - gutenprint-printer-app on Gutenprint: 5.3.4-6
  - Version numbers updated automatically on each (Snap version automation)
- Snaps automatically updated on each new release of any of its components (Snap update automation)
- Preliminary support for retro-fitting SANE scanner drivers as Scanner Apps
- Retro-fitting Printer Applications available in Snap Store
- Latest pappl-retrofit release: 1.0b2 (7 February 2023)  
<https://github.com/OpenPrinting/pappl-retrofit>  
<https://snapcraft.io/publisher/OpenPrinting>



## Common Print Dialog Backends

- See CPDB and Desktop Integration presentations
  - Developers – Till Kampeter, Gaurav Guleria, Biswadeep Purkayastha, and Linux community
  - Gaurav Guleria improved a lot in 2022 -> 2nd generation
  - Biswadeep Purkayastha is improving CPDB for Snap support
  - CPDB adoption in print dialogs (needed for CUPS 3.x):
    - GTK: Gaurav Guleria, GSoC 2022, merged
    - Qt: Gaurav Guleria, GSoC 2022, shortly before merge
    - Chromium Browser: Kushagra Sharma, GSoC 2023, shortly before merge
    - Mozilla (Firefox, Thunderbird): Kushagra Sharma, GSoC 2024, feature request posted
    - LibreOffice: Biswadeep Purkayastha, GSoC 2024, discussion on developer list
  - Latest cpdb-libs and cpdb-backend-cups releases: 2.0b5 (2 August 2023)
  - cpdb-backend-file discontinued, all dialogs do it better by themselves
- <https://github.com/OpenPrinting/cpdb-libs/>
- <https://github.com/OpenPrinting/cpdb-backend-cups/>



## Desktop Integration

- **See CPDB and Desktop Integration presentations**
- **CUPS 3.x not supporting PPDs and classic drivers any more**
  - only working with IPP print destinations
- **Printing GUI needs to be adapted**
  - List IPP print destinations, support Printer Applications
- **Print dialogs get covered by CPDB support**
- **Printer setup tools:**
  - GNOME Control Center "Printers": Mohit Verma, GSoC 2023, Kaushik Vishwakarma, GSoC 2024
  - KDE Print Manager: Mike Noe, KDE developer
  - system-config-printer: Shivam Jaiswal, GSoC 2024
- **Switchover to CUPS 3.x in Ubuntu requires ALL desktops and GUI apps to be ready, not only GNOME/GTK, due to Ubuntu flavors with same core but alternative desktops**



## Distribution Methods

- **Snap**
  - Snaps are distro-independent, sandboxed packages
  - Snaps are required for all-Snap distro Ubuntu Core Desktop
  - Snaps in the Snap Store: cups, ipp-usb, lprint, hp-printer-app, ps-printer-app, ghostscript-printer-app, hplip-printer-app, gutenprint-printer-app
  - Snap maintenance automation: Update, versioning
    - + GitHub action <http://github.com/ubuntu/desktop-snaps/> from Canonical
    - + Rudra Pratap Singh improved it a lot
    - + Deployed on CUPS and retro-fitting Printer Applications

<https://snapcraft.io/publisher/OpenPrinting>
- **OCI Containers**
  - Docker, ROCKs, podman ...
  - Add system software (like CUPS) to immutable distros without Snap support
  - Server, cloud ...
  - Tons of third-party CUPS images on DockerHub, we need an official OP one
  - Rudra Pratap Singh to create official OCI images of CUPS and other OpenPrinting components in GSoC 2024



## IPP over USB

- **ipp-usb included in most Linux distributions**
- **Developers – Alexander Pevzner and Linux community**
- **Google Chrome OS has its own IPP-over-USB daemon in Rust**
- **Alexander Pevzner has resumed ipp-usb development**
- **Latest release: 0.9.25 (6 March 2024)**

**<https://github.com/OpenPrinting/ipp-usb/>**

## Driverless Scanning

- **See PAPP/Printer Applications presentations**
- **Scanning support in PAPP (Scanner Applications) continued in GSoC 2024 by Akarshan Kapoor**



# OpenPrinting

## Google Summer of Code 2024



### **OP in GSoC 2024 – Recruitment and Projects**

- Contributor recruitment process started in late 2023
  - Contributor must be either student or open source beginner
- Accepted contributor projects announced on 1 May 2024
  - 11 contributors for OpenPrinting (of 13 candidates)

### **GSoC 2024 – Timeline Highlights**

- 22 January 2024 - Organization Applications Open – LF applied
- 6 February 2024 - Organization Application Deadline
- 21 February 2024 - Organizations Announced – LF accepted
- 18 March 2024 - Contributor Applications Open – OP projects
- 2 April 2024 - Contributor Applications Deadline
- 24 April 2024 - Contributor Proposal Rankings by Organization Admins
- 1 May 2024 - Contributor Projects Announced - 11 OP slots approved
- 1 May 2024 to 26 May 2024 - Community Bonding Period
- 27 May 2024 to 26 August 2024 - Coding (standard period)
- 3 September 2024 - Results Announced (standard period)
- 3 September 2024 to 4 November 2024 Coding (extended period)
- 11 November 2024 - Results Announced (extended period)

# OpenPrinting Next Steps



## Call for Participation

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

## PWG and OP Collaboration

- OP CUPS v3.0 development and evolution
- OP CUPS Filters v2.0 development and evolution
- OP Driverless Printing and Scanning development and evolution
- OP GSoC implementations of PWG IPP specs and features

## OP monthly news

<https://openprinting.github.io/OpenPrinting-News-April-2024/>

## OP monthly calls

<http://ftp.pwg.org/pub/pwg/liaison/openprinting/minutes/OP-Minutes-20240402.htm>

- Tuesday 14 May 2024 11am US EDT (F2F review/GSoC status)
- Tuesday 11 June 2023 11am US EDT (GSoC status)
- Tuesday 9 July 2023 11am US EDT (GSoC status)
- Tuesday 13 August 2023 11am US EDT (GSoC status)

# Questions / Comments

