Open Printing Micro Conference

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Topic

- **CUPS 2.4/2.5:** Will be going through the changes in CUPS 2.4.x, including printer sharing changes for mobile, OAuth support as a replacement for Kerberos, Printer Applications as a replacement for printer drivers, TLS/X.509 changes, and CUPS in containers (snap, Docker, others?) Discuss specific needs and timeframes WRT Kerberos->OAuth, drivers->Printer Applications, X.509 management, and deploying CUPS in containers going forward (Continuation of discussions at the OpenPrinting Summit, active development in the OpenPrinting CUPS Github repository)

- **CUPS 3.0:** Discuss proposed CUPS 3.0 design work from prior presentations. Discuss future CUPS development: identify supported platforms, key printing system components, areas of responsibility, schedules, goals, organizational issues, and milestones. Discuss integration with Printer Applications and application stores like the Snap Store. (Continuation of discussions at the OpenPrinting Summit).

Michael Sweet
Creator of CUPS
Lake Side Robotics

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- **Print Management GUI:** In the new printing (and scanning) architecture available printers are not defined by CUPS queues any more but by IPP services, being network printers, Printer Applications, and IPP-over-USB for USB printers. CUPS queues are simply auto-created corresponding to these IPP services. So it does not make sense to have a printer setup tool which lists the available CUPS queues and allows creating them. Instead, we need a tool which lists IPP services and for each service gives access to configure it, via buttons opening the web interface and also GUI for IPP System Service. For legacy devices which do not provide IPP services by themselves, we need a tool to discover them and to find Printer Applications for them, both locally installed or installable, like in the Snap Store.

- **Common Print Dialog Backends:** Already some years ago we introduced the concept of the Common Print Dialog Backends (OPenPrinting GitHub: CPDB, CUPS backend) where we separate the print dialog GUI from the support code for the actual print technology (like CUPS, IPP, …) via a D-Bus interface, so that GUI toolkits and the print technology support can be developed and released independently. This especially allows for better support of the fast-paced changes in the printing technology vs. the long development cycles of the GUI toolkits. Also new print technologies, like cloud print services can be added easily, with the appropriate backend provided in a Snap in the Snap Store. Now this concept gets important again as the printing architecture is under heavy development with all things IPP, CUPS 2.4.x, 3.x, …Here we especially discuss about the adoption into common GUI toolkits like GTK and Qt.

- **Printer/Scanner Driver Design and Development:** Classic printer and scanner drivers are replaced by Printer/Scanner Applications which emulate IPP-based network devices. We also have implemented most of the supporting code to easily create such Printer/Scanner Applications (PAPPL), a library for retro-fitting classic PPD-based CUPS drivers (pappl-retrofit), and Printer Applications retro-fitting PostScript PPDs (Snap Store), Ghostscript drivers (Snap Store), and HPLIP's printing (Snap Store). In this session we want to help developers get started with the design, creation, and Snap-packaging of Printer/Scanner Applications, Especially we also want that printer/scanner developers create native Printer/Scanner Applications and not retro-fits of their classic CUPS/SANE drivers (Tutorial Google Season of Docs 2021). Updates on the development progress in the monthly news posts.

Till Kamppeter
Linux Fellow & Print Guru
Open Print Printing, Cannonical

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- **Scanning in PAPPL:** Devices are discovered by DNS-SD. Adding support for pairing scanners with printers, since the typical use case (multi-function printer) will have the scan-specific TXT keys added to the printer, and the printer-dns-sd-name value coming from the printer. IPP scanners generally will not have their own DNS-SD records since they are paired with IPP printers. IPP scanner registrations don't use the same TXT keys as printers.Scan-specific keys are added as IPP scanner registration consists, for the pairing API to associate the scanner with the printer. The client polls the scanner's properties with a get-printer-attributes IPP request on the scanner URI. For this pappl_scanner_t object is implemented and scan-specific header files are added with the updated attributes and capabilities of a scanner- changing print to input, and equivalent driver functions are added for scan, as that in printing. The user sets options like scan area, resolution, quality, color, ADF mode, ... and requests the scan.

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