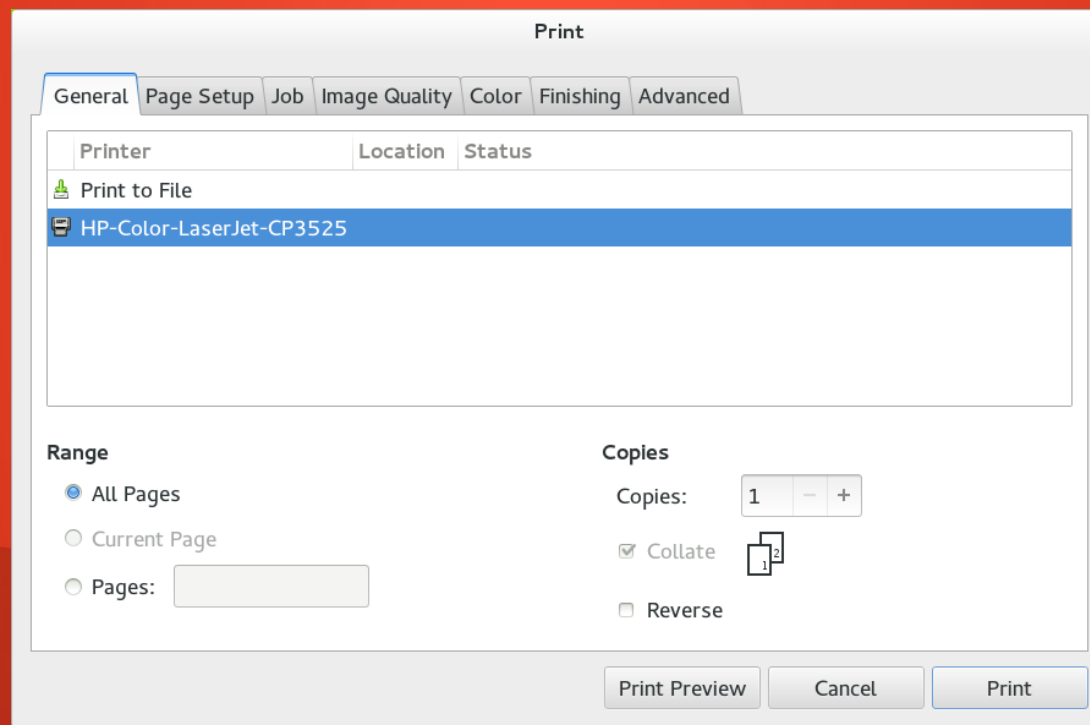


# Printing support in GNOME and Gtk+

# Gtk+ Print Dialog

Print dialog used in Gtk+ applications.



# Gtk+ Print Dialog Basics

- Gtk+ print dialog allows users to set printing options at one place before actual print
  - Paper size and format
  - Page layout (multiple pages per sheet, odd / even pages, duplex printing, ...)
  - Job informations (priority, time, cover pages, ...)
  - Print quality
  - Color profile
  - Options specific to selected printer (stapling)

# Gtk+ Print Dialog Backends

- CUPS backend
  - Uses IPP operations
  - It still uses PPD files for getting printer options
- File backend
  - Prints to PDF, Postscript and SVG files
  - Pages are arranged by Gtk+ on the output sheets (e.g. multiple pages per sheet)

# Gtk+ Print Dialog Backends

- LPR backend
  - Not enabled by default
- PAPI backend
  - Not enabled by default

# Gtk+ Print Dialog's DNS-SD Support

- Gtk+ supports direct printing to DNS-SD printers from 3.8
  - Lists printers advertised by DNS-SD protocol
    - Uses Avahi library
  - Shows basic options of DNS-SD printers
    - Uses IPP protocol implemented in CUPS
  - Prints to DNS-SD printers
    - Uses IPP protocol implemented in CUPS

# Common Printing Dialog and Gtk+ Print Dialog

- DBUS
  - Gtk+ print dialog uses direct calls not DBus
- Option Icons
  - Gtk+ print dialog doesn't show icons for options
- Preview format
  - Gtk+ uses “cairo\_t” together with some other info for getting pages for preview and passes them to an external application as PDF

# Common Printing Dialog and Gtk+ Print Dialog

- DBus Service Name
  - Gtk+ print dialog doesn't expose its functionality over DBus
- Multiple Print Dialogs
  - Gtk+ print dialog doesn't support multiple instances for one running application
- Option Change Notification
  - Gtk+ doesn't notify application about changes of options
- Document Size
  - Document size is sent to print dialog together with content



# Common Printing Dialog and Gtk+ Print Dialog

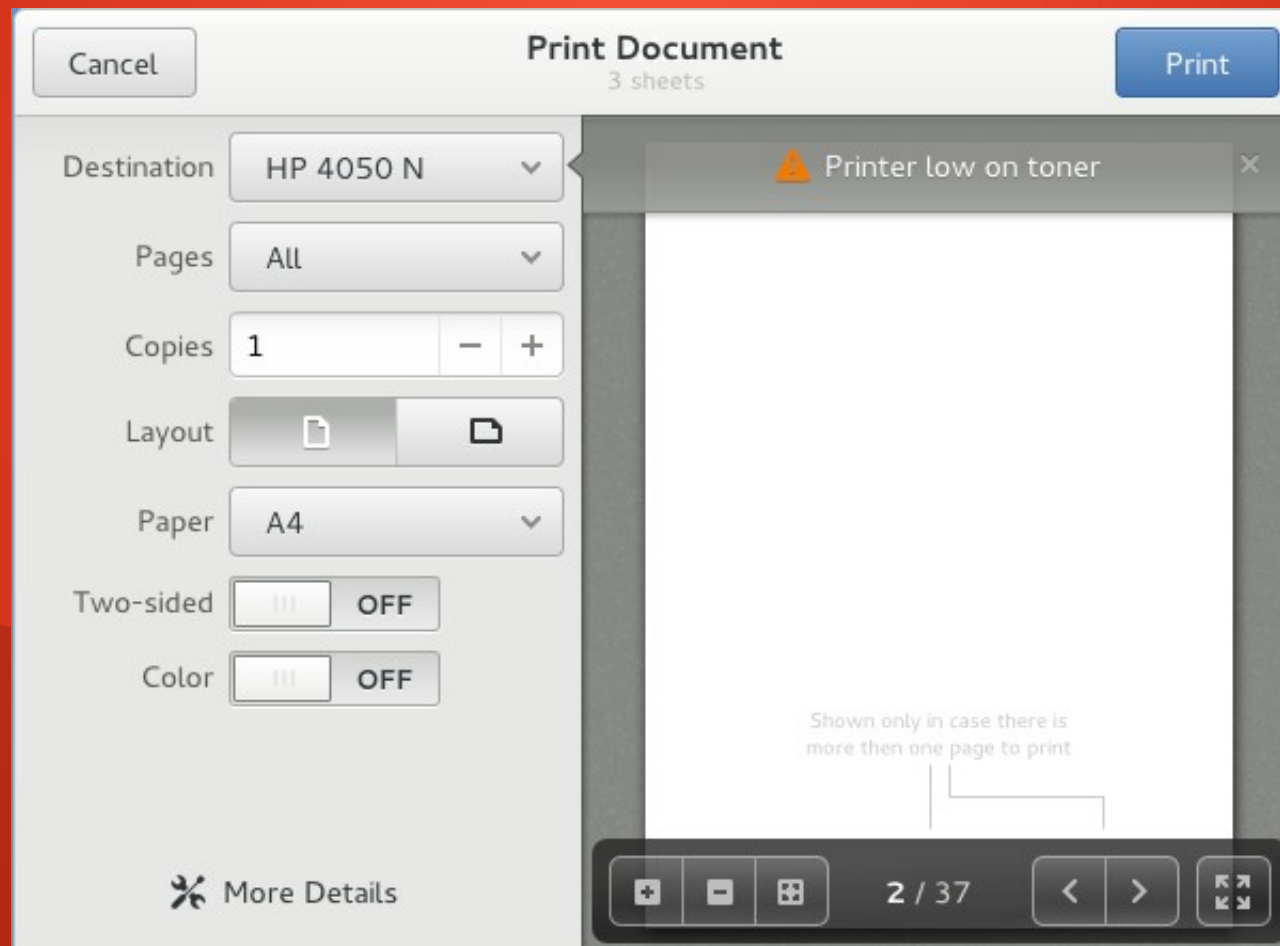
- Option Hints
  - Gtk+ print dialog doesn't support option hints
- Application specific Presets and Tags
  - Applications can add tab with its own options
- Option Saving
  - Gtk+ print dialog provides framework for storing print settings but this is not transparent to applications
- Handling of "InstallableOptions" group in PPD
  - Gtk+ print dialog doesn't expose options from "InstallableOptions" group

# Common Printing Dialog and Gtk+ Print Dialog

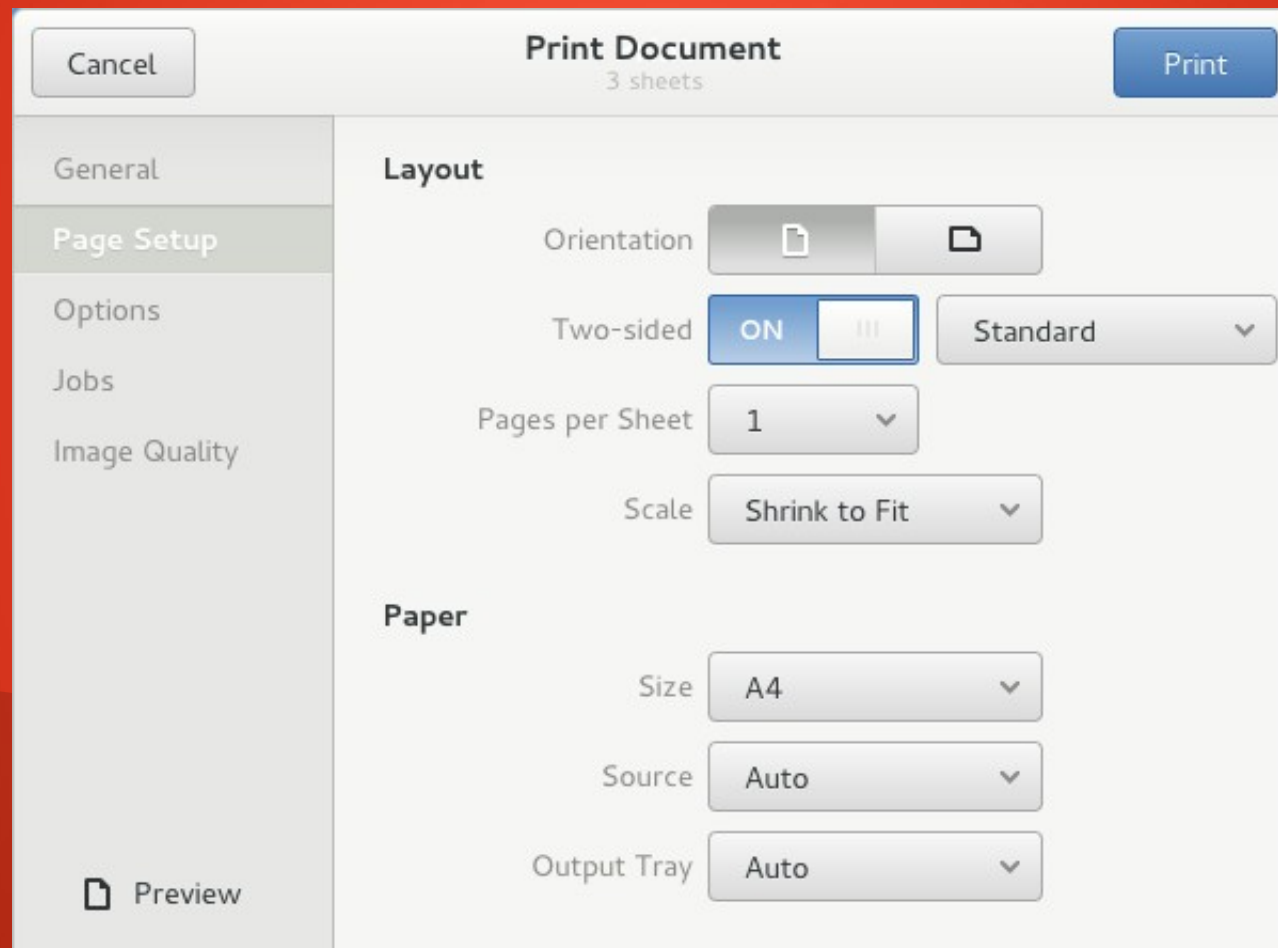
- General
  - Gtk+ print dialog doesn't get documents in advance. It gets required info from user and send it together with the document to print server.

# Gtk+ Print Dialog Plans

- Implement new design of Gtk+ print dialog

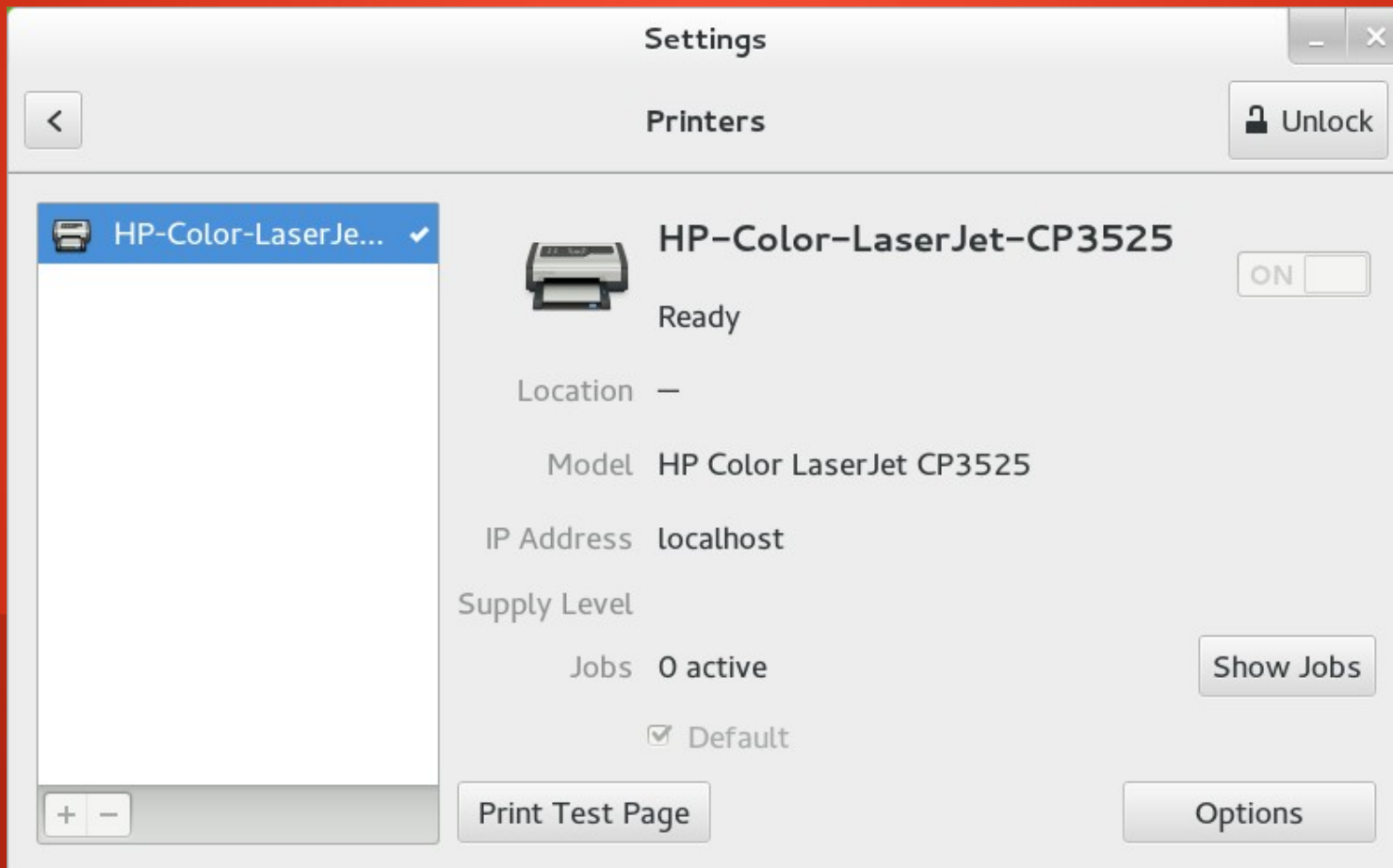


# Gtk+ Print Dialog Plans



# Printers Panel

Printers panel is part gnome-control-center project.



# Printers Panel Basics

- Shows basic info about printers
  - name, location, model, IP address, amount of supplies, status, number of active jobs
- Supports addition / configuration / removal of printers to / in / from CUPS server
- Controls print jobs
- Doesn't contain advanced features for administration of print server
- Uses system-config-printer's and cups-pk-helper's methods

# Printers Panel Addition

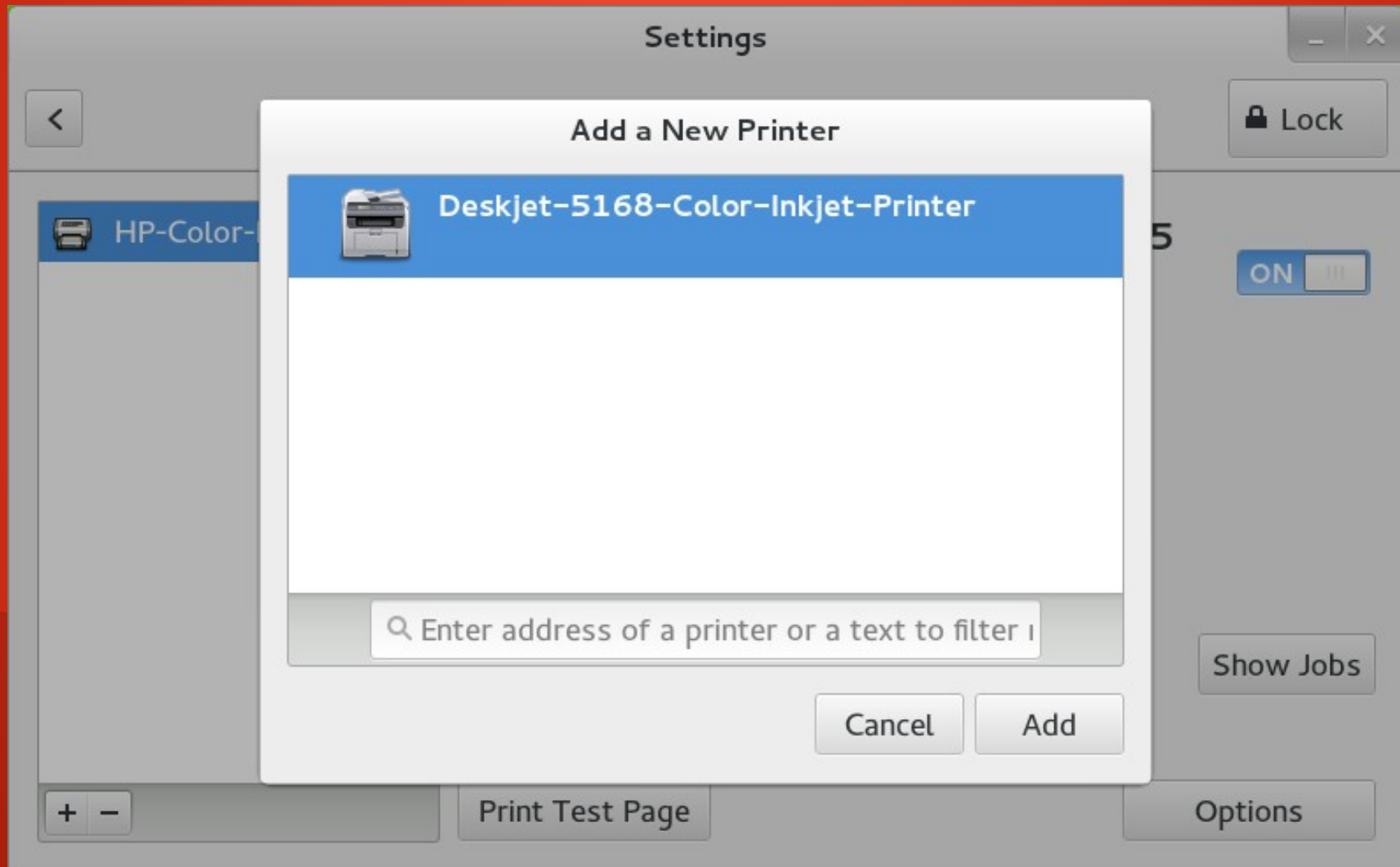
- Automatically lists devices detected by local CUPS server and Samba printers on local network
- Lists printers configured on remote CUPS server given by user
- Lists devices on given address by using CUPS' SNMP backend

# Printers Panel Addition

- Groups found devices so that they don't appear more than once
- Installs missing packages if needed
- Selects best driver for added device or let user select the driver from database (Samba printers)
- Performs autoconfiguration



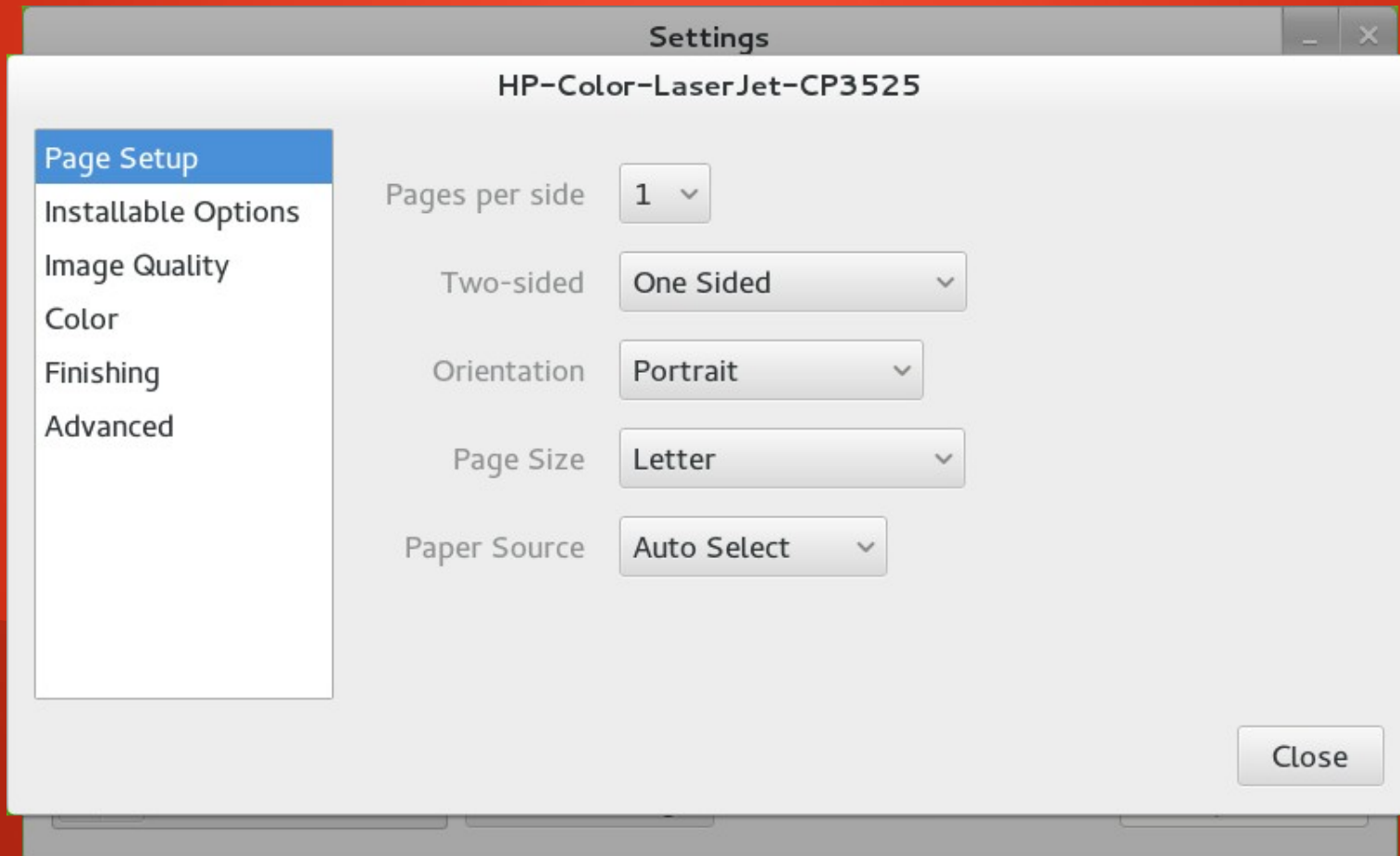
# Printers Panel Addition



# Printers Panel Configuration

- Renaming of printers
- Setting default printer
- Setting of printer's location
- Setting of printer's driver
  - Select from 3 best detected drivers
  - Select driver from installed ones
  - Select PPD file from disk
- Turning printer ON / OFF

# Printers Panel Configuration



# Printers Panel Configuration

The screenshot shows the macOS Settings application, specifically the Printers panel. The window title is "Settings" and the sub-panel is "Printers". A "Lock" button is visible in the top right corner. On the left, a list of printers is shown, with "HP-Color-LaserJe..." selected. The main area displays the configuration for the "HP-Color-LaserJet-CP3525" printer, which is currently "Ready". The printer's status is shown as "ON" with a power icon. The location is set to "—", the model is "HP Color LaserJet CP3525", and the IP address is "localhost". The supply level is shown as "0 active" and the printer is marked as the "Default" printer. A "Print Test Page" button is located at the bottom left of the printer configuration area. A "Show Jobs" button is located at the bottom right of the printer configuration area. A context menu is open over the "Show Jobs" button, displaying the following options: "Searching for preferred drivers...", "Select from database...", and "Provide PPD File...".

Settings

Printers

Lock

HP-Color-LaserJe... ✓

HP-Color-LaserJet-CP3525

Ready

ON

Location —

Model HP Color LaserJet CP3525

IP Address localhost

Supply Level

Jobs 0 active

Default

Print Test Page

Show Jobs

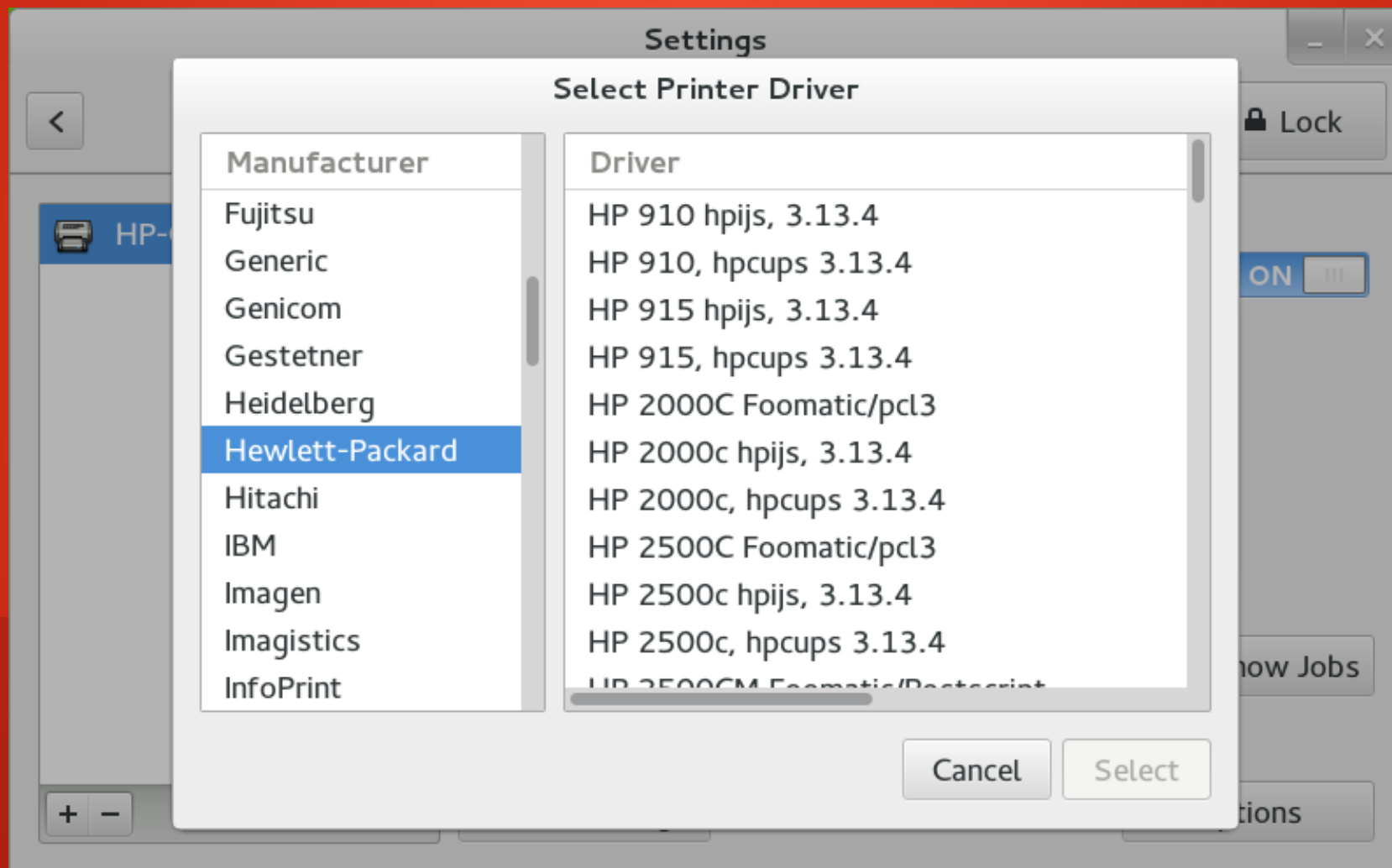
Options

Searching for preferred drivers...

Select from database...

Provide PPD File...

# Printers Panel Configuration



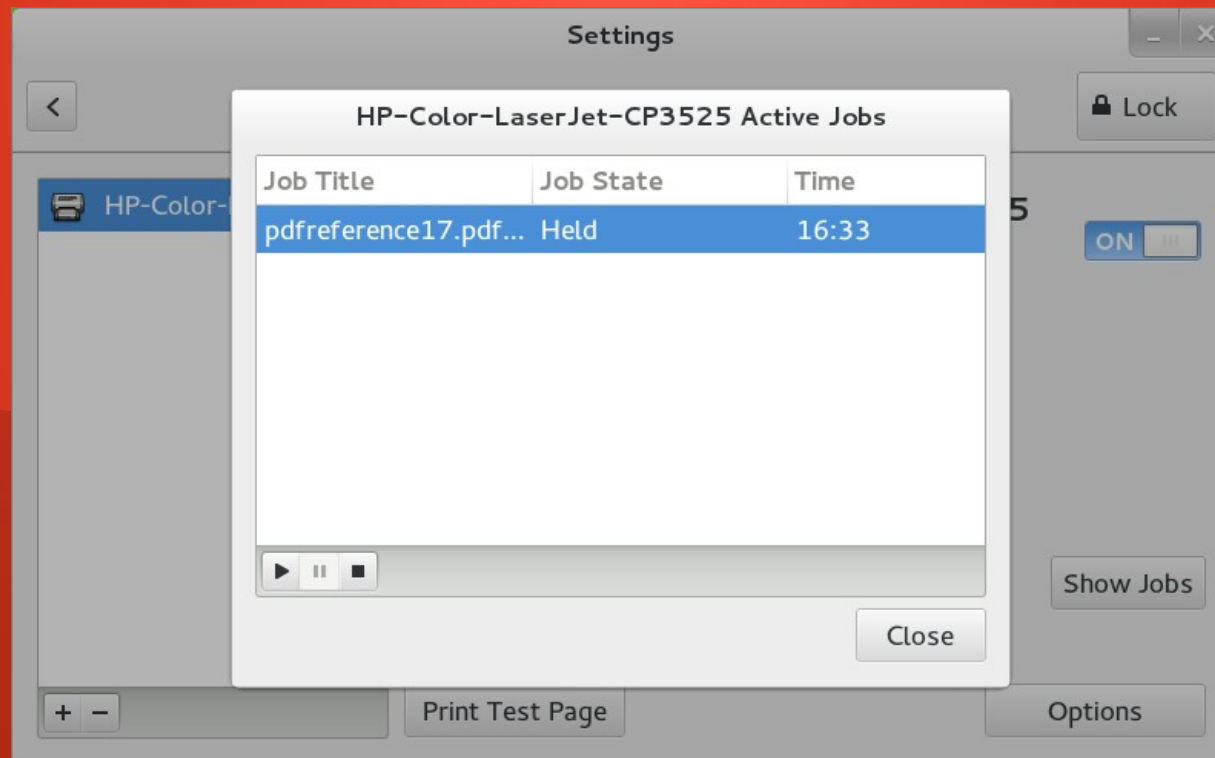
# Printers Panel

## Printer Removal

- Removes printer from CUPS server
  - Removes only printers which are installed locally, not those which are installed on a remote CUPS server

# Printers Panel Jobs Handling

- Lists active print jobs of actual user
- Allow user to resume / pause / cancel his print jobs



# Printers Panel Plans

- Automatic getting of PPDs for Samba printers from Samba server
- Add new functions to cups-pk-helper so we don't need to have them implemented in the panel (e.g. PrinterRename, PrintersGet, JobsGet, ...)
- Fix bugs reported against the panel :)



End