

Free PDF Generation via a CUPS Server

Pump out PDF files for free with your CUPS server from any client OS.

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Thanks to my prompting of this idea to Craig Ringer, he put in the finger work and got it all into a ve reasonable version of reality.

This system uses a custom CUPS backend (a Perl script) to accept print jobs and hand them to ps2 generate PDF documents. The documentation below describes this and the various things you may if you want to have this working flawlessly with Windows clients.

Doing It

You will need to have ps2pdf installed on the server, it is usually part of the gs-common package.

1. The CUPS backend executable:

Quite simply you put an executable file in /usr/lib/cups/backend and it will appear as an in the Devices menu when you go to add a new printer via the web interface.

The example provided is a very bare form with minimal error checking to get you started Later versions include support to write files to user directories based on the print user name etc.

The example script is here: [pdffile](#)

(it is only a .txt file to keep your browser happy)

2. Test the script locally:

Execute the script on the command line to ensure it feeds back the relevant information CUPS looks for when it queries the backend directory, it should say:

```
network pdffile "Unknown" "PDF File Output"
```

3. Add the PDF printer:

Add a printer like normal via the CUPS web interface. When you get asked which Device select "PDF File Output" from the list.

Add "://unused" (minus the quotes) to the end of the default device URI it offers. In my c called the file pdffile so my DEVICE URI is: pdffile://unused

Select 'Raw' for the printer Make and 'Raw Queue (en)' for the printer Model.

4. Print a test page and the example script should put a file called test.pdf in the /tmp/ directory. file and ensure it is true colour representation of the CUPS test page.
5. if (!happy) goto 1;

Printing from a Linux client to the PDF printer

This is covered by [this](#) document, the new PDF printer responds exactly like a normal printer from the client's perspective.

Printing from a Windows client to the PDF printer

This is a little more tricky as Windows wants to use a printer driver for the print job. You can get away with using the 'HP C LaserJet 4500-PS' driver that is native in Windows 2000/XP and attaching it as a network device, however you will not be able to rename the printer to something more appropriate like 'PDF Writer'.

To achieve renaming, you can obtain the Adobe PostScript Drivers for Windows and use a PPD file that describes the characteristics of the printer. This way you can rename the printer to whatever you want via the CUPS interface.

The PPD file I use which was modified from the HP 4500 PPD is [here](#) (69KB) - It has all the default settings.

I created the above PPD file as follows:

1. Install a local HP C LaserJet 4500-PS printer on your Windows machine
2. Find the HP4500.PPD file somewhere under the WINNT\system32\spool\drivers\w32x86\hp4500 directory
3. Copy it somewhere and name it PDF-WRITER.PPD or something useful
4. Edit the block near the top titled: *% Product Name and Version Information Name it as you want it to appear in Windows, something like: PDF Writer
5. Browse the rest of it and change any default you want.
6. Remove the newly installed local printer.

Now you can get the Adobe PostScript drivers and make use of your new PPD file. You can eventually get them [here](#).

You want to get the Printer Drivers v1.0.6 (at time of writing) or above. Below it are also PPD files from other manufacturers including Adobe. If you download the "PPD Files: Adobe" package, it contains an Acrobat Distiller PPD named ADIST5.PPD. Its default display name is "Acrobat Distiller". This PPD file however produces results much larger and of lower quality than the HP4500 PPD, so I chose not to use it.

Run the executable file you just downloaded and tell it you want a network printer that resides at the following address:

```
http://{SERVER}:631/printers/{PRINTER}
eg: http://10.0.0.10:631/printers/PDF
```

It will then complain about the printer not using the Adobe driver. Click Yes and you will be asked to select a Printer Model. If you use the default 'Generic PostScript Printer' you will only get grayscale PDF files. Browse... and find the PPD file you edited or the PDF-WRITER.PPD you leached from me above. Click OK on the rest of the prompts and you should be done.

If installing this on a Windows 95/98/ME client you will need to install the IPP drivers which are free from Microsoft [here](#). It was about 209KB last time I got it.

Doing More

Once it is all working you can start beefing up the backend script to be more useful and put files in user's home directories based on username or whatever it is you want to do.

Currently I have 30 user directories from an NT file server mounted on the CUPS server and the files go straight into the user's home directory. The best way to name the file is from the information the printer application sends. This is often generic such as 'Document 1' etc. If this is not adequate - generate a unique name.

random numbers or check if the name already exists etc. To name the file based on the print job name
the following bits of code sprayed through the existing base script above.

```
# if this user's directory exists
if ( -d "/users/".$ARGV[1]."/PDF") {
  # strip illegal stuff from the filename
  $ARGV[2] =~ s#[\/:;"`<>*\?|\.\.]\#_#g;
  # prepare the deed
  open(PS2PDF,'|/usr/bin/ps2pdf - /users/'.$ARGV[1].'/PDF/'.$ARGV[2].'.pdf')
  or print ERRLOG "Arrggh, failed to open pipe to ps2pdf: $!\n", exit
}
}
```

Use this at your own risk. It over-writes existing files in the PDF directories as on the file server I see
user directories are 'temporary' and get wiped every week. Thus I don't care what goes on in that d
it reminds people to move/use the PDF files they generate or else they *might* get overwritten.

"It works for me (tm)".

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