

Asia/Pacific Activities

OpenPrinting Asia/Pacific Regional Group

OPFC (OpenPrinting Framework Consortium)

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Vector Printer Driver API (OPVP)

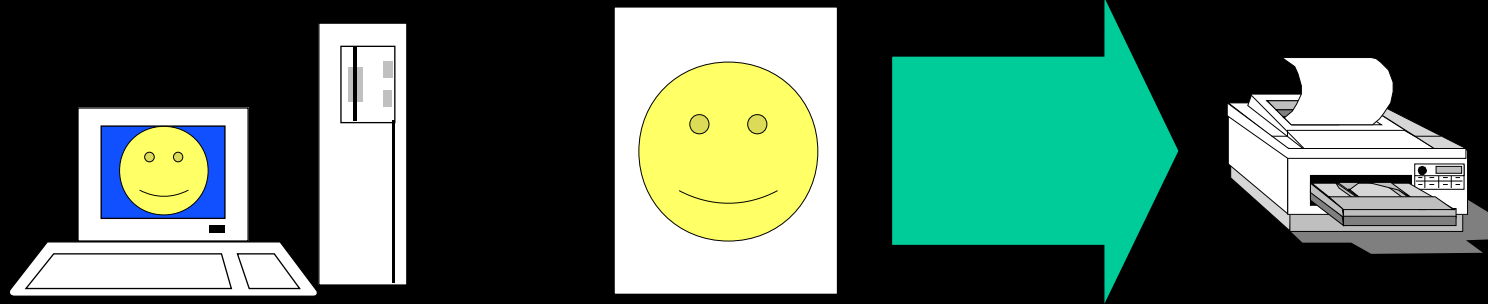
Vector Printer Driver API (OPVP)

- A Printer Driver API supporting high level graphics functions
 - Vector drawing API, such as drawing lines, bezier curves, rectangles, bitmap images, etc..
- Renderer (such as poppler and Ghostscript) calls a driver via the API, then driver generates printer command data

OPVP: Raster vs. Vector

Raster Driver

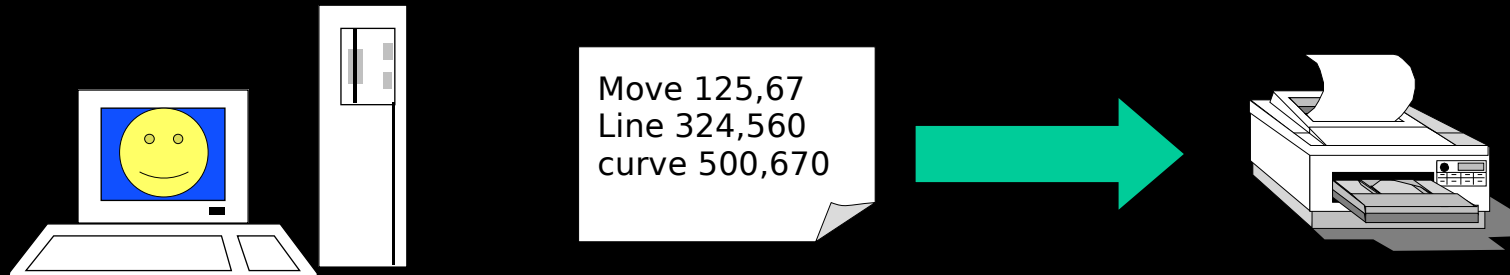
- API is simple
- Large size printing data, slow printing
- Obvious bottleneck with color/high resolution printing



A4, 600dpi, RGB 24bits = 100MB!

Vector Driver

- Small size printing data, high speed printing
- API is more complex than raster driver



3 circles and 1 bezier curve and fill = under 1 KB

OPVP: Information Site

Applications Places System

opfc - Development of Common Open Printing System - Mozilla Firefox

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http://opfc.sourceforge.jp/index.html.en

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Development of Common Open Printing System

OPFC is promoting implementation of next generation printing environment under OSS such as Linux. Currently we are developing core modules and drivers for some printer models, for the purpose of feasibility study of vector printer driver and bi-directional interface specifications which are investigated by [OpenPrinting WG](#).

Developer's page is [here](#).

What's New

June 10th, 2007

- Information for the following OS is now available in the Download page.
 - Fedora 7

May 26th, 2007

- Canon's new Linux drivers for laser printers and MFPs are now available. You can also see the Canon's Japan and overseas drivers site information in the [Links](#) page.
 - [Color/Monochrome Printers \(Satera / LASER SHOT, in Japanese\)](#)
 - [Color Multifunctionals \(Color imageRUNNER, in Japanese\)](#)
 - [Monochrome Multifunctionals \(imageRUNNER, in Japanese\)](#)
- Information for the following OSs are now available in the Download page.
 - Debian GNU/Linux 4.0 (Etch)
 - Ubuntu 7.04

OPVP: Information Site (Cont,)

Download (en) - Mozilla Firefox

file Edit View History Bookmarks Tools Help

http://opfc.sourceforge.jp/download.html.en

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Download

Status of each OS

Checked OS (alphabetic order)	Checked Architecture	Ghostscript including GlueCode (Latest Ver. is 1.05)	Printer Information Readback Utilities
CentOS 4	x86, x86_64	Available by update. Latest version is here .	Available by update. Latest version is here .
CentOS 5	x86, x86_64	Already available.(Ver.1.05)	N/A
Debian GNU/Linux 3.1 (Sarge)	x86	Available by update. Latest version is here .	N/A
Debian GNU/Linux 4.0 (Etch)	x86	Already available.(Ver.1.05)	N/A
Fedora Core 3	x86	Available by update. Latest version is here .	Available by update. Latest version is here .
Fedora Core 4	x86, x86_64	Available by update. Latest version is here .	Available by update. Latest version is here .
Fedora Core 5	x86, x86_64	Already available.(Ver.1.05)	Available by update. Latest version is here .
Fedora Core 6	x86, x86_64	Already available.(Ver.1.05)	N/A Under preparation.
Fedora 7	x86, x86_64	Already available.(Ver.1.05)	N/A

OPVP: Information Site (Cont,)

The screenshot shows a Mozilla Firefox browser window titled "Install (en) - Mozilla Firefox". The address bar contains the URL "http://opfc.sourceforge.jp/install.html.en". The page content includes a navigation menu on the left with links for "Top", "Download", "Install", "Links", and "Japanese". The main content area features a section titled "Install" with a sub-section "Vector Printer Driver Installation". Under this sub-section, there is a heading "Check Ghostscript on Your System" followed by a paragraph explaining the need for Ghostscript with the Vector Printer Driver Interface. A terminal command is provided: `% gs -h | grep opvp`. Below the command, the output is shown: `1j5mono 1jet2p 1jet3 1jet3d 1jet4 1jet4d 1jetplus nullpage opvp oprp pbm`. The text explains that if no output is seen, the interface is not installed. A second heading, "Installation of Ghostscript", follows, with instructions on how to install the new Ghostscript version and a warning about potential issues with custom environments. The bottom of the page mentions downloading the Ghostscript RPM file.

OPVP: Now and Then

- Version 0.2 – current spec.
 - API Spec. - released in 2003
 - HP PCL5, Canon, Epson, and NEC Drivers have been released so far
 - Integrated in many distros as “opvp” driver with ESP GS
 - CUPS PDF filter “pdftoopvp” in 2006
- Version 1.0 – upcoming spec.
 - Current status: RC5 (almost done!)
 - ◆ <ftp://ftp.pwg.org/pub/pwg/fsg/vector/pdapi-spec-1.0rc5.odt>
 - Implementation – opvp based on 1.0 is in beta status
 - ◆ Several vendors are already implemented drivers and testing ... so far so good!

OPVP: Compatibility

- New “opvp” code for Ghostscript supports both 0.2 and 1.0 driver
 - Automatically detects the API version exported by each printer driver
 - Automatically changes the API calling sequence according to the API version
 - Then both the opvp 0.2 compliant printer driver and the opvp 1.0 compliant printer driver work under the new opvp 1.0 code w/o any modifications!
- Sample driver “opvpnull” are already updated for 1.0
- Driver feasibility test has almost finished (6 months)
 - Soon available at <http://opfc.sourceforge.jp>

Appendix

OPVP: Changes from 0.2 to 1.0

- RC5 Spec
 - <ftp://ftp.pwg.org/pub/pwg/fsg/vector/pdapi-spec-1.0rc5.odt>
- Chages
 - <ftp://ftp.pwg.org/pub/pwg/fsg/vector/pdapi-changes-0.2to1.0rc5.odt>
 - Naming conventions
 - ◆ “OPVP” prefixes for macros and “opvp” prefixes for function names
 - API modifications
 - ◆ Include API version to `opvpOpenPrinter()`
 - ◆ `opvpAbortJob()` function is added.
 - ◆ Raster Operation functions are deleted and replaced with the MASK operation.
 - ◆ Tentative “text” functions are deleted.
 - Improve and clarify descriptions over all