

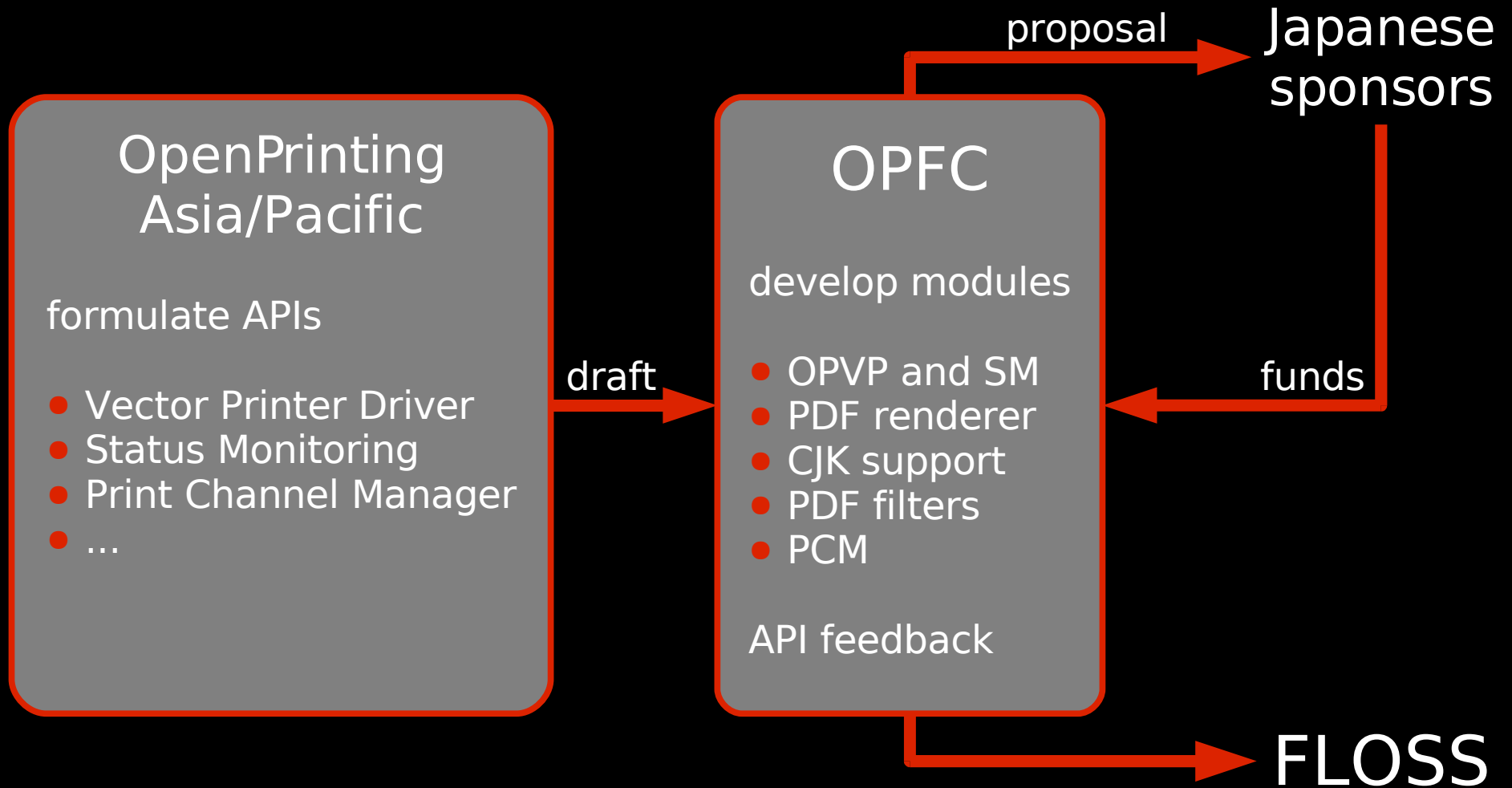
Asia/Pacific Activities

OpenPrinting Asia/Pacific Regional Group

OPFC (OpenPrinting Framework Consortium)

Presentation: Yoshihiro Masuda (AXE Inc.)
Slides: Olaf Meeuwissen (EPSON AVASYS Corp.)

Big Picture



OPFC?

- **2003**: established in June
 - **2004**: Vector Printer Driver and Status Monitoring APIs and implementations
 - **2005**: PDF renderer implementation
 - **2006**: Ghostscript CJK support
 - **2007**: Print Channel Manager API and PDF filter implementations (2nd quarter)
- stimulate use and standardisation of APIs

Participants

- companies

- AXE, Inc.
- BBR Inc.
- EPSON AVASYS Corporation
- Turbolinux, Inc.

- advisors

- Kentaro IDE (SEIKO EPSON Corporation)
- Akeo MARUYAMA (Ricoh Company, Ltd.)
- Osamu MIHARA (Fuji Xerox Printing Systems Co., Ltd.)
- Keisho SHIDA (Canon Inc.)
- Toshiya SUZUKI (Hiroshima University)
- Yasumasa TORATANI (Canon Inc.)

Ghostscript CJK

- support CJK ideographs and vertical writing
- CJK patches in GPL Ghostscript until version 7.05, no longer in 8.15
- development of patches for 8.15
- merged with ESP Ghostscript 8.15.3

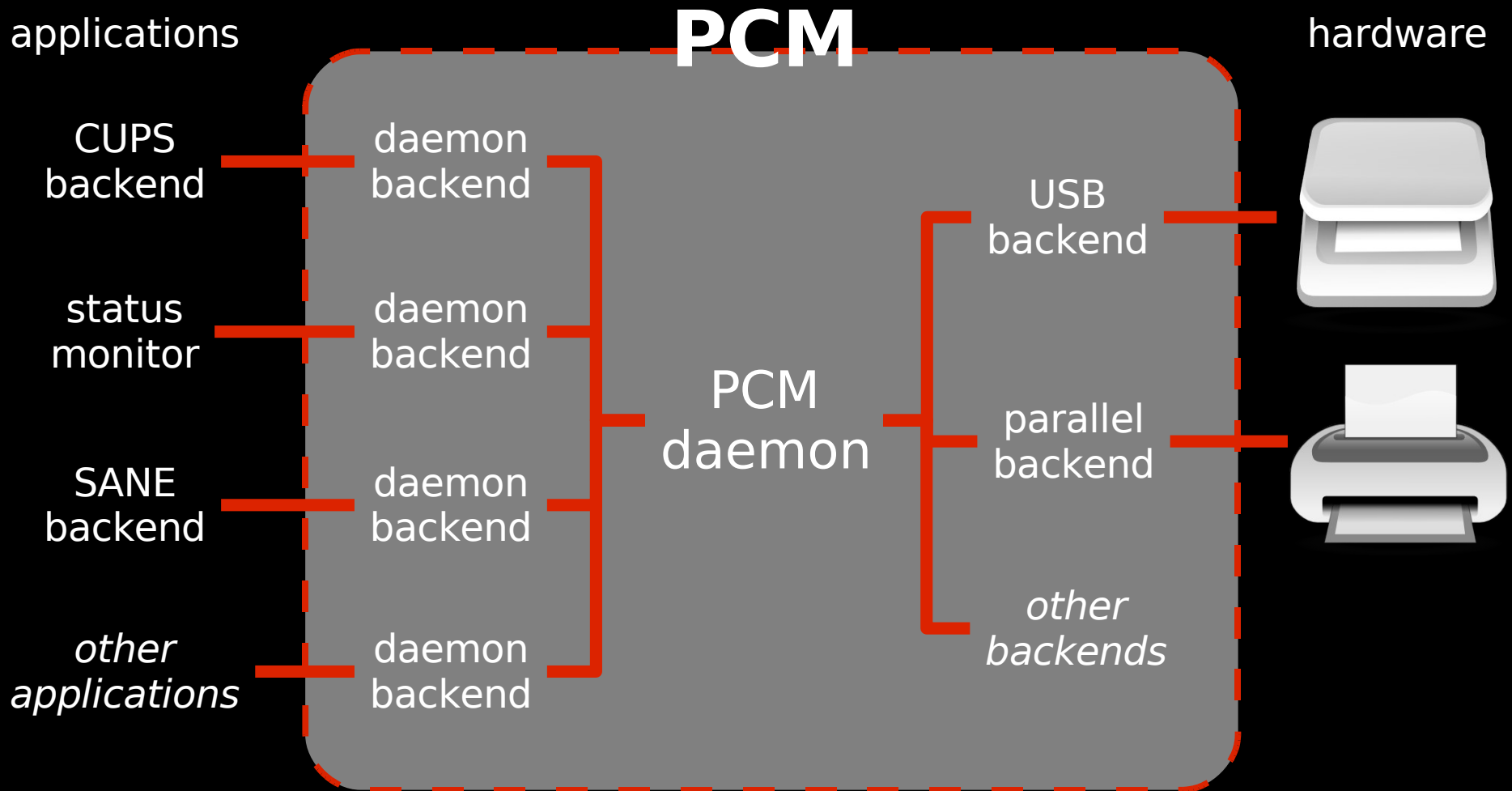
「横書き」の例。

「縦書き」の例。

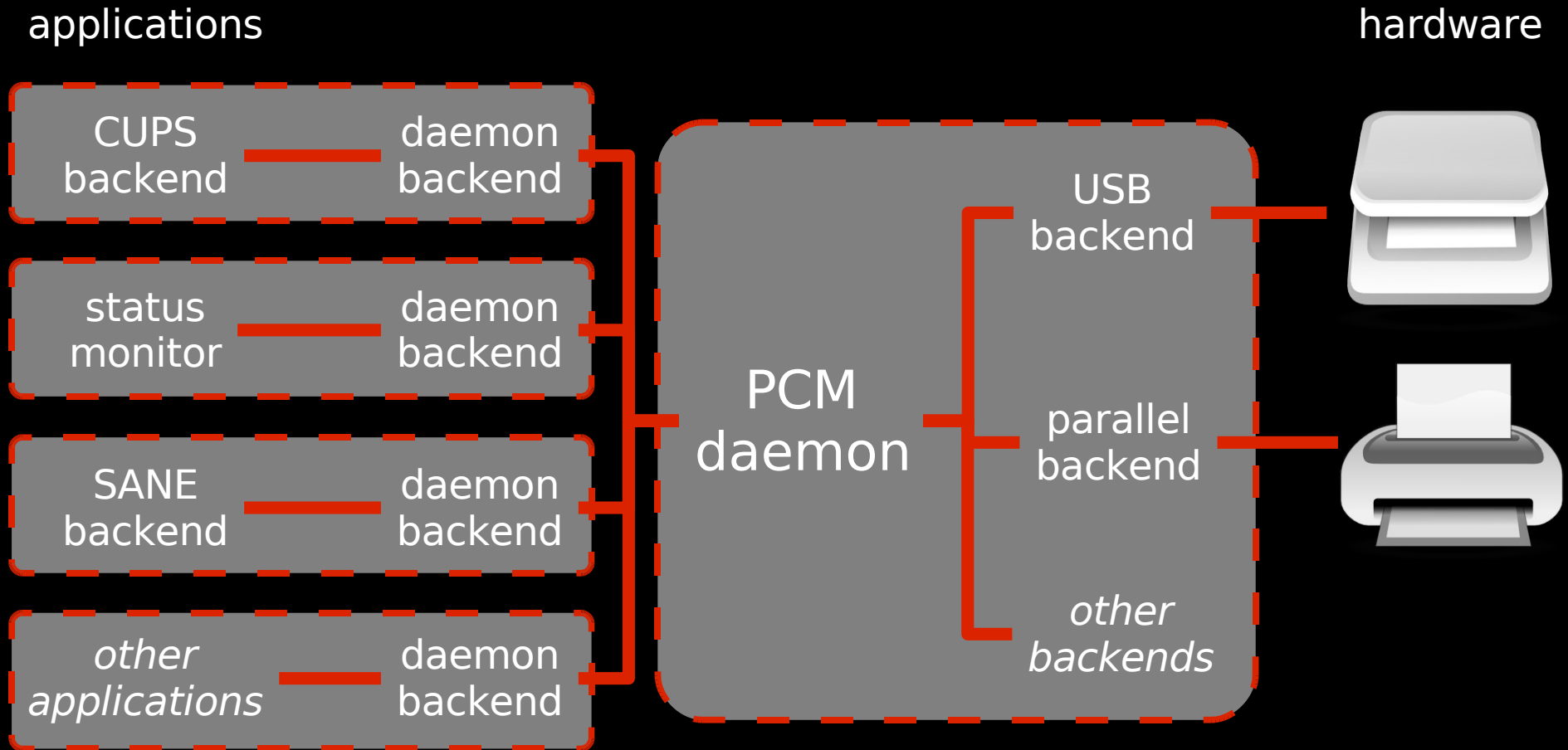
Print Channel Manager (PCM)

- encapsulate communication protocol layer
 - network, USB, parallel, IEEE1394, SCSI, etc.
- arbitrate resource contention
 - query device status while printing
 - multi-function peripherals (MFPs)

PCM Architecture View



PCM Process View



PCM API Entries (1)

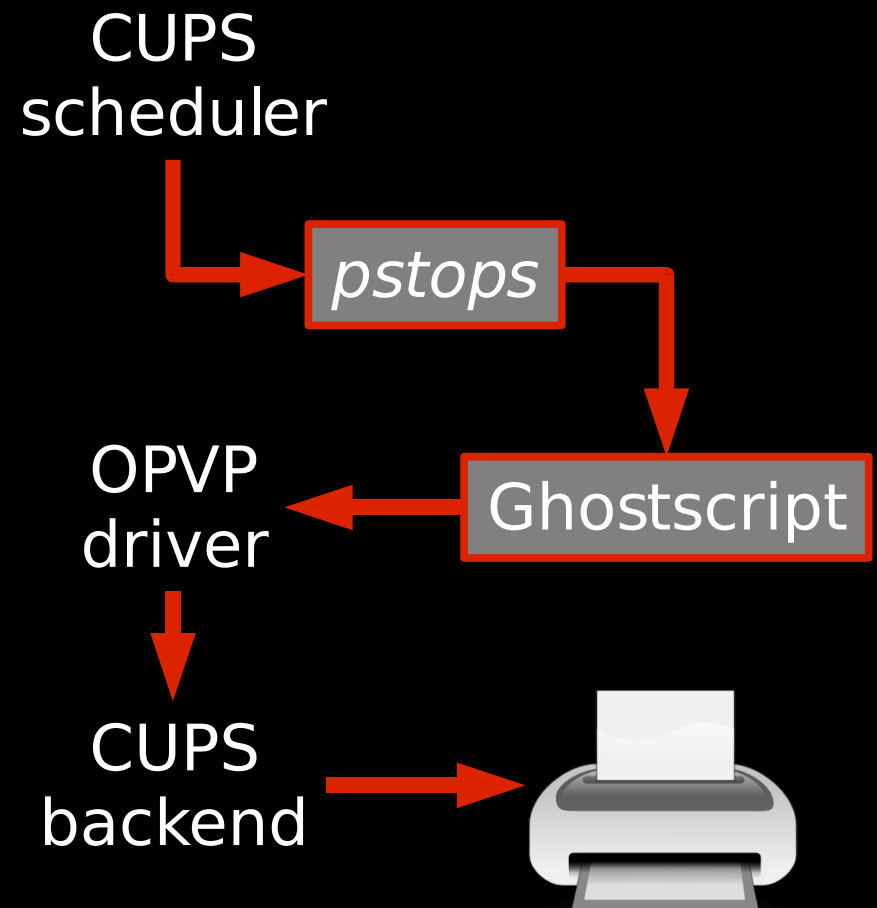
- *fsgpcmInit, fsgpcmExit*
- *fsgpcmOpen, fsgpcmClose*
- *fsgpcmRead, fsgpcmWrite*
- *fsgpcmControl*
- *fsgpcmListDevices*
- *fsgpcmGetMessage*

PCM API Entries (2)

- each backend provides a “shadow” API
 - allows for simultaneous use
 - allows reuse of existing backends
 - achieves 100% substitutability
- “shadow” API created mechanically and transparently
 - e.g. *fsgpcmOpen* » *fsgpcm_be_Open*

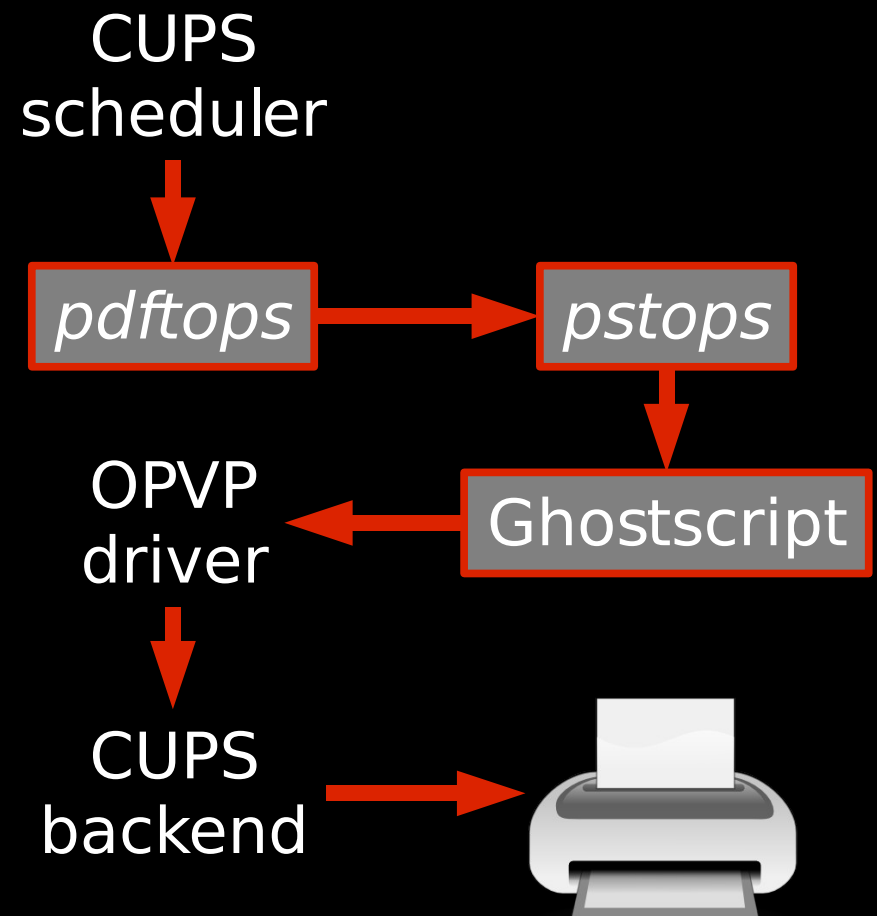
Printing with CUPS

- spools PostScript™
- uses *pstops*
 - n-up, scaling, etc.
- rendering courtesy of Ghostscript
- replace both *pstops* and Ghostscript with PDF alternatives



Printing PDF with CUPS

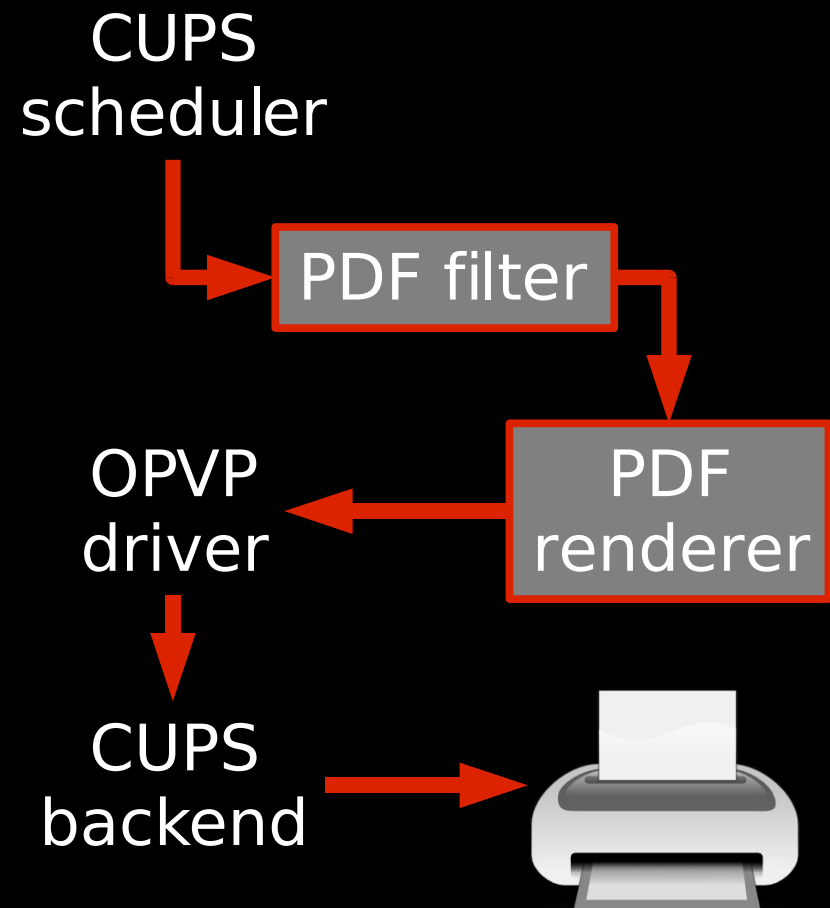
- simply converts PDF to PostScript™
- drawbacks
 - increased processing
 - uses more resources
- Ghostscript does not lend itself to support for PDF



Atlanta 2006: Spooling PDF

requirements

- PDF renderer
 - finished 2005
 - output to OPVP driver
 - *xpdf* based
- PDF filter(s)
 - conversion to PDF
 - n-up, scaling, etc.



Spooling PDF: Approach

- replace *pstops* with *pdftopdf*
- replace Ghostscript with PDF renderer
- provide PDF converters as needed
 - e.g. *imagetops* » *imagetopdf*

for a simpler and more efficient system

Questions?

printing-summit@lists.freestandards.org

Thanks for your attention!