

File created: 11-Nov-2023 11:24:42 {WMEDLEY}<library>PDFSTREAM.;56

edit by: rmk

changes to: (VARS PDFSTREAMCOMS)

previous date: 9-Oct-2023 00:42:25 {WMEDLEY}<library>PDFSTREAM.;55

Read Table: INTERLISP

Package: INTERLISP

Format: XCCS

(RPAQQ **PDFSTREAMCOMS**

```
((FILES (SYSLOAD)
  POSTSCRIPTSTREAM)
 [COMS
  [ADDVARS [PRINTERTYPES ((PDF)
    (CANPRINT (PDF))
    (STATUS TRUE)
    (PROPERTIES NIL)
    (SEND POSTSCRIPTSEND)
    (BITMAPSCALE POSTSCRIPT.BITMAPSCALE)
    (BITMAPFILE (PDF.HARDCOPYW FILE BITMAP SCALEFACTOR REGION ROTATION TITLE])
  [PRINTFILETYPES (PDF (TEST PDFFILEP)
    (EXTENSION (PDF))
    (CONVERSION (TEXT PDF.TEXT TEDIT PDF.TEDIT])
  (IMAGESTREAMTYPES (PDF (OPENSTREAM OPEN-PDF-STREAM)
    (FONTCREATE POSTSCRIPT.FONTCREATE)
    (FONTSAVAILABLE POSTSCRIPT.FONTSAVAILABLE)
    (CREATECHARSET \CREATECHARSET.PSC]
  (VARS (DEFAULTPRINTERTYPE 'PDF))
  (FNS PDFFILEP PDF.HARDCOPYW PDF.TEXT PDF.TEDIT)
  (P (FONTPROFILE.ADDDEVICE 'PDF 'POSTSCRIPT])
  ;;
```

;; Implementation of PDF streams

```
(INITVARS (PDFCONVERTER NIL))
```

; Mac with ghostscript?

```
(ALISTS (PDF-CONVERTER-TEMPLATES ps2pdf pstopdf))
(GLOBALVARS PDFCONVERTER PDF-CONVERTER-TEMPLATES)
(FNS OPEN-PDF-STREAM CLOSE-PDF-STREAM PS-TO-PDF)
(FNS SEE-PDF)
(ADDVARS (FB.SEE.METHODS (PDFFILEP SEE-PDF)))
(FNS PDFCONVERTER)))
```

```
(FILESLOAD (SYSLOAD)
  POSTSCRIPTSTREAM)
```

;; Hook into hardcopy interface

```
(ADDTOVAR PRINTERTYPES ((PDF)
  (CANPRINT (PDF))
  (STATUS TRUE)
  (PROPERTIES NIL)
  (SEND POSTSCRIPTSEND)
  (BITMAPSCALE POSTSCRIPT.BITMAPSCALE)
  (BITMAPFILE (PDF.HARDCOPYW FILE BITMAP SCALEFACTOR REGION ROTATION TITLE))))
```

```
(ADDTOVAR PRINTFILETYPES (PDF (TEST PDFFILEP)
  (EXTENSION (PDF))
  (CONVERSION (TEXT PDF.TEXT TEDIT PDF.TEDIT))))
```

```
(ADDTOVAR IMAGESTREAMTYPES (PDF (OPENSTREAM OPEN-PDF-STREAM)
  (FONTCREATE POSTSCRIPT.FONTCREATE)
  (FONTSAVAILABLE POSTSCRIPT.FONTSAVAILABLE)
  (CREATECHARSET \CREATECHARSET.PSC)))
```

```
(RPAQQ DEFAULTPRINTERTYPE PDF)
```

```
(DEFINEQ
```

(**PDFFILEP**

```
[LAMBDA (FILE)
```

; Edited 23-Jun-2023 14:43 by rmk
; Edited 5-Mar-93 21:40 by rmk:
; Edited 14-Jan-93 10:56 by jds

```
(OR (CL:MEMBER (UNPACKFILENAME.STRING FILE 'EXTENSION)
  ('("PDF"))
  :TEST
  (FUNCTION STRING-EQUAL))
  (CL:WHEN (STREAMP FILE)
    (SETFILEPTR FILE 0)
    (PROG1 (AND (EQ (BIN FILE)
      (CHARCODE %%))
      (EQ (BIN FILE)
      (CHARCODE P))
```

```
(EQ (BIN FILE)
  (CHARCODE D))
(EQ (BIN FILE)
  (CHARCODE F)))
(SETFILEPTR FILE 0))]]
```

(PDF.HARDCOPYW

```
[LAMBDA (PDFFILE BITMAP SCALEFACTOR REGION Landscape? TITLE) ; Edited 24-Jul-2023 10:37 by rmk
; Edited 23-Jun-2023 13:28 by rmk
; Edited 6-Mar-2023 22:43 by rmk
(LET ((PSTTMP (PACKFILENAME 'EXTENSION 'TMPPS 'BODY PDFFILE)))
  (PS-TO-PDF (POSTSCRIPT.HARDCOPYW PSTTMP BITMAP SCALEFACTOR REGION Landscape? TITLE)
    PDFFILE]))
```

(PDF.TEXT

```
[LAMBDA (FILE PDFFILE FONTS HEADING TABS) ; Edited 1-Oct-2023 15:24 by rmk
; Edited 23-Jun-2023 13:23 by rmk
; Edited 7-Mar-2023 08:39 by rmk
(TEXTTOIMAGEFILE FILE PDFFILE 'PDF FONTS HEADING TABS '(REGION ,POSTSCRIPT.DEFAULT.PAGEREGION ROTATION
, (NOT (NOT POSTSCRIPT.TEXTFILE.LANDSCAPE))
```

(PDF.TEDIT

```
[LAMBDA (FILE PDFFILE) ; Edited 23-Jun-2023 13:22 by rmk
; Edited 7-Mar-2023 08:39 by rmk
(LET ((TSTREAM (OPENTEXTSTREAM FILE)))
  (TEDIT.FORMAT.HARDCOPY FILE PDFFILE T NIL NIL NIL 'PDF)
  (CLOSEF TSTREAM])
```

)

```
(FONTPROFILE.ADDDEVICE 'PDF 'POSTSCRIPT)
```

::

:: Implementation of PDF streams

```
(RPAQ? PDFCONVERTER NIL)
```

:: Mac with ghostscript?

```
(ADDTOVAR PDF-CONVERTER-TEMPLATES (ps2pdf " " PSFILE " " PDFFILE " 2> " ERRORFILE)
  (pstopdf " " PSFILE " -o " PDFFILE " 2> " ERRORFILE))
```

```
(DECLARE%: DOEVAL@COMPILE DONTCOPY
```

```
(GLOBALVARS PDFCONVERTER PDF-CONVERTER-TEMPLATES)
```

)

```
(DEFINEQ
```

(OPEN-PDF-STREAM

```
[LAMBDA (FILE OPTIONS) ; Edited 23-Sep-2023 15:38 by rmk
; Edited 22-Sep-2023 11:04 by rmk
; Edited 24-Jun-2023 14:49 by rmk
```

:: Open a temporary PS file, but set it up so that at closing it gets converted to PDF using an operating-system utility (if available), and then gets renamed to the original intended filename.

:: We have to stash the original filename someplace. We could put it in the tmp filename and then parse it out, but then we would have to worry about how unix filenames might parse against our {, }, etc.

:: Simplest thing for now is to just add an extra field at the end of the \POSTSCRIPTDATA record.

::

```
(if [AND NIL (EQ 'LPT (FILENAMEFIELD FILE 'HOST)]
  then ; If FILE is on the LPT device, we could just assume that it can be printed directly, no point in converting. But then we would also have to lie and give it a PDF extension so it thinks that we are heading to a PDF printer.
```

```
  (OPENPOSTSCRIPTSTREAM FILE OPTIONS)
  else (CL:UNLESS (ASSOC (PDFCONVERTER)
    PDF-CONVERTER-TEMPLATES)
    (ERROR "A specified POSTSCRIPT-to-PDF converter cannot be found"))
  (SETQ FILE (OR (AND (NEQ FILE T)
    (OUTFILEP FILE))
    (ERROR "PDF target file not found" FILE)))
  (LET ((PSTREAM (OPENPOSTSCRIPTSTREAM (CONCAT "{UNIX}/tmp/medley-pdf-" (IDATE)
    "-"
    (RAND)
    ".ps"
    OPTIONS)))
    (STREAMPROP PSTREAM 'AFTERCLOSE (CONS (FUNCTION CLOSE-PDF-STREAM)))
    (STREAMPROP PSTREAM 'PDFTARGETINFO FILE)
    PSTREAM]))
```

(CLOSE-PDF-STREAM

[LAMBDA (PSSTREAM)

; Edited 22-Sep-2023 11:18 by rmk
; Edited 24-Jul-2023 10:37 by rmk
; Edited 17-Jul-2023 22:32 by rmk
; Edited 24-Jun-2023 13:57 by rmk

:: PSSTREAM is a postscript (maybe in tmp) rendition of what is intended to end up as a pdf. If we are going directly to a printer, we can probably just pass it along without worrying about conversion. In fact, in that case we probably should not have bothered even setting up the PDF stream.
:: But for a file we execute the PDFCONVERTER as a shell command to make a pdf, and then we rename it to the intended filename

```
(STREAMPROP PSSTREAM 'AFTERCLOSE NIL) ; Maybe just remove only CLOSE-PDF-STREAM from the list?
(LET ((TARGETINFO (STREAMPROP PSSTREAM 'PDFTARGETINFO NIL)))
  (CL:IF TARGETINFO
    (RENAMEFILE (PS-TO-PDF PSSTREAM)
                TARGETINFO)
    (PSSTREAM]))
```

(PS-TO-PDF

[LAMBDA (PSFILE PDFFILE DONTDELETE)

; Edited 1-Oct-2023 15:18 by rmk
; Edited 23-Sep-2023 22:54 by rmk
; Edited 23-Jul-2023 22:30 by rmk
; Edited 24-Jun-2023 15:01 by rmk
; Edited 16-Jul-2022 13:06 by rmk
; Edited 8-Jul-2022 10:20 by rmk
; Edited 7-May-2022 22:40 by rmk
; Edited 7-Oct-2021 11:15 by rmk

:: PSFILE is the name of a closed PS file on a DSK/UNIX device. This function uses the PDFCONVERTER utility to convert that to a parallel pdf file, which is then renamed to PDFFILE.

:: DONTDELETE is just for debugging, keeps the /tmp/ files

```
(SETQ PSFILE (FULLNAME (TRUEFILENAME PSFILE)))
(CL:UNLESS (INFILEP PSFILE)
  (ERROR "NO PS FILE TO CONVERT"))
(CL:UNLESS (ASSOC (PDFCONVERTER)
  PDF-CONVERTER-TEMPLATES)
  (ERROR "A specified POSTSCRIPT-to-PDF converter cannot be found"))
(SETQ PDFFILE (if PDFFILE
  then (TRUEFILENAME PDFFILE)
  else (PACKFILENAME 'EXTENSION 'pdf 'BODY PSFILE)))
(LET ((ERRORFILE (PACKFILENAME 'EXTENSION 'error 'BODY PSFILE))
  COMPLETIONCODE)
```

:: PROCESS-COMMAND is currently from GITFNS. Not sure whether ShellCommand in UNIXUTILS is appropriate.

:: We have to map the filenames down to Unix conventions: (not pseudohost or host, slashes, etc.

```
[SETQ COMPLETIONCODE (PROCESS-COMMAND (CONCATLIST (SUBLIS `((PSFILE \, (SLASHIT (TRUEFILENAME PSFILE)
  NIL T))
  (PDFFILE \, (SLASHIT (TRUEFILENAME PDFFILE)
  NIL T))
  (ERRORFILE \, (SLASHIT (TRUEFILENAME
  ERRORFILE)
  NIL T)))
  (ASSOC (PDFCONVERTER)
  PDF-CONVERTER-TEMPLATES]
```

:: Now use Medley names

```
(CLOSEF? PSFILE)
(CL:UNLESS DONTDELETE (DELFILE PSFILE))
(CLOSEF? ERRORFILE)
(CL:WHEN (INFILEP ERRORFILE)
  (CL:WHEN (IGREATERP (PROG1 (GETFILEINFO ERRORFILE 'LENGTH)
  (CL:UNLESS DONTDELETE (DELFILE ERRORFILE)))
  0)
  (ERROR "Cannot create PDF file for " PDFFILE)))
(CL:WHEN (IGREATERP COMPLETIONCODE 0)
  (ERROR "Cannot create PDF file for " PDFFILE))
PDFFILE])
```

)

(DEFINEQ

(SEE-PDF

[LAMBDA (PDFFILE)

; Edited 1-Oct-2023 20:47 by rmk
; Edited 26-Sep-2023 16:52 by rmk

:: Use the ShellOpener for this machine to open the PDF file outside of Medley

```
(ShellOpen (PACKFILENAME 'BODY PDFFILE 'EXTENSION 'PDF])
```

)

(ADDTOVAR **FB.SEE.METHODS** (PDFFILEP SEE-PDF))

(DEFINEQ

(PDFCONVERTER

[LAMBDA NIL

```
(SETQ PDFCONVERTER (OR PDFCONVERTER (MKATOM (UNIX-GETENV "MEDLEY-PDFCONVERTER"))
(CAR (for TEMPLATE in PDF-CONVERTER-TEMPLATES thereis (ShellWhich (CAR TEMPLATE]))
)
```

FUNCTION INDEX

CLOSE-PDF-STREAM ..3 PDF.HARDCOPYW2 PDF.TEXT2 PDFFILEP1 SEE-PDF3
OPEN-PDF-STREAM ...2 PDF.TEDIT2 PDFCONVERTER3 PS-TO-PDF3

VARIABLE INDEX

DEFAULTPRINTERTYPE1 IMAGESTREAMTYPES1 PDFCONVERTER2 PRINTFILETYPES1
FB.SEE.METHODS3 PDF-CONVERTER-TEMPLATES .2 PRINTERTYPES1
