

The `attachfile2` package

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Abstract

This package can be used to attach files to a PDF document. It is a further development of Scott Pakin's package `attachfile` for pdfTeX. Apart from bug fixes, package `attachfile2` adds support for `dvips`, some new options, gets and writes meta information data about the attached files.

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1 Documentation

1.1 Introduction

The PDF format ([3]) allows the inclusion of files inside the PDF document. The included files can be bound to an annotation on a page. Or they can be recorded in a sorted list of embedded files. The packages `attachfile` or `attachfile2` follow the first approach, package `embedfile` uses the latter method.

1.1.1 Future development

My dream is a large package that merges the features of all these packages mentioned before:

- Files can be attached to a page.
- Files can be attached to the document.
- An easy user interface for simple, common tasks and beginners.
- An interface for the advanced users that want to setup every detail.
- Support of many drivers (`pdftex`, `dvips`, `dvipdfm`, ...).
- ...

However, I have not managed to take the time for this project. Instead:

- First I experimented with package `attachfile`, adding driver support, fixing bugs, The result is currently named as `attachfile2`. It uses an external script to get file properties (size, date, checksum, ...).
- In order to avoid an external program for getting basic file properties I provided a patch “EscapeAndOther” for `pdfTeX` that was accepted for version 1.30.
- Package `embedfile` closes a gap left by the packages for attaching files and allows the embedding of files to the document. Also it makes use of the new primitives of `pdfTeX`.

Until this future becomes true, I provide the intermediate step `attachfile2` at its current state. There are many things to do:

- Documentation, documentation, ...
- Improving portability of the Perl script `pdfatfi.pl` (Windows, non-GNU, ...).
- Comfortable program for extracting embedded files.

- Embedding files to the document, see package `embedfile`.
- Additionally use features of pdf \TeX 1.30. With a recent pdf \TeX the Perl script step is then obsolete.
- GoToE links.
- Layout of PinPush, especially the tip does not scale well.
- Driver for `dvipson`, similar to `dvips`, changes:
 - coordinate transformation need to be fixed here, `hdvipson.def` contains:


```

          /DvipsToPDF { 65781 div } def
          /PDFToDvips { 65781 mul } def
          
```
 - Syntax for `\special`: `hdvipson.def` contains both `\special{! #1}` and `\special{headertext= #1}`. Are both the same?
- File name conversion, see PDF specification:


```

      c:\somewhere\foobar.txt → /c/somewhere/foobar.txt
      
```
- Option `scale` for icons?
- Compatibility for plain \TeX .
- ToDos for `atfidvips.def`.

1.2 User interface

Basically this package `attachfile2` follows the user interface of package `attachfile`, look into its documentation ([1]).

1.2.1 New options

- Driver options `dvips`, `pdftex`, `dvipdfmx` and `xetex` that is an alias for `dvipdfmx`.
- Option `driverfallback` specifies a DVI driver if the driver cannot be detected automatically.
- New options `final` and `draft`.
- New option `scale` for scaling the annotation rectangle.
- Options `file` and `nofile` for controlling the generation of the auxiliary file `.atfi`.
- New option `ucfilespec` for file names with characters outside ASCII (PDF 1.7).

1.2.2 Option color

Package `attachfile`'s option `color` only understands explicit RGB values as three space separated real numbers in the range from 0 to 1.

This package `attachfile2` extends the syntax. The usual color specifications of packages `color` or `xcolor` may be used. The latter one requires that package `xcolor` is loaded. Without package `xcolor` a limited range of explicit color specifications are supported, the color models `rgb` and `gray` (and `cmymk` if package `hyperref`'s option `pdfversion` is set to 1.7 or greater).

Example without package `xcolor`:

```

\documentclass{article}
\usepackage[color={1 0 .5}]{attachfile2}
% Spaces in option values in \usepackage or \documentclass
% must be protected by curly braces. Otherwise LaTeX strips
% the spaces and the package would see `color=10.5'.
% This protection is not necessary for \attachfilesetup.
\attachfilesetup{color=1 0 .5}
\attachfilesetup{color=[rgb]{1,0,.5}}
\attachfilesetup{color=[gray]{.5}}

```

The following example with package `xcolor` shows additional color specifications:

```

\documentclass{article}
\usepackage{xcolor}
\definecolor{attachfilecolor}{cmyk}{.1,.2,.3,.4}
\usepackage{color=red}{attachfile2}
\attachfilesetup{color=red}
\attachfilesetup{color=attachfilecolor}

```

For experts. If the color is used in annotations, the color is converted with the help of package `xcolor` to RGB. PDF versions 1.7 or later also understand color models Gray and CMYK. The PDF version is detected if the experimental option `pdfversion` of package `hyperref` is used, example:

```

\documentclass{article}
\usepackage[pdfversion=1.7]{hyperref}
\usepackage{attachfile2}

```

However, currently only driver `pdftex` also supports the actual setting of the PDF version in the output PDF file.

1.2.3 Perl script `pdfatfi.pl`

This package also tries to get and add meta information data, such as file size, file date, checksum, As package `embedfile` shows the new features of `pdfTeX` 1.30 are very useful for getting this kind of data. Since version 2.6 these data are used if available.

For older versions of `pdfTeX` and `XYTeX` the Perl script `pdfatfi.pl` is provided to get this data. The use of the Perl script is not mandatory. This data can be shown by PDF viewers, but they are not a requirement of the PDF specification.

Package `attachfile2` and the Perl script communicate via an auxiliary file with file extension `.atfi`. The script is used between two `LATeX` runs and updates the auxiliary file, example for `dvips`:

```

latex test
pdfatfi test
latex test
dvips test
ps2pdf test.ps test.pdf

```

1.3 Changes to `attachfile`

Some of the changes I can remember:

- Support for `dvips`.
- Support for `dvipdfmx`/`XYTeX`.
- Setting and filling the `/Param` entry for files (file date, file size, ...).
- Perl script `pdfatfi.pl`.

- New options.
- Bug fixes.
- ...

2 Implementation

2.1 Package

```

1 <*package>
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{attachfile2}%
4 [2012/04/18 v2.7 Attach files into PDF (HO)]%

```

2.1.1 Loading of packages

```

5 \RequirePackage{ifpdf}[2009/04/10]
6 \RequirePackage{ifxetex}
7 \RequirePackage{ifluatex}[2009/04/10]
8 \RequirePackage{keyval}
9 \RequirePackage{color}
10 \RequirePackage{infwarerr}[2010/04/08]
11 \RequirePackage{ltxcmds}[2010/04/26]
12 \RequirePackage{kvoptions}[2009/07/21]
13 \RequirePackage{pdftexcmds}[2010/04/01]
14 \RequirePackage{pdfescape}[2007/11/11]

```

Package hyperref is needed because of \pdfstringdef.

```

15 \RequirePackage{hyperref}
16 \RequirePackage{hycolor}[2008/07/29]

```

2.1.2 Value checking

\atfi@Match

```

17 \ltx@ifundefined{pdfmatch}{%
18   \def\atfi@Match#1#2#3#4#5{%
19   }{%
20   \def\atfi@Match#1#2#3{%
21     \begingroup
22     \edef\~{\ltx@backslashchar\string^}%
23     \edef\.\{\ltx@backslashchar.}%
24     \let#\ltx@hashchar
25     \edef\[\{\ltx@backslashchar[]% ]]
26     \edef\$\{\ltx@backslashchar$}%
27     \let%\ltx@percentchar
28     \edef&\string&%
29     \edef\(\{\ltx@backslashchar(}%
30     \edef\)\{\ltx@backslashchar)}%
31     \edef\|\{\ltx@backslashchar|}%
32     \edef*\{\ltx@backslashchar*}%
33     \edef+\{\ltx@backslashchar+}%
34     \edef?\{\ltx@backslashchar?}%
35     \edef\{\{\ltx@backslashchar\ltx@leftbracechar}%
36     \edef\}\{\ltx@rightbracechar}%
37     \edef\\{\ltx@backslashchar\ltx@backslashchar}%
38     \edef\~{\string~}%
39     \ifcase\pdfmatch#3{#2}{#1} %
40       \endgroup
41       \expandafter\ltx@secondoftwo
42     \or
43       \endgroup
44       \expandafter\ltx@firstoftwo
45     \else

```

```

46     \atfi@Warning{%
47         Internal error: Wrong pattern!\MessageBreak
48         --> #2 <--\MessageBreak
49         Pattern check ignored%
50     }%
51     \endgroup
52     \expandafter\ltx@firstoftwo
53     \fi
54 }%

```

\atfi@PatToken

```

55 \def\atfi@PatToken{%
56     [%
57     -% first character
58     !%
59     \#$\%\&'%
60     *\+\.%
61     0-9%
62     A-Z%
63     \^_`%
64     a-z%
65     \{\}\|\|-%
66     ]+%
67 }%

```

\atfi@CR

```

68 \begingroup
69     \lccode64=13 % @
70 \lowercase{\endgroup
71     \def\atfi@CR{@}%
72 }%

```

\atfi@PatQuotedString

```

73 \def\atfi@PatQuotedString{%
74     "%
75     ([^"\\@atfi@CR]|\|.)*%
76     "%
77 }%
78 \ltx@ifpackagelater{ltxcms}{2010/09/11}{-}{-}%

```

\atfi@ltx@leftbracechar

```

79     \begingroup
80     \lccode`0=`\{\relax
81     \lowercase{\endgroup
82     \def\ltx@leftbracechar{0}%
83     }%

```

\ltx@rightbracechar

```

84     \begingroup
85     \lccode`0=`\}\relax
86     \lowercase{\endgroup
87     \def\ltx@rightbracechar{0}%
88     }%
89 }%
90 }

```

\atfi@Warning

```

91 \def\atfi@Warning{\PackageWarning{attachfile2}}

```

2.1.3 Option declarations

```
92 \SetupKeyvalOptions{%
93   family=AtFi,%
94   prefix=atfi%
95 }

\atfi@setup

96 \def\atfi@setup{\setkeys{AtFi}}

Options draft and final.
97 \DeclareBoolOption{draft}
98 \DeclareComplementaryOption{final}{draft}

Option mimetype.

\atfi@mimetype

99 \def\atfi@mimetype{}

100 \define@key{AtFi}{mimetype}{%
101   \edef\atfi@mimetype{#1}%
102   \ifx\atfi@mimetype\ltx@empty
103   \else
104     \atfi@Match\atfi@mimetype{%
105       ~(application|audio|image|model|text|video|x-\atfi@PatToken)%
106       /*
107       ([a-z\-\+\_\.\0-9]+)%
108       (; ?\atfi@PatToken=(\atfi@PatToken|\atfi@PatQuotedString))*$%
109     }{icase}{-}{%
110       \atfi@Warning{%
111         Invalid value `\' \atfi@mimetype' \MessageBreak
112         of option `mimetype'. \MessageBreak
113         Value is discarded%
114       }%
115       \let\atfi@mimetype\ltx@empty
116     }%
117   \fi
118   \ifx\atfi@mimetype\ltx@empty
119   \else
120     \EdefEscapeName\atfi@mimetype{\atfi@mimetype}%
121     \edef\atfi@mimetype{/Subtype/\atfi@mimetype}%
122   \fi
123 }

Option icon

124 \define@key{AtFi}{icon}{%
125   \def\atfi@icon{/Name/#1}%
126   \def\atfi@icon@icon{#1}%
127 }
128 \atfi@setup{icon=PushPin}

Option color

129 \define@key{AtFi}{color}{%
130   \HyColor@AttachfileColor{#1}%
131   \atfi@color@tex\atfi@color@inline\atfi@color@annot
132   {attachfile2}{color}%
133 }
134 \atfi@setup{color=1 0.9255 0.7765}

time options timezone and date

\atfi@pad@ii

135 \def\atfi@pad@ii#1{%
136   \ifnum#1>9 %
137     \number#1%
```

```

138  \else
139    0\number#1%
140  \fi%
141  }

atfi@timezone
142  \let\atfi@timezone\ltx@empty

143  \define@key{AtFi}{timezone}{\def\atfi@timezone{#1}}

\atfi@time
144  \edef\atfi@time{\the\time}

\atfi@hours
145  \def\atfi@hours{%
146    \numexpr\dimexpr0.01667\dimexpr\atfi@time sp\relax\relax\relax
147  }

\atfi@minutes
148  \def\atfi@minutes{%
149    \numexpr\atfi@time-60*\atfi@hours\relax
150  }

\atfi@seconds
151  \def\atfi@seconds{0}

\atfi@date
152  \def\atfi@date{%
153    /M(D:\the\year
154      \atfi@pad@ii\month
155      \atfi@pad@ii\day
156      \atfi@pad@ii\atfi@hours
157      \atfi@pad@ii\atfi@minutes
158      \atfi@pad@ii\atfi@seconds
159      \atfi@timezone)%
160  }

161  \define@key{AtFi}{date}{%
162    \EdefEscapeString\atfi@date{#1}%
163    \edef\atfi@date{/M(\atfi@date)}%
164  }

Text options author, description, and subject

\atfi@pdfstringdef
165  \DeclareRobustCommand{\atfi@pdfstringdef}[2]{%
166    \pdfstringdef\atfi@temp@string{#2}%
167    \edef#1{\atfi@temp@string}%
168  }

\atfi@NoValue
169  \def\atfi@NoValue{\NoValue}

\atfi@DefNoValueName
170  \def\atfi@DefNoValueName#1#2#3{%
171    \def#1{#3}%
172    \ifx#1\atfi@NoValue
173      \let#1\ltx@empty
174    \else
175      \atfi@pdfstringdef#1{#1}%
176      \edef#1{/#2(#1)}%
177    \fi
178  }

```


Name for annotation to be used in GoToE actions

`\atfi@annotname`

```
179 \let\atfi@annotname\ltx@empty
180 \define@key{AtFi}{annotname}[\NoValue]{%
181   \atfi@DefNoValueName\atfi@annotname{NM}{#1}%
182 }
```

Option author.

`\atfi@author`

```
183 \def\atfi@author{}
184 \define@key{AtFi}{author}[\NoValue]{%
185   \atfi@DefNoValueName\atfi@author{T}{#1}%
186 }
```

Option description.

`\atfi@description`

```
187 \def\atfi@description{}
188 \define@key{AtFi}{description}[\NoValue]{%
189   \atfi@DefNoValueName\atfi@description{Contents}{#1}%
190 }
```

Option subject.

`\atfi@subject`

```
191 \def\atfi@subject{}
192 \define@key{AtFi}{subject}[\NoValue]{%
193   \atfi@DefNoValueName\atfi@subject{Subj}{#1}%
194 }
```

Option print.

```
195 \DeclareBoolOption[true]{print}
```

Option zoom.

```
196 \DeclareBoolOption[true]{zoom}
```

Option appearance.

```
197 \DeclareBoolOption[true]{appearance}
```

Option scale.

```
198 \DeclareStringOption[1]{scale}
```

Option ucfilespec.

`\atfi@ucfilespec`

```
199 \def\atfi@ucfilespec{}
200 \define@key{AtFi}{ucfilespec}[1]{%
201   \def\atfi@ucfilespec{#1}%
202   \ifx\atfi@ucfilespec\ltx@empty
203     \else
204       \atfi@pdfstringdef\atfi@ucfilespec{#1}%
205     \fi
206 }
```

Option nofiles.

```
207 \DeclareBoolOption{nofiles}
```

Driver options.

```
208 \let\atfi@driver\ltx@empty
209 \def\atfi@driver@pdftex{pdftex}
210 \def\atfi@driver@dvi{dvips}
211 \def\atfi@driver@dvi{dvipdfmx}
```

```

212 \DeclareVoidOption{pdftex}{%
213   \let\atfi@driver\atfi@driver@pdftex
214 }
215 \DeclareVoidOption{dvips}{%
216   \let\atfi@driver\atfi@driver@dvips
217 }
218 \DeclareVoidOption{dvipdfmx}{%
219   \let\atfi@driver\atfi@driver@dvipdfmx
220 }
221 \DeclareVoidOption{xetex}{%
222   \let\atfi@driver\atfi@driver@dvipdfmx
223 }
224 \DeclareStringOption{driverfallback}

```

\attachfilesetup

```

225 \DeclareRobustCommand{\attachfilesetup}[1]{\setkeys{AtFi}{#1}}

226 \DeclareLocalOptions{%
227   annotname,%
228   appearance,%
229   author,%
230   color,%
231   date,%
232   description,%
233   icon,%
234   mimetype,%
235   nofiles,%
236   print,%
237   scale,%
238   subject,%
239   timezone,%
240   ucfilespec,%
241   zoom,%
242 }

```

2.1.4 Option calling

Timezone setting, ...

```

243 \InputIfFileExists{attachfile.cfg}{}{}
244 \ProcessKeyvalOptions*

```

\atfi@DisableOption

```

245 \def\atfi@DisableOption{%
246   \DisableKeyvalOption[action=error,package=attachfile2]{AtFi}%
247 }

```

2.1.5 Evaluate driver options

```

248 \ifpdf
249   % ignoring other driver options
250   \let\atfi@driver\atfi@driver@pdftex
251 \else
252   \ifx\atfi@driver\atfi@driver@pdftex
253     \let\atfi@driver\ltx@empty
254     \PackageError{attachfile2}{%
255       Wrong driver option `pdftex',\MessageBreak
256       because pdfTeX in PDF mode is not detected%
257     }\@ehc
258   \fi
259   \ifxetex
260     \let\atfi@driver\atfi@driver@dvipdfmx
261   \else

```

```

262 \ifx\atfi@driver\ltx@empty
263 \ifx\atfi@driverfallback\ltx@empty
264 \else
265 \expandafter\let\expandafter\atfi@driver
266 \csname atfi@driver@\atfi@driverfallback\endcsname
267 \ifx\atfi@driver\atfi@driver@dvi
268 \else
269 \ifx\atfi@driver\atfi@driver@dvi
270 \else
271 \let\atfi@driver\ltx@empty
272 \PackageWarningNoLine{attachfile2}{%
273 Option `driverfallback' with unsupported\MessageBreak
274 DVI driver (\atfi@driverfallback)%
275 }%
276 \fi
277 \fi
278 \fi
279 \ifx\atfi@driver\ltx@empty
280 \PackageWarningNoLine{attachfile2}{%
281 Driver is not specified,\MessageBreak
282 enforce draft settings%
283 }%
284 \atfi@drafttrue
285 \fi
286 \fi
287 \fi
288 \fi

289 \atfi@DisableOption{pdftex}
290 \atfi@DisableOption{dvips}
291 \atfi@DisableOption{dvi
292 \atfi@DisableOption{xetex}
293 \atfi@DisableOption{driverfallback}

```

2.1.6 Evaluate options draft/final

\notextattachfile

```

294 \DeclareRobustCommand{\notextattachfile}[2] [] {%
295 \begingroup
296 \atfi@setup{#1}%
297 \ifatfi@print
298 \leavevmode
299 \begingroup
300 \HyColor@UseColor\atfi@color@tex
301 #2\strut
302 \endgroup
303 \else
304 \sbox\ltx@zero{#2\strut}%
305 \makebox[\wd0]{}%
306 \fi
307 \endgroup
308 }

309 \atfi@DisableOption{draft}%
310 \atfi@DisableOption{final}%
311 \ifatfi@draft
312 \def\atfi@dummys@pushpin{%
313 \raisebox{-1.25bp}{\parbox[b][14bp]{24bp}{}}%
314 }%
315 \DeclareRobustCommand{\textattachfile}[3] [] {%
316 \notextattachfile[#{1}]{#{3}}%
317 }%
318 \DeclareRobustCommand{\noattachfile}[1] [] {%
319 \notextattachfile[#{1}]{\atfi@dummys@pushpin}%

```

```

320 }%
321 \DeclareRobustCommand{\attachfile}[2] []{%
322   \noattachfile[#{#1}]%
323 }%
324 \expandafter\endinput
325 \fi

```

2.1.7 Load driver file

```
326 \input{atfi-\atfi@driver.def}
```

2.1.8 Graphics

\atfi@acroGraph@data

```

327 \def\atfi@acroGraph@data{%
328   \atfi@GSAVE
329   0.5 \atfi@SETGRAYFILL
330   1.1133 0 20.7202 18.2754 \atfi@RECTFILL
331   0 \atfi@SETFLAT
332   0.5 \atfi@SETLINEWIDTH
333   4 \atfi@SETMITERLIMIT
334   \atfi@RECTSTROKEFILL{%
335     1 \atfi@SETGRAYFILL
336   }{%
337     0 \atfi@SETGRAYSTROKE
338   }{%
339     0.25 1.6453 20.145 17.7715 %
340   }%
341   0 \atfi@SETGRAYFILL
342   2.7319 4.1367 3.9571 13.8867 \atfi@RECTFILL
343   8.7031 4.1367 3.9571 9.8867 \atfi@RECTFILL
344   14.7471 4.1367 3.9571 11.8867 \atfi@RECTFILL
345   \atfi@color@inline{FILL}%
346   1.689 3.0938 3.9571 13.8867 \atfi@RECTFILL
347   7.6602 3.0938 3.9571 9.8867 \atfi@RECTFILL
348   13.7041 3.0938 3.9571 11.8867 \atfi@RECTFILL
349   \atfi@GRESTORE
350 }

```

\atfi@acroGraph

```

351 \def\atfi@acroGraph{%
352   \raisebox{-1.5bp}{\parbox[b][20bp]{22bp}{%
353     \rule{0pt}{0pt}\atfi@literal{\atfi@acroGraph@data}}}%
354   }%
355 }

```

\atfi@acroPaperclip@data

```

356 \newcommand{\atfi@acroPaperclip@data}{%
357   \atfi@GSAVE
358   0.75 \atfi@SETGRAYSTROKE
359   0 \atfi@SETFLAT
360   2.5 \atfi@SETLINEWIDTH
361   1 \atfi@SETLINECAP
362   4 \atfi@SETMITERLIMIT
363   1.9619 11.7559 \atfi@MOVETO
364   1.9619 3.3037 1.9619 2.5059 \atfi@CURVETOY
365   1.9619 1.707 4.0947 1.25 \atfi@CURVETOY
366   7.4141 1.25 \atfi@LINETO
367   9.4292 1.8223 9.4292 3.3066 \atfi@CURVETOY
368   9.4292 4.79 9.4292 16.8945 \atfi@CURVETOY
369   9.7852 18.1514 8.481 18.1514 \atfi@CURVETOY
370   7.1768 18.1514 5.1616 18.1514 \atfi@CURVETOY
371   3.8574 17.9209 3.8574 16.8945 \atfi@CURVETOY

```

```

372 3.8574 15.8652 3.8574 6.6172 \atfi@CURVETOY
373 4.3325 5.418 5.1025 5.418 \atfi@CURVETOV
374 5.8726 5.418 6.5845 5.418 \atfi@CURVETOY
375 7.6812 5.6455 7.6812 6.4736 \atfi@CURVETOV
376 7.6812 7.3027 7.6812 11.5264 \atfi@CURVETOY
377 \atfi@STROKE
378 0 \atfi@SETGRAYSTROKE
379 1.2495 12.4404 \atfi@MOVETO
380 1.2495 3.9883 1.2495 3.1895 \atfi@CURVETOV
381 1.2495 2.3906 3.3833 1.9326 \atfi@CURVETOY
382 6.7026 1.9326 \atfi@LINETO
383 8.7178 2.5068 8.7178 3.9902 \atfi@CURVETOV
384 8.7178 5.4736 8.7178 17.5781 \atfi@CURVETOY
385 9.0732 18.834 7.769 18.834 \atfi@CURVETOV
386 6.4653 18.834 4.4497 18.834 \atfi@CURVETOY
387 3.146 18.6055 3.146 17.5781 \atfi@CURVETOV
388 3.146 16.5498 3.146 7.3018 \atfi@CURVETOY
389 3.6201 6.1016 4.3911 6.1016 \atfi@CURVETOV
390 5.1611 6.1016 5.873 6.1016 \atfi@CURVETOY
391 6.9692 6.3301 6.9692 7.1572 \atfi@CURVETOV
392 6.9692 7.9863 6.9692 12.21 \atfi@CURVETOY
393 \atfi@STROKE
394 \atfi@color@inline{STROKE}%
395 1 \atfi@SETLINEWIDTH
396 1.2495 12.4404 \atfi@MOVETO
397 1.2495 3.9883 1.2495 3.1895 \atfi@CURVETOV
398 1.2495 2.3906 3.3833 1.9326 \atfi@CURVETOY
399 6.7026 1.9326 \atfi@LINETO
400 8.7178 2.5068 8.7178 3.9902 \atfi@CURVETOV
401 8.7178 5.4736 8.7178 17.5781 \atfi@CURVETOY
402 9.0732 18.834 7.769 18.834 \atfi@CURVETOV
403 6.4653 18.834 4.4497 18.834 \atfi@CURVETOY
404 3.146 18.6055 3.146 17.5781 \atfi@CURVETOV
405 3.146 16.5498 3.146 7.3018 \atfi@CURVETOY
406 3.6201 6.1016 4.3911 6.1016 \atfi@CURVETOV
407 5.1611 6.1016 5.873 6.1016 \atfi@CURVETOY
408 6.9692 6.3301 6.9692 7.1572 \atfi@CURVETOV
409 6.9692 7.9863 6.9692 12.21 \atfi@CURVETOY
410 \atfi@STROKE
411 \atfi@GRESTORE
412 }

```

\atfi@acroPaperclip

```

413 \def\atfi@acroPaperclip{%
414 \raisebox{-1.25bp}{\parbox[b][21bp]{12bp}{%
415 \rule{0pt}{0pt}\atfi@literal{\atfi@acroPaperclip@data}}}%
416 }%
417 }

```

\atfi@acroPushPin@data

```

418 \def\atfi@acroPushPin@data{%
419 \atfi@GSAVE
420 1 \atfi@SETLINEWIDTH
421 1 6 \atfi@MOVETO
422 11 6 \atfi@LINETO
423 11 13 \atfi@LINETO
424 12 13 \atfi@LINETO
425 14 11 \atfi@LINETO
426 21 11 \atfi@LINETO
427 22 12 \atfi@LINETO
428 23 12 \atfi@LINETO
429 23 2 \atfi@LINETO
430 22 2 \atfi@LINETO

```

```

431 21 3 \atfi@LINETO
432 14 3 \atfi@LINETO
433 12 1 \atfi@LINETO
434 11 1 \atfi@LINETO
435 11 6 \atfi@LINETO
436 \atfi@FILLSTROKE{%
437   \atfi@color@inline{FILL}}%
438 }{%
439   0 \atfi@SETGRAYSTROKE
440 }%
441 0.5 \atfi@SETGRAYSTROKE
442 0 7 \atfi@MOVETO
443 10 7 \atfi@LINETO
444 10 8 \atfi@LINETO
445 1 8 \atfi@LINETO
446 \atfi@STROKE
447 1 \atfi@SETGRAYSTROKE
448 12 12 \atfi@MOVETO
449 14 10 \atfi@LINETO
450 22 10 \atfi@LINETO
451 22 11 \atfi@LINETO
452 \atfi@STROKE
453 \atfi@GRESTORE
454 }

```

\atfi@acroPushPin

```

455 \def\atfi@acroPushPin{%
456   \raisebox{-1.25bp}{\parbox[b][14bp]{24bp}{%
457     \rule{0pt}{0pt}\atfi@literal{\atfi@acroPushPin@data}}}%
458   }%
459 }

```

\atfi@acroTag@data

```

460 \def\atfi@acroTag@data{%
461   \atfi@GSAVE
462   0.5 \atfi@SETGRAYFILL
463   10.0542 14.9873 \atfi@MOVETO
464   24.27 14.9873 \atfi@LINETO
465   25.252 14.0059 \atfi@LINETO
466   25.252 1.1455 \atfi@LINETO
467   24.1064 0 \atfi@LINETO
468   9.9609 0 \atfi@LINETO
469   6.0327 6.0088 \atfi@LINETO
470   6.0327 9.002 \atfi@LINETO
471   10.0542 14.9873 \atfi@LINETO
472   9.3994 9.376 \atfi@MOVETO
473   8.5215 9.376 7.8096 8.5596 7.8096 7.5527 \atfi@CURVETO
474   7.8096 6.5449 8.5215 5.7285 9.3994 5.7285 \atfi@CURVETO
475   10.2778 5.7285 10.9897 6.5449 10.9897 7.5527 \atfi@CURVETO
476   10.9897 8.5596 10.2778 9.376 9.3994 9.376 \atfi@CURVETO
477   \atfi@CLOSEPATH
478   \atfi@FILL
479   0 \atfi@SETFLAT
480   0.5 \atfi@SETLINEWIDTH
481   4 \atfi@SETMITERLIMIT
482   1 \atfi@SETLINEJOIN
483   8.5107 16.5313 \atfi@MOVETO
484   22.7266 16.5313 \atfi@LINETO
485   23.7085 15.5488 \atfi@LINETO
486   23.7085 2.6895 \atfi@LINETO
487   22.563 1.543 \atfi@LINETO
488   8.4175 1.543 \atfi@LINETO
489   4.4893 7.5527 \atfi@LINETO

```

```

490 4.4893 10.5449 \atfi@LINETO
491 8.5107 16.5313 \atfi@LINETO
492 7.856 10.9199 \atfi@MOVETO
493 6.978 10.9199 6.2661 10.1035 6.2661 9.0957 \atfi@CURVETO
494 6.2661 8.0879 6.978 7.2715 7.856 7.2715 \atfi@CURVETO
495 8.7344 7.2715 9.4463 8.0879 9.4463 9.0957 \atfi@CURVETO
496 9.4463 10.1035 8.7344 10.9199 7.856 10.9199 \atfi@CURVETO
497 \atfi@CLOSEPATH
498 \atfi@FILLSTROKE{%
499   \atfi@color@inline{FILL}%
500 }{%
501   0 \atfi@SETGRAYSTROKE
502 }%
503 1 \atfi@SETLINEWIDTH
504 12.3291 12.2656 \atfi@MOVETO
505 21.1206 12.2656 \atfi@LINETO
506 \atfi@STROKE
507 12.3291 9.1797 \atfi@MOVETO
508 21.1206 9.1797 \atfi@LINETO
509 \atfi@STROKE
510 12.3291 6.1875 \atfi@MOVETO
511 21.1206 6.1875 \atfi@LINETO
512 \atfi@STROKE
513 % 0 \atfi@SETGRAYSTROKE % redundant?
514 0.5 \atfi@SETLINEWIDTH
515 0 9.0488 \atfi@MOVETO
516 6.2661 9.0957 \atfi@LINETO
517 \atfi@STROKE
518 1.4028 5.2148 \atfi@MOVETO
519 1.4028 9.6094 \atfi@LINETO
520 1.6831 10.6387 2.4316 10.6387 \atfi@CURVETO
521 3.6475 10.6387 3.5542 9.0488 \atfi@CURVETO
522 \atfi@STROKE
523 \atfi@GRESTORE
524 }

```

\atfi@acroTag

```

525 \def\atfi@acroTag{%
526   \raisebox{-1.6bp}{\parbox[b][17bp]{25bp}{%
527     \rule{0pt}{0pt}\atfi@literal{\atfi@acroTag@data}}}%
528   }%
529 }

```

2.1.9 Reading the .atfi file

Commands used in \jobname.atfi:

- attachfile@timezone{<timezone in PDF format>}
- \attachfile@file[
 - Size=<size>,
 - CreationDate=<date>, % <date> local time without "D:" and timezone
 - ModDateTZ=<date+TZ>,
 - ModDate=<date>,
 - Checksum=<checksum>
]{<filename as hex string>}

\attachfile@timezone

```

530 \def\attachfile@timezone#1{%
531   \ifx\#1\%
532     % no timezone information given
533   \else
534     \def\atfi@timezone{#1}%

```

```

535 \fi
536 }

\attachfile@file

537 \newcommand*\attachfile@file}[2] [] {%
538 \EdefUnescapeHex\atfi@filename{#2}%
539 \ifx\atfi@filename\ltx@empty
540 \PackageError{attachfile2}{Empty file name}\@ehc
541 \else
542 \namedef{atfi@file@\atfi@filename}{#1}%
543 \fi
544 }

545 \InputIfFileExists{\jobname.atfi}{-}{-}%

546 \newif\ifatfi@checksum
547 \define@key{AtFi@file}{Checksum}{%
548 \atfi@checksumtrue
549 \edef\atfi@params{\atfi@params/Checksum<#1>}%
550 }

551 \newif\ifatfi@creationdate
552 \define@key{AtFi@file}{CreationDateTZ}{%
553 \ifatfi@creationdate
554 \else
555 \atfi@creationdatetrue
556 \edef\atfi@params{%
557 \atfi@params
558 /CreationDate(#1)%
559 }%
560 \fi
561 }

562 \define@key{AtFi@file}{CreationDate}{%
563 \ifatfi@creationdate
564 \else
565 \atfi@creationdatetrue
566 \edef\atfi@params{%
567 \atfi@params
568 /CreationDate(#1\atfi@timezone)%
569 }%
570 \fi
571 }

572 \newif\ifatfi@moddate
573 \define@key{AtFi@file}{ModDateTZ}{%
574 \ifatfi@moddate
575 \else
576 \atfi@moddatetrue
577 \edef\atfi@params{%
578 \atfi@params
579 /ModDate(#1)%
580 }%
581 \fi
582 }

583 \define@key{AtFi@file}{ModDate}{%
584 \ifatfi@moddate
585 \else
586 \atfi@moddatetrue
587 \edef\atfi@params{%
588 \atfi@params
589 /ModDate(D:#1\atfi@timezone)%
590 }%
591 \fi
592 }

```



```

\atfi@pdftexdata
593 \let\atfi@temp\ltx@one
594 \ltx@ifundefined{pdf@filesize}{%
595   \let\atfi@temp\ltx@zero
596 }{}
597 \ltx@ifundefined{pdf@filemoddate}{%
598   \let\atfi@temp\ltx@zero
599 }{}
600 \ltx@ifundefined{pdf@filemdfivesum}{%
601   \let\atfi@temp\ltx@zero
602 }{}
603 \ifcase\atfi@temp
604   \let\atfi@pdftexdata\ltx@gobble
605 \or
606   \def\atfi@pdftexdata#1{%
607     \edef\atfi@temp{\pdf@filesize{#1}}%
608     \ifx\atfi@temp\ltx@empty
609       \else
610         \setkeys{AtFi@file}{Size=\atfi@temp}%
611         \edef\atfi@temp{\pdf@filemoddate{#1}}%
612         \ifx\atfi@temp\ltx@empty
613           \else
614             \setkeys{AtFi@file}{ModDateTZ=\atfi@temp}%
615           \fi
616         \edef\atfi@temp{\pdf@filemdfivesum{#1}}%
617         \ifx\atfi@temp\ltx@empty
618           \else
619             \setkeys{AtFi@file}{Checksum=\atfi@temp}%
620           \fi
621         \fi
622     }%
623 \fi

```

2.1.10 Writing the .atfi file

Respect `\nofiles` and option `nofiles`. `\nofiles` has more weight than option `nofiles`.

```

624 \if@filesw
625 \else
626   \atfi@nofilestrue
627 \fi
628 \ifatfi@nofiles
629   \PackageInfo{attachfile2}{%
630     File `\

```

`\atfi@writefile`

```

633   \let\atfi@writefile\ltx@gobble
634 \else

```

`\atfi@stream`

```

635   \newwrite\atfi@stream
636   \immediate\openout\atfi@stream=\jobname.atfi\relax
637   \immediate\write\atfi@stream{%
638     \string\attachfile@timezone{\atfi@timezone}%
639   }%

```

`\atfi@writefile`

```

640   \def\atfi@writefile#1{%

```

```

641 \begingroup
642 \EdefEscapeHex\atfi@temp{#1}%
643 \immediate\write\atfi@stream{%
644 \string\attachfile@file[%
645 \ltx@ifundefined{atfi@file@#1}{\@nameuse{atfi@file@#1}}%
646 ]{\atfi@temp}%
647 }%
648 \endgroup
649 }%

650 \fi
651 \atfi@DisableOption{nofiles}

```

\atfi@attachfile

```

652 \def\atfi@attachfile#1#2{%
653 \ltx@ifundefined{atfi@fileobj@#2}{%
654 \atfi@writefile{#2}%
655 }{%
656 % don't need duplicates
657 }%
658 \atfi@setup{#1}%
659 \atfi@embedfile{#2}%
660 \atfi@set@appearance@icon
661 \atfi@flags@to@int
662 \atfi@insert@file@annot{#2}%
663 \endgroup
664 }

```

2.1.11 Annotation appearance

\atfi@appearancewidth

```
665 \newlength{\atfi@appearancewidth}
```

\atfi@appearanceheight

```
666 \newlength{\atfi@appearanceheight}
```

\atfi@appearancedepth

```
667 \newlength{\atfi@appearancedepth}
```

\atfi@appearancebox

```
668 \newsavebox{\atfi@appearancebox}
```

\atfi@set@appearance@icon

```

669 \def\atfi@set@appearance@icon{%
670 \ltx@ifundefined{atfi@appobj@\atfi@icon@icon}{%
671 \savebox{\atfi@appearancebox}{%
672 \@nameuse{atfi@acro\atfi@icon@icon}%
673 }%
674 \expandafter
675 \xdef\csname atfi@appwidth@\atfi@icon@icon\endcsname{%
676 \the\wd\atfi@appearancebox
677 }%
678 \expandafter
679 \xdef\csname atfi@appheight@\atfi@icon@icon\endcsname{%
680 \the\ht\atfi@appearancebox
681 }%
682 \expandafter
683 \xdef\csname atfi@appdepth@\atfi@icon@icon\endcsname{%
684 \the\dp\atfi@appearancebox
685 }%
686 \atfi@xform@icon
687 \global\expandafter\let

```

```

688     \csname atfi@appobj@\atfi@icon@icon\endcsname
689     \atfi@appearanceobj
690 }{%
691 }%
692 % optimization: \setlength dropped
693 \atfi@appearancewidth=%
694     \@nameuse{atfi@appwidth@\atfi@icon@icon}\relax
695 \atfi@appearanceheight=%
696     \@nameuse{atfi@appheight@\atfi@icon@icon}\relax
697 \atfi@appearancedepth=%
698     \@nameuse{atfi@appdepth@\atfi@icon@icon}\relax
699 \expandafter\let\expandafter\atfi@appearanceobj
700     \csname atfi@appobj@\atfi@icon@icon\endcsname
701 }

```

\atfi@set@appearance

```

702 \def\atfi@set@appearance#1{%
703     \savebox{\atfi@appearancebox}{#1}%
704     \atfi@appearancewidth=\wd\atfi@appearancebox
705     \atfi@appearanceheight=\ht\atfi@appearancebox
706     \atfi@appearancedepth=\dp\atfi@appearancebox
707     \atfi@xform
708 }

```

```

709 \newcounter{atfi@flags}

```

\atfi@flags@to@int

```

710 \DeclareRobustCommand{\atfi@flags@to@int}{%
711     \setcounter{atfi@flags}{0}%
712     \ifatfi@print
713         \addtocounter{atfi@flags}{4}%
714     \fi%
715     \ifatfi@zoom
716     \else
717         \addtocounter{atfi@flags}{8}%
718     \fi%
719 }

```

\atfi@textattachfile

```

720 \def\atfi@textattachfile#1#2{%
721     \endgroup
722     \atfi@textattachfile@i{#1}{#2}%
723 }

```

\atfi@textattachfile@i

```

724 \def\atfi@textattachfile@i#1#2#3{%
725     \ltx@ifundefined{atfi@fileobj@#2}{%
726         \atfi@writefile{#2}%
727     }{%
728         % don't need duplicates
729     }%
730     \atfi@setup{#1}%
731     \atfi@embedfile{#2}%
732     \atfi@set@appearance{%
733         \leavevmode
734         \begingroup
735             \HyColor@UseColor\atfi@color@tex
736             #3\strut
737         \endgroup
738     }%
739     \atfi@flags@to@int
740     \atfi@insert@file@annot{#2}%

```

```

741 \endgroup
742 }

\attachfile
743 \DeclareRobustCommand{\attachfile}[1] [] {%
744 \beginingroup
745 \let\do\@makeoother
746 \dospecials
747 \catcode`\{=1\relax
748 \catcode`\}=2\relax
749 \atfi@attachfile{#1}%
750 }

\textattachfile
751 \DeclareRobustCommand{\textattachfile}[1] [] {%
752 \beginingroup
753 \beginingroup
754 \let\do\@makeoother
755 \dospecials
756 \catcode`\{=1\relax
757 \catcode`\}=2\relax
758 \atfi@textattachfile{#1}%
759 }

\noattachfile
760 \DeclareRobustCommand{\noattachfile}[1] [] {%
761 \beginingroup
762 \atfi@setup{#1}%
763 \atfi@set@appearance@icon
764 \ifatfi@print
765 \expandafter
766 \atfi@refxform\csname atfi@appobj@\atfi@icon@icon\endcsname
767 \else
768 \makebox[\atfi@appearancewidth]{}%
769 \fi
770 \endgroup
771 }

772 </package>

```

2.2 Drivers

2.2.1 pdfTeX

```

773 < *pdfTeX >
774 \NeedsTeXFormat{LaTeX2e}
775 \ProvidesFile{atfi-pdfTeX.def}%
776 [2012/04/18 v2.7 attachfile2 driver for pdfTeX (HO)]%

```

LuaTeX

```

777 \ifluatex
778 \ifnum\luatexversion<39 %
779 \else
780 \beginingroup
781 \escapechar=-1 %
782 \def\atfi@temp#1{%
783 \ltx@ifundefined{\string#1}{%
784 \let#1\ltx@undefined
785 \directlua{%
786 if tex.enableprimitives then %
787 tex.enableprimitives('', {\string#1})%
788 end%
789 }%

```

```

790     \ltx@ifundefined{\string#1}{%
791     }{%
792     \global#1=#1%
793     \@PackageInfoNoLine{attachfile2}{%
794     \string#1 enabled%
795     }%
796     }%
797     }{%
798     }%
799     \atfi@temp\pdfliteral
800     \atfi@temp\pdfobj
801     \atfi@temp\pdflastobj
802     \atfi@temp\pdfxform
803     \atfi@temp\pdflastxform
804     \atfi@temp\pdfrefxform
805     \atfi@temp\pdfannot
806     \endgroup
807     \fi
808 \fi

```

Macros for graphics data

\atfi@literal

```

809 \let\atfi@literal\pdfliteral
810 \def\atfi@GSAVE{q }
811 \def\atfi@GRESTORE{Q }
812 \def\atfi@SETLINEWIDTH{w }
813 \def\atfi@LINETO{l }
814 \def\atfi@MOVETO{m }
815 \def\atfi@STROKE{S }
816 \def\atfi@FILL{f }
817 % \atfi@FILLSTROKE{<fill color>}{<stroke color>}
818 \def\atfi@FILLSTROKE#1#2{#1#2B }

```

color: uppercase are stroke colors, lowercase non-stroke (fill) colors PS, however, does not different between stroke and not-stroke colors

```

819 \def\atfi@SETRGBCOLORSTROKE{RG }
820 \def\atfi@SETRGBCOLORFILL{rg }
821 \def\atfi@SETGRAYSTROKE{G }
822 \def\atfi@SETGRAYFILL{g }
823 \def\atfi@SETCMYKCOLORSTROKE{K }
824 \def\atfi@SETCMYKCOLORFILL{k }
825 \def\atfi@RECTFILL{re f }
826 \def\atfi@RECTSTROKEFILL#1#2#3{#1#2#3re B }
827 \def\atfi@SETMITERLIMIT{M }
828 \def\atfi@SETFLAT{i }
829 \def\atfi@SETLINECAP{J }
830 \def\atfi@CURVETO{c }
831 \def\atfi@CURVETOv{v }
832 \def\atfi@CURVETOY{y }
833 \def\atfi@CLOSEPATH{h }
834 \def\atfi@SETLINEJOIN{j }

```

File embedding

```

835 \define@key{AtFi@file}{Size}{%
836 \edef\atfi@params{\atfi@params/Size #1}%
837 }

```

\atfi@embedfile

```

838 \def\atfi@embedfile#1{%
839 \ltx@ifundefined{atfi@fileobj@#1}{%

```

```

840 \begingroup
841 \let\atfi@params\ltx@empty
842 \expandafter\let\expandafter\atfi@temp
843 \csname atfi@file@#\1\endcsname
844 \ifx\atfi@temp\ltx@empty
845 \let\atfi@temp\relax
846 \fi
847 \ifx\atfi@temp\relax
848 \atfi@pdftexdata{#\1}%
849 \else
850 \edef\x{%
851 \noexpand\setkeys{AtFi@file}{\@nameuse{atfi@file@#\1}}%
852 }%
853 \x
854 \fi
855 \ifx\atfi@params\ltx@empty
856 \else
857 \edef\atfi@params{/Params<<\atfi@params>>}%
858 \fi
859 \immediate\pdfobj stream attr {%
860 /Type/EmbeddedFile%
861 \atfi@mimetype
862 \atfi@params
863 } file {#\1}%
864 \expandafter
865 \xdef\csname atfi@fileobj@#\1\endcsname{\the\pdfobj}%
866 \endgroup
867 }{%
868 % file already embedded
869 }%
870 }

```

Annotation appearance

\atfi@xform input: \atfi@appearancebox, output: \atfi@appearanceobj

```

871 \def\atfi@xform{%
872 \immediate\pdfxform\atfi@appearancebox
873 \edef\atfi@appearanceobj{\the\pdfxform}%
874 }

```

\atfi@xform@icon

```

875 \let\atfi@xform@icon\atfi@xform

```

\atfi@refxform

```

876 \def\atfi@refxform#1{%
877 \pdfrefxform#1\relax
878 }

```

File attachment annotation

\atfi@insert@file@annot

```

879 \def\atfi@insert@file@annot#1{%
880 \rule{Opt}{Opt}%
881 \ifatfi@appearance
882 \def\atfi@appearance@dict{%
883 /AP<<%
884 /N \atfi@appearanceobj\space 0 R%
885 /R \atfi@appearanceobj\space 0 R%
886 /D \atfi@appearanceobj\space 0 R%
887 >>%
888 }%
889 \else

```

```

890   \let\atfi@appearance@dict\ltx@empty
891   \fi
892   \ltx@ifundefined{atfi@fsobj@#1}{%
893     \begingroup
894       \hypersetup{unicode=false}%
895       \atfi@pdfstringdef\atfi@file{#1}%
896       \immediate\pdfobj{%
897         <<%
898           /Type/Filespec%
899           /F(\atfi@file)%
900           \ifx\atfi@ucfilespec\ltx@empty
901             \else
902               /UF(\atfi@ucfilespec)%
903             \fi
904           /EF<<%
905           /F \@nameuse{atfi@fileobj@#1} 0 R%
906         >>%
907       >>%
908     }%
909     \expandafter\xdef\csname atfi@fsobj@#1\endcsname{%
910       \the\pdfastobj
911     }%
912   \endgroup
913 }{%
914 }%
915 \pdfannot width \atfi@scale\atfi@appearancewidth
916           height \atfi@scale\atfi@appearanceheight
917           depth \atfi@scale\atfi@appearancedepth {%
918   /Subtype/FileAttachment%
919   \atfi@icon
920   \atfi@color@annot
921   \atfi@author
922   \atfi@date
923   \atfi@annotname
924   \atfi@description
925   \atfi@subject
926   \atfi@appearance@dict
927   /F \theatfi@flags
928   /FS \@nameuse{atfi@fsobj@#1} 0 R%
929 }%
930 \rule{0pt}{\atfi@appearanceheight}%
931 \rule[-\atfi@appearancedepth]{0pt}{\atfi@appearancedepth}%
932 \rule{\atfi@appearancewidth}{0pt}%
933 }
934 </pdfTeX>

```

2.2.2 dvips

```

935 <*dvips>
936 \NeedsTeXFormat{LaTeX2e}
937 \ProvidesFile{atfi-dvips.def}%
938 [2012/04/18 v2.7 attachfile2 driver for dvips (H0)]%

```

Macros for graphics data

\atfi@literal

```

939 \def\atfi@literal#1{%
940   \special{ps:atfi_dict begin{#1}atfi_?pdfmark end}%
941 }

```

\atfi@header

```

942 \def\atfi@header#1{%
943   \special{! #1}%

```

```

944 }

945 \atfi@header{%
946   userdict begin 20 dict dup /atfi_dict exch def end begin%
947     /atfi_?pdfmark systemdict %
948     dup/pdfmark known%
949     {%
950       /exec get def%
951     }{%
952       /pop get def%
953     } ifelse%
954     {%
955       %
956       % x y width height atfi_re ->
957       languagelevel 2 ge {%
958         /atfi_rectfill { rectfill } bind def%
959         /atfi_rectstroke { rectstroke } bind def%
960       }{%
961         /atfi_rect {%
962           /atfi_height exch def%
963           /atfi_width exch def%
964           /atfi_x exch def%
965           /atfi_y exch def %
966           newpath %
967           atfi_x atfi_y moveto %
968           atfi_x atfi_width add atfi_y lineto %
969           atfi_x atfi_width add atfi_y atfi_height add lineto %
970           atfi_x atfi_y atfi_height add lineto %
971           closepath%
972         } bind def%
973         /atfi_rectfill {%
974           atfi_rect fill%
975         } bind def%
976         /atfi_rectstroke {%
977           atfi_rect stroke%
978         } bind def%
979       } ifelse%
980     /atfi_curveto_v {%
981       currentpoint 6 2 roll curveto%
982     } bind def%
983     /atfi_curveto_y {%
984       2 copy curveto%
985     } bind def%
986     %
987     % help macro for atfi_convert_date
988     /atfi_two {%
989       dup 10 lt%
990       {%
991         1 string cvs %
992         exch 1 add exch%
993       }{%
994         2 string cvs%
995       } ifelse %
996       putinterval%
997     } bind def%
998     %
999     % <seconds since 1970-01-01> atfi_convert_date -> (D:...Z)
1000    /atfi_convert_date {%
1001      dup%
1002      /atfi_days exch 3600 idiv 24 idiv def%
1003      % calc date part
1004      /atfi_year 1970 def%
1005      {%

```



```

1006         atfi_year 400 mod 0 eq %
1007         atfi_year 100 mod 0 ne %
1008         atfi_year 4   mod 0 eq %
1009         and or%
1010         {366} {365} ifelse %
1011         dup atfi_days lt%
1012         {%
1013             atfi_days exch sub /atfi_days exch def%
1014             /atfi_year atfi_year 1 add def%
1015         }{%
1016             exit%
1017         } ifelse%
1018     } loop%
1019     /atfi_month 1 def%
1020     /atfi_days atfi_days 1 add def %
1021     31 atfi_days lt%
1022     {%
1023         atfi_days 31 sub /atfi_days exch def%
1024         /atfi_month atfi_month 1 add def %
1025         366 eq {29} {28} ifelse dup atfi_days lt%
1026         {%
1027             atfi_days exch sub /atfi_days exch def%
1028             /atfi_month atfi_month 1 add def %
1029             31 atfi_days lt%
1030             {%
1031                 atfi_days 31 sub /atfi_days exch def%
1032                 /atfi_month atfi_month 1 add def %
1033                 30 atfi_days lt%
1034                 {%
1035                     atfi_days 30 sub /atfi_days exch def%
1036                     /atfi_month atfi_month 1 add def %
1037                     31 atfi_days lt%
1038                     {%
1039                         atfi_days 31 sub /atfi_days exch def%
1040                         /atfi_month atfi_month 1 add def %
1041                         30 atfi_days lt%
1042                         {%
1043                             atfi_days 30 sub /atfi_days exch def%
1044                             /atfi_month atfi_month 1 add def %
1045                             31 atfi_days lt%
1046                             {%
1047                                 atfi_days 31 sub /atfi_days exch def%
1048                                 /atfi_month atfi_month 1 add def %
1049                                 31 atfi_days lt%
1050                                 {%
1051                                     atfi_days 31 sub /atfi_days exch def%
1052                                     /atfi_month atfi_month 1 add def %
1053                                     30 atfi_days lt%
1054                                     {%
1055                                         atfi_days 30 sub /atfi_days exch def%
1056                                         /atfi_month atfi_month 1 add def %
1057                                         31 atfi_days lt%
1058                                         {%
1059                                             atfi_days 31 sub /atfi_days exch def%
1060                                             /atfi_month atfi_month 1 add def %
1061                                             30 atfi_days lt%
1062                                             {%
1063                                                 atfi_days 30 sub /atfi_days exch def%
1064                                                 /atfi_month atfi_month 1 add def %
1065                                                 31 atfi_days lt%
1066                                                 {%
1067                                                     atfi_days 31 sub /atfi_days exch def%

```

```

1068         /atfi_month atfi_month 1 add def%
1069     } if%
1070     } if%
1071     } if%
1072     } if%
1073     } if%
1074     } if%
1075     } if%
1076     } if%
1077     } if%
1078     } if%
1079     } { pop } ifelse%
1080 }{ pop } ifelse %
1081 % calc time part
1082 3600 24 mul mod %
1083 dup 3600 idiv dup /atfi_hour exch def %
1084 3600 mul sub %
1085 dup 60 idiv dup /atfi_min exch def %
1086 60 mul sub %
1087 /atfi_sec exch def%
1088 (D:19700101000000Z)%
1089 dup 2 atfi_year 4 string cvs putinterval %
1090 dup 6 atfi_month atfi_two %
1091 dup 8 atfi_days atfi_two %
1092 dup 10 atfi_hour atfi_two %
1093 dup 12 atfi_min atfi_two %
1094 dup 14 atfi_sec atfi_two%
1095 } bind def %
1096 %
1097 % <filename> atfi_calc_checksum -> /Checksum <checksum>
1098 % or returns nothing, if MD5Encode is not given
1099 false %
1100 languagelevel 2 ge {%
1101     (MD5Encode)%
1102     { pop true or }%
1103     (MD5Encode) length string%
1104     /Filter %
1105     resourceforall%
1106 } if%
1107 {%
1108     /atfi_calc_checksum {%
1109         /atfi_checksum 16 string def%
1110         /atfi_file exch (r) file def%
1111         /atfi_md5sum atfi_checksum /MD5Encode filter def %
1112         % not too efficient to read and write byte by byte,
1113         % using a buffer is probably faster
1114         atfi_size {%
1115             atfi_file read%
1116             {%
1117                 atfi_md5sum exch write%
1118             } if%
1119         } repeat %
1120         atfi_md5sum closefile %
1121         atfi_file closefile%
1122         /Checksum atfi_checksum%
1123     } bind def%
1124 }{%
1125     /atfi_calc_checksum { pop } bind def%
1126 } ifelse%
1127 %
1128 /atfi_pttobp { 72.27 div 72 mul } bind def%
1129 /atfi_pdfitodvipsx { 72.27 div Resolution mul } bind def%

```

```

1130      /atfi_pdftodvipsy { 72.27 div VResolution mul } bind def%
1131      %
1132    } atfi_?pdfmark %
1133  end%
1134 }

1135 \def\atfi@GSAVE{gsave }
1136 \def\atfi@GRESTORE{grestore }
1137 \def\atfi@SETLINEWIDTH{setlinewidth }
1138 \def\atfi@LINETO{lineto }
1139 \def\atfi@MOVETO{moveto }
1140 \def\atfi@STROKE{stroke }
1141 \def\atfi@FILL{fill }
1142 \def\atfi@FILLSTROKE#1#2{gsave #1 fill grestore #2 stroke }
1143 \def\atfi@SETRGBCOLORSTROKE{setrgbcolor }
1144 \def\atfi@SETRGBCOLORFILL{setrgbcolor }
1145 \def\atfi@SETGRAYSTROKE{setgray }
1146 \def\atfi@SETGRAYFILL{setgray }
1147 \def\atfi@SETCMYKCOLORSTROKE{setcmykcolor }
1148 \def\atfi@SETCMYKCOLORFILL{setcmykcolor }
1149 \def\atfi@RECTFILL{atfi_rectfill }
1150 \def\atfi@RECTSTROKEFILL#1#2#3{%
1151   #3%
1152   #1%
1153   gsave atfi_rectfill grestore %
1154   #2%
1155   #3%
1156   atfi_rectstroke %
1157   #1%
1158 }
1159 \def\atfi@SETMITERLIMIT{setmiterlimit }
1160 \def\atfi@SETFLAT{setflat }
1161 \def\atfi@SETLINECAP{setlinecap }
1162 \def\atfi@CURVETO{curveto }
1163 \def\atfi@CURVETOY{atfi_curveto_v }
1164 \def\atfi@CURVETOY{atfi_curveto_y }
1165 \def\atfi@CLOSEPATH{closepath }
1166 \def\atfi@SETLINEJOIN{setlinejoin }

1167 \newcounter{atfi@obj}
1168 \renewcommand*{\theatfi@obj}{%
1169   {atfi_obj_\number\c@atfi@obj}}%
1170 }

```

File embedding Most values for Params dictionary found in the .atfi file have priority:

- Recalculation (md5sum, ...) is avoided.
- An external script has more possibilities than programming at PostScript level (operating system, getting the date and time values of the file with correct interpretation.
- Exception: status is called to test file existence, thus we get the value of size for free.

```

1171 \define@key{AtFi@file}{Size}{}

```

```

\atfi@embedfile

```

```

1172 \def\atfi@embedfile#1{%
1173   \ltx@ifundefined{atfi@fileobj@#1}{%
1174     \atfi@pdfstringdef\atfi@psfilename{#1}%
1175     \stepcounter{atfi@obj}%
1176     \expandafter\xdef\c@atfi@obj{atfi@fileobj@#1\endcsname{\theatfi@obj}}%

```

```

1177 \beginngroup
1178 \let\atfi@params\ltx@empty
1179 \expandafter\let\expandafter\atfi@temp
1180 \csname atfi@file@#1\endcsname
1181 \ifx\atfi@temp\ltx@empty
1182 \let\atfi@temp\relax
1183 \fi
1184 \ifx\atfi@temp\relax
1185 \atfi@pdftexdata{#1}%
1186 \else
1187 \edef\x{%
1188 \noexpand\setkeys{AtFi@file}{\@nameuse{atfi@file@#1}}%
1189 }%
1190 \x
1191 \fi
1192 \atfi@literal{%
1193 /atfi_filename(\atfi@psfilename)def %
1194 atfi_filename status%
1195 {%

```

ok: file found

save parameters of status command

```

1196 /atfi_created exch def%
1197 /atfi_referenced exch def%
1198 /atfi_size exch def %
1199 pop %

```

drop parameter "pages" (storage space), never needed

ghostscript:

```

created: stat.st_ctime
referenced: stat.st_mtime
stat.st_ctime: interpretation depends on operating system:
* unix: inode change time (not interesting)
* win32: probably creation time
--> /CreationDate
stat.st_mtime: modification time --> /ModDate
time values are seconds since 1970-01-01, GMT

```

TODO: ghostscript offers "getenv" for getting the value of an environment variable. That could be used to detect windows and setting the /CreationDate entry.

TODO: how are these values interpreted by other distiller programs?

```

1200 [%
1201 /_objdef \theatfi@obj
1202 /type/stream%
1203 /OBJ pdfmark%
1204 [%
1205 \theatfi@obj
1206 <<%
1207 /Type/EmbeddedFile%
1208 \atfi@mimetype
1209 /Params%
1210 <<%
1211 \atfi@params
1212 %
1213 /Size atfi_size%
1214 %
1215 /product where%
1216 {%
1217 pop %

```

check for ghostscript

```

1218 product (Ghostscript) search%

```

```

1219         {%
1220         pop pop pop %
ghostscript is running
1221         \ifatfi@creationdate
1222         \else
1223         false % TODO: test for windows
1224         {%
1225         /CreationDate atfi_created atfi_convert_date%
1226         } if%
1227         \fi
1228         \ifatfi@moddate
1229         \else
1230         /ModDate atfi_referenced atfi_convert_date%
1231         \fi
1232         } if%
look for MD5Encode filter and calculate CheckSum
1233         } if %
1234         \ifatfi@checksum
1235         \else
1236         atfi_filename atfi_calc_checksum%
1237         \fi
1238         >>%
1239         >>%
1240         /PUT pdfmark%
1241         [%
1242         \theatfi@obj
1243         atfi_filename (r) file%
1244         /PUT pdfmark%
1245         [%
1246         \theatfi@obj
1247         /CLOSE pdfmark%
1248         ]{%
error: file not found
currently nothing is done
1249         } ifelse%
1250         }%
1251         \endgroup
1252         }{%
file already embedded
1253         }%
1254         }

```

Annotation appearance output: \atfi@appearanceobj
input: \atfi@appearancebox, \atfi@icon@icon

atfi@xfrom@icon

```

1255 \def\atfi@xform@icon{%
1256 \stepcounter{atfi@obj}%
1257 \edef\atfi@appearanceobj{\theatfi@obj}%
1258 \atfi@literal{%
1259 [%
1260 /_objdef \atfi@appearanceobj
1261 /BBox[%
1262 0 %
1263 0 %
1264 \strip@pt\wd\atfi@appearancebox\space atfi_pttopb %
1265 \strip@pt\dimexpr\dp\atfi@appearancebox
1266 +\ht\atfi@appearancebox\relax\space atfi_pttopb%
1267 ]%
1268 /BP pdfmark %

```

```

1269 \csname atfi@acro\atfi@icon@icon @data\endcsname
1270 [%
1271 /EP pdfmark%
1272 }%
1273 }

```

\atfi@xform output: \atfi@appearanceobj, input: \atfi@appearancebox

```

1274 \def\atfi@xform{%
1275 \stepcounter{atfi@obj}%
1276 \edef\atfi@appearanceobj{\theatfi@obj}%
1277 \begingroup
1278 \setbox\ltx@zero=\hbox{%
1279 \atfi@literal{%
1280 [%
1281 \_objdef \atfi@appearanceobj
1282 /BBox[%
1283 currentpoint %
1284 \strip@pt\dp\atfi@appearancebox\space sub %
1285 currentpoint %
1286 exch \strip@pt\wd\atfi@appearancebox\space add %
1287 exch \strip@pt\ht\atfi@appearancebox\space add%
1288 ]%
1289 /BP pdfmark %
1290 gsave %
1291 currentpoint %
1292 2 copy translate %
1293 72.27 Resolution div 72.27 VResolution div neg scale %
1294 exch neg exch neg translate%
1295 }%
1296 \usebox{\atfi@appearancebox}%
1297 \atfi@literal{%
1298 grestore%
1299 [%
1300 /EP pdfmark%
1301 }%
1302 }%
1303 % do not allocate any space for xobject definition
1304 \dp\ltx@zero=\z@
1305 \ht\ltx@zero=\z@
1306 \wd\ltx@zero=\z@
1307 \mbox{\usebox\ltx@zero}%
1308 \endgroup
1309 }

```

\atfi@refxform

```

1310 \def\atfi@refxform#1{%
1311 \raisebox{-\atfi@appearancedepth}{%
1312 \atfi@literal{%
1313 gsave %
1314 currentpoint translate %
1315 Resolution 72 div VResolution neg 72 div scale%
1316 [#1 /SP pdfmark % hash-ok
1317 grestore%
1318 }%
1319 \makebox[\atfi@appearancewidth]{}%
1320 }%
1321 \rule{0pt}{\atfi@appearanceheight}%
1322 }

```

File attachment annotation

\atfi@insert@file@annot

```

1323 \def\atfi@insert@file@annot#1{%
1324 \rule{0pt}{0pt}%
1325 \ifatfi@appearance
1326 \def\atfi@appearance@dict{%
1327 /AP<<%
1328 /N \atfi@appearanceobj
1329 /R \atfi@appearanceobj
1330 /D \atfi@appearanceobj
1331 >>%
1332 }%
1333 \else
1334 \let\atfi@appearance@dict\ltx@empty
1335 \fi
1336 \ltx@ifundefined{atfi@fsobj@#1}{%
1337 \stepcounter{atfi@obj}%
1338 \expandafter
1339 \xdef\csname atfi@fsobj@#1\endcsname{\theatfi@obj}%
1340 \begingroup
1341 \hypersetup{unicode=false}%
1342 \atfi@pdfstringdef\atfi@file{#1}%
1343 \atfi@literal{%
1344 [%
1345 /_objdef \theatfi@obj
1346 /type/dict%
1347 /OBJ pdfmark%
1348 [%
1349 \theatfi@obj
1350 <<%
1351 /Type/Filespec%
1352 /F(\atfi@file)%
1353 \ifx\atfi@ucfilespec\ltx@empty
1354 \else
1355 /UF(\atfi@ucfilespec)%
1356 \fi
1357 /EF<<%
1358 /F \csname atfi@fileobj@#1\endcsname
1359 >>%
1360 >>%
1361 /PUT pdfmark%
1362 }%
1363 \endgroup
1364 }{%
1365 }%
1366 \atfi@literal{%
1367 [%
1368 /Subtype/FileAttachment%
1369 \atfi@icon
1370 \atfi@color@annot
1371 \atfi@author
1372 \atfi@date
1373 \atfi@annotname
1374 \atfi@description
1375 \atfi@subject
1376 \atfi@appearance@dict
1377 /F \theatfi@flags
1378 /FS \csname atfi@fsobj@#1\endcsname
1379 /Rect[%
1380 currentpoint %
1381 \strip@pt\dimexpr\atfi@scale\atfi@appearancedepth\relax
1382 \space atfi_pdftodvipsy add %
1383 currentpoint %
1384 exch %

```

```

1385         \strip@pt\dimexpr\atfi@scale\atfi@appearancewidth\relax
1386         \space atfi_pdftodvipsx add %
1387     exch %
1388         \strip@pt\dimexpr\atfi@scale\atfi@appearanceheight\relax
1389         \space atfi_pdftodvipsy sub %
1390     ]%
1391     /ANN pdfmark%
1392 }%
1393 \rule{Opt}{\atfi@appearanceheight}%
1394 \rule[-\atfi@appearancedepth]{Opt}{\atfi@appearancedepth}%
1395 \rule{\atfi@appearancewidth}{Opt}%
1396 }
1397 </dvips>

```

2.2.3 dvipdfmx

```

1398 <*dvipdfmx>
1399 \NeedsTeXFormat{LaTeX2e}
1400 \ProvidesFile{atfi-dvipdfmx.def}%
1401 [2012/04/18 v2.7 attachfile2 driver for dvipdfmx/XeTeX (HO)]%

```

Macros for graphics data

\atfi@special

```

1402 \def\atfi@special#1{%
1403   \special{pdf:#1}%
1404 }

```

\atfi@literal

```

1405 \def\atfi@literal#1{%
1406   \atfi@special{content #1}%
1407 }

1408 \def\atfi@GSAVE{q }
1409 \def\atfi@GRESTORE{Q }
1410 \def\atfi@SETLINEWIDTH{w }
1411 \def\atfi@LINETO{l }
1412 \def\atfi@MOVETO{m }
1413 \def\atfi@STROKE{S }
1414 \def\atfi@FILL{f }
1415 \def\atfi@FILLSTROKE#1#2{#1#2B }
1416 \def\atfi@SETRGBCOLORSTROKE{RG }
1417 \def\atfi@SETRGBCOLORFILL{rg }
1418 \def\atfi@SETGRAYSTROKE{G }
1419 \def\atfi@SETGRAYFILL{g }
1420 \def\atfi@SETCMYKCOLORSTROKE{K }
1421 \def\atfi@SETCMYKCOLORFILL{k }
1422 \def\atfi@RECTFILL{re f }
1423 \def\atfi@RECTSTROKEFILL#1#2#3{#1#2#3re B }
1424 \def\atfi@SETMITERLIMIT{M }
1425 \def\atfi@SETFLAT{i }
1426 \def\atfi@SETLINECAP{J }
1427 \def\atfi@CURVETO{c }
1428 \def\atfi@CURVETOv{v }
1429 \def\atfi@CURVETOY{y }
1430 \def\atfi@CLOSEPATH{h }
1431 \def\atfi@SETLINEJOIN{j }

1432 \newcounter{atfi@obj}
1433 \renewcommand*{\theatfi@obj}{%
1434   @atfi_obj_ \number\c@atfi@obj
1435 }

```


File embedding

```
1436 \define@key{AtFi@file}{Size}{%
1437   \edef\atfi@params{\atfi@params/Size #1}%
1438 }
```

\atfi@embedfile

```
1439 \def\atfi@embedfile#1{%
1440   \ltx@ifundefined{atfi@fileobj@#1}{%
1441     \stepcounter{atfi@obj}%
1442     \begingroup
1443       \let\atfi@params\ltx@empty
1444       \expandafter\let\expandafter\atfi@temp
1445       \csname atfi@file@#1\endcsname
1446       \ifx\atfi@temp\ltx@empty
1447         \let\atfi@temp\relax
1448       \fi
1449       \ifx\atfi@temp\relax
1450         \atfi@pdftexdata{#1}%
1451       \else
1452         \edef\x{%
1453           \noexpand\setkeys{AtFi@file}{\@nameuse{atfi@file@#1}}%
1454         }%
1455         \x
1456       \fi
1457       \ifx\atfi@params\ltx@empty
1458       \else
1459         \edef\atfi@params{/Params<<\atfi@params>>%
1460       \fi
1461       \edef\atfi@FILE{#1}%
1462       \filename@parse\atfi@FILE
1463       \ifx\filename@area\ltx@empty
1464         \edef\atfi@FILE{./\atfi@FILE}%
1465       \fi
1466       \EdefEscapeString\atfi@FILE{\atfi@FILE}%
1467       \atfi@special{fstream %
1468         \theatfi@obj
1469         (\atfi@FILE)%
1470       <<%
1471         /Type/EmbeddedFile%
1472         \atfi@mimetype
1473         \atfi@params
1474       >>%
1475     }%
1476     \atfi@special{close \theatfi@obj}%
1477     \expandafter
1478     \xdef\csname atfi@fileobj@#1\endcsname{\theatfi@obj}%
1479   \endgroup
1480 }{%
1481   % file already embedded
1482 }%
1483 }
```

Annotation appearance

\atfi@xform input: \atfi@appearancebox, output: \atfi@appearanceobj

```
1484 \def\atfi@xform{%
1485   \stepcounter{atfi@obj}%
1486   \smash{%
1487     \rlap{%
1488       \atfi@special{bobj \theatfi@obj\space
1489         width \the\wd\atfi@appearancebox\space
1490         height \the\ht\atfi@appearancebox\space
```

```

1491         depth \the\dp\atfi@appearancebox
1492     }%
1493     \usebox\atfi@appearancebox
1494     \atfi@special{exobj}%
1495 }%
1496 }%
1497 \edef\atfi@appearanceobj{\theatfi@obj}%
1498 }

```

\atfi@xform@icon

```
1499 \let\atfi@xform@icon\atfi@xform
```

\atfi@refxform

```

1500 \def\atfi@refxform#1{%
1501     \leavevmode
1502     \atfi@special{uxobj #1}%
1503 }

```

File attachment annotation

\atfi@insert@file@annot

```

1504 \def\atfi@insert@file@annot#1{%
1505     \rule{Opt}{Opt}%
1506     \ifatfi@appearance
1507         \def\atfi@appearance@dict{%
1508             /AP<<%
1509             /N \atfi@appearanceobj
1510             /R \atfi@appearanceobj
1511             /D \atfi@appearanceobj
1512             >>%
1513         }%
1514     \else
1515         \let\atfi@appearance@dict\ltx@empty
1516     \fi
1517     \ltx@ifundefined{atfi@fsoj@#1}{%
1518         \begingroup
1519             \ifxetex
1520                 \let\atfi@temp\Hy@Warning
1521                 \let\Hy@Warning\ltx@gobble
1522             \fi
1523             \hypersetup{unicode=false}%
1524             \ifxetex
1525                 \let\Hy@Warning\atfi@temp
1526             \fi
1527             \atfi@pdfstringdef\atfi@file{#1}%
1528             \stepcounter{atfi@obj}%
1529             \atfi@special{obj \theatfi@obj <<%
1530                 /Type/Filespec%
1531                 /F(\atfi@file)%
1532                 \ifx\atfi@ucfilespec\ltx@empty
1533                     \else
1534                         /UF(\atfi@ucfilespec)%
1535                     \fi
1536                 /EF<<%
1537                 /F \@nameuse{atfi@fileobj@#1}%
1538                 >>%
1539             >>%
1540         }%
1541         \expandafter\xdef\csname atfi@fsoj@#1\endcsname{%
1542             \theatfi@obj
1543         }%
1544     \endgroup

```

```

1545 }{%
1546 }%
1547 \begingroup
1548   \dimen@=\atfi@scale\atfi@appearancewidth
1549   \edef\atfi@rule{width \the\dimen@}%
1550   \dimen@=\atfi@scale\atfi@appearanceheight
1551   \edef\atfi@rule{\atfi@rule\space height \the\dimen@}%
1552   \dimen@=\atfi@scale\atfi@appearancedepth
1553   \edef\atfi@rule{\atfi@rule\space depth \the\dimen@}%
1554   \atfi@special{ann \atfi@rule
1555     <<%
1556       /Subtype/FileAttachment%
1557       \atfi@icon
1558       \atfi@color@annot
1559       \atfi@author
1560       \atfi@date
1561       \atfi@annotname
1562       \atfi@description
1563       \atfi@subject
1564       \atfi@appearance@dict
1565       /F \theatfi@flags
1566       /FS \@nameuse{atfi@fsobj@#1}%
1567     >>%
1568   }%
1569 \endgroup
1570 \rule{Opt}{\atfi@appearanceheight}%
1571 \rule[-\atfi@appearancedepth]{Opt}{\atfi@appearancedepth}%
1572 \rule{\atfi@appearancewidth}{Opt}%
1573 }
1574 </dvipdfmx>

```

2.3 Perl script pdfatfi.pl

```

1575 <*pdfatfi>
1576 #!/usr/bin/env perl
1577 use strict;
1578 $^W=1; # turn warning on
1579 #
1580 # pdfatfi.pl
1581 #
1582 # Copyright (C) 2005-2010, 2012 Heiko Oberdiek.
1583 #
1584 # This work may be distributed and/or modified under the
1585 # conditions of the LaTeX Project Public License, either
1586 # version 1.3c of this license or (at your option) any later
1587 # version. This version of this license is in
1588 #   http://www.latex-project.org/lppl/lppl-1-3c.txt
1589 # and the latest version of this license is in
1590 #   http://www.latex-project.org/lppl.txt
1591 # and version 1.3 or later is part of all distributions of
1592 # LaTeX version 2005/12/01 or later.
1593 #
1594 # This work has the LPPL maintenance status "maintained".
1595 #
1596 # This Current Maintainer of this work is Heiko Oberdiek.
1597 #
1598 # See file "attachfile2.pdf" for a list of files that belong to
1599 # this project.
1600 #
1601 # This file "pdfatfi.pl" may be renamed to "pdfatfi"
1602 # for installation purposes.
1603 #

```

```

1604 my $prj      = 'pdfatfi';
1605 my $file     = "$prj.pl";
1606 my $program  = uc($&) if $file =~ /\w+\/;
1607 my $version  = "2.7";
1608 my $date     = "2012/04/18";
1609 my $author   = "Heiko Oberdiek";
1610 my $copyright = "Copyright (c) 2005-2010, 2012 by $author.";
1611 #
1612 # History:
1613 #   2005/05/21 v1.0: First release.
1614 #   2006/08/16 v2.2: Included in DTX file of attachfile2.dtx.
1615 #   2010/09/27 v2.6: Keys ModDateTZ and CreationDateTZ added.
1616 #   2012/04/18 v2.7: Option --version added.
1617 #
1618
1619 use POSIX qw(strftime); # %z is used (GNU)
1620 use Digest::MD5;
1621
1622 ### program identification
1623 my $title = "$program $version, $date - $copyright\n";
1624
1625 ### error strings
1626 my $Error = "!!! Error: "; # error prefix
1627
1628 ### variables
1629 my $atffile;
1630
1631 ### option variables
1632 my @bool = ("false", "true");
1633 $::opt_help      = 0;
1634 $::opt_quiet     = 0;
1635 $::opt_debug     = 0;
1636 $::opt_verbose  = 0;
1637 $::opt_version   = 0;
1638
1639 my $usage = <<"END_OF_USAGE";
1640 ${title}Syntax:  \L$program\E [options] <file[.atfi]>
1641 Function: Help program for LaTeX package "attachfile2".
1642 Options:                (defaults:)
1643 --help                  print usage
1644 --version               print version number
1645 --(no)quiet             suppress messages      ($bool[$::opt_quiet])
1646 --(no)verbose           verbose printing      ($bool[$::opt_verbose])
1647 --(no)debug             debug informations    ($bool[$::opt_debug])
1648 END_OF_USAGE
1649
1650 ### process options
1651 my @OrgArgv = @ARGV;
1652 use Getopt::Long;
1653 GetOptions(
1654   "help!",
1655   "version!",
1656   "quiet!",
1657   "debug!",
1658   "verbose!",
1659 ) or die $usage;
1660 !$::opt_help or die $usage;
1661 if ($::opt_version) {
1662   print "$prj $date v$version\n";
1663   exit(0);
1664 }
1665 @ARGV == 1 or die "$usage$Error Missing jobname!\n";

```

```

1666
1667 $::opt_quiet = 0 if $::opt_verbose;
1668
1669 print $title unless $::opt_quiet;
1670
1671 ### get jobname
1672 $atffile = $ARGV[0];
1673 if (!-f $atffile && -f "$atffile.atfi") {
1674     $atffile .= ".atfi";
1675 }
1676 -f $atffile or die "$Error File `'$atffile'` not found!\n";
1677
1678 print "* job file      = $atffile\n" if $::opt_verbose;
1679
1680 if ($::opt_debug) {
1681     print <<"END_DEB";
1682     * OSNAME: $^O
1683     * PERL_VERSION: $]
1684     * ARGV: @OrgArgv
1685     END_DEB
1686 }
1687
1688 my $tmpfile = $atffile . ".tmp";
1689
1690 my $timezone = strftime "%z", localtime;
1691
1692 sub gettz ($) {
1693     my $time = shift;
1694     my $tz = strftime "%z", localtime($time);
1695     return '' unless $tz;
1696     return 'Z' if $tz eq '+0000';
1697     $tz =~ s/^( [+|-] \d \d ) ( \d \d ) $ / $1 '$2' /;
1698     return $tz;
1699 }
1700
1701 open(IN, $atffile) or die "$Error Cannot open `'$atffile'`!\n";
1702 open(OUT, ">$tmpfile") or die "$Error Cannot write `'$tmpfile'`!\n";
1703
1704 while(<IN>) {
1705     # timezone
1706     if (s/^(\\attachfile\\@timezone\\{.*\\})$/$1$timezone$2/) {
1707         print "* timezone      = $timezone\n" if $::opt_verbose;
1708     }
1709
1710     # file entry
1711     if (/^\\attachfile\\@file\\[[^\\]]*\\]\\{(.*)\\}$/) {
1712         my $hexfile = $1;
1713         my $file = pack('H*', $hexfile);
1714         my @s = stat($file);
1715         if (@s == 0) {
1716             print "!!! Warning: File `'$file'` not found!\n";
1717         }
1718         else {
1719             my $size = @s[7];
1720             my $mtime = @s[9];
1721             my $ctime = @s[10]; # inode change time
1722
1723             my ($sec, $min, $hour, $mday, $mon, $year) =
1724                 localtime($mtime);
1725             my $moddate = sprintf("%04d%02d%02d%02d%02d",
1726                 $year + 1900, $mon + 1, $mday,
1727                 $hour, $min, $sec);

```

```

1728         my $moddatetz = 'D:' . $moddate . gettz($mtime);
1729
1730         # Manual page "perlport" says that "ctime" is creation
1731         # time instead of inode change time for "Win32" and
1732         # "Mac OS", but it is unsupported for "Mac OS X".
1733         my $creationdate = "";
1734         my $creationdatetz = "";
1735         if ($^O eq 'MSWin32') { # cygwin?
1736             ($sec, $min, $hour, $mday, $mon, $year) =
1737                 localtime($ctime);
1738             $creationdate = sprintf("%04d%02d%02d%02d%02d",
1739                                     $year + 1900, $mon + 1, $mday,
1740                                     $hour, $min, $sec);
1741             $creationdatetz =
1742                 'D:' . $creationdate . gettz($ctime);
1743         }
1744
1745         # md5 checksum
1746         my $checksum = "";
1747         my $ctx = Digest::MD5->new;
1748         if (open(FILE, $file)) {
1749             $ctx->addfile(*FILE);
1750             $checksum = $ctx->hexdigest;
1751             close(FILE);
1752         }
1753         else {
1754             print "!!! Warning: File `'$file' cannot be read,"
1755                 . " dropping checksum!\n";
1756         }
1757
1758         $_ = "\\attachfile\@file["
1759             . "ModDateTZ=$moddatetz"
1760             . ",Size=$size"
1761             . ($checksum ? ",Checksum=$checksum" : "")
1762             . ($creationdatetz ?
1763                 ",CreationDateTZ=$creationdatetz" :
1764                 ($creationdate ?
1765                     ",CreationDate=$creationdate" : ""))
1766             . "]{hexfile}\n";
1767         if ($::opt_verbose) {
1768             print "* file entry    = $file\n";
1769             print "  size              = $size\n";
1770             print "  moddate           = $moddate\n";
1771             print "  creationdate     = $creationdate\n"
1772                 if $creationdate;
1773             print "  checksum         = $checksum\n" if $checksum;
1774         }
1775     }
1776 }
1777
1778 print OUT $_;
1779 }
1780
1781 close(IN);
1782 close(OUT);
1783
1784 unlink($atffile) or die "$Error Cannot delete old `'$atffile'!\n";
1785 rename $tmpfile, $atffile
1786     or die "$Error Cannot move `'$tmpfile' to `'$atffile'!\n";
1787
1788 print "*** ready. ***\n" unless $::opt_quiet;
1789

```

1790 __END__
1791 </pdfatfi>

3 Installation

3.1 Download

Package. This package is available on CTAN¹:

[CTAN:macros/latex/contrib/oberdiek/attachfile2.dtx](#) The source file.

[CTAN:macros/latex/contrib/oberdiek/attachfile2.pdf](#) Documentation.

Bundle. All the packages of the bundle ‘oberdiek’ are also available in a TDS compliant ZIP archive. There the packages are already unpacked and the documentation files are generated. The files and directories obey the TDS standard.

[CTAN:install/macros/latex/contrib/oberdiek.tds.zip](#)

TDS refers to the standard “A Directory Structure for T_EX Files” ([CTAN:tds/tds.pdf](#)). Directories with `texmf` in their name are usually organized this way.

3.2 Bundle installation

Unpacking. Unpack the `oberdiek.tds.zip` in the TDS tree (also known as `texmf` tree) of your choice. Example (linux):

```
unzip oberdiek.tds.zip -d ~/texmf
```

Script installation. Check the directory `TDS:scripts/oberdiek/` for scripts that need further installation steps. Package `attachfile2` comes with the Perl script `pdfatfi.pl` that should be installed in such a way that it can be called as `pdfatfi`. Example (linux):

```
chmod +x scripts/oberdiek/pdfatfi.pl  
cp scripts/oberdiek/pdfatfi.pl /usr/local/bin/
```

3.3 Package installation

Unpacking. The `.dtx` file is a self-extracting docstrip archive. The files are extracted by running the `.dtx` through plain T_EX:

```
tex attachfile2.dtx
```

TDS. Now the different files must be moved into the different directories in your installation TDS tree (also known as `texmf` tree):

```
attachfile2.sty → tex/latex/oberdiek/attachfile2.sty  
atfi-dvips.def → tex/latex/oberdiek/atfi-dvips.def  
atfi-pdftex.def → tex/latex/oberdiek/atfi-pdftex.def  
atfi-dvipdfmx.def → tex/latex/oberdiek/atfi-dvipdfmx.def  
pdfatfi.pl → scripts/oberdiek/pdfatfi.pl  
attachfile2.pdf → doc/latex/oberdiek/attachfile2.pdf  
attachfile2.dtx → source/latex/oberdiek/attachfile2.dtx
```

If you have a `docstrip.cfg` that configures and enables docstrip’s TDS installing feature, then some files can already be in the right place, see the documentation of docstrip.

¹<ftp://ftp.ctan.org/tex-archive/>

3.4 Refresh file name databases

If your $\text{T}_{\text{E}}\text{X}$ distribution (te $\text{T}_{\text{E}}\text{X}$, mik $\text{T}_{\text{E}}\text{X}$, ...) relies on file name databases, you must refresh these. For example, te $\text{T}_{\text{E}}\text{X}$ users run `texhash` or `mktexlsr`.

3.5 Script installation

This package comes with a Perl script `pdfatfi.pl`. Install it somewhere so that it is executed, when it is called as `pdfatfi` on the command line. Example for installing it under Linux:

```
cp pdfatfi.pl /usr/local/bin/pdfatfi
chmod +x /usr/local/bin/pdfatfi
```

3.6 Some details for the interested

Attached source. The PDF documentation on CTAN also includes the `.dtx` source file. It can be extracted by AcrobatReader 6 or higher. Another option is `pdftk`, e.g. unpack the file into the current directory:

```
pdftk attachfile2.pdf unpack_files output .
```

Unpacking with $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$. The `.dtx` chooses its action depending on the format:

plain $\text{T}_{\text{E}}\text{X}$: Run `docstrip` and extract the files.

$\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$: Generate the documentation.

If you insist on using $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ for `docstrip` (really, `docstrip` does not need $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$), then inform the autodetect routine about your intention:

```
latex \let\install=y\input{attachfile2.dtx}
```

Do not forget to quote the argument according to the demands of your shell.

Generating the documentation. You can use both the `.dtx` or the `.drv` to generate the documentation. The process can be configured by the configuration file `ltxdoc.cfg`. For instance, put this line into this file, if you want to have A4 as paper format:

```
\PassOptionsToClass{a4paper}{article}
```

An example follows how to generate the documentation with pdf $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$:

```
pdflatex attachfile2.dtx
makeindex -s gind.ist attachfile2.idx
pdflatex attachfile2.dtx
makeindex -s gind.ist attachfile2.idx
pdflatex attachfile2.dtx
```

4 Catalogue

The following XML file can be used as source for the [\$\text{T}_{\text{E}}\text{X}\$ Catalogue](#). The elements `caption` and `description` are imported from the original XML file from the Catalogue. The name of the XML file in the Catalogue is `attachfile2.xml`.

```
1792 <*catalogue>
1793 <?xml version='1.0' encoding='us-ascii'?>
1794 <!DOCTYPE entry SYSTEM 'catalogue.dtd'>
1795 <entry datestamp='$Date$' modifier='$Author$' id='attachfile2'>
1796 <name>attachfile2</name>
1797 <caption>Attach files into PDF.</caption>
1798 <authorref id='auth:oberdiek'/>
```



```

1799 <copyright owner='Heiko Oberdiek' year='2005-2010,2012' />
1800 <license type='lpp1.3' />
1801 <version number='2.7' />
1802 <description>
1803   This package can be used to attach files to a PDF document.
1804   It is a further development of Scott Pakin's package
1805   <xref refid='attachfile'>attachfile</xref> for
1806   <xref refid='pdftex'>pdfTeX</xref>. Apart from bug fixes,
1807   this package adds support for dvips,
1808   some new options, and gets and writes meta information data about
1809   the attached files.
1810   <p/>
1811   The package is part of the <xref refid='oberdiek'>oberdiek</xref>
1812   bundle.
1813 </description>
1814 <documentation details='Package documentation'
1815   href='ctan:/macros/latex/contrib/oberdiek/attachfile2.pdf' />
1816 <ctan file='true' path='/macros/latex/contrib/oberdiek/attachfile2.dtx' />
1817 <miktex location='oberdiek' />
1818 <texlive location='oberdiek' />
1819 <install path='/macros/latex/contrib/oberdiek/oberdiek.tds.zip' />
1820 </entry>
1821 </catalogue>

```

5 References

- [1] Scott Pakin: *The attachfile package*; 2005/02/20 v1.2; [CTAN:macros/latex/contrib/attachfile/](#).
- [2] Heiko Oberdiek: *The embedfile package*; 2006/08/16 v1.0; [CTAN:macros/latex/contrib/oberdiek/embedfile.pdf](#).
- [3] Adobe Systems Incorporated: *PDF Reference, Fifth Edition, Version 1.6*, November 2004; http://partners.adobe.com/public/developer/pdf/index_reference.html.
- [4] Network Working Group: RFC 2046, *Multipurpose Internet Mail Extensions (MIME) Part Two: Media Types*, November 1996; <http://www.rfc-editor.org/>.
- [5] IANA (Internet Assigned Numbers Authority): *MIME Media Types*, May 2006; <http://www.iana.org/assignments/media-types/>.

6 History

[2005/02/23 v2.0]

- New options: draft/final.
- New option scale for scaling the annotation rectangle.
- Supported driver options: pdftex, dvips.
- Configuration file ‘attachfile.cfg’ supported.
- Dependency of package calc dropped.
- ϵ -TeX (`\numexpr`, `\dimexpr`) used.
- New auxiliary file `\jobname.atfi` to get data unavailable by (pdf)TeX, controlled by `\nofiles` and option `nofiles`.
- Use of package `prokvopt` (never released).

[2005/10/07 v2.1]

- Option `annotname` for naming annotations (this name can be used for embedded go-to actions).

[2006/08/17 v2.2]

- Use of package `kvoptions` instead of `prokvopt`.
- DTX framework.
- A little documentation.

[2007/04/11 v2.3]

- Line ends sanitized.

[2008/07/29 v2.4]

- Improved color support. Option `color` now understands the usual color specifications if package `xcolor` is loaded.

[2009/09/25 v2.5]

- New option `ucfilespec` (since PDF 1.7).
- Fix: `hyperref`'s option `unicode` is disabled for file names except for `ucfilespec`.

[2010/09/27 v2.6]

- Support for `dvipdfmx` added, new option `dvipdfmx` and alias option `xetex`. (Thanks Will Robertson for pointing to `\special{pdf:fstream ...}`).
- New option `driverfallback`.
- All options except driver options are local options, that means they are ignored as global options.
- Some options are disabled after they are used (driver options, `draft`, `final`, `nofiles`).
- Driver files renamed from `atfi<driver>.def` to `atfi-<driver>.def`.
- Bug fix: `\textattachfile` now adds an entry into the `.atfi` file.
- Program `pdfatfi.pl` sets modification and creation time with time zone, because the time zone offset might differ with the file date.

[2012/04/18 v2.7]

- Program `pdfatfi.pl`: Option `version` added.

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