

The atveryend package

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Abstract

This L^AT_EX package provides two hooks for `\end{document}` that are executed after the hook of `\AtEndDocument`. `\AfterLastShipout` can be used for code that is to be executed right after the last `\clearpage` before the `..aux` file is closed. `\AtVeryEndDocument` is used for code after closing and final reading of the `..aux` file.

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1 Documentation

There are packages (e.g. `hyperref` [4], `lastpage` [6]) that want to call code after the typesetting is done, for example to remember the last page number. `LATEX` provides the hook `\AtEndDocument` (`clsguide` [1]). There are packages that use this hook to do their job for typesetting pages (e.g. `endfloat` emits the floats here [2]). Also a user might provide additional code in `\AtEndDocument`. Therefore packages have to call

in `\AtEndDocument` to get after the last shipout page. But this is not too reliable, because the right timing is important between packages that want or have to do things before the last page is output and packages that only work properly if they can reach the point after the last shipout.

Therefore the task of this package is to provide two hooks that are called after the last page is shipped out:

`\AfterLastShipout {<code>}`

The code is called after the final `\clearpage` of `\enddocument` before the main `..aux` file is closed. This is the right place to remember the last page in the `..aux` file, for instance.

`\AtVeryEndDocument {<code>}`

The code is called after the `..aux` file is closed and read in again. It is the place for final checks, rerun hints, final messages.

1.1 Related work

Package `scrfile`: Markus Kohm has written package `scrfile` (part of KOMA-Script [5]) that provides hooks `\BeforeClosingMainAux` and after `\AfterReadingMainAux`. They have the same function as the hooks of this package. In fact this package uses them, if they are available.

Class `revtex4-1`: This class calls `\clear@document` in `\enddocument` that wraps the final call of `\clearpage`. Thus it can be used as hook to call stuff after that `\clearpage`. This is also done by this package.

Package `etoolbox`: It provides `\AfterEndDocument`, a hook right before `\deadcycles` or `\@@end` [3].

This package tries to combine as many approaches as possible:

- It looks for a known `\enddocument` and redefines it.
- Hooks that are provided by others are used (package `scrfile` or class `revtex4-1`).
- It redefines `\@checkend` and `\@dofilelist` to insert the hooks similar to `packagescrfile`.
- The hook execution is wrapped in a macro that is redefined by its first call to prevent calling the hook more than once.

2 Implementation

```
1 <package>
```

Reload check, especially if the package is not used with L^AT_EX.

```
2 \begingroup
3 \catcode44 12 % ,
4 \catcode45 12 % -
5 \catcode46 12 % .
6 \catcode58 12 % :
7 \catcode64 11 % @
8 \catcode123 1 % {
9 \catcode125 2 % }
10 \expandafter\let\expandafter\x\csname ver@atveryend.sty\endcsname
11 \ifx\x\relax % plain-TeX, first loading
12 \else
```

```

13 \def\empty{}%
14 \ifx\x\empty % LaTeX, first loading,
15 % variable is initialized, but \ProvidesPackage not yet seen
16 \else
17 \catcode35 6 % #
18 \expandafter\ifx\csname PackageInfo\endcsname\relax
19 \def\x#1#2{%
20 \immediate\write-1{Package #1 Info: #2.}%
21 }%
22 \else
23 \def\x#1#2{\PackageInfo{#1}{#2, stopped}}%
24 \fi
25 \x{atveryend}{The package is already loaded}%
26 \aftergroup\endinput
27 \fi
28 \fi
29 \endgroup

```

Package identification:

```

30 \begingroup
31 \catcode35 6 % #
32 \catcode40 12 % (
33 \catcode41 12 % )
34 \catcode44 12 % ,
35 \catcode45 12 % -
36 \catcode46 12 % .
37 \catcode47 12 % /
38 \catcode58 12 % :
39 \catcode64 11 % @
40 \catcode91 12 % [
41 \catcode93 12 % ]
42 \catcode123 1 % {
43 \catcode125 2 % }
44 \expandafter\ifx\csname ProvidesPackage\endcsname\relax
45 \def\x#1#2#3[#4]{\endgroup
46 \immediate\write-1{Package: #3 #4}%
47 \xdef#1{#4}%
48 }%
49 \else
50 \def\x#1#2[#3]{\endgroup
51 #2[#3]}%
52 \ifx#1\@undefined
53 \xdef#1{#3}%
54 \fi
55 \ifx#1\relax
56 \xdef#1{#3}%
57 \fi
58 }%
59 \fi
60 \expandafter\x\csname ver@atveryend.sty\endcsname
61 \ProvidesPackage{atveryend}%
62 [2009/12/09 v1.2 Hooks at very end of document (HO)]
63 \begingroup
64 \catcode123 1 % {
65 \catcode125 2 % }
66 \def\x{\endgroup
67 \expandafter\edef\csname AtVeryEnd@AtEnd\endcsname{%
68 \catcode35 \the\catcode35\relax
69 \catcode64 \the\catcode64\relax
70 \catcode123 \the\catcode123\relax
71 \catcode125 \the\catcode125\relax
72 }%
73 }%

```

```

74 \x
75 \catcode35 6 % #
76 \catcode64 11 % @
77 \catcode123 1 % {
78 \catcode125 2 % }
79 \def\TMP@EnsureCode#1#2{%
80   \edef\AtVeryEnd@AtEnd{%
81     \AtVeryEnd@AtEnd
82     \catcode#1 \the\catcode#1\relax
83   }%
84   \catcode#1 #2\relax
85 }
86 \TMP@EnsureCode{9}{10}% (tab)
87 \TMP@EnsureCode{39}{12}% '
88 \TMP@EnsureCode{40}{12}% (
89 \TMP@EnsureCode{41}{12}% )
90 \TMP@EnsureCode{42}{12}% *
91 \TMP@EnsureCode{45}{12}% -
92 \TMP@EnsureCode{46}{12}% .
93 \TMP@EnsureCode{47}{12}% /
94 \TMP@EnsureCode{61}{12}% =
95 \TMP@EnsureCode{62}{12}% >
96 \TMP@EnsureCode{96}{12}% ‘

```

2.1 Hooks

tVeryEnd@AfterLastShipoutHook

```
97 \let\AtVeryEnd@AfterLastShipoutHook\@empty
```

VeryEnd@AtVeryEndDocumentHook

```
98 \let\AtVeryEnd@AtVeryEndDocumentHook\@empty
```

\AfterLastShipout

```

99 \newcommand*{\AfterLastShipout}{%
100   \g@addto@macro\AtVeryEnd@AfterLastShipoutHook
101 }

```

\AtVeryEndDocument

```

102 \newcommand*{\AtVeryEndDocument}{%
103   \g@addto@macro\AtVeryEnd@AtVeryEndDocumentHook
104 }

```

\Call@AfterLastShipout

```

105 \newcommand*{\Call@AfterLastShipout}{%
106   \let\AfterLastShipout\@firstofone
107   \ifx\AtVeryEnd@AfterLastShipoutHook\@empty
108     \PackageInfo{atveryend}{Empty hook ‘AfterLastShipout’}%
109   \else
110     \PackageInfo{atveryend}{Executing hook ‘AfterLastShipout’}%
111     \AtVeryEnd@AfterLastShipoutHook
112   \fi
113   \global\let\AtVeryEnd@AfterLastShipoutHook\@undefined
114   \global\let\Call@AfterLastShipout\relax
115 }

```

\Call@AtVeryEndDocument

```

116 \newcommand*{\Call@AtVeryEndDocument}{%
117   \let\AtVeryEndDocument\@firstofone
118   \ifx\AtVeryEnd@AtVeryEndDocumentHook\@empty
119     \PackageInfo{atveryend}{Empty hook ‘AtVeryEndDocument’}%
120   \else
121     \PackageInfo{atveryend}{Executing hook ‘AtVeryEndDocument’}%

```

```

122   \AtVeryEnd@AtVeryEndDocumentHook
123 \fi
124 \global\let\AtVeryEnd@AtVeryEndDocumentHook\undefined
125 \global\let\Call@AtVeryEndDocument\relax
126 }

```

2.2 Redefining \enddocument

This approach looks for known versions of `\enddocument` and redefines it. Class `seminar` and package `slidesec` are not checked, because there would be too much combinations to check.

2.2.1 L^AT_EX kernel

`\AtVeryEnd@test@standard`

```

127 \def\AtVeryEnd@test@standard{%
128   \let\AtEndDocument\@firstofone
129   \@enddocumenthook
130   \@checkend{document}%
131   \clearpage
132   \begingroup
133     \if@filesw
134       \immediate\closeout\@mainaux
135       \let\@setckpt\@gobbletwo
136       \let\@newl@bel\@testdef
137       \@tempswafalse
138       \makeatletter
139       \input\jobname.aux %
140     \fi
141     \@dofilelist
142     \ifdim \font@submax >\fontsubfuzz\relax
143       \@font@warning{Size substitutions with differences\MessageBreak
144         up to \font@submax\space have occurred.\@gobbletwo}%
145     \fi
146     \@defaultsubs
147     \@refundefined
148     \if@filesw
149       \ifx \@multiplelabels \relax
150         \if@tempswa
151           \@latex@warning@no@line{Label(s) may have changed. %
152             Rerun to get cross-references right}%
153         \fi
154       \else
155         \@multiplelabels
156       \fi
157     \fi
158   \endgroup
159   \deadcycles\z@
160   \@@end
161 }

```

`\AtVeryEnd@enddocument@standard`

```

162 \def\AtVeryEnd@enddocument@standard{%
163   \let\AtEndDocument\@firstofone
164   \@enddocumenthook
165   \@checkend{document}%
166   \clearpage
167   \Call@AfterLastShipout
168   \begingroup
169     \if@filesw
170       \immediate\closeout\@mainaux
171       \let\@setckpt\@gobbletwo

```

```

172     \let\@newl@bel\@testdef
173     \@tempswafalse
174     \makeatletter
175     \input\jobname.aux %
176     \fi
177     \Call@AtVeryEndDocument
178     \@dofilelist
179     \ifdim \font@submax >\fontsubfuzz\relax
180         \@font@warning{Size substitutions with differences\MessageBreak
181             up to \font@submax\space have occurred.\@gobbletwo}%
182     \fi
183     \@defaultsubs
184     \@refundefined
185     \if@filesw
186         \ifx \@multiplelabels \relax
187             \if@tempswa
188                 \@latex@warning@no@line{Label(s) may have changed. %
189                     Rerun to get cross-references right}%
190             \fi
191         \else
192             \@multiplelabels
193         \fi
194     \fi
195 \endgroup
196 \deadcycles\z@
197 \@@end
198 }

```

2.2.2 Package booklet, file 2up.tex

\AtVeryEnd@test@booklet

```

199 \expandafter\def\expandafter\AtVeryEnd@test@booklet\expandafter{%
200     \expandafter\twoupclearpage
201     \AtVeryEnd@test@standard
202 }

```

AtVeryEnd@enddocument@booklet

```

203 \expandafter\def\expandafter\AtVeryEnd@enddocument@booklet\expandafter{%
204     \expandafter\twoclearpage
205     \AtVeryEnd@enddocument@standard
206 }

```

2.2.3 Class dinbrief

\AtVeryEnd@test@dinbrief

```

207 \def\AtVeryEnd@test@dinbrief{%
208     \@checkend{document} %
209     \newpage
210     \begingroup
211         \if@filesw
212             \ifnum\c@labelgen>0 %
213                 \immediate\closeout\@mainlbl
214                 \makeatletter
215                 \input \jobname@lbl\relax
216                 \clearpage
217             \fi
218             \immediate\closeout\@mainaux
219         \fi
220     \endgroup
221     \deadcycles\z@
222     \@@end
223 }

```

tVeryEnd@enddocument@dinbrief

```
224 \def\AtVeryEnd@enddocument@dinbrief{%
225   \@checkend{document}%
226   \newpage
227   \Call@AfterLastShipout
228   \begingroup
229     \if@filesw
230       \ifnum\c@labelgen>\z@
231         \immediate\closeout\@mainlbl
232         \makeatletter
233         \input \jobname@lbl\relax
234         \clearpage
235       \fi
236       \immediate\closeout\@mainaux
237     \fi
238     \Call@AtVeryEndDocument
239   \endgroup
240   \deadcycles\z@
241   \@@end
242 }
```

2.2.4 Class combine

\AtVeryEnd@test@combine

```
243 \def\AtVeryEnd@test@combine{%
244   \@enddocumenthook
245   \@checkend{document}%
246   \clearpage
247   \begingroup
248     \if@filesw
249       \immediate\closeout\@mainaux
250       \immediate\closeout\@partaux
251       \let\@setckpt\@gobbletwo
252       \let\@newl@bel\@testdef
253       \@tempwafalse
254       \makeatletter \input\c@lmainauxfile %% change here
255     \fi
256     \c@lenddoca %% a replacement
257     \@refundefined
258   \endgroup
259   \deadcycles\z@
260   \@@end
261 }
```

AtVeryEnd@enddocument@combine

```
262 \def\AtVeryEnd@enddocument@combine{%
263   \@enddocumenthook
264   \@checkend{document}%
265   \clearpage
266   \Call@AfterLastShipout
267   \begingroup
268     \if@filesw
269       \immediate\closeout\@mainaux
270       \immediate\closeout\@partaux
271       \let\@setckpt\@gobbletwo
272       \let\@newl@bel\@testdef
273       \@tempwafalse
274       \makeatletter \input\c@lmainauxfile %% change here
275     \fi
276     \Call@AtVeryEndDocument
277     \c@lenddoca %% a replacement
278     \@refundefined
```



```

279 \endgroup
280 \deadcycles\z@
281 \@@end
282 }

```

2.2.5 Class jpsj2

\AtVeryEnd@test@jpsj

```

283 \def\AtVeryEnd@test@jpsj{%
284   \if@lastpagebalancing
285     \global\let\@outputdblcol=\balancing@outputdblcol
286   \fi
287   \@checkend{document}%
288   \clearpage
289   \begingroup
290     \if@filesw
291       \immediate\closeout\@mainaux
292       \def\global\@namedef##1##2{%
293         \def\newlabel{\@testdef r}%
294         \def\bibcite{\@testdef b}%
295         \@tempswafalse
296         \makeatletter
297         \input \jobname.aux %
298         \if@tempswa
299           \@warning{%
300             Label(s) may have changed. %
301             Rerun to get cross-references right%
302           }%
303         \fi
304       \fi
305   \endgroup
306   \deadcycles\z@
307   \@@end
308 }

```

\AtVeryEnd@enddocument@jpsj

```

309 \def\AtVeryEnd@enddocument@jpsj{%
310   \if@lastpagebalancing
311     \global\let\@outputdblcol=\balancing@outputdblcol
312   \fi
313   \@checkend{document}%
314   \clearpage
315   \Call@AfterLastShipout
316   \begingroup
317     \if@filesw
318       \immediate\closeout\@mainaux
319       \def\global\@namedef##1##2{%
320         \def\newlabel{\@testdef r}%
321         \def\bibcite{\@testdef b}%
322         \@tempswafalse
323         \makeatletter
324         \input \jobname.aux %
325         \if@tempswa
326           \@warning{%
327             Label(s) may have changed. %
328             Rerun to get cross-references right%
329           }%
330         \fi
331       \fi
332     \Call@AtVeryEndDocument
333   \endgroup
334   \deadcycles\z@

```

```

335 \@@end
336 }

```

2.2.6 Testing and redefining

\AtVeryEnd@Test

```

337 \def\AtVeryEnd@Test#1#2{%
338   \expandafter\ifx\csname AtVeryEnd@test@#2\endcsname#1%
339     \expandafter\let\expandafter#1%
340     \csname AtVeryEnd@enddocument@#2\endcsname
341     \begingroup
342       \let\on@line\@empty
343       \PackageInfo{atveryend}{%
344         \string#1 detected (#2)%
345       }%
346     \endgroup
347     \expandafter\AtVeryEnd@SkipToNil
348   \fi
349 }

```

\AtVeryEnd@SkipToNil

```

350 \def\AtVeryEnd@SkipToNil#1\@nil{}

```

\AtVeryEnd@RedefEndDocument

```

351 \def\AtVeryEnd@RedefEndDocument#1{%
352   \ifx#1\@undefined
353     \else
354       \AtVeryEnd@Test#1{standard}%
355       \AtVeryEnd@Test#1{booklet}%
356       \AtVeryEnd@Test#1{dinbrief}%
357       \AtVeryEnd@Test#1{combine}%
358       \AtVeryEnd@Test#1{jpsj}%
359       \AtVeryEnd@SkipToNil
360     \@nil
361   \fi
362 }

363 \AtVeryEnd@RedefEndDocument\enddocument
364 \AtVeryEnd@RedefEndDocument\AP@enddocument % afterpage.sty
365 \AtVeryEnd@RedefEndDocument\hyper@back@cite@enddocument % htx-bc.sty
366 \AtVeryEnd@RedefEndDocument\hyper@enddocument % hyper.sty
367 \AtVeryEnd@RedefEndDocument\hyper@fn@enddocument % hyper.sty
368 \AtVeryEnd@RedefEndDocument\cweb@save@enddocument % cweb.cls
369 \AtVeryEnd@RedefEndDocument\prev@enddocument % flushend.sty
370 \AtVeryEnd@RedefEndDocument\endorigdocument % gaceta.cls
371 \AtVeryEnd@RedefEndDocument\keependdoc % aguplus.sty
372 \AtVeryEnd@RedefEndDocument\EMenddocument % t-angles.sty
373 \AtVeryEnd@RedefEndDocument\docmute@enddocument % docmute.sty
374 \AtVeryEnd@RedefEndDocument\@a@enddocument % alateX.sty
375 \AtVeryEnd@RedefEndDocument\enddocumentasusual % frenchle.sty
376 \AtVeryEnd@RedefEndDocument\old@enddocument % uwthesis.cls

```

2.3 Using hooks of other packages

2.3.1 Package scrfile

```

377 \AtBeginDocument{%
378   \ifpackageloaded{scrfile}{%
379     \ifundefined{BeforeClosingMainAux}{-}{%
380       \BeforeClosingMainAux{\Call@AfterLastShipout}%
381     }%
382     \ifundefined{AfterReadingMainAux}{-}{%

```

```

383     \AfterReadingMainAux{\Call@AtVeryEndDocument}%
384   }%
385 }{}%

```

2.3.2 Package etoolbox

```

386 \AtBeginDocument{%
387   \@ifpackageloaded{etoolbox}{%
388     \@ifundefined{AfterEndDocument}{}{%
389       \AfterEndDocument{\Call@AtVeryEndDocument}%
390     }%
391   }{}%
392 }

```

2.4 Hack into \enddocument

Class revtex provides “hook” \clear@document.

```

393 \begingroup\expandafter\expandafter\expandafter\endgroup
394 \expandafter\ifx\csname clear@document\endcsname\relax
395   \def\AtVeryEnd@document{document}%
396   \def\AtVeryEnd@RedefCheckend{%
397     \expandafter\def\expandafter\@checkend
398     \expandafter##\expandafter1\expandafter{%
399       \@checkend{##1}%
400       \def\AtVeryEnd@temp{##1}%
401       \ifx\AtVeryEnd@temp\AtVeryEnd@document
402         \let\AtVeryEnd@OrgClearpage\clearpage
403         \def\clearpage{%
404           \let\clearpage\AtVeryEnd@OrgClearpage
405           \clearpage
406           \Call@AfterLastShipout
407         }%
408       \fi
409     }%
410   \aftergroup\AtVeryEnd@RedefCheckend
411 }%
412 \AtEndDocument{%
413   \AtVeryEnd@RedefCheckend
414 }%
415 \else
416   \g@addto@macro\clear@document{\Call@AfterLastShipout}%
417 \fi
418 }
419 \AtEndDocument{%
420   \@ifundefined{@dofilelist}{}%
421   \gdef@dofilelist{\Call@AtVeryEndDocument}%
422 }{}%
423 \begingroup
424   \toks@\expandafter{\@dofilelist}%
425   \xdef@dofilelist{%
426     \noexpand\Call@AtVeryEndDocument
427     \the\toks@
428   }%
429 \endgroup
430 }%
431 }
432 \AtVeryEnd@AtEnd
433 \end{package}

```

3 Test

3.1 Catcode checks for loading

```

434 (*test1)

435 \catcode'\{=1 %
436 \catcode'\}=2 %
437 \catcode'\#=6 %
438 \catcode'\@=11 %
439 \expandafter\ifx\csname count@\endcsname\relax
440   \countdef\count@=255 %
441 \fi
442 \expandafter\ifx\csname @gobble\endcsname\relax
443   \long\def\@gobble#1{}%
444 \fi
445 \expandafter\ifx\csname @firstofone\endcsname\relax
446   \long\def\@firstofone#1{#1}%
447 \fi
448 \expandafter\ifx\csname loop\endcsname\relax
449   \expandafter\@firstofone
450 \else
451   \expandafter\@gobble
452 \fi
453 {%
454   \def\loop#1\repeat{%
455     \def\body{#1}%
456     \iterate
457   }%
458   \def\iterate{%
459     \body
460     \let\next\iterate
461   \else
462     \let\next\relax
463   \fi
464   \next
465 }%
466 \let\repeat=\fi
467 }%
468 \def\RestoreCatcodes{}
469 \count@=0 %
470 \loop
471   \edef\RestoreCatcodes{%
472     \RestoreCatcodes
473     \catcode\the\count@=\the\catcode\count@\relax
474   }%
475 \ifnum\count@<255 %
476   \advance\count@ 1 %
477 \repeat
478
479 \def\RangeCatcodeInvalid#1#2{%
480   \count@=#1\relax
481   \loop
482     \catcode\count@=15 %
483     \ifnum\count@<#2\relax
484       \advance\count@ 1 %
485     \repeat
486 }
487 \expandafter\ifx\csname LoadCommand\endcsname\relax
488   \def\LoadCommand{\input atveryend.sty\relax}%
489 \fi
490 \def\Test{%
491   \RangeCatcodeInvalid{0}{47}%
492   \RangeCatcodeInvalid{58}{64}%
493   \RangeCatcodeInvalid{91}{96}%
494   \RangeCatcodeInvalid{123}{255}%
495   \catcode'\@=12 %

```

```

496 \catcode'\=0 %
497 \catcode'\{=1 %
498 \catcode'\}=2 %
499 \catcode'\#=6 %
500 \catcode'\[=12 %
501 \catcode'\]=12 %
502 \catcode'\%=14 %
503 \catcode'\_ =10 %
504 \catcode13=5 %
505 \LoadCommand
506 \RestoreCatcodes
507 }
508 \Test
509 \csname @@end\endcsname
510 \end
511 </test1>

```

4 Installation

4.1 Download

Package. This package is available on CTAN¹:

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

[CTAN:macros/latex/contrib/oberdiek/atveryend.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 \TeX Files” ([CTAN:tds/tds.pdf](#)). Directories with `texmf` in their name are usually organized this way.

4.2 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/
```

4.3 Package installation

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

```
tex atveryend.dtx
```

¹<http://ftp.ctan.org/tex-archive/>

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

```
atveryend.sty      → tex/generic/oberdiek/atveryend.sty
atveryend.pdf      → doc/latex/oberdiek/atveryend.pdf
test/atveryend-test1.tex → doc/latex/oberdiek/test/atveryend-test1.tex
atveryend.dtx      → source/latex/oberdiek/atveryend.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`.

4.4 Refresh file name databases

If your \TeX distribution (`te \TeX` , `mik \TeX` , ...) relies on file name databases, you must refresh these. For example, `te \TeX` users run `texhash` or `mktextlsr`.

4.5 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 atveryend.pdf unpack_files output .
```

Unpacking with \LaTeX . The `.dtx` chooses its action depending on the format:

plain- \TeX : Run `docstrip` and extract the files.

\LaTeX : Generate the documentation.

If you insist on using \LaTeX for `docstrip` (really, `docstrip` does not need \LaTeX), then inform the autodetect routine about your intention:

```
latex \let\install=y\input{atveryend.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 \LaTeX` :

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

5 Acknowledgement

Arthur Ogawa: He proposed the new API with `\AfterLastShipout`. For version 1.2 he provided a comprehensive class/package list that deal with `\enddocument`.

6 References

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- [4] Sebastian Rahtz, Heiko Oberdiek: *The hyperref package*; 2009/12/05 v6.79l; [CTAN:macros/latex/contrib/hyperref/](#).
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- [7] APS, AIP, Arthur Orgawa; ReVTeX 4.1; 2009/10/13 v4.1; <http://authors.aps.org/revtex4/>.

7 History

[2009/12/06 v1.0]

- The first version.

[2009/12/07 v1.1]

- Bug fixes.

[2009/12/09 v1.2]

- Additional support of classes and packages.

8 Index

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