

First aid for external files and packages that need updating*

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Abstract

This file contains some first aid for packages or classes that require updates because of internal changes to L^AT_EX but that aren't yet reflected in the package/class code.

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1 Introduction

Over the years package writers have hooked into various parts of internal L^AT_EX commands (largely because proper interfaces were missing in important places) and if we are now gradually adding such interfaces these internal commands do change and as a result patching into them stops working.

As part of making such internal changes the L^AT_EX Project team attempts to check for such usage in packages, alert the package maintainers and ensures that the packages get updated alongside the core L^AT_EX system. However it is not always possible to get packages that will fail with a new kernel updated in time and if that is the case we try to provide a temporary fix in this file for them. Once the package gets updated the fix will then be removed again.

For that reason, it is put into a separate bundle so that we can update it easily without requiring the CTAN maintainers to install a new full LaTeX system just because we take out (or add) a fix for a package here.

In the best case scenario the file documented here should be empty. In practice it will probably always contain one or the other fix while we are waiting for the package to get updated.

*

Important notice: The fixes provided here are not meant to be a permanent solution, but are only provided to support the transition period. They are (usually) neither complete nor necessarily the best solution! Furthermore, as they are done from the “outside”, they usually add some burden and slow down L^AT_EX processing, even if the package/class is not used in the document.

We will therefore remove such code as soon as possible again. In practice this means that if some package never gets updated/corrected, then it will eventually fail to work, because after one or at most two L^AT_EX releases we will take out the transition code to ensure that this “first aid patching” doesn’t get out of bounds.

1.1 Minor kernel fixes

If we encounter issues with the kernel code that should get fixed before the next main release we normally generate a patch release for L^AT_EX. However, depending on the complexity of the fix we might first add the fix here and generate a full patch release only when a number of such issues have accumulated. This way we lessen the impact on CTAN maintainers because for each tach release we have to make and distribute also a matching development release.

2 The Implementation

This file is meant to be loaded during format generation which is why we give it the extension .ltx.

```

1 (*kernel)

2 \def\LaTeXFirstAidDate{2020/10/13}
3 \def\LaTeXFirstAidVersion{v1.0f}

4 \ProvidesFile{latex2e-first-aid-for-external-files.ltx}
5           [\LaTeXFirstAidDate\space \LaTeXFirstAidVersion\space
6           LaTeX kernel fixes to external files and packages]

```

`\FirstAidNeededT` This is a very simple help to ensure that we only apply first aid to an unmodified package or class. It only works in the case the file has already been loaded and the csname `\ver@#1.#2` got defined (holding the current date, version, and short description info). We then compare its content to a frozen string and make the modification `#3` only if both agree. If they differ we assume that the package/class in question got updated by its maintainer.

```

7 \ExplSyntaxOn
8 \cs_new:Npn\FirstAidNeededT#1#2#3{
9   \exp_args:Nc\str_if_eq:ont{\ver@#1.#2}{#3}
10 }
11 \ExplSyntaxOff

12 </kernel>

```

2.1 The filehook package first aid

The `filehook` package implements hooks into file loading commands. These days this is already provided by the kernel albeit not with the same user interface. Until

that package gets updated (to use the kernel interfaces) we provide a substitution. This does not offer all hooks from `filehook` but all that have been used in packages available in T_EX Live.

Note that this doesn't fix `currfile` because that package uses `filehook` but relies on the internals of the old implementation.

The package has now got an update so we aren't activating the first aid. However, at the moment it basically bypasses the new hook mechanism and puts the old hooks in thereby disabling, for example, the possibility to re-order code through rules.

We therefore keep `filehook-ltx.sty` around as a guideline for further updates.

Replacing `filehook` with a leaner version would then work like this:

```
13 \kernel
14 %\declare@file@substitution{filehook.sty}{filehook-ltx.sty}
15 \kernel
```

What follows is a simplified (partial) implementation of the `filehook` interfaces. Not implemented are:

```
\AtBeginOfFiles      \AtEndOfFiles
\AtBeginOfInputs     \AtEndOfInputs
\AtBeginOfInputFile  \AtEndOfInputFile

16 \filehook
17 \newcommand\AtBeginOfEveryFile [1]
18   {\AddToHook{file/before}{#1}}
19 \newcommand\AtEndOfEveryFile [1]
20   {\AddToHook{file/after}{#1}}

21 \newcommand\AtBeginOfIncludes [1]
22   {\AddToHook{include/before}{#1}}
23 \newcommand\AtEndOfIncludes [1]
24   {\AddToHook{include/end}{#1}}
25 \newcommand\AfterIncludes [1]
26   {\AddToHook{include/after}{#1}}

27 \newcommand\AtBeginOfPackages [1]
28   {\AddToHook{package/before}{#1}}
29 \newcommand\AtEndOfPackages [1]
30   {\AddToHook{package/after}{#1}}

31 \newcommand\AtBeginOfClasses [1]
32   {\AddToHook{class/before}{#1}}
33 \newcommand\AtEndOfClasses [1]
34   {\AddToHook{class/after}{#1}}

35 \newcommand\AtBeginOfFile [2]
36   {\AddToHook{file/before/#1}{#2}}
37 \newcommand\AtEndOfFile [2]
38   {\AddToHook{file/after/#1}{#2}}
```

Some commands offered a starred form

```
39 \DeclareDocumentCommand \AtBeginOfPackageFile {smm}
40   {\IfBooleanTF{#1}%
41     {\@ifpackageloaded{#2}%
42       {#3}%
```

```

43      {\AddToHook{package/before/#2}{#3}}}%
44      {\AddToHook{package/before/#2}{#3}}%
45  }
46 \DeclareDocumentCommand \AtEndOfPackageFile {smm}
47   {\IfBooleanTF{#1}%
48    {\@ifpackageloaded{#2}%
49     {#3}%
50     {\AddToHook{package/after/#2}{#3}}}%
51    {\AddToHook{package/after/#2}{#3}}%
52  }

```

Are the * forms here of any use? I know they are use 3–4 times on CTAN but I wonder if those are real or mistaken usages.

```

53 \DeclareDocumentCommand \AtBeginOfClassFile {smm}
54   {\IfBooleanTF{#1}%
55    {\@ifclassloaded{#2}%
56     {#3}%
57     {\AddToHook{class/before/#2}{#3}}}%
58    {\AddToHook{class/before/#2}{#3}}%
59  }
60 \DeclareDocumentCommand \AtEndOfClassFile {smm}
61   {\IfBooleanTF{#1}%
62    {\@ifclassloaded{#2}%
63     {#3}%
64     {\AddToHook{class/after/#2}{#3}}}%
65    {\AddToHook{class/after/#2}{#3}}%
66  }
67 \newcommand\AtBeginOfIncludeFile [2]
68   {\AddToHook{include/before/#1}{#2}}
69 \newcommand\AtEndOfIncludeFile [2]
70   {\AddToHook{include/end/#1}{#2}}
71 \newcommand\AfterIncludeFile [2]
72   {\AddToHook{include/after/#1}{#2}}
73 </filehook>

```

2.2 The bidi package first aid

The `bidi` package adds a lot of hooks in various places and those added to `\document` and `\enddocument` are now no longer necessary as the kernel already provides the right hooks there.

However, we aren't trying to change that but instead only make sure that the existing patches still work by adding some first aid after `biditools` has been loaded.

If the package gets updated one can easily take that out simply through

```
\RemoveFromHook{file/after/biditools.sty}[firstaid]
```

This makes it easy to test new `bidi` code while the first aid code is still in the kernel.

```
74 <(*kernel)>
```

```

75 \AddToHook{file/after/biditools.sty}[firstaid]{%
76   \FirstAidNeededT{biditools}{sty}%
77   {2020/05/13 v2 Programming tools for bidi package}%
78   {

```

bidi adds some code to the beginning of `\document` which contains `\endgroup` and `\begingroup` which is no longer correct.

Patching `\document` using `\bidi@patchcmd` doesn't work so we take the extra groups out by hand:

```

79   \def\firstaid@bidi@document@patch
80     \endgroup#1\begingroup#2\firstaid@bidi@document@patch
81     {\unexpanded{#1#2}}%
82   \edef\document{\expandafter\firstaid@bidi@document@patch\document
83     \firstaid@bidi@document@patch}%

```

There are also some patches into `\enddocument`, some continue to go in but one fails, so we add that now into the right place.

```

84   \AddToHook{enddocument/info}%
85     {\let\bidi@AfterEndDocumentCheckLabelsRerun\@firstofone
86       \bidi@afterenddocumentchecklabelsrerunhook}%
87   }
88 }

```

2.3 The dinbrief class first aid

Again a case of a no longer correct `\endgroup` in `document`. Here the fix is simply though.

```

89 \AddToHook{file/after/dinbrief.cls}[firstaid]{%
90   \FirstAidNeededT{dinbrief}{cls}{2000/03/02 LaTeX2e class}%
91   {\AddToHook{env/document/begin}{\begingroup}}%
92 }

```

2.4 Temporary fixes for the kernel (until the next patch-level release)

This is fixing GitHub issue 408. Looks rather long but changes only 3 or 4 lines in the macros.

```

93 \def\@pr@videpackage[#1]{%
94   \expandafter\protected@xdef          %    <-- protected...
95   \csname ver@\@currname.\@current\endcsname{#1}% Loaded package
96   \expandafter\let
97   \csname ver@\@currpkg@reqd\expandafter\endcsname % Requested package
98   \csname ver@\@currname.\@current\endcsname
99   \ifx\@current\@clsextension
100    \typeout{Document Class: \@gtempa\space#1}%
101  \else
102    \protected@wlog{Package: \@gtempa\space#1}% <--- protected
103  \fi}

104 \def\load@onefilewithoptions#1[#2][#3]#4{% % <--- \@onefilewithoptions
105                                           %    earlier in the kernel
106   \@pushfilename
107   \xdef\@currname{#1}%

```

```

108 \global\let\@currentx#4%
109 \@ifl@ad@{\@currentx\@currname
110   {\@if@options\@currentx{\@currname}{#2}{}}%
111   {\@latex@error
112     {Option clash for \@cls@pkg\space \@currname}%
113     {The package \@currname\space has already been loaded
114       with options:\MessageBreak
115       \space\space[\@optionlist{\@currname.\@currentx}]\MessageBreak
116       There has now been an attempt to load it
117       with options:\MessageBreak
118       \space\space[#2]\MessageBreak
119       Adding the global options:\MessageBreak
120       \space\space
121         \@optionlist{\@currname.\@currentx},#2\MessageBreak
122       to your \noexpand\documentclass declaration may fix this.%
123       \MessageBreak
124       Try typing \space <return> \space to proceed.}}%
125   \@firstofone}%
126 {\makeatletter
127   \@reset@options
128   \IfFileExists{\@currname.\@currentx}{}%
129   {\@missing@onefilewithoptions{#2}}%
130   \ifx\@currname\@empty
131     \expandafter\@gobble
132   \else
133     \@disable@packageload@do{\@currname.\@currentx}%
134     {\@expl@@@filehook@file@push@@
135       \set@curr@file{\@currname.\@currentx}%
136       \@filehook@set@CurrentFile
137       \expandafter\@swaptwoargs\expandafter
138       {\expandafter{\@currpkg@reqd}}}%
139     {% <
140     \edef\@currpkg@reqd{\@currname.\@currentx}%
141     \ifx\CurrentFile\CurrentFileUsed
142     \else
143       \filename@parse\@curr@file
144       \edef\@currname{\string\makeletter\filename@base}%
145       \edef\@currentx{\string\makeletter\filename@ext}%
146     \fi
147     \load@onefile@withoptions{#2}%
148     \def\@currpkg@reqd%\@currpkg@reqd%
149     }% >
150     \@expl@@@filehook@file@pop@@}%
151   \expandafter\@firstofone
152 \fi}%
153 {\@ifl@ter\@currentx{\@currname}{#3}{}}%
154 {\@latex@warning@no@line
155   {You have requested,\on@line,
156   version\MessageBreak
157   ‘#3’ of \@cls@pkg\space \@currname,\MessageBreak
158   but only version\MessageBreak
159   ‘\csname ver@\@currname.\@currentx\endcsname’\MessageBreak
160   is available}}%
161 \ifx\@currentx\@clsextension\let\LoadClass\@twoloadclasserror\fi}%

```

```

162 \popfilename
163 \resetoptions}
164 \let\currpkg@reqd\empty
165 </kernel>

```

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