

Temporary output patches for tagging and better link support

Frank Mittelbach Ulrike Fischer

March 9, 2023

1 Introduction

This package contains a few patches of internal L^AT_EX needed to support paragraph tagging across page boundaries (in pdfT_EX) and improve the behaviour of links across page breaks.

Until this get properly integrated with the kernel code this has to be taken as a prototype and code, interfaces as well as behavior may change without notice and certainly without any backwards compatibility!

2 The Implementation

```
1 (*package)
2 \ProvidesPackage{output-patches-tmp-ltx}
3     [2022-10-29 v0.96 Temporary output patches for tagging and better link support]
4 \RequirePackage{etoolbox}
```

2.1 Patching the OR

This add hooks around header and footer, in `\@makecol` and in `multicol`. At first initialize some of the hooks. We use `providecommand` to avoid problems if the kernel changes here and provides them directly.

```
5 \providecommand\@kernel@before@head{}
6 \providecommand\@kernel@before@foot{}
7 \providecommand\@kernel@after@head{}
8 \providecommand\@kernel@after@foot{}
9 \providecommand\@mult@ptagging@hook{}% multicol
10
11 \patchcmd\@outputpage
12   {\vfil\color@hbox\normalcolor\hb@xt@\textwidth{\@thehead}\color@endbox}
13   {\vfil\@kernel@before@head\color@hbox\normalcolor\hb@xt@\textwidth{\@thehead}\color@endbox\@kernel@after@head}
14   {\typeout{Patching header in \string\@outputpage}}{\PATCHerror }
15
16
17 \patchcmd\@outputpage
18   {\color@hbox\normalcolor\hb@xt@\textwidth{\@thehead}\color@endbox}
19   {\@kernel@before@foot\color@hbox\normalcolor\hb@xt@\textwidth{\@thehead}\color@endbox\@kernel@after@foot}
20   {\typeout{Patching footer in \string\@outputpage}}{\PATCHerror }
```

`\@makecol` We have to patch `\@makecol` in two places:

- update 255 up front to add missing tmb/tme if necessary
- update the `\footins` stream if that one got split

If the new latex-lab file for the output routine is loaded it will do the right thing. In the other case we patch `\@makecol` manually.

```
21 \ifpackageloaded{latex-lab-testphase-new-or}
22   {}
23   {
24     \providecommand\@kernel@before@footins{}
25     \providecommand\@kernel@before@cclv{}
26
27     \patchcmd\@makecol
28       {\vskip\skip\footins}
29       {\vskip\skip\footins\@kernel@before@footins}
30       {\typeout{Patching \string\@makecol\space for tagging}}{\PATCHError }
31
32 % for some reason patching with etoolbox only works in this order ...
33
34     \pretocmd\@makecol{\@kernel@before@cclv}
35     {\typeout{Patching \string\@makecol\space for tagging}}{\PATCHError }
36   }
```

(End definition for `\@makecol`. This function is documented on page ??.)

2.2 multicol adjustments

The patches for `pkgmulticol` are fairly minimal:

- At the start of the environment anything already on the page is picked up and stored in `\partial@page`, we may need to add a TMB to that (it should have a proper TME). This has to happen in the “main” stream context.
-
-

```
37 \AddToHook{package/multicol/after}
38   {% multicol needs later loading
39
40   \patchcmd\page@sofar
41     {\setbox\z@\hbox{p}\global\dimen\tw@dp\z@}%
42     {\setbox\z@\hbox{p}\global\dimen\tw@dp\z@
43     \mult@ptagging@hook
44     }%
45     {\typeout{Patching \string\page@sofar\space for tagging}}{\PATCHError}%
46 }
```

2.3 Interrupt hooks

This requires the l3pdfannot module! We add the code here and not in hyperref, as it should also work with links created directly with the l3pdfannot commands. The file is only loaded by the pdfmanagement, so no need to test if the commands exist.

```

47 \ExplSyntaxOn
48 \def\@kernel@before@head{\pdfannot_link_off:}
49 \def\@kernel@before@foot{\pdfannot_link_off:}
50 \def\@kernel@after@head {\pdfannot_link_on:}
51 \def\@kernel@after@foot {\pdfannot_link_on:}
52 \ExplSyntaxOff

53 </package>

54 <*latex-lab>
55 \ProvidesFile{new-or-1-latex-lab-testphase.ltx}
56     [2022-10-26 v0.8 Temporary output patches for tagging and better link support]
57 \RequirePackage{latex-lab-testphase-new-or-1}
58 </latex-lab>

```

Index

The italic numbers denote the pages where the corresponding entry is described, numbers underlined point to the definition, all others indicate the places where it is used.

	A		<code>\pdfannot_link_on:</code> 50, 51
<code>\AddToHook</code>	37	<code>\pretocmd</code>	34
	D	<code>\providecommand</code>	5, 6, 7, 8, 9, 24, 25
<code>\def</code>	48, 49, 50, 51	<code>\ProvidesFile</code>	55
<code>\dimen</code>	40, 42	<code>\ProvidesPackage</code>	2
<code>\dp</code>	40, 42		R
	E	<code>\RequirePackage</code>	4, 57
<code>\ExplSyntaxOff</code>	52		S
<code>\ExplSyntaxOn</code>	47	<code>\setbox</code>	40, 42
	F	<code>\skip</code>	28, 29
<code>\footins</code>	2, 28, 29	<code>\space</code>	30, 35, 45
	G	<code>\string</code>	14, 20, 30, 35, 45
<code>\global</code>	40, 42		T
	H	TeX and L ^A T _E X 2 _ε commands:	
<code>\hbox</code>	40, 42	<code>\@ifpackageloaded</code>	21
	N	<code>\@kernel@after@foot</code>	8, 19, 51
<code>\normalcolor</code>	12, 13, 18, 19	<code>\@kernel@after@head</code>	7, 13, 50
	P	<code>\@kernel@before@cclv</code>	25, 34
<code>\patchcmd</code>	11, 17, 27, 39	<code>\@kernel@before@foot</code>	6, 19, 49
<code>\PATCHerror</code>	14, 20, 30, 35, 45	<code>\@kernel@before@footins</code>	24, 29
pdfannot commands:		<code>\@kernel@before@head</code>	5, 13, 48
<code>\pdfannot_link_off:</code>	48, 49	<code>\@makecol</code>	1, 2, 21
		<code>\@mult@pttagging@hook</code>	9, 43
		<code>\@outputpage</code>	11, 14, 17, 20
		<code>\@thefoot</code>	18, 19

<code>\@thehead</code>	12, 13	<code>\z@</code>	40, 42
<code>\color@endbox</code>	12, 13, 18, 19	<code>\textwidth</code>	12, 13, 18, 19
<code>\color@hbox</code>	12, 13, 18, 19	<code>\typeout</code>	14, 20, 30, 35, 45
<code>\hb@xt@</code>	12, 13, 18, 19		
<code>\page@sofar</code>	39, 45		
<code>\partial@page</code>	2		
<code>\tw@</code>	40, 42		
		V	
		<code>\vfil</code>	12, 13
		<code>\vskip</code>	28, 29