

The ltcaption package*

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Abstract

This package fixes caption problems with other-than-centered aligned longtables.
(solves [L^AT_EX PR tools/3387](#))

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1 The user interface

The content of `\caption` in longtables is usually centered to the content of the longtable itself. This is sufficient for centered longtables, but for left or right aligned longtables this results in captions moved into the left or right page margin.

To solve this problem just include this package *after* the longtable package[1], e.g.:

```
\usepackage{longtable, ltcaption}
```

Afterwards the captions of all longtables should be aligned as expected, even for not-centered longtables.

1.1 Further justification

`\LTcapleft` You can alter the centering of the caption box (of width `\LTcapwidth`) by setting the lengths `\LTcapleft` & `\LTcapright` to appropriate values. These are set to `\fill` by default, just like the values `\LTleft` & `\LTright`.

`\LTcapright`
`\LTcapmarginfalse` Another option is the usage of the command `\LTcapmarginfalse` which makes the ltcaption package using the values `\LTleft` & `\LTright` instead of `\LTcapleft` & `\LTcapright`.

Note: If the ltcaption package will be used with one of the NTG document classes[2], `\CaptionLabelFont` & `\CaptionTextFont` will not only be used for figure & table captions, but for longtable captions as well.

Note: These commands do not work when used with one of the KOMA-Script classes[3] `scrartcl`, `scrreprt` or `scrbook`, the KOMA-Script settings for captions are used instead. Same with the caption package which also uses its own options and settings.

1.2 Bonus features

`\LTcapttype` As a bonus feature this package patches the longtable package so `\LTcapttype` will be used internally instead of the fixed caption type 'table'. So for example this code snippet:

```
\renewcommand\LTcapttype{figure}
\begin{longtable}{ll}
\caption{An example longtable} \\
A & B \\
\end{longtable}
```

will result in a longtable like this:

Figure 7: An example longtable

A B

`longtable*` Another bonus feature is the addition of the environment `longtable*` which does not increment the table counter. (As a consequence, `\caption` is not available for such longtables, but `\caption*` still is.)

2 Spot the difference

Without the `lcaption` package:

Table 1: Left aligned longtable left aligned longtable left aligned
longtable

This is only a test

Table 2: Right aligned longtable right aligned longtable right aligned
longtable

This is only a test

Table 3: Centered longtable centered longtable centered longtable centered
longtable

This is only a test

With the `lcaption` package (and the default value of `\LTcapwidth`):

Table 4: Left aligned longtable left aligned longtable left aligned
longtable

This is only a test

Table 5: Right aligned longtable right aligned longtable right aligned
longtable

This is only a test

Table 6: Centered longtable centered longtable centered longtable centered
longtable

This is only a test

With the `ltablex` package and `\LTcapwidth=\linewidth`:

Table 7: Left aligned longtable left aligned longtable left aligned longtable left aligned longtable

This is only a test

Table 8: Right aligned longtable right aligned longtable right aligned longtable right aligned longtable

This is only a test

Table 9: Centered longtable centered longtable centered longtable centered longtable

This is only a test

With the `ltablex` package and `\LTcapleft=0pt` resp. `\LTcapright=0pt`:

Table 10: Left aligned longtable left aligned longtable left aligned longtable

This is only a test

Table 11: Right aligned longtable right aligned longtable right aligned longtable

This is only a test

With the `ltablex` package and `\LTcapleft=\tabcolsep`
resp. `\LTcapright=\tabcolsep`:

Table 12: Left aligned longtable left aligned longtable left aligned
longtable

This is only a test

Table 13: Right aligned longtable right aligned longtable right aligned
longtable

This is only a test

With the `ltablex` package and `\LTcapmarginfalse`:

Table 14: Left aligned longtable left aligned longtable left aligned
longtable

This is only a test

Table 15: Right aligned longtable right aligned longtable right aligned
longtable

This is only a test

Table 16: Centered longtable centered longtable centered longtable cen-
tered longtable

This is only a test

3 The Implementation

3.1 Identification

```
1 \NeedsTeXFormat{LaTeX2e}[1994/12/01]
2 \ProvidesPackage{ltcaption}[2008/03/21 v1.1a longtable captions (AR)]
```

3.2 User interface

`\LTcapttype` `\LTcapttype` is preset to `table`.

```
3 \providecommand*\LTcapttype{table}
4 \providecommand*\ext@table{lot}
```

`\ext@lstlisting` Since the listings package do not define `\ext@lstlisting`, but we needed it when `\renewcommand\LTcapttype{lstlisting}` was done by the end user, we define it here.

```
5 \@ifundefined{caption@AtBeginDocument}\AtBeginDocument\caption@AtBeginDocument{%
6   \@ifpackageloaded{listings}{%
7     \providecommand*\ext@lstlisting{lol}%
8   }{}}
```

To save TeX memory some stuff will not be defined if the caption package is loaded.

```
9 \@ifpackageloaded{caption}{}{%
```

`\LTcapleft` Our skips and the flag belonging to them.

`\LTcapright` (Default: Use these skips (and not `\LTleft` & `\LTright`.)

```
\ifLTcapmargins
10 \newskip\LTcapleft \LTcapleft=\fill
11 \newskip\LTcapright \LTcapright=\fill
12 \newif\ifLTcapmargins \LTcapmarginstrue
```

`\CaptionLabelFont` These commands are provided by the NTG document classes. To make this package work with other document classes as well, we need to define `\CaptionLabelFont` & `\CaptionTextFont` here.

```
13 \providecommand*\CaptionLabelFont{}
14 \providecommand*\CaptionTextFont{}

15 }
```

3.3 The longtable patch

`\LT@array` We insert our stuff into the definition of `\LT@array` here. Since the `hyperref` package patches `\LT@array` as well and since this only works with the original definition of `\LT@array`, we have to do this after the `hyperref` package, i.e. `\AtBeginDocument`.

```
16 \@ifundefined{caption@AtBeginDocument}\AtBeginDocument\caption@AtBeginDocument{%
17   \let\ltcaption@ORI@LT@array\LT@array
18   \renewcommand*\LT@array{%
```

We modify `\refstepcounter` resp. `\H@refstepcounter` and `\hyper@make-current`, so `\LTcapttype` is used instead of `table`.

```
19   \let\caption@LT@refstepcounter\refstepcounter
20   \def\refstepcounter{%
21     \caption@LTtype\caption@LT@refstepcounter}%
```

```

22 \let\caption@LT@Hrefstepcounter\H@refstepcounter
23 \def\H@refstepcounter{%
24   \caption@LTtype\caption@LT@Hrefstepcounter}%
25 \let\caption@LT@makecurrent\hyper@makecurrent
26 \def\hyper@makecurrent{%
27   \caption@LTtype\caption@LT@makecurrent}%

```

We redefine `\lst@@caption` so `\thelstlisting` will print out its counter, too.

```

28 \def\lst@@caption{\relax}%
29 \ltcaption@ORI@LT@array}%
30 }
31 \newcommand*\caption@LTtype[2]{%
32   \edef\caption@LT@tempa{#2}%
33   \ifx\caption@LT@tempa\caption@LT@table
34     \caption@LT@type#1%
35   \else
36     #1{#2}%
37   \fi}%
38 \newcommand*\caption@LT@type[1]{%
39   \expandafter#1\expandafter{\LTcaption}%
40 \newcommand*\caption@LT@table{table}%

```

`\LT@c@ption` The original implementation:

```

\def\LT@c@ption#1[#2]#3{%
  \LT@makecaption#1\fnum@table{#3}%
  \def\@tempa{#2}%
  \ifx\@tempa\@empty\else
    {\let\\space
     \addcontentsline{lot}{table}{\protect\numberline{\thetable}{#2}}}%
  \fi}

```

Our implementation simply uses `\LTcaption` instead of `{table}`:

```

41 \long\def\LT@c@ption#1[#2]#3{%
42   \LT@makecaption#1{\csname fnum@\LTcaption\endcsname}{#3}%
43   \def\@tempa{#2}%
44   \ifx\@tempa\@empty\else
45     {\let\\space
46      \addcontentsline{\csname ext@\LTcaption\endcsname}{\LTcaption}%
47      {\protect\numberline{\csname the\LTcaption\endcsname}{#2}}}%
48   \fi}

```

`\LT@makecaption` `\LT@makecaption{<cmd>}{<label>}{<text>}`

Original code:

```

\def\LT@makecaption#1#2#3{%
  \LT@mc@l\LT@cols c{\hbox to\z@{\hss\parbox[t]{\LTcapwidth{%
    % Based on article class "\@makecaption", "#1" is "\@gobble" in star
    % form, and "\@firstofone" otherwise.
    \sbox\@tempboxa{#1{#2: }#3}%
    \ifdim\wd\@tempboxa>\hsize
      #1{#2: }#3%

```

```

\else
\hbox to\hsize{\hfil\box\@tempboxa\hfil}%
\fi
\endgraf\vskip\baselineskip}%
\hss}}

```

Our code:¹

```

49 \renewcommand\LT@makecaption[3]{%
50   \LT@makecaption{%
51     \sbox\@tempboxa{#1{\CaptionLabelFont#2:} }\CaptionTextFont#3}%
52     \ifdim\wd\@tempboxa>\hsize
53       #1{\CaptionLabelFont{#2:} }\CaptionTextFont#3%
54     \else
55       \hbox to\hsize{\hfil\box\@tempboxa\hfil}%
56     \fi
57     \endgraf\vskip\baselineskip}}
58 \newcommand\LT@makecaption[1]{%
59   \caption@LT@make{\hb@xt@\hsize{%
60     \ifLTcapargins
61       \hspace\LTcapleft
62       \FBifLTcapwidth{\advance\LTcapwidth-\LTcapleft}%
63     \else
64       \hspace\LTleft
65       \FBifLTcapwidth{\advance\LTcapwidth-\LTleft}%
66     \fi
67     \FBifLTcapwidth{\advance\LTcapwidth-%
68       \ifLTcapargins\LTcapright\else\LTright\fi}%
69     \parbox[t]{\LTcapwidth{#1}%
70     \ifLTcapargins
71       \hskip\LTcapright
72     \else
73       \hskip\LTright
74     \fi}}}

```

This one will be usually defined by the `fr-longtable` package, which is part of the `floatrow` package[4]:

```

75 \AtBeginDocument{\providecommand*\FBifLTcapwidth[1]{} }

```

`\caption@LT@make` Typesets the caption as `\multicolumn...`

```

76 \newcommand\caption@LT@make[1]{%
77   \noalign{\caption@LT@config}%

```

Note: If used with the `array` package `\caption@LTfmt` needs to be expanded, therefore we need some `\expandafter` here.

```

78   \expandafter\LT@mcol\expandafter\LT@cols\expandafter{\caption@LTfmt}{%
79     \hb@xt@\z@{%
80       \hspace\caption@LTleft
81       \parbox[t]{\linewidth{#1}%
82       \hspace\caption@LTright}}}%

```

`\caption@LT@config` `\caption@LT@config` analyses `\LTleft` & `\LTright` and set `\caption@LTleft` & `\caption@LTright` accordingly to the ‘opposite’ values, e.g., `\LTleft=1cm`

¹Adapted to the `floatrow` package by Olga Lapko

will result to `\caption@LTleft=-1cm` and `\LTleft=0pt` plus `1fill` will result to `\caption@LTleft=0pt` minus `1fill`. Furthermore `\caption@LTfmt` is set to the according multicolumn format; this is far away from being bulletproof (e.g., a stretch or shrink will always be treated as ‘fill’) but will hopefully cover all ‘real’ cases.

```
83 \newcommand*\caption@LT@config{%
84   \caption@LT@parse\LTleft\caption@LTleft\caption@ifLTleft
85   \caption@LT@parse\LTRight\caption@LTRight\caption@ifLTRight
86   \xdef\caption@LTfmt{%
87     @{}\caption@ifLTleft{\caption@ifLTRight{c}{r}}{l}{@{}}}
```

`\caption@LT@parse` Parsing of the skip, we collect a `\@fixpart`, a `@pluspart`, and a `\@minuspart` and make our definitions based on that.

```
88 \newcommand*\caption@LT@parse[3]{%
89   \let\@pluspart\@undefined
90   \let\@minuspart\@undefined
91   \expandafter\caption@LT@parse@\expandafter\@fixpart\the#1 x %
92   \xdef#2{-\@fixpart
93     \ifx\@minuspart\@undefined\else
94       \space\@plus\space\@minuspart
95     \fi
96     \ifx\@pluspart\@undefined\else
97       \space\@minus\space\@pluspart
98     \fi}%
99   \let#3\@firstoftwo
100   \ifx\@pluspart\@undefined
101     \ifx\@minuspart\@undefined
102       \let#3\@secondoftwo
103     \fi
104   \fi}
105 \def\caption@LT@parse@#1#2 {%
```

Note: `\def\@tempa{#2}\ifx\@tempa\@plus...` would not work here because of different catcodes.

```
106 \edef\@tempa{\@car#2\@nil}%
107 \if p\@tempa
108   \def\next{\caption@LT@parse@\@pluspart}%
109 \else\if m\@tempa
110   \def\next{\caption@LT@parse@\@minuspart}%
111 \else\if x\@tempa
112   \let\next\relax
113 \else
114   \def#1{#2}%
115   \def\next{\caption@LT@parse@ @}%
116 \fi\fi\fi
117 \next}
```

3.4 The `longtable*` environment

`longtable*` A `longtable` environment without reference counter and hyperlink anchors.

```
118 \newenvironment{longtable*}{%
```

We simply suppress anything which has to do with reference counters here.

```
119 \let\caption@LT@type\@gobble
```

Unfortunately this is not so easy with `\Hy@raisedlink` (which actually sets the hyperlink anchor), so we assume that we have to suppress the first usage.

```
120 \let\caption@LT@raisedlink\Hy@raisedlink
121 \def\Hy@raisedlink{%
122   \let\Hy@raisedlink\caption@LT@raisedlink
123   \@gobble}%

```

Finally we are redefining `\caption` so the non-starred variant issues an error.

```
124 \let\lrcaption@ORI@LT@c@ption\LT@c@ption
125 \def\LT@c@ption##1[##2]##3{%
126   \ifx##1\@firstofone
127     \PackageError{lrcaption}%
128       {Not allowed in longtable* environment}%
129       {If you do not understand this error, please take a closer
130        look\MessageBreak at the documentation of the 'lrcaption'
131        package.\MessageBreak \@ehc}%
132   \else
133     \lrcaption@ORI@LT@c@ption{##1}[{##2}]{##3}%
134   \fi}%
135 \longtable}%
136 {\endlongtable}

```

3.5 Adaption for KOMA-Script

```
137\@ifundefined{@komalongtablefalse}{}{%
138  \if@komalongtable
139    \renewcommand{\LT@makecaption}[3]{%
140      \noalign{%
141        \if@captionabove
142          \vskip\belowcaptionskip
143        \else
144          \vskip\abovecaptionskip
145        \fi
146      }%
147      \caption@LT@make{%
148        \@@makecaption{#1}{#2}{#3}%
149        \endgraf
150        \if@captionabove
151          \vskip\abovecaptionskip
152        \else
153          \vskip\belowcaptionskip
154        \fi
155      }%
156    }%
157    \let\LT@@makecaption\@undefined
158  \fi}

```

References

- [1] David Carlisle: *The longtable package*, 2004/02/01

- [2] Victor Eijkhout: *An introduction to the Dutch \LaTeX document classes*,
3 September 1989
- [3] Markus Kohm & Jens-Uwe-Morawski: *KOMA-Script – a versatile \LaTeX 2 ϵ bundle*,
2007-01-09
- [4] Olga Lapko: *The floatrow package documentation*,
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