The Implementation of the caption package[*]

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2011/08/06

Abstract

The caption package consists of two parts – the kernel (`caption3.sty`) and the main package (`caption.sty`).

The caption package redefines the LaTeX commands \caption, \@caption, and \@makecaption and maps the latter one to \caption@@make, giving the user the possibility to control the look & feel of the captions from floating environments like `figure` and `table`. Furthermore it does similar to the caption stuff coming from other packages (like the longtable or supertabular package): Mapping the appropriate internal commands (like \LT@makecaption or \ST@caption) to the ones offered by the caption3 kernel. So you can think of the caption package as a layer package, it simply provides adaptation layers between the caption stuff coming from LaTeX 2_ε or packages, and the caption stuff offered by the caption3 kernel.

User manuals

This document is describing the code implementation only. The user documentation can be found in

caption-eng.pdf	The English documentation
caption-rus.pdf	The Russian documentation[1]
caption-deu.pdf	The German documentation

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[*]This package has version number v3.2f, last revised 2012/02/19.

[1]Thanks a lot to Olga Lapko for this translation

Contents

1 Identification

```
1 \NeedsTeXFormat{LaTeX2e}[1994/12/01]
2 \ProvidesPackage{caption}[2012/02/19 v3.2f Customizing captions (AR)]
3 %\@ifundefined{PackageRedefines}{}{\PackageRedefines{caption}{caption}}
```

2 Loading the kernel

```
4 \RequirePackage{caption3}[2011/08/30] % needs v1.4 or newer
```

3 Check against incompatible document classes

```
5 \caption@ifbool{documentclass}{}{%
6   \caption@WarningNoLine{%
7     Unsupported document class (or package) detected,\MessageBreak
8     usage of the caption package is not recommended}%
9   \caption@InfoNoLine{\string\@makecaption\space=\space\meaning\@makecaption}%
10 }
```

4 Check against incompatible packages

```
11 \@ifpackageloaded{caption2}{%
12   \caption@Error{%
13     You can't use both, the (obsolete) caption2 *and*\MessageBreak
14     the (current) caption package}%
15   \endinput
16 }{}
```

```
17 \caption@AtBeginDocument{%
18   \@ifpackageloaded{ftcap}{\caption@DisablePositionOption{ftcap}}{}%
19   \@ifpackageloaded{nonfloat}{\caption@DisablePositionOption{nonfloat}}{}%
20   \@ifpackageloaded{topcapt}{\caption@DisablePositionOption{topcapt}}{}}
```

ion@DisablePositionOption \caption@DisablePositionOption{⟨*package*⟩}
disables the 'position' option.

```
21 \newcommand*\caption@DisablePositionOption[1]{%
22   \caption@InfoNoLine{%
23     '#1' package detected; setting 'position=b' for compatibility reasons}%
24   \caption@setposition b%
25   \DeclareCaptionOption{position}{%
26     \caption@Error{Usage of the 'position' option is incompatible\MessageBreak
27       to the '#1' package}}}
```

```
28 \@onlypreamble\caption@DisablePositionOption
```

5 Declaration of options

5.1 Options for figure and table

```
29 \DeclareCaptionOption{figureposition}{%
30   \captionsetup*[figure]{position=#1}}
31 \@onlypreamble@key{caption}{figureposition}
```

```
32 \DeclareCaptionOption{tableposition}{%
33   \captionsetup*[table]{position=#1}}
```

```
34 \@onlypreamble@key{caption}{tableposition}
```

```
35 \DeclareCaptionOption{figurename}{\caption@SetName{figure}{#1}}
36 \@onlypreamble@key{caption}{figurename}
37 \DeclareCaptionOption{tablename}{\caption@SetName{table}{#1}}
38 \@onlypreamble@key{caption}{tablename}
39 \DeclareCaptionOption{name}{\caption@setname\@captype{#1}}
```

```
40 \DeclareCaptionOption{listfigurename}{\caption@SetName{listfigure}{#1}}
41 \@onlypreamble@key{caption}{listfigurename}
42 \DeclareCaptionOption{listtablename}{\caption@SetName{listtable}{#1}}
43 \@onlypreamble@key{caption}{listtablename}
```

\caption@SetName \caption@SetName{⟨*float*⟩}{⟨*name*⟩}

```
44 \newcommand*\caption@SetName[2]{%
45   \caption@NewFloat{\newfloat@setname{#1}{#2}}}
46 \@onlypreamble\caption@SetName
```

```
47 \newcommand*\caption@setname[2]{%
48   \@namedef{#1name}{#2}}
```

\caption@DeclareWithinOption \caption@DeclareWithinOption{⟨*float*⟩} declares the options ⟨*float*⟩within
and ⟨*float*⟩without, e.g. figurewithin and figurewithout.

```
49 \newcommand*\caption@DeclareWithinOption[1]{%
50   \DeclareCaptionOption{#1within}{\caption@Within{#1}{##1}}%
51   \DeclareCaptionOptionNoValue{#1without}{\caption@Within{#1}{none}}}
52 \@onlypreamble\caption@DeclareWithinOption
```

```
53 \caption@DeclareWithinOption{figure}
54 \caption@DeclareWithinOption{table}
```

```
55 \DeclareCaptionOption{within}{%
56   \caption@NewFloat{\newfloatsetup{within=#1}}}
57 \DeclareCaptionOptionNoValue{without}{%
58   \caption@NewFloat{\newfloatsetup{without}}}
```

\caption@Within \caption@Within{⟨*float*⟩}{⟨*value*⟩}

```
59 \newcommand*\caption@Within[2]{%
60   \caption@NewFloat{\newfloat@setwithin{#1}{#2}}}
```

\caption@NewFloat \caption@NewFloat{⟨*code*⟩} loads the newfloat package and executes the given
code afterwards. Note: Since the newfloat package uses the crappy keyval package, too,
we need to save & restore some macros here, otherwise this recursion won't work prop-
erly. *(TODO: Re-write newfloat so it uses kvoptions instead.)*

```
61 \newcommand*\caption@NewFloat[1]{%
62   \let\KV@prefix@ORI\KV@prefix
63   \let\@tempc@ORI\@tempc
64   \caption@ifpackageloaded{newfloat}{#1}{}%
65   \let\@tempc\@tempc@ORI
66   \let\KV@prefix\KV@prefix@ORI}
```

5.2 Miscellaneous options

```
67 \DeclareCaptionOption*{config}[caption]{%
68   \InputIfFileExists{#1.cfg}%
69     {\typeout{*** Local configuration file #1.cfg used ***}}%
```

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```
70        {\caption@Warning{Configuration file #1.cfg not found}}}
```

`\caption@setparboxrestore` `\caption@setparboxrestore{⟨partial or full⟩}`

```
71 \newcommand*\caption@setparboxrestore[1]{%
72   \caption@ifinlist{#1}{full}{%
73     \caption@setfullparboxrestore
74   }{\caption@ifinlist{#1}{default,light,partial}{%
75     \let\caption@parboxrestore\@secondoftwo
76   }{%
77     \caption@Error{Undefined parboxrestore '#1'}%
78   }}}
```

`tion@setfullparboxrestore` `\caption@setfullparboxrestore`

This is an abbreviation for `\caption@setparboxrestore{full}`.

```
79 \newcommand*\caption@setfullparboxrestore{%
80   \let\caption@parboxrestore\@firstoftwo}

81 \DeclareCaptionOption{parboxrestore}{\caption@setparboxrestore{#1}}
82 \captionsetup{parboxrestore=default}

83 \DeclareCaptionOption{@minipage}{%
84   \caption@ifinlist{#1}{auto,default}%
85     {\let\caption@if@minipage\@gobbletwo}%
86     {\caption@set@bool\caption@if@minipage{#1}}}
87 \captionsetup{@minipage=default}
```

5.3   caption v1.x compatibility options

```
88 \DeclareCaptionOption{compatibility}[1]{\caption@setbool{compatibility}{#1}}
89 \@onlypreamble@key{caption}{compatibility}

90 \DeclareCaptionOptionNoValue*{normal}{%
91   \caption@setformat{plain}%
92   \caption@setjustification{justified}}
93 \DeclareCaptionOptionNoValue*{isu}{%
94   \caption@setformat{hang}%
95   \caption@setjustification{justified}}
96 \DeclareCaptionOptionNoValue*{hang}{%
97   \caption@setformat{hang}%
98   \caption@setjustification{justified}}
99 \DeclareCaptionOptionNoValue*{center}{%
100   \caption@setformat{plain}%
101   \caption@setjustification{centering}}
102 \DeclareCaptionOptionNoValue*{anne}{%
103   \caption@setformat{plain}%
104   \caption@setjustification{centerlast}}
105 \DeclareCaptionOptionNoValue*{centerlast}{%
106   \caption@setformat{plain}%
107   \caption@setjustification{centerlast}}

108 \DeclareCaptionOptionNoValue*{scriptsize}{\def\captionfont{\scriptsize}}
109 \DeclareCaptionOptionNoValue*{footnotesize}{\def\captionfont{\footnotesize}}
110 \DeclareCaptionOptionNoValue*{small}{\def\captionfont{\small}}
111 \DeclareCaptionOptionNoValue*{normalsize}{\def\captionfont{\normalsize}}
112 \DeclareCaptionOptionNoValue*{large}{\def\captionfont{\large}}
113 \DeclareCaptionOptionNoValue*{Large}{\def\captionfont{\Large}}
```

```
114 \DeclareCaptionOptionNoValue*{up}{\l@addto@macro\captionlabelfont\upshape}
115 \DeclareCaptionOptionNoValue*{it}{\l@addto@macro\captionlabelfont\itshape}
116 \DeclareCaptionOptionNoValue*{sl}{\l@addto@macro\captionlabelfont\slshape}
117 \DeclareCaptionOptionNoValue*{sc}{\l@addto@macro\captionlabelfont\scshape}
118 \DeclareCaptionOptionNoValue*{md}{\l@addto@macro\captionlabelfont\mdseries}
119 \DeclareCaptionOptionNoValue*{bf}{\l@addto@macro\captionlabelfont\bfseries}
120 \DeclareCaptionOptionNoValue*{rm}{\l@addto@macro\captionlabelfont\rmfamily}
121 \DeclareCaptionOptionNoValue*{sf}{\l@addto@macro\captionlabelfont\sffamily}
122 \DeclareCaptionOptionNoValue*{tt}{\l@addto@macro\captionlabelfont\ttfamily}

123 \DeclareCaptionOptionNoValue*{nooneline}{\caption@setbool{slc}{0}}

124 \caption@setbool{ruled}{0}
125 \DeclareCaptionOptionNoValue*{ruled}{\caption@setbool{ruled}{1}}
```

5.4   caption2 v2.x compatibility options

```
126 \DeclareCaptionOptionNoValue*{flushleft}{%
127   \caption@setformat{plain}%
128   \caption@setjustification{raggedright}}
129 \DeclareCaptionOptionNoValue*{flushright}{%
130   \caption@setformat{plain}%
131   \caption@setjustification{raggedleft}}

132 \DeclareCaptionOptionNoValue*{oneline}{\caption@setbool{slc}{1}}

133 \DeclareCaptionOptionNoValue*{ignoreLTcapwidth}{%
134   \caption@WarningNoLine{Obsolete option 'ignoreLTcapwidth' ignored}}
```

5.5   Obsolete caption v3.0 options

```
135 \DeclareCaptionOption*{caption}{%
136   \caption@setbool{temp}{#1}%
137   \caption@ifbool{temp}{}{%
138     \caption@Error{%
139       The package option 'caption=#1' is obsolete.\MessageBreak
140       Please pass this option to the subfig package instead\MessageBreak
141       and do *not* load the caption package anymore}}}
```

5.6   fltpage package support options

With these options is controlled where the list-of entry and `\ref` resp. `\pageref` or `\autoref` will link to. Defaults are `FPlist=caption` and `FPref=figure` which is inconsistent, but compatible to the usual behaviour of the fltpage package.

```
142 \DeclareCaptionOption{FPlist}[1]{\caption@setFPoption{list}{#1}}
143 \DeclareCaptionOption{FPref}[1]{\caption@setFPoption{ref}{#1}}
144 \@onlypreamble@key{caption}{FPlist}
145 \@onlypreamble@key{caption}{FPref}

146 \newcommand*\caption@setFPoption[2]{%
147   \edef\caption@tempa{\@car#2\@nil}%
148   \caption@setbool{FP#1cap}{\if c\caption@tempa 1\else 0\fi}}
149 \@onlypreamble\caption@setFPoption

150 \captionsetup{FPlist=caption,FPref=figure}
```

5.7   hyperref package support options

With `hypcap=off` one can turn the hypcap support off (default is `on`).

```
151 \DeclareCaptionOption{hypcap}[1]{\caption@setbool{hypcap}{#1}}
152 \DeclareCaptionOption{hypcapspace}{\def\caption@hypcapspace{#1}}

153 \captionsetup{hypcap=1,hypcapspace=.5\baselineskip}
```

6 $\mathcal{A}_{\mathcal{M}}\mathcal{S}$ & SMF document classes support

```
154 \caption@ifamsclass{%
155   \caption@InfoNoLine{AMS or SMF document class}%
156   \setlength\belowcaptionskip{0pt}% set to 12pt by AMS class
157 }
```

7 KOMA-Script document classes support

```
158 \caption@ifkomaclass{%
159   \caption@InfoNoLine{KOMA-Script document class}%
```

Here we emulate the caption related commands and take over the caption related settings from the KOMA-Script classes.

\@tablecaptionabovetrue
\@tablecaptionabovefalse

```
160   \g@addto@macro\@tablecaptionabovetrue{\captionsetup*[table]{position=t}}
161   \g@addto@macro\@tablecaptionabovefalse{\captionsetup*[table]{position=b}}

162   \if@tablecaptionabove
163     \@tablecaptionabovetrue
164   \else
165     \@tablecaptionabovefalse
166   \fi
```

\onelinecaptionstrue
\onelinecaptionsfalse

```
167   \g@addto@macro\onelinecaptionstrue{\let\caption@ifslc\@firstoftwo}
168   \g@addto@macro\onelinecaptionsfalse{\let\caption@ifslc\@secondoftwo}

169   \ifonelinecaptions
170     \onelinecaptionstrue
171   \else
172     \onelinecaptionsfalse
173   \fi
```

\@captionabovetrue
\@captionabovefalse

Please note that these are stronger than the position setting, therefore we override the options figureposition and tableposition to typeout a warning.

```
174   \g@addto@macro\@captionabovetrue{\let\caption@position\@firstoftwo}
175   \g@addto@macro\@captionabovefalse{\let\caption@position\@secondoftwo}

176   \DeclareCaptionOption{figureposition}{%
177     \caption@WarningNoLine{Option 'figureposition=#1' has no effect\MessageBreak
178     when used with a KOMA script document class}}
179   \DeclareCaptionOption{tableposition}{%
180     \caption@WarningNoLine{Option 'tableposition=#1' has no effect\MessageBreak
181     when used with a KOMA script document class}}
```

\setcapindent

```
182   \let\caption@KOMA@setcapindent\@setcapindent
183   \renewcommand*\@setcapindent[1]{%
184     \caption@KOMA@setcapindent{#1}\caption@setcapindent}
```

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```
185    \let\caption@KOMA@@setcapindent\@@setcapindent
186    \renewcommand*\@@setcapindent[1]{%
187      \caption@KOMA@@setcapindent{#1}\caption@setcapindent}

188    \newcommand*\caption@setcapindent{%
189      \captionsetup{indent=\ifdim\cap@indent<\z@\z@\else\cap@indent\fi}}

190    \caption@ifundefined\cap@indent{}{\caption@setcapindent}
```

Note: *Note:* The optional argument of \setcapwidth if not supported (yet), so we issue a warning if
used. (Since this does not seem to have an negative effect when used by the captionbeside
environment, we suppress the warning here.)

\setcapwidth

```
191    \expandafter\let\expandafter\caption@KOMA@setcapwidth
192                   \csname\string\setcapwidth\endcsname
193    \@namedef{\string\setcapwidth}[#1]#2{%
194      \caption@KOMA@setcapwidth[#1]{#2}\caption@setcapwidth{#1}}

195    \newcommand*\caption@setcapwidth[1]{%
196      \ifx\\#1\\\else
197        \caption@ifundefined\cap@margin{}{%
198          \def\@tempa{captionbeside}%
199          \ifx\@tempa\@currenvir\else\caption@Warning{%
200            Ignoring optional argument [#1] of \string\setcapwidth\MessageBreak}%
201          \fi}%
202      \fi
203      \captionsetup{width=\cap@width}}

204    \def\caption@tempa{\hsize}%
205    \ifx\caption@tempa\cap@width \else
206      \caption@setcapwidth{?}
207    \fi
```

\setcapmargin

```
208    \expandafter\let\expandafter\caption@KOMA@setcapmargin
209                   \csname\string\@setcapmargin\endcsname
210    \@namedef{\string\@setcapmargin}[#1]#2{%
211      \caption@KOMA@setcapmargin[#1]{#2}\caption@setcapmargin}

212    \expandafter\let\expandafter\caption@KOMA@@setcapmargin
213                   \csname\string\@@setcapmargin\endcsname
214    \@namedef{\string\@@setcapmargin}[#1]#2{%
215      \caption@KOMA@@setcapmargin[#1]{#2}\caption@setcapmargin}

216    \newcommand*\caption@setcapmargin{%
217      \begingroup
218        \let\onelinecaptionsfalse\relax
219        \def\@twoside{0}%
220        \def\if@twoside{\def\@twoside{1}\iffalse}%
221        \cap@margin
222        \def\@tempa{\endgroup}%
223        \ifx\cap@left\hfill\else\ifx\cap@right\hfill\else
224          \def\hspace##1##{\@firstofone}%
225          \edef\@tempa{\endgroup
226            \noexpand\captionsetup{%
227              twoside=\@twoside,slc=0,%
228              margin={\cap@left,\cap@right}}}%
```

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```
229      \fi\fi
230      \@tempa}

231   \ifx\cap@margin\relax \else
232     \caption@setcapmargin
233   \fi

234 }
```

8   Processing of options

```
235 \caption@SetupOptions{caption}{\caption@setkeys{#1}{#2}}
236 \caption@ProcessOptions*{caption}
```

9   `\caption`, `\@caption`, and `\@makecaption`

`\caption@caption`   Here comes our definition of `\caption` and `\caption*`. Beside the support of the starred variant this code was adapted to the various packages we support. We are using `\caption@dblarg` instead of `\@dblarg` so `\caption{}` (with an empty arg.) will produce a list-of entry, but `\caption[]{}` won't.

```
237 \def\caption@caption{%
238   \caption@iftype
239     {\caption@checkgrouplevel\@empty\caption
240      \caption@star
241        {\@nameuse{donemaincaptiontrue}%
242         \caption@refstepcounter\@captype}%
243        {\caption@dblarg{\@caption\@captype}}}%
244     {\caption@Error{\noexpand\caption outside float}%
245      \caption@gobble}}
```

`\caption@star`   A helper macro which processes the optional `*` after `\caption`.

```
246 \newcommand*\caption@star[2]{%
247   \@ifstar{\caption@startrue#2[]}{#1#2}}
```

`\caption@@caption`   As above, our version has been adapted to the packages we support. Additionally our code is nested by `\caption@beginex` & `\caption@end` instead of `\begingroup` & `\endgroup`. Furthermore we use `\caption@boxrestore` instead of `\@parboxrestore` so this code also works correctly inside list-based environments like `wide` & `addmargin`. (This, and the fact that we use `\linewidth` instead of `\hsize` inside `\@makecaption`, solves LaTeX PR `latex/2472`.)

```
248 \long\def\caption@@caption#1[#2]#3{%

249   \ifcaption@star \else
250     \caption@prepareanchor{#1}{#2}%
251     \memcaptioninfo{#1}{\csname the#1\endcsname}{#2}{#3}%
252   \fi

253   \par
254   \caption@beginex{#1}{#2}{#3}%
255     \caption@setfloatcapt{%
256       \caption@boxrestore
257       \if@minipage
258         \@setminipage
259       \fi
```

10

```
260        \caption@normalsize
261        \ifcaption@star
262          \let\caption@makeanchor\@firstofone
263        \fi
264        \@makecaption{\csname fnum@#1\endcsname}%
265                     {\ignorespaces\caption@makeanchor{#3}}\par
266        \caption@if@minipage\@minipagetrue\@minipagefalse}%
267      \caption@end}
```

memoir document class stuff:

```
268 \providecommand\M@gettitle[1]{}
269 \providecommand\memcaptioninfo[4]{}
```

\caption@prepareanchor

```
270 \newcommand*\caption@prepareanchor[2]{%
271   \caption@makecurrent{#1}{#2}%
272   \caption@ifhypcap\caption@@start{}%
273   \M@gettitle{#2}}
```

\caption@makecaption   \@makecaption{⟨*label*⟩}{⟨*text*⟩}

We do basically the same as the original code (from the standard LATEX document classes), but take care of the position= setting and use \caption@@make from the caption kernel to finally typeset the caption.

```
274 \long\def\caption@makecaption#1#2{%
275   \caption@iftop
276     {\vskip\belowcaptionskip}%
277     {\caption@rule\vskip\abovecaptionskip}%
278   \caption@@make{#1}{#2}%
279   \caption@iftop
280     {\vskip\abovecaptionskip\caption@rule}%
281     {\vskip\belowcaptionskip}}
```

\caption@redefine   We only redefine \caption and \@caption if the current definitions are well known, so documents written in the old (caption package *v1.x*) days (where \caption & \@caption were not redefined by us) will still compile fine. For example the usage of the captcont package, which brings it's own definition of \caption*, was quite common these days.

```
282 \newcommand*\caption@redefine{}
283 \g@addto@macro\caption@redefine{%

284   \caption@setbool{incompatible}{0}%

285   \caption@CheckCommand\caption{%
286     % ltfloat.dtx [2002/10/01 v1.1v LaTeX Kernel (Floats)]
287     \def\caption{%
288       \ifx\@captype\@undefined
289         \@latex@error{\noexpand\caption outside float}\@ehd
290         \expandafter\@gobble
291       \else
292         \refstepcounter\@captype
293         \expandafter\@firstofone
294       \fi
295       {\@dblarg{\@caption\@captype}}%
296     }}%
```

```
297  \caption@CheckCommand\caption{%
298    % beamerbaselocalstructure.sty,v 1.53 2007/01/28 20:48:21 tantau
299    \def\caption{
300      \ifx\@captype\@undefined
301        \@latex@error{\noexpand\caption outside figure or table}\@ehd
302        \expandafter\@gobble
303      \else
304        \refstepcounter\@captype
305        \expandafter\@firstofone
306      \fi
307      {\@dblarg{\@caption\@captype}}%
308    }}%
309  \caption@CheckCommand\caption{%
310    % float.sty [2001/11/08 v1.3d Float enhancements (AL)]
311    \renewcommand\caption{%
312      \ifx\@captype\@undefined
313        \@latex@error{\noexpand\caption outside float}\@ehd
314        \expandafter\@gobble
315      \else
316        \refstepcounter\@captype
317        \let\@tempf\@caption
318        \expandafter\ifx\csname @float@c@\@captype\endcsname\relax\else
319          \expandafter\expandafter\let
320            \expandafter\@tempf\csname @float@c@\@captype\endcsname
321        \fi
322      \fi
323      \@dblarg{\@tempf\@captype}}}%
324  \caption@CheckCommand\caption{%
325    % hyperref.sty [2007/02/27 v6.75t Hypertext links for LaTeX]
326    % hyperref.sty [2007/04/09 v6.76a Hypertext links for LaTeX]
327    % hyperref.sty [2007/06/12 v6.76h Hypertext links for LaTeX]
328    \def\caption{%
329      \ifx\@captype\@undefined
330        \@latex@error{\noexpand\caption outside float}\@ehd
331        \expandafter\@gobble
332      \else
333        \H@refstepcounter\@captype
334        \@ifundefined{fst@\@captype}{%
335          \let\Hy@tempa\@caption
336        }{%
337          \let\Hy@tempa\Hy@float@caption
338        }%
339        \expandafter\@firstofone
340      \fi
341      {\@dblarg{\Hy@tempa\@captype}}%
342    }}%
343  \caption@CheckCommand\caption{%
344    % hyperref.sty [2007/08/05 v6.76j Hypertext links for LaTeX]
345    \def\caption{%
346      \ifx\@captype\@undefined
347        \@latex@error{\noexpand\caption outside float}\@ehd
348        \expandafter\@gobble
349      \else
```

```
350        \H@refstepcounter\@captype
351        \let\Hy@tempa\@caption
352        \@ifundefined{float@caption}{%
353        }{%
354          \expandafter\ifx\csname @float@c@\@captype\endcsname\float@caption
355            \let\Hy@tempa\Hy@float@caption
356          \fi
357        }%
358        \expandafter\@firstofone
359      \fi
360      {\@dblarg{\Hy@tempa\@captype}}%
361    }}%
362  \caption@CheckCommand\caption{%
363    % memhfixc.sty [2010/08/17 v1.15 nameref/hyperref package fixes for memoir cl
364    % \let\m@moldhypcaption\caption
365    \renewcommand{\caption}{\donemaincaptiontrue\m@moldhypcaption}}%
366  \caption@IfCheckCommand{}{%
367    \caption@InfoNoLine{%
368      Incompatible package detected (regarding \string\caption).\MessageBreak
369      \string\caption\space=\space\meaning\caption}%
370    \caption@setbool{incompatible}{1}}%
371  \caption@CheckCommand\@caption{%
372    % ltfloat.dtx [2002/10/01 v1.1v LaTeX Kernel (Floats)]
373    \long\def\@caption#1[#2]#3{%
374      \par
375      \addcontentsline{\csname ext@#1\endcsname}{#1}%
376        {\protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}}%
377      \begingroup
378        \@parboxrestore
379        \if@minipage
380          \@setminipage
381        \fi
382        \normalsize
383        \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
384      \endgroup}}%
385  \caption@CheckCommand\@caption{%
386    % beamerbaselocalstructure.sty,v 1.53 2007/01/28 20:48:21 tantau
387    \long\def\@caption#1[#2]#3{% second argument ignored
388      \par\nobreak
389      \begingroup
390        \@parboxrestore
391        \if@minipage
392          \@setminipage
393        \fi
394        \beamer@makecaption{#1}{\ignorespaces #3}\par\nobreak
395      \endgroup}}%
396  \caption@CheckCommand\@caption{%
397    % magyar.ldf [2005/03/30 v1.4j Magyar support from the babel system]
398    \long\def\@caption#1[#2]#3{%
399      \csname par\endcsname
400      \addcontentsline{\csname ext@#1\endcsname}{#1}%
401        {\protect\numberline{\csname the#1\endcsname.}{\ignorespaces #2}}%
```

```
402        \begingroup
403          \@parboxrestore
404          \if@minipage
405            \@setminipage
406          \fi
407          \normalsize
408          \@makecaption{\csname fnum@#1\endcsname}%
409              {\ignorespaces #3}\csname par\endcsname
410        \endgroup}}%
411 %   \caption@CheckCommand\float@caption{%
412 %     % float.sty [2001/11/08 v1.3d Float enhancements (AL)]
413 %     \long\def\float@caption#1[#2]#3{%
414 %       \addcontentsline{\@nameuse{ext@#1}}{#1}%
415 %         {\protect\numberline{\@nameuse{the#1}}{\ignorespaces #2}}
416 %       \global\setbox\@floatcapt\vbox\bgroup\@parboxrestore
417 %         \normalsize\@fs@capt{\@nameuse{fnum@#1}}{\ignorespaces #3}%
418 %         \@ifnextchar[{\float@ccon}{\egroup}}%
419 %     \long\def\float@ccon[#1]{#1\par\egroup}}%
420    \caption@CheckCommand\@caption{%
421      % hyperref.sty [2007/02/27 v6.75t Hypertext links for LaTeX]
422      \long\def\@caption#1[#2]#3{%
423        \hyper@makecurrent{\@captype}%
424        \def\@currentlabelname{#2}%
425        \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
426          \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
427        }%
428        \begingroup
429          \@parboxrestore
430          \if@minipage
431            \@setminipage
432          \fi
433          \normalsize
434          \@makecaption{\csname fnum@#1\endcsname}{%
435            \ignorespaces
436            \ifHy@nesting
437              \hyper@@anchor{\@currentHref}{#3}%
438            \else
439              \Hy@raisedlink{\hyper@@anchor{\@currentHref}{\relax}}#3%
440            \fi
441          }%
442          \par
443        \endgroup
444      }}%
445    \caption@CheckCommand\@caption{%
446      % hyperref.sty [2007/04/09 v6.76a Hypertext links for LaTeX]
447      % hyperref.sty [2007/06/12 v6.76h Hypertext links for LaTeX]
448      % hyperref.sty [2007/08/05 v6.76j Hypertext links for LaTeX]
449      \long\def\@caption#1[#2]#3{%
450        \expandafter\ifx\csname if@capstart\expandafter\endcsname
451                      \csname iftrue\endcsname
452          \global\let\@currentHref\hc@currentHref
453        \else
454          \hyper@makecurrent{\@captype}%
```

14

```
455        \fi
456        \def\@currentlabelname{#2}%
457        \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
458          \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
459        }%
460        \begingroup
461          \@parboxrestore
462          \if@minipage
463            \@setminipage
464          \fi
465          \normalsize
466          \expandafter\ifx\csname if@capstart\expandafter\endcsname
467                          \csname iftrue\endcsname
468            \global\@capstartfalse
469            \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
470          \else
471            \@makecaption{\csname fnum@#1\endcsname}{%
472              \ignorespaces
473              \ifHy@nesting
474                \hyper@@anchor{\@currentHref}{#3}%
475              \else
476                \Hy@raisedlink{\hyper@@anchor{\@currentHref}{\relax}}#3%
477              \fi
478            }%
479          \fi
480          \par
481        \endgroup
482      }}%
483    \caption@CheckCommand\@caption{%
484      % hyperref.sty [2009/11/27 v6.79k Hypertext links for LaTeX]
485      \long\def\@caption#1[#2]#3{%
486        \expandafter\ifx\csname if@capstart\expandafter\endcsname
487                        \csname iftrue\endcsname
488          \global\let\@currentHref\hc@currentHref
489        \else
490          \hyper@makecurrent{\@captype}%
491        \fi
492        \def\@currentlabelname{#2}%
493        \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
494          \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
495        }%
496        \begingroup
497          \@parboxrestore
498          \if@minipage
499            \@setminipage
500          \fi
501          \normalsize
502          \expandafter\ifx\csname if@capstart\expandafter\endcsname
503                          \csname iftrue\endcsname
504            \global\@capstartfalse
505            \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
506          \else
507            \@makecaption{\csname fnum@#1\endcsname}{%
508              \ignorespaces
```

15

```
509          \ifHy@nesting
510            \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
511          \else
512            \Hy@raisedlink{%
513              \expandafter\hyper@@anchor\expandafter{\@currentHref}{\relax}%
514            }%
515            #3%
516          \fi
517        }%
518      \fi
519      \par
520    \endgroup
521  }}%
522  \caption@CheckCommand\@caption{%
523    % hyperref.sty [2009/12/09 v6.79m Hypertext links for LaTeX]
524    % hyperref.sty [2009/12/28 v6.79z Hypertext links for LaTeX]
525    \long\def\@caption#1[#2]#3{%
526      \expandafter\ifx\csname if@capstart\expandafter\endcsname
527                      \csname iftrue\endcsname
528        \global\let\@currentHref\hc@currentHref
529      \else
530        \hyper@makecurrent{\@captype}%
531      \fi
532      \@ifundefined{NR@gettitle}{%
533        \def\@currentlabelname{#2}%
534      }{%
535        \NR@gettitle{#2}%
536      }%
537      \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
538        \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
539      }%
540      \begingroup
541        \@parboxrestore
542        \if@minipage
543          \@setminipage
544        \fi
545        \normalsize
546        \expandafter\ifx\csname if@capstart\expandafter\endcsname
547                        \csname iftrue\endcsname
548          \global\@capstartfalse
549          \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
550        \else
551          \@makecaption{\csname fnum@#1\endcsname}{%
552            \ignorespaces
553            \ifHy@nesting
554              \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
555            \else
556              \Hy@raisedlink{%
557                \expandafter\hyper@@anchor\expandafter{%
558                  \@currentHref
559                }{\relax}%
560              }%
561              #3%
562            \fi
```

```
563          }%
564        \fi
565        \par
566      \endgroup
567    }}%

568    \caption@CheckCommand\@caption{%
569      % nameref.sty [2006/12/27 v2.28 Cross-referencing by name of section]
570      \long\def\@caption#1[#2]{%
571        \def\@currentlabelname{#2}%
572        \NR@@caption{#1}[{#2}]%
573      }}%

574    \caption@CheckCommand\@caption{%
575      % nameref.sty [2009/11/27 v2.32 Cross-referencing by name of section]
576      \long\def\@caption#1[#2]{%
577        \NR@gettitle{#2}%
578        \NR@@caption{#1}[{#2}]%
579      }}%

580    \caption@CheckCommand\@caption{%
581      % subfigure.sty [2002/07/30 v2.1.4 subfigure package]
582      \long\def\@caption#1[#2]#3{%
583        \@ifundefined{if#1topcap}%
584          {\subfig@oldcaption{#1}[{#2}]{#3}}%
585          {\@nameuse{if#1topcap}%
586            \@listsubcaptions{#1}%
587            \subfig@oldcaption{#1}[{#2}]{#3}%
588          \else
589            \subfig@oldcaption{#1}[{#2}]{#3}%
590            \@listsubcaptions{#1}%
591          \fi}}}%

592    \caption@CheckCommand\@caption{%
593      % subfig.sty [2005/06/28 ver: 1.3 subfig package]
594      \def\@caption{\caption@}%
595 %    \long\def\caption@#1[#2]#3{%
596 %      \@ifundefined{caption@setfloattype}%
597 %        \caption@settype
598 %        \caption@setfloattype
599 %          \@captype
600 %      \sf@ifpositiontop{%
601 %        \@listsubcaptions{#1}%
602 %        \sf@old@caption{#1}[{#2}]{#3}%
603 %      }{%
604 %        \sf@old@caption{#1}[{#2}]{#3}%
605 %        \@listsubcaptions{#1}%
606 %      }}%
607    }%

608    \caption@IfCheckCommand{}{%
609      \caption@InfoNoLine{%
610        Incompatible package detected (regarding \string\@caption).\MessageBreak
611        \string\@caption\space=\space\meaning\@caption}%
612      \caption@setbool{incompatible}{1}}%
```

The option compatibility= will override the compatibility mode.

```
613    \caption@ifundefined\caption@ifcompatibility
614      {\let\caption@ifcompatibility\caption@ifincompatible
615       \let\caption@tempa\caption@WarningNoLine}%
616      {\let\caption@tempa\@gobble}% suppress warning
617    \caption@ifcompatibility{%
618      \caption@tempa{%
619        \noexpand\caption will not be redefined since it's already\MessageBreak
620        redefined by a document class or package which is\MessageBreak
621        unknown to the caption package}%
622      \renewcommand*\caption@redefine{}}%
```

\ContinuedFloat is not supported in compatibility mode.

```
623      \renewcommand*\caption@ContinuedFloat[1]{%
624        \caption@Error{Not available in compatibility mode}}%
```

\caption@start is not supported in compatibility mode.

```
625      \caption@AtBeginDocument*{%
626        \let\caption@start\relax
627        \caption@ifundefined\caption@ORI@capstart{}{%
628          \caption@Debug{%
629            Restore hypcap definition of \string\capstart\@gobble}%
630          \let\capstart\caption@ORI@capstart}%
631        \caption@ifundefined\caption@ORI@float@makebox{}{%
632          \caption@Debug{%
633            Restore hyperref redefinition of \string\float@makebox\@gobble}%
634          \let\float@makebox\caption@ORI@float@makebox}%
635      }%
```

\caption@star   We redefine \caption@star here so it does not make any harm.

```
636        \renewcommand*\caption@star[2]{#1#2}%
637    }{%
638      \caption@ifincompatible{%
639        \caption@WarningNoLine{%
640          Forced redefinition of \noexpand\caption since the\MessageBreak
641          unsupported(!) package option 'compatibility=false'\MessageBreak
642          was given}%
643      }{}%
```

\caption
\@caption
```
644      \renewcommand*\caption@redefine{%
645        \let\caption\caption@caption
646        \let\@caption\caption@@caption}%
647      \caption@redefine
648    }%
649    \caption@AtBeginDocument*{%
650      \let\caption@ORI@capstart\@undefined
651      \let\caption@ORI@float@makebox\@undefined}%
```

\@xfloat   We redefine \@xfloat so inside floating environments our type-specific options will be used, a hyperref anchor will be set etc.

18

```
652    \let\caption@ORI@xfloat\@xfloat
653    \def\@xfloat#1[#2]{%
654      \caption@ORI@xfloat{#1}[#2]%
655      \caption@settype{#1}}%

656 }
```

Some packages (like the hyperref package for example) redefines \caption and
\@caption, too. So we have to use \AtBeginDocument here, so we can make
sure our definition is the one which will be valid at last.

```
657 \caption@AtBeginDocument{\caption@redefine}
```

\@makecaption

```
658 \let\@makecaption\caption@makecaption
```

10   \captionof and \captionlistentry

```
659 \caption@AtBeginDocument{%

660    \DeclareCaptionOption{type}{\setcaptiontype{#1}}%
661    \DeclareCaptionOption{type*}{\setcaptiontype*{#1}}%

662    \DeclareCaptionOptionNoValue{subtype}{\setcaptionsubtype\relax}%
663    \DeclareCaptionOptionNoValue{subtype*}{\setcaptionsubtype*}%

664 }
```

Important Note: Like \captionof the option type= should only be used inside a
group, box, or environment and does not check if the argument is a valid floating envi-
ronment or not.

\setcaptiontype   Like \captionsetup{type=xxx}, but also works if \captionsetup was rede-
fined.

```
665 \newcommand\setcaptiontype{%
666    \caption@boxrestore@mini
667    \caption@settype}
```

\setcaptionsubtype   Same, but sets the sub-type.

```
668 \newcommand\setcaptionsubtype{%
669    \caption@iftype
670      \caption@setsubtype
671      {\caption@Error{\noexpand\setcaptionsubtype outside float}}}%

672 \newcommand\caption@setsubtype{%
673    \@ifstar
674      {\caption@@settype{sub}*{sub\@captype}}%
675      {\caption@@settype{sub}{sub\@captype}}}%
```

\caption@settype   \caption@settype*{⟨*type*⟩}
sets \@captype and executes the options associated with it (using \caption@setoptions).
Furthermore we check \currentgrouplevel (if avail), redefine \@currentlabel
so a \label before \caption will result in a hint instead of a wrong reference, and
use the macro \caption@(sub)typehook (which will be used by our float package
support).

19

The non-starred version sets a hyperref anchor additionally (if hypcap=true and the hypcap package is not loaded).

```
676 \newcommand*\caption@settype{%
677   \caption@@settype{}}

678 \newcommand*\caption@@settype[1]{%
679   \caption@teststar{\caption@@@settype{#1}}\@firstoftwo\@secondoftwo}

680 \newcommand*\caption@@@settype[3]{%
681 % #1 = "" or "sub"
682 % #2 = \@firstoftwo in star form, \@secondoftwo otherwise
683 % #3 = <type>, e.g. "figure" or "table"
684   \caption@Debug{#1type=#3}%
685   \caption@checkgrouplevel{#1}{%
686     \captionsetup{#1type#2*\@empty=...}#2{ or
687                   \@backslashchar#1captionof}{}}%
688   \edef\caption@tempa{#3}%
689   \expandafter\ifx\csname @#1captype\endcsname\caption@tempa \else
690     \ifcaptionsetup@star\else\@nameuse{caption@#1type@warning}\fi
691   \fi
692   \expandafter\let\csname @#1captype\endcsname\caption@tempa

693   \@nameuse{caption@#1typehook}%

694   \caption@setoptions{#3}%
695   \ifx\caption@opt\relax
696     \@nameundef{caption@#1type@warning}%
697   \else
698     \@namedef{caption@#1type@warning}{\caption@Warning{%
699       The #1caption type was already set to
700       '\csname @#1captype\endcsname'\MessageBreak}}%
701   \fi

702   \let\caption@ifrefstepcounter\@secondoftwo
703   #2{}{%
704     \let\@currentlabel\caption@undefinedlabel
705 %   \let\@currentHlabel\@undefined
706     \ifx\caption@x@label\@undefined
707       \let\caption@x@label\label
708       \let\label\caption@xlabel
709     \fi
710     \caption@start}}
```

\caption@typehook   Hook, will be extended later on, e.g. by our float package support.

```
711 \newcommand*\caption@typehook{}
```

\caption@iftype   Since we often need to check if \@captype is defined (means: we are inside a floating environment) this helper macro was introduced.

```
712 \newcommand*\caption@iftype{%
713   \caption@ifundefined\@captype\@secondoftwo\@firstoftwo}
```

\caption@checkgrouplevel   Checks if \captionsetup{type=...} or \caption is done inside a group or not – in the latter case a warning message will be issued. (needs ε-TeX)

```
714 \begingroup\expandafter\expandafter\expandafter\endgroup
715 \expandafter\ifx\csname currentgrouplevel\endcsname\relax
716   \caption@Debug{TeX engine: TeX}
```

```
717    \let\caption@checkgrouplevel\@gobbletwo
718 \else
719    \caption@Debug{TeX engine: e-TeX}
720    \newcommand*\caption@checkgrouplevel[2]{%
721      \@ifundefined{#1caption@grouplevel}{%
722        \caption@ifundefined\caption@grouplevel{\let\caption@grouplevel\z@}{}%
723        \ifnum\currentgrouplevel>\caption@grouplevel\relax
724          \expandafter\edef\csname #1caption@grouplevel\endcsname{%
725            \the\currentgrouplevel}%
726        \else
727          \caption@Warning{\string#2\MessageBreak outside box or environment}%
728        \fi
729      }{}}
730 \fi
```

\caption@undefinedlabel This label will be used for \currentlabel inside (floating) environments as default.
(see above)

```
731 \newcommand*\caption@undefinedlabel{%
732    \protect\caption@xref{\caption@labelname}{\on@line}}
```

```
733 \DeclareRobustCommand*\caption@xref[2]{%
734    \caption@WarningNoLine{\noexpand\label without proper \string\caption#2}%
735    \@setref\relax\@undefined{#1}}
```

```
736 \newcommand*\caption@labelname{??}
```

\caption@xlabel The new code of \label inside floating environments. \label will be redefined using
\caption@withoptargs, so #1 are the optional arguments (if any), and #2 is the
mandatory argument here.

```
737 \newcommand*\caption@xlabel{%
738    \caption@withoptargs\caption@@xlabel}
```

```
739 \newcommand*\caption@@xlabel[2]{%
740    \caption@@@xlabel
741    \def\caption@labelname{#2}%
742    \caption@x@label#1{#2}}
```

```
743 \newcommand*\caption@@@xlabel{%
744    \global\let\caption@@@xlabel\@empty
745    \@bsphack
746      \protected@write\@auxout{}%
747        {\string\providecommand*\string\caption@xref[2]{%
748          \string\@setref\string\relax\string\@undefined{\string##1}}}%
749    \@esphack}
```

\captionof \captionof{⟨type⟩}[⟨lst entry⟩]{⟨heading⟩}
\captionof*[⟨lst entry⟩]{⟨heading⟩}
Note: This will be defined with \AtBeginDocument so \usepackage{caption,capt-of}
will still work. (Compatibility to *v1.x*)

```
750 \caption@AtBeginDocument{%
751    \def\captionof{\caption@teststar\caption@of{\caption*}\caption}}
```

```
752 \newcommand*\caption@of[2]{\setcaptiontype*{#2}#1}
```

\captionlistentry \captionlistentry[⟨float type⟩]{⟨list entry⟩}
\captionlistentry*[⟨float type⟩]{⟨list entry⟩}

```
753 \newcommand*\captionlistentry{%
754   \caption@teststar\@captionlistentry\@firstoftwo\@secondoftwo}
755 \newcommand*\@captionlistentry[1]{%
756   \@testopt{\caption@listentry{#1}}\@captype}
757 \def\caption@listentry#1[#2]#3{%
758   \@bsphack
759     #1{\caption@gettitle{#3}}%
760       {\caption@refstepcounter{#2}%
761         \caption@makecurrent{#2}{#3}}%
762     \caption@addcontentsline{#2}{#3}%
763   \@esphack}
```

11 \captionbox

\captionbox A \parbox with contents and caption, separated by an invisible \hrule.

```
764 \newcommand*\captionbox{%
765   \let\captionbox@settype\@gobble
766   \caption@withoptargs\caption@box}
767 \newcommand\caption@box[2]{%
768   \@testopt{\caption@ibox{#1}{#2}}{\wd\@tempboxa}}
769 \long\def\caption@ibox#1#2[#3]{%
770   \@testopt{\caption@iibox{#1}{#2}{#3}}\captionbox@hj@default}
771 \long\def\caption@iibox#1#2#3[#4]#5{%
772   \setbox\@tempboxa\hbox{#5}%
773   \begingroup
774   \captionbox@settype*% set \caption@position
775   \caption@iftop{%
776     \endgroup
777     \parbox[t]{#3}{%
778       \captionbox@settype\relax
779       \caption@setposition t%
780       \vbox{\caption#1{#2}}%
781       \captionbox@hrule
782       \csname caption@hj@#4\endcsname
783       \unhbox\@tempboxa}%
784   }{%
785     \endgroup
786     \parbox[b]{#3}{%
787       \captionbox@settype\relax
788       \caption@setposition b%
789       \csname caption@hj@#4\endcsname
790       \unhbox\@tempboxa
791       \captionbox@hrule
792       \vtop{\caption#1{#2}}}%
793   }}
794 \newcommand*\captionbox@hj@default{c}
795 \newcommand*\captionbox@hrule{\hrule\@height\z@\relax}
796 \providecommand*\caption@hj@c{\centering}
797 \providecommand*\caption@hj@l{\raggedright}
798 \providecommand*\caption@hj@r{\raggedleft}
799 \providecommand*\caption@hj@s{}
```

12 \ContinuedFloat

\ContinuedFloat   \ContinuedFloat
\ContinuedFloat*

This mainly decrements the appropriate counter and increments the continuation counter instead. Furthermore we set \caption@resetContinuedFloat to \@gobble so the continuation counter will not be reset to zero inside \caption@refstepcounter. Please forget about the optional argument, it was never working well, is incompatible to the subfig package, but is still there for compatibility reasons.

Note: The definition of \ContinuedFloat itself is compatible to the one inside the subfig package, except for the starred variant and the optional argument.

When the hyperref package is used we have the problem that the usage of \ContinuedFloat will create duplicate hyper links – \@currentHref will be the same for the main float and the continued ones. So we have to make sure unique labels and references will be created each time. We do this by extending \theHfigure and \theHtable, so for continued floats the scheme

$$\langle type \rangle . \langle type\, \# \rangle \texttt{\textbackslash alph}\{\langle continued\, \# \rangle\}$$

will be used instead of

$$\langle type \rangle . \langle type\, \# \rangle \qquad .$$

(This implementation follows an idea from Steven Douglas Cochran.)

Note: This does not help if the hyperref package option naturalnames=true is set.

```
800 \def\ContinuedFloat{%
801   \caption@iftype
802     {\addtocounter\@captype\m@ne
803      \caption@ContinuedFloat\@captype}%
804     {\caption@Error{\noexpand\ContinuedFloat outside float}}}}
805 \def\caption@ContinuedFloat#1{%
806   \@ifstar{\caption@Continued@Float@{#1}}{\caption@Continued@Float{#1}}}
807 \def\caption@Continued@Float@{%
808   \addtocounter\@captype\@ne
809   \@stpelt{ContinuedFloat}\stepcounter{ContinuedFloat}%
810   \def\caption@resetContinuedFloat##1{\xdef\caption@CFtype{##1}}%
811   \caption@@ContinuedFloat}
812 \def\caption@Continued@Float#1{%
813   \edef\caption@tempa{#1}%
814   \ifx\caption@tempa\caption@CFtype
815     \stepcounter{ContinuedFloat}%
816     \let\caption@resetContinuedFloat\@gobble
817     \caption@@ContinuedFloat{#1}%
818     \sf@ContinuedFloat{#1}%
819   \else
820     \caption@Error{Continued '#1' after '\caption@CFtype'}%
821   \fi}
822 \def\caption@@ContinuedFloat#1{%
823   \expandafter\l@addto@macro\csname the#1\endcsname\theContinuedFloat
824   \@ifundefined{theH#1}{}{%
825     \expandafter\l@addto@macro\csname theH#1\endcsname{%
826       \@alph\c@ContinuedFloat}}%
```

23

```
827    \caption@setoptions{ContinuedFloat}%
828    \caption@setoptions{continued#1}}

829 \providecommand*\sf@ContinuedFloat[1]{}

830 \newcommand*\caption@CFtype{??}
```

\theContinuedFloat   Its preset to \@empty, so usually the continuation counter is not included in the caption label or references.

```
831 \newcounter{ContinuedFloat}
832 \let\theContinuedFloat\@empty
```

\caption@resetContinuedFloat   \caption@resetContinuedFloat{⟨type⟩}
If a continuation counter is defined, we reset it. (This one will be called inside \@caption.)

```
833 \newcommand*\caption@resetContinuedFloat[1]{%
834    \@stpelt{ContinuedFloat}%
835    \xdef\caption@CFtype{#1}%
836    \def\ContinuedFloat{\caption@Error{%
837       \noexpand\ContinuedFloat must be placed at the top of the environment}}}
```

\phantomcaption   \phantomcaption
Use this one for figures with subcaptions but without main caption.

```
838 \newcommand\phantomcaption{%
839    \caption@iftype
840       {\caption@refstepcounter\@captype}%
841       {\caption@Error{\noexpand\phantomcaption outside float}}}%
```

13 Internal helpers

\caption@refstepcounter   Resets the continuation counter, increments the float (i.e. figure or table) counter, and sets the refstepcounter flag.

```
842 \newcommand*\caption@refstepcounter[1]{%
843    \@ifundefined{c@#1}%
844       {\caption@Error{No float type '#1' defined}}%
845       {\caption@resetContinuedFloat{#1}%
846          \caption@@refstepcounter{#1}%
847          \let\caption@ifrefstepcounter\@firstoftwo}}

848 \newcommand*\caption@@refstepcounter{\refstepcounter}
849 \let\caption@ifrefstepcounter\@secondoftwo
```

\caption@dblarg   A \relax was added compared to \@dblarg so \caption{} will be expanded to \caption[\relax]{} (and not to \caption[]{}).

```
850 \caption@ifundefined\kernel@ifnextchar
851    {\newcommand\caption@dblarg[1]{\@ifnextchar[{#1}{\caption@xdblarg{#1}}}}%
852    {\newcommand\caption@dblarg[1]{\kernel@ifnextchar[{#1}{\caption@xdblarg{#1}}}}%
853 \newcommand\caption@xdblarg[2]{#1[{#2\relax}]{#2}}%
```

\caption@begin   Our handling of \caption will always be surrounded by \caption@begin (or \caption@beginex) and \caption@end.
\caption@begin{⟨type⟩} performs these tasks:

1. Start a new group.

2. Define `\fnum@`⟨*type*⟩ if the caption label format is set to non-default.

3. Override the `position=` setting, if necessary. (for example if set to `auto` or used inside a `supertabular`)

```
854 \newcommand*\caption@begin[1]{%
855   \begingroup
856     \caption@setfnum{#1}%
857     \caption@fixposition
858     \global\let\caption@fixedposition\caption@position}
```

\caption@beginex `\caption@beginex{`⟨*type*⟩`}{`⟨*list entry*⟩`}{`⟨*heading*⟩`}`
performs the same tasks as `\caption@begin` and additionally:

4. Set `\lst@@caption`, so `\fnum@lstlisting` will include a numbering.

5. Make an entry in the list-of-whatever.

6. Set `\caption@ifempty` according argument ⟨*heading*⟩.

```
859 \newcommand\caption@beginex[3]{%
860   \caption@begin{#1}%
861   \let\lst@@caption\relax
862   \caption@addcontentsline{#1}{#2}%
863   \caption@ifempty{#3}{}}
```

\caption@end `\caption@end` closes the group.

```
864 \newcommand*\caption@end{%
865   \endgroup
866   \let\caption@position\caption@fixedposition}
```

\caption@setfnum `\caption@setfnum{`⟨*type*⟩`}`
redefines `\fnum@`⟨*type*⟩ according the caption label format set with `labelformat=`.
But if `labelformat=default` is set, `\fnum@`⟨*type*⟩ will not be overwritten by us.

```
867 \newcommand*\caption@setfnum[1]{%
868   \@ifundefined{fnum@#1}{\iftrue}{\ifx\caption@lfmt\caption@lfmt@default\else}%
869     \@namedef{fnum@#1}{\caption@fnum{#1}}%
870   \fi}
```

\caption@boxrestore The original code (from `latex/base/ltboxes.dtx`):

```
\def\@parboxrestore{\@arrayparboxrestore\let\\\@normalcr}
\def\@arrayparboxrestore{%
  \let\if@nobreak\iffalse
  \let\if@noskipsec\iffalse
  \let\par\@@par
  \let\-\@dischyph
  \let\'\@acci\let\`\@accii\let\=\@acciii
  \parindent\z@ \parskip\z@skip
  \everypar{}%
  \linewidth\hsize
  \@totalleftmargin\z@
  \leftskip\z@skip \rightskip\z@skip \@rightskip\z@skip
  \parfillskip\@flushglue \lineskip\normallineskip
  \baselineskip\normalbaselineskip
  \sloppy}
```

This one will be used by `\@caption` instead of `\@parboxrestore`.

```
871 \newcommand*\caption@boxrestore{%
872   \caption@parboxrestore{\@parboxrestore}{%
873     \let\if@nobreak\iffalse
874     \let\if@noskipsec\iffalse
875     \let\par\@@par
876 %   \let\-\@dischyph
877 %   \let\'\@acci\let\`\@accii\let\=\@acciii
878     \parindent\z@ \parskip\z@skip
879     \everypar{}%
880 %   \linewidth\hsize
881 %   \@totalleftmargin\z@
882     \leftskip\z@skip \rightskip\z@skip \@rightskip\z@skip
883     \parfillskip\@flushglue \lineskip\normallineskip
884     \baselineskip\normalbaselineskip
885     \sloppy
886     \let\\\@normalcr
887   }}
```

`\caption@boxrestore@mini` Resets `\par` so the very first `\par` in `\@caption` behaves quite the same as in floating environments. Will be used by `\setcaptiontype`.

```
888 \newcommand\caption@boxrestore@mini{%
889   \let\par\@@par
890   \parindent\z@ \parskip\z@skip
891   \sloppy}
```

`\caption@normalsize` This one will be used by `\@caption` instead of `\normalsize`.
Its code is equivalent to

        `\caption@font{normal}%`

but executes faster (since the starred form of `\caption@font` does not use `\setkeys` internally).

```
892 \newcommand*\caption@normalsize{%
893   \caption@font*{\KV@caption@fnt@normal\@unused}}
```

`\caption@setfloatcapt` Needed for support of the float package, where the caption will not be typeset directly, but catched in a `\vbox` called `\@floatcapt` instead.

```
894 \let\caption@setfloatcapt\@firstofone
```

`\caption@makecurrent` This one is needed for support of the nameref and hyperref package.

```
895 \newcommand*\caption@makecurrent[1]{\caption@gettitle}
```

`\caption@makeanchor` All these are needed for support of the hyperref package.
`\caption@start`
`\caption@@start`
`\caption@freezeHref`
`\caption@defrostHref`

```
896 \let\caption@makeanchor\@firstofone
897 \let\caption@start\relax
898 \let\caption@@start\relax
899 \let\caption@freezeHref\relax
900 \let\caption@defrostHref\relax
```

`\caption@gettitle` This one is needed for support of the nameref package.

```
901 \newcommand\caption@gettitle[1]{%
902   \caption@ifundefined\NR@gettitle
903     {\def\@currentlabelname{#1}}%
904     {\NR@gettitle{#1}}}
```

26

14 Support for sub-captions

`\caption@DeclareSubType`   `\caption@DeclareSub` initializes the usage of `\caption` in sub-floats.

```
905 \def\caption@DeclareSubType sub#1\@nil{%
906   \caption@Debug{Initializing subtype for '#1'\@gobble}%
907   \@namedef{caption@c@#1}{0}%
908   \@namedef{caption@beginsub#1}{\caption@beginsubfloat{#1}}}
909 \@onlypreamble\caption@DeclareSubType
```

Initialize the sub-captions defined with `\DeclareCaptionSubType`. . .

```
910 \caption@For*{subtypelist}{\caption@DeclareSubType sub#1\@nil}
```

Initialize the sub-captions defined with `\newsubfloat`[18]. . .

```
911 \caption@AtBeginDocument*{%
912   \caption@ifundefined\sf@counterlist{}{%
913     \@for\sf@temp:=\sf@counterlist\do{%
914       \expandafter\caption@DeclareSubType\sf@temp\@nil}}}
```

`\caption@subtypehook`   Hook, will be used inside `\caption@setsubtype`.
(Note: If we are inside an `subfloatrow` environment we have to keep the `\@make-caption` code of the floatrow package intact.)

```
915 \newcommand*\caption@subtypehook{%
916   \ifx\caption\caption@subcaption \else
917     \caption@warmup

918   \caption@ifrefstepcounter{}{%
919     % no \caption or \subcaption in this (floating) environment yet
920     \caption@Debug{Increment \@captype\ counter =\the\value\@captype}%
921     \caption@l@stepcounter\@captype
922     \let\caption@@@addcontentsline\caption@addsubcontentsline}%

923   \ifnum\csname caption@c@\@captype\endcsname=\value\@captype \else
924     \caption@Debug{Reset sub\@captype\ counter}%
925     \expandafter\xdef\csname caption@c@\@captype\endcsname{%
926       \the\value\@captype}%
927     \@stpelt\@subcaptype
928   \fi

929   \c@ContinuedFloat=0\relax
930   \let\caption@resetContinuedFloat\@gobble
931   \let\caption@addcontentsline\caption@kernel@addcontentsline
932   \let\caption@setfloatcapt\@firstofone

933   \caption@clearmargin
934   \caption@iflist{}{\let\caption@setlist\@gobble}%
935   \caption@setoptions{sub}%
936   \caption@setoptions{subfloat}% for subfig-package compatibility

937   \let\caption\caption@subcaption
938   \let\phantomcaption\caption@subphantom
939   \if@subfloatrow
940     \caption@Debug{Keeping \string\@makecaption}%
941   \else
942     \let\@makecaption\caption@makecaption
943   \fi
944 \fi}%
```

`\if@subfloatrow` This macro tests if we are inside an `subfloatrow` or `subfloatrow*` environment.

```
945 \caption@AtBeginDocument{%
946   \caption@ifundefined\@subfloatrowtrue
947    {\newif\if@subfloatrow
948     \caption@ifundefined\subfloatrow{}%
949     {\caption@Debug{Patching subfloatrow environment}%
950      \g@addto@macro\capsubrowsettings{\@subfloatrowtrue}%
951      \g@addto@macro\killfloatstyle{%
952        \ifx\c@FRobj\c@FRsobj\@subfloatrowtrue\fi}}}%
953    {\caption@Debug{\string\if@subfloatrow is already defined}}}%
```

`\caption@subcaption` Makes a sub-caption.

```
954 \newcommand*\caption@subcaption{%
955   \caption@checkgrouplevel{sub}\subcaption
956   \caption@star
957    {\caption@refstepcounter\@subcaptype}%
958    {\caption@dblarg{\@caption\@subcaptype}}}
```

`\caption@subphantom` Same as `\phantomcaption`, but for sub-captions.

```
959 \newcommand*\caption@subphantom{%
960   \caption@checkgrouplevel{sub}\phantomsubcaption
961   \caption@refstepcounter\@subcaptype}
```

`\caption@addcontentsline` We extend `\caption@addcontentsline` so it handles sub-captions, too.

Note: `\sf@ifpositiontop` & `\@listsubcaptions` are defined by the subfigure & subfig packages.

```
962 \let\caption@kernel@addcontentsline\caption@addcontentsline
963 \renewcommand\caption@addcontentsline[2]{%
964   \sf@ifpositiontop{\@listsubcaptions{#1}}{}%
965   \caption@kernel@addcontentsline{#1}{#2}%
966   \sf@ifpositiontop{}{\@listsubcaptions{#1}}%
967   \caption@addsubcontentslines{#1}}
```

```
968 \newcommand*\caption@addsubcontentslines[1]{%
969   \begingroup
970     \caption@subcontentslines
971   \endgroup
972   \caption@clearsubcontentslines}%
```

`aption@addsubcontentsline` Add a pending sub-caption list entry.

```
973 \newcommand*\caption@addsubcontentsline[4]{%
974   \begingroup
975   \let\label\caption@gobble \let\index\caption@gobble \let\glossary\caption@gobbl
976   \protected@edef\@tempa{\endgroup
977     \noexpand\g@addto@macro\noexpand\caption@subcontentslines{%
978       \noexpand\@namedef{the#2}{\csname the#2\endcsname}%
979       \ifx\@currentHref\@undefined \else
980         \noexpand\def\noexpand\@currentHref{\@currentHref}%
981       \fi
982       \protect\caption@@@addcontentsline{#1}{#2}{#3}{#4}}}%
983   \@tempa}
```

`ion@checksubcontentslines` Checks if the list of pending sub-captions is empty, if not, a warning will be issued.

```
984 \newcommand*\caption@checksubcontentslines{%
985   \ifx\caption@subcontentslines\@empty \else
986     \caption@Error{%
987       Something's wrong--perhaps a missing \protect\caption\MessageBreak
988       in the last figure or table}%
989     \caption@clearsubcontentslines
990   \fi}
```

ion@clearsubcontentslines Clear pending sub-caption list entries.

```
991 \newcommand*\caption@clearsubcontentslines{%
992   \global\let\caption@subcontentslines\@empty}
```

```
993 \caption@AtBeginDocument*{%
994   \caption@ifundefined\sf@ifpositiontop{\let\sf@ifpositiontop\@gobbletwo}{}%
995   \caption@clearsubcontentslines
996   \g@addto@macro\caption@typehook{\caption@checksubcontentslines}%
997   \AtEndDocument{\caption@checksubcontentslines}}%
```

15 Document class & Babel package support

15.1 The $\mathcal{A}_{\mathcal{M}}\mathcal{S}$ & SMF classes

```
998 \caption@ifundefined\smf@makecaption{}{\let\smf@makecaption\@makecaption}
```

15.2 The beamer class

```
999 \@ifclassloaded{beamer}{%
1000   \caption@InfoNoLine{beamer document class}%
```

\figure   We redefine figure & table so our type-specific options will be used etc.
\table
```
1001   \expandafter\let\expandafter\caption@ORI@figure
1002     \csname\string\figure\endcsname
1003   \@namedef{\string\figure}[#1]{%
1004     \caption@ORI@figure[#1]%
1005     \caption@settype{figure}}
1006   \expandafter\let\expandafter\caption@ORI@table
1007     \csname\string\table\endcsname
1008   \@namedef{\string\table}[#1]{%
1009     \caption@ORI@table[#1]%
1010     \caption@settype{table}}
```

```
1011 }{}
```

15.3 The KOMA-Script classes

KOMA-Script contains the code \AtBeginDocument{\let\scr@caption\caption}
so we need to update \scr@caption here, too.

```
1012 \caption@ifundefined\scr@caption{}{%
1013   \caption@AtBeginDocument{\let\scr@caption\caption}}
```

15.4 The frenchb Babel option

Suppress "Package `frenchb.ldf` Warning: The definition of `\@makecaption` has been changed, frenchb will NOT customize it." (but only if we emulate this customization)

```
1014 \@nameuse{caption@frenchb}\@nameundef{caption@frenchb}
```

15.5 The frenchle/pro package

```
1015 \caption@AtBeginDocument{\caption@ifundefined\frenchTeXmods{}{%
1016   \caption@InfoNoLine{frenchle/pro package is loaded}%
```

```
1017   \let\captionfont@ORI\captionfont
1018   \let\captionlabelfont@ORI\captionlabelfont
1019   \let\@makecaption@ORI\@makecaption
```

If `\GOfrench` is defined as `\relax` all the re-definitions regarding captions have already been done, so we can do our patches immediately. Otherwise we must add our stuff to `\GOfrench`.

```
1020   \caption@ifundefined\GOfrench
1021     {\let\caption@tempa\@firstofone}%
1022     {\def\caption@tempa{\g@addto@macro\GOfrench}}%
1023   \caption@tempa{%
1024     \let\captionfont\captionfont@ORI
1025     \let\captionfont@ORI\@undefined
1026     \let\captionlabelfont\captionlabelfont@ORI
1027     \let\captionlabelfont@ORI\@undefined
1028     \let\@makecaption\@makecaption@ORI
1029     \let\@makecaption@ORI\@undefined
```

`\@cnORI`   We update the definition of `\@cnORI` so it actually reflects our definition of `\caption`.

```
1030     \let\@cnORI\caption
```

`\@tablescaption`   The frenchle/pro package sets `\caption` to `\@tablescaption` at `\begin{table}` for special treatment of footnotes. Therefore we have to patch `\@tablescaption` so `\caption*` will work inside the `table` environment.

```
1031     \let\caption@tcORI\@tablescaption
1032     \def\@tablescaption{\caption@star\relax\caption@tcORI}%
```

`\f@ffrench`   `\f@ffrench` and `\f@tfrench` reflect `\fnum@figure` and `\fnum@table` when
`\f@tfrench`   used in French mode. These contain additional code which typesets the caption separator `\captionseparator` instead of the usual colon. Because this breaks with our `\@makecaption` code we have to remove this additional code here.

```
1033     \let\@eatDP\@undefined
1034     \let\caption@tempa\@empty
1035     \ifx\f@ffrench\fnum@figure
1036       \l@addto@macro\caption@tempa{\let\fnum@figure\f@ffrench}%
1037     \fi
1038     \ifx\f@tfrench\fnum@table
1039       \l@addto@macro\caption@tempa{\let\fnum@table\f@tfrench}%
1040     \fi
1041     \def\f@ffrench{\ifx\listoffigures\relax\else\figurename~\thefigure\fi}%
1042     \def\f@tfrench{\ifx\listoftables\relax\else\tablename~\thetable\fi}%
1043     \caption@tempa
```

```
1044   }%
1045 }}
```

15.6   The hungarian and magyar Babel option

```
1046 \def\caption@tempa#1{%
1047   \@ifundefined{extras#1}\caption@AtBeginDocument\@firstofone{%
1048     \@ifundefined{extras#1}{}{%
1049       \caption@InfoNoLine{#1 babel option is loaded}%
1050       \expandafter\addto\csname extras#1\endcsname{%
1051         % reverse changes made by magyar.ldf
1052         \let\@makecaption\caption@makecaption
1053         \babel@save\@makecaption
1054         \caption@redefine
1055         \babel@save\@caption}%
1056     }}}
1057 \caption@tempa{hungarian}%
1058 \caption@tempa{magyar}%
```

16   Package support

\caption@IfPackageLoaded   \caption@IfPackageLoaded{⟨*package*⟩}[⟨*version*⟩]{⟨*true*⟩}{⟨*false*⟩}
Some kind of combination of \@ifpackageloaded and \@ifpackagelater. If
the ⟨*package*⟩ is not loaded yet, the check will be (re-)done \AtBeginDocument, so
the ⟨*package*⟩ could be loaded later on, too.

```
1059 \newcommand\caption@IfPackageLoaded[1]{%
1060   \@testopt{\caption@@IfPackageLoaded{#1}}{}}
1061 \@onlypreamble\caption@IfPackageLoaded
```

```
1062 \long\def\caption@@IfPackageLoaded#1[#2]#3#4{%
1063   \@ifpackageloaded{#1}\@firstofone{%
1064     \caption@Debug{#1 package is not loaded (yet)\@gobble}%
1065     \caption@AtBeginDocument}{%
1066       \caption@If@Package@Loaded{#1}[#2]{#3}{#4}}}
1067 \@onlypreamble\caption@@IfPackageLoaded
```

```
1068 \long\def\caption@If@Package@Loaded#1[#2]{%
1069   \@ifpackageloaded{#1}{%
1070     \caption@InfoNoLine{#1 package is loaded}%
1071     \@ifpackagelater{#1}{#2}\@firstoftwo{%
1072       \caption@Error{%
1073         For a successful cooperation we need at least version\MessageBreak
1074           '#2' of package #1,\MessageBreak
1075         but only version\MessageBreak
1076           '\csname ver@#1.\@pkgextension\endcsname'\MessageBreak
1077         is available}%
1078       \@secondoftwo}%
1079   }{\@secondoftwo}}
1080 \@onlypreamble\caption@If@Package@Loaded
```

\caption@clearmargin   This macro will be used by some package support stuff where the usual margin setting is
not welcome, e.g. in the sidecap package.

```
1081 \newcommand*\caption@clearmargin{%
1082   \setcaptionmargin\z@
1083   \let\caption@minmargin\@undefined}
```

```
1084 \caption@setbool{needfreeze}{0}
1085 \caption@AtBeginDocument*{%
1086   \caption@ifneedfreeze{%
```

\caption@freeze \caption@freeze

Used by the fltpage & sidecap package support.

```
1087   \newcommand*\caption@freeze{%
1088     \let\caption@frozen@ContinuedFloat\ContinuedFloat
1089     \def\ContinuedFloat{%
1090       \caption@withoptargs\caption@SC@ContinuedFloat}%
1091     \def\caption@SC@ContinuedFloat##1{%
1092     \caption@@freeze{\ContinuedFloat##1}%
1093     \let\caption@frozen@setcounter\setcounter
1094     \let\caption@frozen@addtocounter\addtocounter
1095     \def\setcounter####1####2{\csname c@####1\endcsname####2\relax}%
1096     \def\addtocounter####1####2{\advance\csname c@####1\endcsname ####2\relax}%
1097     \caption@frozen@ContinuedFloat##1%
1098     \let\setcounter\caption@frozen@setcounter
1099     \let\addtocounter\caption@frozen@addtocounter}%
1100     \let\caption@frozen@setup\caption@setup
1101     \def\caption@setup##1{%
1102       \caption@@freeze{\caption@setup{##1}}%
1103       \caption@frozen@setup{##1}}%
1104     \let\caption@frozen@caption\caption
1105     \def\caption{%
1106       \def\caption{%
1107         \caption@Error{%
1108           Only one \noexpand\caption can be placed in this environment}%
1109         \caption@gobble}%
1110       \@ifstar
1111       {\caption@SC@caption*}%
1112       {\let\caption@frozen@refstepcounter\caption@@refstepcounter
1113        \let\caption@@refstepcounter\caption@l@stepcounter
1114        \caption@refstepcounter\@captype
1115        \let\caption@@refstepcounter\caption@frozen@refstepcounter
1116        \let\@currentlabel\caption@SClabel
1117        \caption@withoptargs\caption@SC@caption}}%
1118     \long\def\caption@SC@caption##1##2{%
1119       \caption@@freeze{\caption##1{##2}}%
1120       \ignorespaces}%
1121     \let\caption@frozen@label\label
1122     \def\label{%
1123       \caption@withoptargs\caption@SC@label}%
1124     \def\caption@SC@label##1##2{%
1125       \ifx\@currentlabel\caption@SClabel
1126         \@bsphack
1127           \caption@freeze@label{##1}{##2}%
1128         \@esphack
1129       \else
1130         \caption@frozen@label##1{##2}%
1131       \fi}%
1132     \def\caption@SClabel{\caption@undefinedlabel}%
```

32

```
1133     \def\caption@freeze@label##1##2{%
1134       \caption@@freeze{\label##1{##2}}}%
1135     \global\let\caption@frozen@content\@empty
1136     \long\def\caption@@freeze{%
1137       \g@addto@macro\caption@frozen@content}%
1138     \def\caption@warmup{%
1139       \let\ContinuedFloat\caption@frozen@ContinuedFloat
1140       \let\caption@setup\caption@frozen@setup
1141       \let\caption\caption@frozen@caption
1142       \let\label\caption@frozen@label}}%
```

\caption@defrost   \caption@defrost
```
1143   \newcommand*\caption@defrost{%
1144     \ifx\caption@frozen@caption\@undefined
1145       \caption@frozen@content
1146     \else
1147       \caption@Error{Internal Error:\MessageBreak
1148         \noexpand\caption@defrost in same group as \string\caption@freeze}%
1149     \fi}%
```
```
1150   }{}%
1151   \caption@undefbool{needfreeze}}
```

\caption@warmup   \caption@warmup
```
1152 \let\caption@warmup\relax
```

16.1 The float package

The float package usually do not use the LATEX kernel command \@caption to typeset
the caption but \float@caption instead. (\@caption will only be used if the float
is re-styled with \restylefloat*.)
The main two things \float@caption is doing different are:

- The caption will be typeset inside a \savebox called \@floatcapt so it can
  be placed above or below the float contents afterwards.

- \@makecaption will not be used to finally typeset the caption.   Instead
  \@fs@capt will be used which definition is part of the float style. (Note that
  \@fs@capt will not typeset any vertical space above or below the caption; in-
  stead this space will be typeset by the float style code itself.)

```
1153 \caption@IfPackageLoaded{float}[2001/11/08 v1.3d]{%
1154 \@ifpackageloaded{floatrow}{%
1155   \caption@If@Package@Loaded{floatrow}[2007/08/24 v0.2a]{}{}%
1156 }{%
```

\@float@setevery   \@float@setevery{⟨*float type*⟩} is provided by the float package; it's called every
time a floating environment defined with \newfloat or \restylefloat begins. We
use this hook to do some adaptations and to setup the proper caption style (if defined) and
additional settings declared with \captionsetup[⟨*float style*⟩].
```
1157     \let\caption@ORI@float@setevery\@float@setevery
1158     \def\@float@setevery#1{%
1159       \float@ifcaption{#1}{%
```

First of all we set the caption position to it's proper value by converting `\@fs@iftopcapt` (which is part of a float style and controls where the caption will be typeset, above or below the float contents) to our `position=` setting. Since the spacing above and below the caption will be done by the float style and *not* by us this sounds quite useless. But in fact it isn't, since some packages based on the caption package (like the subfig package) could have an interest for this information and therefore use the `\caption@iftop` macro we provide in our kernel. Furthermore we need this information for ourself in `\captionof` which uses `\@makecaption` to finally typeset the caption with skips.

```
1160        \caption@setposition{\@fs@iftopcapt t\else b\fi}%
```

Afterward we redefine `\caption@setfloatcapt` (which will be used inside `\@caption`) so the caption will be set inside the box `\@floatcapt`, without extra vertical space.

```
1161        \renewcommand\caption@setfloatcapt[1]{%
1162          \let\@makecaption\caption@@make
1163          \global\setbox\@floatcapt\vbox{%
1164            \color@begingroup ##1\color@endgroup}}%
```

To allow different caption styles for different float styles we also determine the current float style (e.g. 'ruled') and select a caption style (and additional settings) with the same name, if defined.

```
1165        \float@getstyle\float@style{#1}%
1166        \caption@setstyle*\float@style
1167        \caption@setoptions\float@style

1168      }{}%
1169      \caption@freezeHref % will be defrosted in \float@makebox
1170      \caption@ORI@float@setevery{#1}}%
```

`\caption@typehook`   LaTeX and almost every other packages use `\⟨type⟩name` to provide a macro for the type resp. environment name – for example the command `\figurename` will usually contain the name of the floating environment `figure`:

```
    \newcommand\figurename{Figure}
```

But the float package doesn't follow this common naming convention: For floats defined with `\newfloat` it uses `\fname@⟨type⟩` instead, which breaks with our code (and with `\autoref` and some other things as well). So we have to map the float package name to the common one here.

Note: If the float was not defined with `\newfloat` but with `\restylefloat` instead, `\fname@⟨type⟩` is not defined.

```
1171    \g@addto@macro\caption@typehook{%
1172      \expandafter\ifx\csname #1name\endcsname\relax
1173        \expandafter\let\csname #1name\expandafter\endcsname
1174                        \csname fname@#1\endcsname
1175      \fi}%
```

`\fs@plaintop`   Since the float styles `plaintop` and `boxed` don't use `\abovecaptionskip`
`\fs@boxed`   which could be set with `skip=` (`plaintop` uses `\belowcaptionskip` instead of `\abovecaptionskip`, and `boxed` uses a fixed space of `2pt`) we patch the according float style macros here to change this.

```
1176    \g@addto@macro\fs@plaintop{\def\@fs@mid{\vspace\abovecaptionskip\relax}}%
1177    \g@addto@macro\fs@boxed{\def\@fs@mid{\kern\abovecaptionskip\relax}}%
```

`\float@getstyle`   `\float@getstyle{`⟨*cmd*⟩`}{`⟨*type*⟩`}`

Determining the float style is not so easy because the only hint provided by the float package is the macro `\fst@`⟨*float type*⟩ which points to the macro which represents the float style. So for example after

>   `\floatstyle{ruled}`
>   `\newfloat{Program}{tbp}{lop}`

`\fst@Program` will be defined as

>   `\def\fst@Program{\fs@ruled}` .

So here is what we do: We make the first level expansion of `\fst@`⟨*float type*⟩ a string so we can gobble the first four tokens (= `\fs@`), so only the the name of the float style is left.

TODO: We need to convert the catcodes here.

```
1178  \providecommand*\float@getstyle[2]{%
1179    \edef#1{%
1180      \noexpand\expandafter\noexpand\@gobblefour\noexpand\string
1181        \expandafter\expandafter\expandafter\noexpand
1182          \csname fst@#2\endcsname}%
1183    \edef#1{#1}%
1184    \caption@Debug{floatstyle{#2} = '#1'}}%
```

`\float@ifcaption`   `\float@ifcaption{`⟨*type*⟩`}{`⟨*if-clause*⟩`}{`⟨*else-clause*⟩`}`

Here we determine if the user has used `\newfloat` resp. `\restylefloat`, or `\restylefloat*`. This is quite easy: If `\@float@c@`⟨*captype*⟩ is the same as `\float@caption`, the user has used `\newfloat` or `\restylefloat`, otherwise we assume he has used `\restylefloat*`. (This test will fail if some package redefines `\float@caption`, so we have to assume that there is no one.)

```
1185  \providecommand*\float@ifcaption[1]{%
1186    \expandafter\ifx\csname @float@c@#1\endcsname\float@caption
1187      \expandafter\@firstoftwo
1188    \else
1189      \expandafter\@secondoftwo
1190    \fi}%

1191 }}{%
1192  \providecommand*\float@ifcaption[1]{\@secondoftwo}%
1193 % \clearcaptionsetup{boxed}% used by the floatrow package?
1194 }
```

The skip between 'boxed' floats and their caption defaults to `2pt`.

```
1195 \captionsetup[boxed]{skip=2pt} % do not issue a warning when not used
```

To emulate the 'ruled' definition of `\@fs@capt` we provide a caption style 'ruled' with appropriate options. But if the package option `ruled` was specified, we setup some caption parameters to emulate the behavior of the caption package *v1.x* option `ruled` instead, i.e., the current caption settings will be used, but without margin and without 'single-line-check'.

```
1196 \caption@ifbool{ruled}{%
1197   \captionsetup[ruled]{margin=0pt,minmargin=0,slc=0}%
1198 }{%
1199   \DeclareCaptionStyle{ruled}{labelfont=bf,labelsep=space,strut=0}%
1200 }
1201 \caption@undefbool{ruled}
```

35

16.2 The floatflt package

<pre>
1202 \caption@IfPackageLoaded{floatflt}[1996/02/27 v1.3]{%
</pre>

\floatingfigure We patch \floatingfigure so \caption@floatflt will be used.

<pre>
1203   \let\caption@ORI@floatingfigure\floatingfigure
1204   \def\floatingfigure{%
1205   \caption@floatflt{figure}%
1206   \caption@ORI@floatingfigure}%
</pre>

\floatingtable Same with \floatingtable...

<pre>
1207   \let\caption@ORI@floatingtable\floatingtable
1208   \def\floatingtable{%
1209   \caption@floatflt{table}%
1210 %   \caption@setautoposition b%
1211   \caption@ORI@floatingtable}%
</pre>

\caption@floatflt Here we do two things:

1. We use \caption@setoptions{floating⟨*type*⟩} so \captionsetup[-floating⟨*type*⟩]{...} is supported.

2. \linewidth must be set correctly. Usually this is done by \@parboxrestore inside \@caption, but since we use \@caption@boxrestore we have to map this to \@parboxrestore instead.

<pre>
1212   \newcommand*\caption@floatflt[1]{%
1213   \caption@settype{#1}%
1214   \caption@clearmargin
1215   \caption@setfullparboxrestore
1216   \caption@setoptions{floating#1}}%
</pre>

<pre>
1217 }{}
</pre>

16.3 The fltpage package

<pre>
1218 \caption@IfPackageLoaded{fltpage}[1998/10/29 v.0.3]{%
1219   \caption@setbool{needfreeze}{1}%
</pre>

\FP@positionLabel Original code:

<pre>
 \newcommand{\FP@positionLabel}{%
   FP\@captype-\number\value{FP@\@captype C}-pos}
</pre>

<pre>
1220   \renewcommand\FP@positionLabel{%
1221   FP\FP@captype-\number\value{FP@\FP@captype C}-pos}%
</pre>

\FP@helpNote Original code:

<pre>
 \newcommand{\FP@helpNote}[2]{%
   \typeout{FP#1 is inserted on page \pageref{#2}!}}%
</pre>

<pre>
1222   \renewcommand\FP@helpNote[2]{%
1223   \begingroup % save \caption@thepage
1224   \caption@pageref{#2}%
1225   \typeout{FP#1 is inserted on page \caption@thepage!}%
1226   \endgroup}%
</pre>

`\FP@floatBegin`   Original code:

```
\newcommand{\FP@floatBegin}[1]{%
  \gdef\@captype{#1}%
  \global\let\FP@savedCaptionCommand\caption%
  \global\let\FP@savedLabelCommand\label%
  \ifthenelse{\equal{\@captype}{figure}}
     {\global\let\old@Fnum\fnum@figure}%
     {\global\let\old@Fnum\fnum@table}%
  \let\FP@LabelText\@empty%
  \let\FP@CaptionText\@empty%
  \let\FP@optionalCaptionText\@empty%
  \renewcommand\label[1]{\gdef\FP@LabelText{##1}}%
  \renewcommand\caption[2][]{%
    \gdef\FP@optionalCaptionText{##1}\gdef\FP@CaptionText{##2}}%
  \begin{lrbox}{\FP@floatCorpusBOX}%
 }%
```

```
1227  \renewcommand*\FP@floatBegin[1]{%
1228    \def\FP@captype{#1}%
1229    \begin{lrbox}{\FP@floatCorpusBOX}%
1230    \minipage\hsize % changes from LR mode to vertical mode
1231    \caption@settype*{#1}%
1232    \caption@freeze
1233    \global\let\FP@Label\@empty
1234    \caption@ifFPrefcap
1235      {}%
1236      {\def\caption@freeze@label##1##2{%
1237          \g@addto@macro\FP@Label{\FP@label##1{##2}}}}%
1238    \ignorespaces}%
```

`\FP@floatEnd`   Original code:

```
\newcommand{\FP@floatEnd}{%
  \end{lrbox}%
  \global\setbox\FP@floatCorpusBOX=\box\FP@floatCorpusBOX
  \stepcounter{FP@\@captype C}%
  \FP@savedLabelCommand{\FP@positionLabel}%
  \FP@helpNote{\@captype}{\FP@positionLabel}%
  \FP@float
    {\FP@positionLabel}% location label test
    {\begin{\@captype}[p!]
       \usebox{\FP@floatCorpusBOX}%
       \refstepcounter{\@captype}%
       \ifthenelse{\equal{\FP@LabelText}{\@empty}}
         {}{\FP@savedLabelCommand{\expandafter\protect\FP@LabelText}}%
     \end{\@captype}}
    {\addtocounter{\@captype}{-1}}
    {\begin{\@captype}[b!]%
       \ifthenelse{\equal{\FP@guide}{\@empty}}%
         {}{\ifthenelse{\equal{\@captype}{figure}}%
             {\renewcommand{\fnum@figure}{\old@Fnum\ {\FP@guide}}}%
             {\renewcommand{\fnum@table}{\old@Fnum\ {\FP@guide}}}}%
       \setlength{\abovecaptionskip}{2pt plus2pt minus 1pt} % length above caption
       \setlength{\belowcaptionskip}{2pt plus2pt minus 1pt} % length above caption
```

37

```
        \FP@separatorCaption%
        \ifthenelse{\equal{\FP@optionalCaptionText}{\@empty}}%
          {\FP@savedCaptionCommand{\expandafter\protect\FP@CaptionText}}%
          {\FP@savedCaptionCommand[\expandafter\protect\FP@optionalCaptionText]%
                              {\expandafter\protect\FP@CaptionText}}%
      \end{\@captype}}%
  }%


1239  \renewcommand*\FP@floatEnd{%
1240    \endminipage
1241    \end{lrbox}%

1242    \stepcounter{FP@\FP@captype C}%
1243    \caption@label\FP@positionLabel
1244    \FP@helpNote\FP@captype\FP@positionLabel

1245    \edef\FP@RestoreCounter{%
1246      \noexpand\setcounter{\FP@captype}{\the\value\FP@captype}%
1247      \noexpand\setcounter{ContinuedFloat}{\the\value{ContinuedFloat}}}%

1248    \FP@float
1249      {\FP@positionLabel}% location label test
1250      {\begin\FP@captype[p!]%
1251         \usebox\FP@floatCorpusBOX
1252         \let\caption@SClentry\@empty
1253         \def\caption{\caption@dblarg{\@caption\@captype}}%
1254         \long\def\@caption##1[##2]##3{\def\caption@SClentry{##2}}%
1255         \let\FP@label\label
1256         \let\label\caption@gobble
1257         \caption@defrost
1258         \caption@ifFPlistcap
1259           {\caption@refstepcounter\@captype
1260            \expandafter\caption@makecurrent\expandafter\@captype
1261                              \expandafter{\caption@SClentry}}%
1262           {\ifx\caption@SClentry\@empty \else
1263              \expandafter\captionlistentry\expandafter{\caption@SClentry}%
1264            \fi}%
1265         \caption@makeanchor\relax
1266         \FP@Label
1267       \end\FP@captype}%
1268      {\FP@RestoreCounter
1269       \@ifundefined{theH\FP@captype}{}{%
1270        \expandafter\l@addto@macro\csname theH\FP@captype\endcsname{.FP}}}%
1271      {\begin\FP@captype[b!]%
1272         \let\FP@savedSetfnumCommand\caption@setfnum
1273         \def\caption@setfnum##1{%
1274           \FP@savedSetfnumCommand{##1}%
1275           \ifx\FP@guide\@empty \else
1276             \expandafter\l@addto@macro\csname fnum@##1\endcsname{\ {\FP@guide}}%
1277           \fi}%
1278         \setlength\abovecaptionskip{2pt plus 2pt minus 1pt}% length above captio
1279         \setlength\belowcaptionskip{2pt plus 2pt minus 1pt}% length below captio
1280         \caption@setoptions{FP\@captype}%
1281         \FP@separatorCaption
1282         \caption@ifFPlistcap{}{\let\caption@addcontentsline\@gobbletwo}%
```

```
1283        \caption@defrost
1284      \end\FP@captype}%
1285   }%

1286 }{%
1287   \let\caption@ifFPlistcap\@undefined
1288   \let\caption@ifFPrefcap\@undefined
1289 }
```

16.4 The hyperref package

```
1290 \caption@IfPackageLoaded{hyperref}[2003/11/30 v6.74m]{%
1291   % Test if hyperref has stopped early
1292   \caption@ifundefined\IfHyperBoolean{%
1293     \caption@set@bool\caption@ifhyp@stoppedearly0%
1294     \caption@ifundefined\H@refstepcounter
1295       {\caption@set@bool\caption@ifhyp@stoppedearly1}{%
1296     \caption@ifundefined\hyper@makecurrent
1297       {\caption@set@bool\caption@ifhyp@stoppedearly1}{%
1298     \caption@ifundefined\measuring@true
1299       {\caption@set@bool\caption@ifhyp@stoppedearly1}{}}}%
1300   }{%
1301     \def\caption@ifhyp@stoppedearly{\IfHyperBoolean{stoppedearly}}%
1302   }%
1303   \caption@ifhyp@stoppedearly{% hyperref has stopped early
1304     \caption@InfoNoLine{%
1305       Hyperref support is turned off\MessageBreak
1306       because hyperref has stopped early}%
1307   }{%
1308     \g@addto@macro\caption@prepareslc{\measuring@true}%
```

\caption@@refstepcounter We redefine \caption@@refstepcounter so \H@refstepcounter will be used instead of \refstepcounter inside \caption & \captionlistentry.

```
1309     \renewcommand*\caption@@refstepcounter{\H@refstepcounter}%
```

\caption@makecurrent We redefine \caption@makecurrent so a hyperref label will be defined inside \@caption.
Note: Will be redefined by \caption@start.

```
1310     \renewcommand*\caption@makecurrent[2]{%
1311       \caption@makecurrentHref{#1}%
1312       \caption@Debug{hyperref current=\@currentHref}%
1313       \caption@gettitle{#2}}%

1314     \newcommand*\caption@makecurrentHref{\hyper@makecurrent}%
```

\caption@makeanchor We redefine \caption@makeanchor so a hyperref anchor will be set inside \@caption.
Note: Will be redefined by \caption@start.

```
1315     \renewcommand\caption@makeanchor[1]{%
1316       \caption@Debug{hyperref anchor: \@currentHref}%
1317       % If we cannot have nesting, the anchor is empty.
1318       \ifHy@nesting
1319         \expandafter\hyper@@anchor\expandafter{\@currentHref}{#1}%
1320       \else
1321         \Hy@raisedlink{%
```

39

```
1322        \expandafter\hyper@@anchor\expandafter{\@currentHref}{\relax}%
1323      }#1%
1324    \fi}%

1325    \g@addto@macro\caption@prepareslc{\let\caption@makeanchor\@firstofone}%
```

The hypcap option

\if@capstart   Like the hypcap package we define the switch \if@capstart, too.

```
1326      \newif\if@capstart
```

\caption@start   While the hypcap package defines a macro called \capstart our variant is called
\caption@start and is controlled by the option hypcap=false/true.

```
1327      \def\caption@start{\caption@ifhypcap\caption@start@\relax}%
1328      \def\caption@start@{%
```

Generate the hyperref label and set the hyperref anchor, usually (if hypcap=false)
both is done inside \@caption.

```
1329        \caption@makestart\@captype
1330        \caption@startanchor\@currentHref
```

Prevent \@caption from generating a new hyperref label, use the label we save in
\hc@currentHref instead. (We also support the @capstart flag from the hypcap
package.)

```
1331        \global\@capstarttrue
1332        \let\hc@currentHref\@currentHref
1333        \def\caption@makecurrentHref##1{%
1334          \global\@capstartfalse
1335          \global\let\@currentHref\hc@currentHref}%
```

Prevent \@caption from generating a hyperref anchor since this has already been done.

```
1336        \let\caption@makeanchor\@firstofone
```

```
1337    }%
```

\caption@makestart   \caption@makestart{⟨type⟩} defines a hyperref anchor inside \caption@start.
Since we offer \ContinuedFloat the float counter can change between 'now' and
\caption, i.e., we simply don't know the figure or table counter yet and therefore we
are not able to generate the 'right' hyperref label. Two different solutions of this problem
came into my mind:

1. I could use the aux file for this purpose.

    -or-

2. I set hypertexnames=false locally. Furthermore I use #1.caption.⟨*counter*⟩
   (instead of #1.⟨*counter*⟩) as naming scheme for \@currentHref to avoid con-
   flicts with other hyper links which are generated with hypertexnames=true.

The first idea has the advantage that the 'right' anchor name will be generated, but one
needs an additional LaTeX run if figures or tables will be inserted or removed.
The second idea has the advantage that it's very easy to implement, but has some side-
effects, e.g. the anchor names don't follow the figure or table label names anymore.
Since I'm lazy I implemented the second idea, maybe I will revise this later on.

```
1338      \newcommand*\caption@makestart[1]{%
1339        \begingroup
```

40

```
1340          \Hy@hypertexnamesfalse
1341 %        \gdef\@currentHlabel{}%
1342          \hyper@makecurrent{#1.caption}%
1343        \endgroup
1344        \caption@Debug{hypcap start=\@currentHref}}%
```

\caption@startanchor   \caption@startanchor{⟨*Href*⟩} sets a hyperref anchor inside \caption@start.
This code was taken from the hypcap package[10] and adapted.

Note: Since \hyper@@anchor{⟨*Href*⟩}{\relax} can cause a change from vertical mode to
horizontal mode (design flaw in hyperref package!?), and since the workaround \let\leavevmode\relax
which can be found in the hypcap package is not always sufficient (for example with "Di-
rect pdfmark support" and breaklinks=true), we use \caption@anchor instead of
\hyper@@anchor here.

```
1345        \newcommand*\caption@startanchor[1]{%
1346          \ifvmode\begingroup
1347            \caption@Debug{hypcap anchor: #1 (vertical mode)}%
1348            \@tempdima\prevdepth
1349            \nointerlineskip
1350            \vspace*{-\caption@hypcapspace}%
1351            \caption@anchor{#1}%
1352            \vspace*{\caption@hypcapspace}%
1353            \prevdepth\@tempdima
1354          \endgroup\else
1355            \caption@Debug{hypcap anchor: #1 (horizontal mode)}%
1356            \caption@anchor{#1}%
1357          \fi}%
```

\caption@anchor   \caption@anchor{⟨*Href*⟩} sets a hyperref anchor.

```
1358        \newcommand*\caption@anchor[1]{%
1359          \ifmeasuring@ \else
1360            \caption@raisedlink{\hyper@anchorstart{#1}\hyper@anchorend}%
1361          \fi}%
```

Note: Since \Hy@raisedlink change \@tempdima we surrounded it by \ifvmode, sup-
pressing "LaTeX Warning: Float too large for page by 1.0pt" in sideways
floats. (This is not necessary since hyperref *v6.77.*)

```
1362        \ifx\HyperRaiseLinkLength\@tempdima
1363          \def\caption@raisedlink#1{\ifvmode#1\else\Hy@raisedlink{#1}\fi}%
1364        \else
1365          \let\caption@raisedlink\Hy@raisedlink
1366        \fi
```

\caption@@start   Will be used by \caption@freezeHref. Apart from that we issue a warning if we
expect a saved hyperref label coming from \caption@start, but there isn't any.

```
1367        \def\caption@@start{%
1368          \caption@ifundefined\hc@currentHref{%
1369            \caption@Warning{%
1370              The option 'hypcap=true' will be ignored for this\MessageBreak
1371              particular \string\caption}}{}}%
```

\caption@freezeHref   Suppress \caption@start from generating a hyperref label and setting a hyper-
ref anchor. Instead if \@caption generates a hyperref label, it will be stored in

\caption@currentHref. Furthermore we need to redefine \caption@setfloatcapt so no hyperref anchor will be placed in \@caption.

```
1372        \def\caption@freezeHref{%
1373          \let\caption@ORI@start\caption@start
1374          \def\caption@start{\let\caption@start\caption@ORI@start}%
1375 %        \let\caption@ORI@@start\caption@@start
1376 %        \l@addto@macro\caption@subtypehook{%
1377 %          \let\caption@@start\caption@ORI@@start}%
1378          \global\let\caption@currentHref\@undefined
1379          \def\caption@@start{\global\let\caption@currentHref\@currentHref}%
1380          \let\caption@ORI@setfloatcapt\caption@setfloatcapt
1381          \renewcommand*\caption@setfloatcapt{%
1382            \ifx\caption@currentHref\@undefined \else
1383              \let\caption@makeanchor\@firstofone
1384            \fi
1385            \caption@ORI@setfloatcapt}}%
```

\caption@defrostHref   If there is a freezed \@currentHref, we set the hyperref anchor here.

```
1386        \def\caption@defrostHref{%
1387          \ifx\caption@currentHref\@undefined \else
1388            \caption@startanchor\caption@currentHref
1389            \global\let\caption@currentHref\@undefined
1390          \fi}%
```

\float@makebox   Do our own redefinition of \float@makebox, if it was redefined by the hyperref package.

```
1391        \caption@ifundefined\HyOrg@float@makebox{}{%
1392          \caption@Debug{%
1393            Redefining \noexpand\float@makebox (again)\@gobble}%
1394          \let\caption@ORI@float@makebox\float@makebox % save for compatibility mode
1395          \renewcommand\float@makebox[1]{%
1396            \HyOrg@float@makebox{#1\relax \caption@defrostHref}}%
1397        }%
1398    }}{}
```

16.5   The hypcap package

```
1399 \caption@IfPackageLoaded{hypcap}{% v1.0
1400    \ifx\caption@start\relax \else % hyperref hasn't stopped early
```

If the hypcap package was loaded, we give up our own hyperlink placement algorithm and give the control over the placement to the hypcap package instead.

\capstart   We do this simply by mapping \capstart to \caption@start@, although our code does not behave exactly like the original one: The original \capstart has an effect on the next \caption only but our version affects *all* \captions in the same environment, at least unless a new \capstart will be placed.

```
1401      \let\caption@ORI@capstart\capstart % save for compatibility mode
1402      \caption@ifundefined\capstarttrue % check for v1.10 of hypcap package
1403        {\def\capstart{\caption@start@}}%
1404        {\def\capstart{\ifcapstart\caption@start@\fi}}%
1405      \let\caption@start\relax
1406      \let\caption@@start\relax
```

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\caption@hypcapspace Furthermore we map our \caption@hypcapspace to \hypcapspace offered by
the hypcap package.

```
1407        \caption@set@bool\caption@ifhypcap 1%
1408        \renewcommand*\caption@hypcapspace{\hypcapspace}%

1409    \fi}{}
```

16.6   The listings package

```
1410 \caption@IfPackageLoaded{listings}[2004/02/13 v1.2]{%
```

\lst@MakeCaption To support the listings package we need to redefine \lst@MakeCaption so the original
stuff is nested with \caption@begin and \caption@end etc.
Note: This macro is always called twice (with 't' resp. 'b' as parameter), therefore we need an extra
group here.

```
1411    \let\caption@ORI@lst@MakeCaption\lst@MakeCaption
1412    \def\lst@MakeCaption#1{% #1 is 't' or 'b'
1413        \begingroup
```

Workaround for bug in listings package: If \hsize seems not to be set correctly, we set
it to \linewidth.

```
1414        \ifdim\hsize>\linewidth
1415            \hsize\linewidth
1416        \fi
```

First of all, we set position=#1 and if it was set to 'top', we swap the skips so the
default behavior of the listings package will not be changed. (Note that the listings pack-
age has set its own \abovecaptionskip & \belowcaptionskip values prior to
calling \lst@MakeCaption.)

```
1417        \caption@setposition{#1}%
1418        \caption@iftop{%
1419            \@tempdima\belowcaptionskip
1420            \belowcaptionskip\abovecaptionskip
1421            \abovecaptionskip\@tempdima}{}%
```

Workaround for issue with wrong skips (should be examined further)

```
1422        \caption@setup{rule=0}%
```

Afterwards we set the local 'lstlisting' options.

```
1423        \caption@setoptions{lstlisting}%
```

If the position= is now set to auto, we take over the captionpos= setting from
the listings package.

```
1424        \caption@setautoposition{#1}%
```

At the end we do similar stuff as in our \@caption code.

```
1425        \caption@begin{lstlisting}%
1426            \caption@ORI@lst@MakeCaption{#1}%
1427        \caption@end

1428        \endgroup}%
```

\lst@makecaption Wrapper macros for typesetting the caption= resp. title= value.
\lst@maketitle
```
1429    \def\lst@makecaption{\caption@starfalse\@makecaption}%
1430    \def\lst@maketitle{\caption@startrue\@makecaption\@empty}%
```

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

```
1431    \providecommand*\ext@lstlisting{lol}%
```

```
1432 }{}
```

16.7 The longtable package

\LTcaptype   `\LTcaptype` is preset to `table`.

```
1433 \providecommand*\LTcaptype{table}
```

```
1434 \caption@IfPackageLoaded{longtable}[1995/05/24 v3.14]{%
```

```
1435    \RequirePackage{ltcaption}[2007/09/01]%
1436    \let\LT@@makecaption\@undefined
```

\LT@array   We redefine `\LT@array` here to get `\captionsetup{⟨options⟩}` working inside `longtables`.

Note: 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`.

```
1437    \caption@AtBeginDocument{%
1438       \let\caption@ORI@LT@array\LT@array
1439       \renewcommand*\LT@array{%
```

`\captionsetup` for longtable:

```
1440          \global\let\caption@opt@@longtable\@undefined
1441          \def\captionsetup{%
1442             \noalign\bgroup
1443             \@ifstar\@captionsetup\@captionsetup}% gobble *
1444          \def\@captionsetup##1{\LT@captionsetup{##1}\egroup}%
1445          \def\LT@captionsetup##1{%
1446             \captionsetup@starttrue\caption@setup@options[@longtable]{##1}%
1447             \global\let\caption@opt@@longtable\caption@opt@@longtable}%
```

`\captionabove` & `\captionbelow` for longtable: (KOMA-Script document class)

```
1448          \def\@captionabovetrue{\LT@captionsetup{position=t}}%
1449          \def\@captionabovefalse{\LT@captionsetup{position=b}}%
```

`\captionlistentry` for longtable:

```
1450          \def\captionlistentry{%
1451             \noalign\bgroup
1452             \@ifstar{\egroup\LT@captionlistentry}% gobble *
1453                     {\egroup\LT@captionlistentry}}%
1454          \def\LT@captionlistentry##1{%
1455             \caption@listentry\@firstoftwo[\LTcaptype]{##1}}%
```

`\ContinuedFloat` for longtable:
(Commented out, since it's not deeply tested and quite useless anyway)
Note: hyperref versions < v6.76j uses 2× `\hyper@makecurrent`

```
1456 %       \caption@ifhypcap{%
1457 %          \let\caption@ORI@hyper@makecurrent\hyper@makecurrent
1458 %          \def\hyper@makecurrent##1{%
1459 %             \let\hyper@makecurrent\caption@ORI@hyper@makecurrent
1460 %             \caption@makestart{##1}%
```

```
1461 %%          \let\Hy@LT@currentHlabel\@currentHlabel
1462 %           \let\Hy@LT@currentHref\@currentHref
1463 %           \def\hyper@makecurrent####1{%
1464 %%            \let\@currentHlabel\Hy@LT@currentHlabel
1465 %             \let\@currentHref\Hy@LT@currentHref}}%
1466 %         \let\caption@ORI@ContinuedFloat\ContinuedFloat
1467 %         \def\ContinuedFloat{\noalign{%
1468 %           \gdef\caption@setContinuedFloat{%
1469 %             \let\caption@resetContinuedFloat\@gobble}%
1470 %           \def\caption@setoptions####1{%
1471 %             \g@addto@macro\caption@setContinuedFloat{%
1472 %               \caption@setoptions{####1}}}%
1473 %           \let\@captype\LTcaptype
1474 %           \caption@ORI@ContinuedFloat}}%
1475 %       }{%
1476 %         \def\ContinuedFloat{\noalign{%
1477 %           \caption@Error{%
1478 %             \noexpand\ContinuedFloat inside longtables\MessageBreak
1479 %             is only available with 'hypcap=true'}}}%
1480 %       }%
1481 %       \global\let\caption@setContinuedFloat\@empty
1482 %       \def\ContinuedFloat{\noalign{%
1483 %         \caption@Error{\noexpand\ContinuedFloat outside float}}}%
1484          \caption@ORI@LT@array}}%
```

\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 uses \LTcaptype instead of {table}:

```
1485    \long\def\LT@c@ption#1[#2]#3{%
1486      \LT@makecaption#1{\csname fnum@\LTcaptype\endcsname}{#3}%
1487      \LT@captionlistentry{#2}}%
```

\LT@makecaption   \LT@makecaption{⟨cmd⟩}{⟨label⟩}{⟨text⟩}

The original definition:

```
\def\LT@makecaption#1#2#3{%
  \LT@mcol\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
```

45

```
      \endgraf\vskip\baselineskip}%
   \hss}}}
```

Our definition:

```
1488    \renewcommand\LT@makecaption[3]{%
1489      \caption@LT@make{%
```

If `\LTcapwidth` is not set to its default value `4in` we assume that it shall overwrite our own setting. (But `\captionsetup[longtable]{width=...}` will overwrite `\LTcapwidth`.)

```
1490        \caption@settype*\LTcaptype
1491        \ifdim\LTcapwidth=4in \else
1492          \setcaptionwidth\LTcapwidth
1493        \fi
1494        \caption@setoptions{longtable}%
1495 %      \caption@setContinuedFloat
1496        \caption@setoptions{@longtable}%
```

`position=auto` is a bad idea for longtables, but we do our very best. This works quite well for captions inside the longtable contents, but not for captions inside the longtable (end)foot.
Note: This should be 'top' if unclear!

```
1497        \caption@setautoposition{\ifcase\LT@rows t\else b\fi}%
```

We set `\ifcaption@star` according the 1st argument.

```
1498        \caption@startrue#1\caption@starfalse

1499        \caption@resetContinuedFloat\LTcaptype
1500        \caption@begin\LTcaptype
1501          \caption@normalsize
```

The following skip has the purpose to correct the height of the `\parbox[t]`. Usually it's the height of the very first line, but because of our extra skips (`\abovecaptionskip` and `\belowcaptionskip`) it's always `0pt`.
(A different idea would be typesetting the first skip outside the longtable column with `\noalign{\vskip...}`, but this means we have to move `\caption@begin` to some other place because it does not work in tabular mode. And at the moment I have no idea on how to do this in an elegant way...)

```
1502          \vskip-\ht\strutbox
```

The following code should look familiar. We do our skips and use `\caption@@make` to typeset the caption itself.

```
1503        \caption@iftop{\vskip\belowcaptionskip}{\vskip\abovecaptionskip}%
1504        \caption@@make{#2}{#3}\endgraf
1505        \caption@iftop{\vskip\abovecaptionskip}{\vskip\belowcaptionskip}%
1506      \caption@end}}%

1507 }{}
```

16.8   The picinpar package

```
1508 \caption@IfPackageLoaded{picinpar}{%
```

`\figwindow`
`\tabwindow`

The picinpar package comes with its own caption code (`\wincaption`, `\@wincaption`, `\@makewincaption`, ...) so we redefine `\figwindow` & `\tabwindow` to use `\caption` instead.

```
1509  \long\def\figwindow[#1,#2,#3,#4] {%
1510    \caption@window{figure}%
1511    \caption@setoptions{figwindow}%
1512    \begin{window}[#1,#2,{#3},\caption@wincaption{#4}] }%

1513  \long\def\tabwindow[#1,#2,#3,#4] {%
1514    \caption@window{table}%
1515    \caption@setoptions{tabwindow}%
1516    \begin{window}[#1,#2,{#3},\caption@wincaption{#4}] }%
```

`\caption@window`

Beside calling `\caption@settype` we redefine `\caption@boxrestore` (as in floatflt & picins package support) and `\@makecaption` (as in float package support) here.

```
1517  \newcommand*\caption@window[1]{%
1518    \let\@makecaption\caption@@make
1519    \caption@setautoposition b%
1520    \caption@settype{#1}%
1521    \caption@clearmargin
1522    \caption@setfullparboxrestore}%
```

`\caption@wincaption`

This one finally typesets the caption using `\caption`.

```
1523  \newcommand\caption@wincaption[1]{%
```

This will be done twice for every `figwindow` & `tabwindow` caption – on the first run `\picwd` is `0pt`, on the second run `\picwd` is `\hsize`.

```
1524    \ifdim\picwd=\z@
1525      \let\caption@makecurrent\@gobbletwo
1526      \let\caption@@start\relax
1527      \caption@prepareslc
1528    \fi
```

The argument `#1` could contain simply the caption text (e.g. `A figure caption`), but it could also contain an optional argument, the ⟨*lst_entry*⟩ (e.g. `[An entry to the LOF]{A figure caption}`). Therefore we have to test if `#1` begins with `[` or not; furthermore we support a starred variant – as in `\caption*` – so we test for `*`, too.

```
1529    \edef\@tempa{\expandafter\noexpand\@car#1\@nil}%
1530    \if\@tempa*%
1531      \let\@tempa\@firstofone
1532    \else\if\@tempa[%
1533      \let\@tempa\@firstofone
1534    \else
1535      \let\@tempa\@empty
1536    \fi\fi
1537    \expandafter\caption\@tempa{#1}}%

1538 }{}
```

16.9   The picins package

`\piccaptiontype` `\piccaptiontype{`⟨*type*⟩`}`

47

We offer this macro for changing the ⟨*type*⟩ of the caption, so the user doesn't have to
redefine \@captype, as proposed in the picins documentation.
Note: We define this macro here so it can be used in the preamble of the document, even when the
caption package was loaded prior to the picins package.

```
1539 \newcommand*\piccaptiontype[1]{\def\@piccaptype{#1}}
```

```
1540 \caption@IfPackageLoaded{picins}{%
```

Initial set \@piccaptype and undefine \@captype which was set to figure by the
picins package.

```
1541    \caption@ifundefined\@piccaptype{%
1542      \caption@iftype{%
1543        \let\@piccaptype\@captype
1544      }{%
1545        \def\@piccaptype{figure}%
1546      }%
1547    }{}%
1548    \let\@captype\@undefined
```

\piccaption   The original code:

```
\def\piccaption{\@ifnextchar [{\@piccaption}{\@piccaption[]}}
```

Our code uses \caption@star so \piccaption* works, and \caption@dblarg
so \piccaption{} works correctly.

```
1549    \def\piccaption{\caption@star\relax{\caption@dblarg\@piccaption}}%
```

\make@piccaption   The original code:

```
\def\make@piccaption{%
 [...]
 \setbox\@TEXT=\vbox{\hsize\hsiz@\caption[\sh@rtf@rm]{\capti@nt@xt}}%
}
```

In our code we have to correct several things:

1. \@captype must be defined, since we have removed the global definition.

2. We use \caption@setoptions{parpic} so \captionsetup[parpic]{...}
   is supported.

3. \linewidth must be set correctly. Usually this is done by \@parboxrestore
   inside \@caption, but since we use \@caption@boxrestore we have to
   map this to \@parboxrestore instead.

4. The two arguments of \caption (\sh@rtf@rm & \capti@nt@xt) should
   be expanded on first level so \caption[]{...} and \caption[...]{} work
   correctly.

```
1550    \let\caption@ORI@make@piccaption\make@piccaption
1551    \def\make@piccaption{%
1552      \let\caption@ORI\caption
```

```
1553      \long\def\caption[##1]##2{%
1554        \caption@freezeHref % will be defrosted in \ivparpic
1555        \caption@settype\@piccaptype
1556 %      \ifnum\c@piccaptionpos>2\relax
1557        \caption@clearmargin
1558 %      \else
1559 %        \captionwidth\z@ % do not use "width=" setting
1560 %      \fi
1561        \caption@setfullparboxrestore
1562        \caption@setoptions{parpic}%
1563        \caption@setautoposition b%
1564        \expandafter\expandafter\expandafter\caption@ORI
1565          \expandafter\expandafter\expandafter[%
1566          \expandafter\expandafter\expandafter{%
1567          \expandafter##1\expandafter}\expandafter]\expandafter{##2}}%
 -or-   \begingroup
          \toks0\expandafter{##1} \toks2\expandafter{##2}
          \edef\x{\endgroup
            \noexpand\caption@ORI[{\the\toks0}]{\the\toks2}}
          \x
 -or-   \edef\x{%
          \noexpand\caption@ORI[{\unexpanded\expandafter{##1}}]%
                            {\unexpanded\expandafter{##2}}}
        \x
1568        \caption@ORI@make@piccaption
1569        \let\caption\caption@ORI}%
```

\ivparpic   We need to set our hyperref anchor here. Not bullet-proof since we have to redefine
\noindent here!

```
1570      \let\caption@ORI@ivparpic\ivparpic
1571      \def\ivparpic(#1,#2)(#3,#4)[#5][#6]#7{%
1572        \let\caption@ORI@noindent\noindent
1573        \def\noindent{%
1574          \caption@defrostHref
1575          \let\noindent\caption@ORI@noindent
1576          \noindent}%
1577        \caption@ORI@ivparpic(#1,#2)(#3,#4)[#5][#6]{#7}%
1578        \let\noindent\caption@ORI@noindent}%

1579 }{%
1580   \let\piccaptiontype\@undefined
1581 }
```

16.10 The rotating package

```
1582 \caption@IfPackageLoaded{rotating}[1995/08/22 v2.10]{%
```

\rotcaption   Make \rotcaption* work.

```
1583      \def\rotcaption{\let\@makecaption\@makerotcaption\caption}%
1584 %    \let\@rotcaption\@undefined
```

\rotcaptionof   Make \rotcaptionof(*) work.

```
1585      \def\rotcaptionof{%
1586        \caption@teststar\caption@of{\rotcaption*}\rotcaption}%
```

49

Original (bugfixed) code:

```
\long\def\@makerotcaption#1#2{%
  \setbox\@tempboxa\hbox{#1: #2}%
  \ifdim \wd\@tempboxa > .8\vsize
    \rotatebox{90}{%
    \begin{minipage}{.8\textheight}#1: #2\end{minipage}%
    }%\par    % <== \par removed (AR)
  \else%
    \rotatebox{90}{\box\@tempboxa}%
  \fi
  \nobreak\hspace{12pt}% <== \nobreak added (AR)
}
```

Our version emulates this behavior, but if `width=` is set, the rotated caption is always typeset as `minipage`. (Note that `margin=` is not supported here.)

```
1587  \long\def\@makerotcaption#1#2{%
1588    \ifdim\captionwidth=\z@
1589      \setcaptionwidth{.8\textheight}%
1590      \caption@slc{#1}{#2}{.8\vsize}{%
1591        \let\caption@makerot\caption@@make
1592        \caption@clearmargin
1593 %      \long\def\caption@parbox##1##2{\hbox{\hsize=.8\textheight\relax##2}}%
1594 %        (not needed because \rotatebox uses an \hbox anyway)
1595        \let\caption@parbox\@secondoftwo}%
1596      \caption@set@bool\caption@ifslc0% been there, done that
1597    \fi
1598    \rotatebox{90}{\caption@makerot{#1}{#2}}%
1599    \nobreak\hspace{12pt}}%
1600  \newcommand\caption@makerot[2]{%
1601    \begin{minipage}\captionwidth\caption@@make{#1}{#2}\end{minipage}}%

1602 }{}
```

16.11 The sidecap package

```
1603 \caption@IfPackageLoaded{sidecap}[2003/06/06 v1.6f]{%
1604   \caption@setbool{needfreeze}{1}%
```

\SC@zfloat This macro will be called at the start of the environment, here is a good opportunity to do some adaptations to \caption and \captionsetup.

```
1605   \let\caption@ORI@SC@zfloat\SC@zfloat
1606   \def\SC@zfloat#1#2#3[#4]{%
```

First we use the original definition, but restore \caption and \label so \caption@freeze and \caption@warmup will work correctly.

```
1607     \caption@ORI@SC@zfloat{#1}{#2}{#3}[#4]%
1608     \SC@RestoreCommands
```

Since the sidecap package uses our \caption code outside the environment the regular \captionsetup will not work. So we need a special version here which saves the given argument list which will be executed later on. Furthermore we need to make \caption* work.

50

```
1609        \caption@settype*{#2}%
1610        \caption@freeze
```

The sidecap package uses `\ifx\label\SC@label` to test if it is just inside a SC-`figure` or not. So we redefine `\SC@label` here so this test will still work.

```
1611        \let\SC@label\label}%
```

```
1612    \providecommand*\SC@RestoreCommands{%
1613        \let\caption=\SC@orig@caption \let\label=\SC@orig@label}%
```

`\endSC@FLOAT` This macro will be called at the end of the environment, here we need to setup our stuff before the sidecap package actually typesets its caption.

```
1614        \let\caption@ORI@endSC@FLOAT\endSC@FLOAT
1615        \def\endSC@FLOAT{%
```

Note: `\@captype` isn't defined here, this will be done inside the original definition of `\endSC@FLOAT`. But `\SC@captype` is defined and can be used here, if needed.

```
1616        \let\caption@ORI@settype\caption@settype
1617        \def\caption@settype##1{% will be done in \@xfloat
1618          \caption@ORI@settype*{##1}% do not change \@currentlabel
1619          \caption@setSC@justify
1620 %%%      \caption@setoptions{SCfloat}%
1621          \caption@setoptions{SC\@captype}%
1622          \caption@start}%
```

Before we can typeset the caption we need to set the margin to zero because any extra margin would only be disturbing here.

(We don't need to take care about the caption position because the sidecap package set both `\abovecaptionskip` and `\belowcaptionskip` to a skip of zero anyway.)

Furthermore `\SC@justify` will override the caption justification, if set. The usage of `\SC@justify` differs from version to version of the sidecap package:

  Version 1.4:   `\SC@justify` is not defined
  Version 1.5:   `\SC@justify` is `\relax` when not set
  Version 1.6:   `\SC@justify` is `\@empty` when not set

```
1623        \def\caption@setSC@justify{%
1624          \caption@clearmargin
1625          \ifx\SC@justify\@empty \else
1626            \let\caption@hj\SC@justify
1627            \let\SC@justify\@empty
1628          \fi}%
```

Make the original definition of `\endSC@FLOAT` to use our caption stuff instead of its own.

Note: At this point the sidecap definition of `\caption` is valid, not the regular one!

```
1629        \let\caption\SC@orig@caption
1630        \def\SC@orig@caption[##1]##2{\caption@defrost}%
```

Finally we call the original definition of `\endSC@FLOAT`.

```
1631        \caption@setSC@justify % for compatibility mode
1632        \caption@ORI@endSC@FLOAT}%
```

```
1633 }{}
```

16.12 The subfigure package

```
1634 \caption@IfPackageLoaded{subfigure}[2002/01/23 v2.1]{%
```

\sf@ifpositiontop If the subfigure package is loaded, we map \sf@ifpositiontop to \iffiguretopcap resp. \iftabletopcap, so the subfigure *v2.1* options figbotcap etc. will still work.

```
1635   \def\sf@ifpositiontop{%
1636     \ifx\@captype\@undefined
1637       \expandafter\@gobbletwo
1638     \else\ifx\@captype\relax
1639       \expandafter\expandafter\expandafter\@gobbletwo
1640     \else
1641       \expandafter\expandafter\expandafter\sf@if@position@top
1642     \fi\fi}
1643   \def\sf@if@position@top{%
1644     \@ifundefined{if\@captype topcap}%
1645       {\@gobbletwo}%
1646       {\@nameuse{if\@captype topcap}%
1647         \expandafter\@firstoftwo
1648       \else
1649         \expandafter\@secondoftwo
1650       \fi}}

1651 }{}
```

16.13 The supertabular and xtab packages

```
1652 \caption@IfPackageLoaded{supertabular}[2002/07/19 v4.1e]{%
```

\tablecaption Make \topcaption* and \bottomcaption* work.

```
1653   \renewcommand*\tablecaption{%
1654     \caption@star
1655       {\refstepcounter{table}}%
1656       {\caption@dblarg{\@xtablecaption}}}%
```

\@xtablecaption Make \nameref and \autoref work.

```
1657   \let\caption@ORI@xtablecaption\@xtablecaption
1658   \long\def\@xtablecaption[#1]#2{%
1659     \caption@gettitle{#2}%
1660     \caption@ORI@xtablecaption[#1]{#2}}%
```

\ST@caption The original code:

```
\long\def\ST@caption#1[#2]#3{\par%
  \addcontentsline{\csname ext@#1\endcsname}{#1}%
                  {\protect\numberline{%
                        \csname the#1\endcsname}{\ignorespaces #2}}
  \begingroup
    \@parboxrestore
    \normalsize
    \if@topcaption \vskip -10\p@ \fi
    \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
    \if@topcaption \vskip 10\p@ \fi
  \endgroup}
```

```
1661    \long\def\ST@caption#1[#2]#3{\par%
1662       \caption@settype*{#1}%
1663       \caption@setoptions{supertabular}%
```

The `position=` setting will be overwritten by the **supertabular** package: If `\topcaption`
was used, the position will be `top` automatically, `bottom` otherwise.

```
1664       \def\caption@fixposition{%
1665          \caption@setposition{\if@topcaption t\else b\fi}}%

1666       \caption@beginex{#1}{#2}{#3}%
1667          \caption@boxrestore
1668          \caption@normalsize
1669          \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
1670       \caption@end}%

1671 }{}

1672 \caption@IfPackageLoaded{xtab}[2000/04/09 v2.3]{%
```

`\tablecaption` Make `\topcaption*` and `\bottomcaption*` work.

```
1673    \renewcommand*\tablecaption{%
1674       \caption@star
1675          {\refstepcounter{table}}%
1676          {\caption@dblarg{\@xtablecaption}}}%
```

`\@xtablecaption` Make `\nameref` and `\autoref` work.

```
1677    \let\caption@ORI@xtablecaption\@xtablecaption
1678    \long\def\@xtablecaption[#1]#2{%
1679       \caption@gettitle{#2}%
1680       \caption@ORI@xtablecaption[#1]{#2}}%
```

`\ST@caption` The original code:

```
   \long\def\ST@caption#1[#2]#3{\par%
     \@initisotab
     \addcontentsline{\csname ext@#1\endcsname}{#1}%
                     {\protect\numberline{%
                        \csname the#1\endcsname}{\ignorespaces #2}}%
     \begingroup
       \@parboxrestore
       \normalsize
   %%  \if@topcaption \vskip -10\p@ \fi
       \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
   %%  \if@topcaption \vskip 10\p@ \fi
     \endgroup
     \global\advance\ST@pageleft -\PWSTcapht
     \ST@trace\tw@{Added caption. Space left for xtabular: \the\ST@pageleft}}
```

```
1681    \long\def\ST@caption#1[#2]#3{\par%
1682       \caption@settype*{#1}%
1683       \caption@setoptions{xtabular}%

1684       \def\caption@fixposition{%
1685          \caption@setposition{\if@topcaption t\else b\fi}}%
```

53

```
1686     \@initisotab
1687     \caption@beginex{#1}{#2}{#3}%
1688       \caption@boxrestore
1689       \caption@normalsize
1690       \@makecaption{\csname fnum@##1\endcsname}{\ignorespaces #3}\par
1691     \caption@end
1692     \global\advance\ST@pageleft -\PWSTcapht
1693     \ST@trace\tw@{Added caption. Space left for xtabular: \the\ST@pageleft}}%

1694 }{}
```

16.14 The threeparttable package

```
1695 \caption@IfPackageLoaded{threeparttable}[2003/06/13 v3.0]{%
```

\threeparttable Unfortunately \@captype is not set when \TPT@common will be used, so we have to redefine \threeparttable and \measuredfigure instead.

```
1696   \let\caption@ORI@threeparttable\threeparttable
1697   \renewcommand*\threeparttable{%
1698     \caption@settype{table}%
1699       \caption@setposition a% ?
1700       \caption@clearmargin
1701     \caption@setoptions{threeparttable}%
1702     \caption@ORI@threeparttable}%
```

\measuredfigure Same here...

```
1703   \let\caption@ORI@measuredfigure\measuredfigure
1704   \renewcommand*\measuredfigure{%
1705     \caption@settype{figure}%
1706       \caption@setposition a% ?
1707       \caption@clearmargin
1708     \caption@setoptions{measuredfigure}%
1709     \caption@ORI@measuredfigure}%
```

\TPT@caption The original code:

```
\def\TPT@caption#1[#2]#3{\gdef\TPT@docapt
  {\par\global\let\TPT@docapt\@undefined \TPT@LA@caption{#1}[{#2}]%
    {\strut\ignorespaces#3\ifhmode\unskip\@finalstrut\strutbox\fi}}%
  \ifx\TPT@hsize\@empty \let\label\TPT@gatherlabel \abovecaptionskip\z@skip
  \else \TPT@docapt \fi \ignorespaces}
```

```
1710   \def\TPT@caption#1[#2]#3{%
1711     \gdef\TPT@docapt{%
1712       \global\let\TPT@docapt\@undefined
1713       \caption@setautoposition\caption@TPT@position
1714       \TPT@LA@caption{#1}[{#2}]{#3}}%
1715     \ifx\TPT@hsize\@empty
1716       \let\label\TPT@gatherlabel % Bug: does not work for measuredfigures
1717       \gdef\caption@TPT@position{t}%
1718       \g@addto@macro\TPT@docapt\caption@TPT@eatvskip
1719     \else
1720       \def\caption@TPT@position{b}%
1721       \TPT@docapt
```

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```
1722        \fi
1723        \ignorespaces}%
```

```
1724    %\newcommand*\caption@TPT@eatvskip{\vskip-.2\baselineskip}%
1725      \def\caption@TPT@eatvskip#1\vskip{#1\@tempdima=}%
```

```
1726 }{}
```

16.15   The wrapfig package

```
1727 \caption@IfPackageLoaded{wrapfig}[2003/01/31 v3.6]{%
```

\wrapfloat   First of all we make the wrapfig package independent from the package load order regarding the float package. Since the usage of \@float@setevery is missing in the code of the wrapfig package (it should be in the redefinition of \float@restyle, right after \@nameuse{fst@#1}), we don't use it here, too, especially since \wrapfloat will usually not be used when used with re-styled floats.

```
1728    \renewcommand*\wrapfloat[1]{%
1729      \def\@captype{#1}%
1730      \@ifundefined{fst@#1}{}{%
1731        \@nameuse{fst@#1}%
1732 %      \@float@setevery{#1}%
1733        \def\WF@floatstyhook{\let\@currbox\WF@box
1734            \global\setbox\WF@box\float@makebox{\wd\WF@box}}}%
1735      \@ifnextchar[\WF@wr{\WF@wr[]}}
```

\WF@rapt   Original code:

```
    \def\WF@rapt[#1]#2{% final two args: #1 = overhang,  #2 = width,
      \gdef\WF@ovh{#1}% hold overhang for later, when \width is known
      \global\setbox\WF@box\vtop\bgroup \setlength\hsize{#2}%
      \ifdim\hsize>\z@ \@parboxrestore \else
      \setbox\z@\hbox\bgroup \let\wf@@caption\caption \let\caption\wf@caption
      \ignorespaces \fi}
```

Our code has \WF@captionstyhook in addition:

```
1736    \def\WF@rapt[#1]#2{% final two args: #1 = overhang,  #2 = width,
1737      \gdef\WF@ovh{#1}% hold overhang for later, when \width is known
1738      \global\setbox\WF@box\vtop\bgroup \setlength\hsize{#2}%
1739      \expandafter\WF@captionstyhook\expandafter{\@captype}% <= new
1740      \ifdim\hsize>\z@ \@parboxrestore \else
1741      \setbox\z@\hbox\bgroup \let\wf@@caption\caption \let\caption\wf@caption
1742      \ignorespaces \fi}%
```

\WF@captionstyhook   We place our hyperref anchor here, apply the 'wrap' options etc. Since the usage of \@float@setevery is missing in the wrapfig package we will catch it up here for making the necessary adaptions to the float package.

```
1743    \def\WF@captionstyhook#1{%
1744      \let\@captype\@undefined
1745      \@ifundefined{fst@#1}{}{\@float@setevery{#1}}%
1746      \caption@settype{#1}%
1747      \caption@clearmargin
1748 %%%    \caption@setoptions{wrapfloat}%
1749      \caption@setoptions{wrap#1}}%
```

1750 } { }

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