

The **hypcap** package

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Abstract

This package tries a solution of the problem with `hyperref`, that links to floats points below the caption and not at the beginning of the float. Therefore this package divides the task into two part, the link setting with `\capstart` or automatically at the beginning of a float and the rest in the `\caption` command.

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1 Usage

The package `hypcap` requires that `hyperref` is loaded first:

```
\usepackage[...]{hyperref}
\usepackage[...]{hypcap}
```

1.1 Package options

The names of the four float environments `figure`, `figure*`, `table`, or `table*` can be used as option. Then the package redefines the environment in order to insert `\capstart` (see below) in the beginning of the environment automatically.

Option `all` enables the redefinitions of all four float environments. For other environments see the user command `\hypcapredef`.

1.2 User commands

`\capstart` **\capstart:** First this command increments the counter (`\@captype`). Then it makes an anchor for package `hyperref`. At last `\caption` is redefined to remove the anchor setting part from `hyperref`'s `\caption`.

The package expects the following structure of a float environment:

```
\begin{float}...
\capstart
...
\caption{...}
...
\end{float}
```

There can be several `\caption` commands. For these you need `\capstart` again:

```
\capstart ... \caption... \capstart ... \caption...
```

And the `\caption` command itself can be put in a group.

With the options, described above, the extra writing of `\capstart` can be avoided. Consequently, there must be a `\caption` in every environment of this type, specified by the option. If you want to use more than one `\caption` in this environment, you have to state `\capstart` again.

`\hyccapspace` **\hyccapspace:** Because it looks poor, if the link points exactly at top of the figure, there is additional space: `\hyccapspace`, the default is `0.5\baselineskip`, examples:

```
\renewcommand{\hyccapspace}{0pt} removes the space
\renewcommand{\hyccapspace}{1pt} sets a fix value
```

`\hyccapredef` **\hyccapredef:** If there are other float environments, that should automatically execute `\capstart`, then a redefinition with `\hyccapredef` can be tried:

```
\hyccapredef{myfloat}
```

Only environments with one optional parameter are supported.

1.3 Limitations

- Package `subfigure` does not work.
- Packages that redefine `\caption` or `\@caption`.

2 Implementation

```
1 <{*package}
```

Package identification.

```
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{hyccap}%
4 [2007/02/19 v1.6 Adjusting anchors of captions (H0)]
```

For unique command names this package uses `hc@` as prefix for internal command names.

First we check, if package `hyperref` is loaded:

```
5 \@ifundefined{hyper@anchor}{%
6   \PackageError{hyccap}{You have to load 'hyperref' first}\@ehc
7   \endinput
8 }{}
```

`\hc@org@caption` Save the original meaning of `\caption`:

```

9 \newcommand*\hc@org@caption{}
10 \let\hc@org@caption\caption

\if@capstart The switch \if@capstart helps to detect \capstart commands with missing
\caption macros. Because \caption can occur inside a group, assignments to
the switch have to be made global.
11 \newif\if@capstart

\hypcapsspace The anchor is raised by \hypcapsspace.
12 \newcommand*\hypcapsspace{.5\baselineskip}

\capstart The macro \capstart contains the first part of the \caption command: Incre-
menting the counter and setting the anchor.
13 \newcommand*\capstart{%
14   \H@refstepcounter\@captype % first part of caption
15   \hyper@makecurrent\@captype
16   \global\let\hc@currentHref\@currentHref
17   \vspace*{-\hypcapsspace}%
18   \begingroup
19     \let\leavevmode\relax
20     \hyper@@anchor\@currentHref\relax
21   \endgroup
22   \vspace*{\hypcapsspace}%
23   \let\caption\hc@caption
24   \global\@capstarttrue
25 }

\hc@caption The new \caption command without the first part is defined in the macro
\hc@caption.
26 \def\hc@caption{%
27   \@dblarg{\hc@caption\@captype}%
28 }

\hc@@caption This is a copy of package hyperref's \@caption macro without making the anchor,
because this is already done in \capstart.
29 \long\def\hc@@caption#1[#2]#3{%
30   \let\caption\hc@org@caption
31   \global\@capstartfalse
32   \ifHy@hypertextnames
33     \hyper@makecurrent\@captype
34   \else
35     \global\let\@currentHref\hc@currentHref
36   \fi
37   \par\addcontentsline{%
38     \csname ext@#1\endcsname}{#1}{%
39     \protect\numberline{%
40       \csname the#1\endcsname
41     }{\ignorespaces #2}%
42   }%
43   \begingroup
44     \@parboxrestore
45     \normalsize
46     \@makecaption{\csname fnum@#1\endcsname}{%
47       \ignorespaces#3%
48     }%
49   \par
50   \endgroup
51 }

\hypcapredef The macro \hypcapredef prepares the call of \hc@redef that will redefine the
environment that is given in the argument.

```

```

52 \def\hypcapredef#1{%
53   \expandafter\hc@redef\csname hc@org#1\expandafter\endcsname
54   \csname hc@orgend#1\expandafter\endcsname
55   \expandafter{#1}%
56 }

```

`\hc@redef` The old meaning of the environment is saved. Then `\capstart` is appended in the begin part. The end part contains a check that produces an error message in case of `\capstart` without `\capstart` (`\capstart` has incremented the counter).

```

57 \def\hc@redef#1#2#3{%
58   \newcommand#1{%
59     \expandafter\let\expandafter#1\csname#3\endcsname
60     \expandafter\let\expandafter#2\csname end#3\endcsname
61     \renewenvironment*{#3}[1][1]{%
62       \ifx\##1\%
63         #1\relax
64       \else
65         #1[#1]%
66       \fi
67       \capstart
68     }{%
69       \if@capstart
70         \PackageError{hypcap}{You have forgotten to use \string\caption}%
71         \global\@capstartfalse
72       \else
73         \fi
74       #2%
75     }%
76 }

```

At last the options are defined and processed.

```

77 \DeclareOption{figure}{\hypcapredef{\CurrentOption}}
78 \DeclareOption{figure*}{\hypcapredef{\CurrentOption}}
79 \DeclareOption{table}{\hypcapredef{\CurrentOption}}
80 \DeclareOption{table*}{\hypcapredef{\CurrentOption}}
81 \DeclareOption{all}{%
82   \hypcapredef{figure}%
83   \hypcapredef{figure*}%
84   \hypcapredef{table}%
85   \hypcapredef{table*}%
86 }
87 \ProcessOptions\relax
88 \end{package}

```

3 Installation

CTAN. This package is available on CTAN¹:

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

[CTAN:macros/latex/contrib/oberdiek/hypcap.pdf](#) Documentation.

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

```
tex hypcap.dtx
```

¹<http://ftp.ctan.org/tex-archive/>

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

```
hypcap.sty → tex/latex/oberdiek/hypcap.sty
hypcap.pdf → doc/latex/oberdiek/hypcap.pdf
hypcap.dtx → source/latex/oberdiek/hypcap.dtx
```

If you have a `docstrip.cfg` that configures and enables `docstrip`'s TDS installing feature, then some files can already be in the right place, see the documentation of `docstrip`.

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

3.1 Some details for the interested

Attached source. The PDF documentation on CTAN also includes the `.dtx` source file. It can be extracted by AcrobatReader 6 or higher. Another option is `pdftk`, e.g. unpack the file into the current directory:

```
pdftk hypcap.pdf unpack_files output .
```

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

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

\LaTeX : Generate the documentation.

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

```
latex \let\install=y\input{hypcap.dtx}
```

Do not forget to quote the argument according to the demands of your shell.

Generating the documentation. You can use both the `.dtx` or the `.drv` to generate the documentation. The process can be configured by the configuration file `ltxdoc.cfg`. For instance, put this line into this file, if you want to have A4 as paper format:

```
\PassOptionsToClass{a4paper}{article}
```

An example follows how to generate the documentation with `pdf \LaTeX` :

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

4 History

[1999/02/13 v1.0]

- A beginning version.

[2000/08/14 v1.1]

- Global assignments of `\if@capstart` in order to allow `\caption` in groups.
- Option `all` added.

[2000/09/07 v1.2]

- Package in dtx format.

[2001/08/27 v1.3]

- Bug fix with hyperref's pdfmark driver
(\leavevmode in \hyper@@anchor/\pdf@rect).

[2001/09/06 v1.4]

- Small fixes in the dtx file.

[2006/02/20 v1.5]

- Code is not changed.
- New DTX framework.

[2007/02/19 v1.6]

- Fix for hypertexnames=false.

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