

The **hypcap** package

Heiko Oberdiek
<oberdiek@uni-freiburg.de>

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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 `\hyccapredef`.

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{hycap}{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
```

`\hycapspace` The anchor is raised by `\hycapspace`.

```
12 \newcommand*\hycapspace{.5\baselineskip}
```

`\capstart` The macro `\capstart` contains the first part of the `\caption` command: Incrementing 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*{-\hycapspace}%
18   \begingroup
19     \let\leavevmode\relax
20     \hyper@@anchor\@currentHref\relax
21   \endgroup
22   \vspace*{\hycapspace}%
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 }

```

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

```

52 \def\hycapredef#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{hycap}{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}{\hycapredef{\CurrentOption}}
78 \DeclareOption{figure*}{\hycapredef{\CurrentOption}}
79 \DeclareOption{table}{\hycapredef{\CurrentOption}}
80 \DeclareOption{table*}{\hycapredef{\CurrentOption}}
81 \DeclareOption{all}{%
82   \hycapredef{figure}%
83   \hycapredef{figure*}%
84   \hycapredef{table}%
85   \hycapredef{table*}%
86 }
87 \ProcessOptions\relax
88 \</package>

```

3 Installation

3.1 Download

Package. This package is available on CTAN¹:

[CTAN:macros/latex/contrib/oberdiek/hycap.dtx](http://ctan.org/ctan/macros/latex/contrib/oberdiek/hycap.dtx) The source file.

¹[ftp://ftp.ctan.org/tex-archive/](http://ftp.ctan.org/tex-archive/)

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

Bundle. All the packages of the bundle ‘oberdiek’ are also available in a TDS compliant ZIP archive. There the packages are already unpacked and the documentation files are generated. The files and directories obey the TDS standard.

[CTAN:macros/latex/contrib/oberdiek/oberdiek-tds.zip](#)

3.2 Bundle installation

Unpacking. Unpack the oberdiek-tds.zip in the TDS tree (also known as texmf tree) of your choice. Example (linux):

```
unzip oberdiek-tds.zip -d ~/texmf
```

Script installation. Check the directory TDS:scripts/oberdiek/ for scripts that need further installation steps. Package attachfile2 comes with the Perl script pdfatfi.pl that should be installed in such a way that it can be called as pdfatfi. Example (linux):

```
chmod +x scripts/oberdiek/pdfatfi.pl
cp scripts/oberdiek/pdfatfi.pl /usr/local/bin/
```

3.3 Package installation

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

```
tex hypcap.dtx
```

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.

3.4 Refresh file name databases

If your TeX distribution (TeX, MikTeX, ...) relies on file name databases, you must refresh these. For example, TeX users run texhash or mktexlsr.

3.5 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 L^AT_EX. The .dtx chooses its action depending on the format:

plain-TeX: Run docstrip and extract the files.

L^AT_EX: Generate the documentation.

If you insist on using L^AT_EX for docstrip (really, docstrip does not need L^AT_EX), 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 pdfL^AT_EX:

```
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 `hypertextnames=false`.

5 Index

Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in roman refer to the code lines where the entry is used.

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