The hypcap package

"Adjusting anchors of captions"

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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.

Contents

1 Usage

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

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

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1.1 Package options

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

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

1.2 User commands

`\capstart` **`\capstart`:** First it 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.

The options, described above, safe writing the first `\capstart` in the float environment. But also there must be a `\caption` in every environment of this type.

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

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

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

```
\hypcapredef{myfloat}
```

Only environments with one optional parameter are supported.

1.3 Limitations

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

2 Installation

2.1 Package

Run `hypcap.ins` through TEX to get file `hypcap.sty`:

```
tex hypcap.ins
```

Move the file `hypcap.sty` into a directory that is searched by LATEX. The location in the TDS tree is:

```
texmf/tex/latex/oberdiek/hypcap.sty
```

2.2 Documentation

The final documentation is already available in pdf format:

CTAN:macros/latex/contrib/supported/oberdiek/hypcap.pdf[2]

Users, who want to generate their own output formats, can generate them from the sources (`hypcap.dtx`).

2.2.1 With LATEX

If you have package `hyperref` installed and want to use another driver than the default, use the configuration file `hyperref.cfg` to set your driver choice:

```
\hypersetup{⟨your driver⟩}
```

The following commands produce the documentation, don't forget *MakeIndex*'s option `-r`, if you use `hyperref` (eventually you need another cycle with *MakeIndex* and LATEX):

```
latex hypcap.dtx
makeindex -rs gind hypcap
latex hypcap.dtx
makeindex -rs gind hypcap
latex hypcap.dtx
```

2.2.2 With pdfLATEX

Package `hyperref` for hyperlinks and package `thumbpdf` for thumbnails are supported. Generate the pdf file with the following commands (eventually you need another cycle with *MakeIndex* and pdfLATEX):

```
pdflatex hypcap.dtx
makeindex -rs gind hypcap
pdflatex hypcap.dtx
makeindex -rs gind hypcap
pdflatex hypcap.dtx
thumbpdf hypcap
pdflatex hypcap.dtx
hothread hypcap.dtx
```

[2] The abbreviation "`CTAN:`" means one of the roots

ftp://ctan.tug.org/tex-archive/	(Boston, USA)
ftp://ftp.dante.de/tex-archive/	(Mainz, Germany)
ftp://ftp.tex.ac.uk/tex-archive/	(Cambridge, England)

or any mirror. In the links of this document the first server is used, because it redirects requests to the nearest CTAN node.

Within the current pdfTeX there are still problems and bugs with the thread support. The perl script `hothread(.pl)` reads the informations of the `.pdf` and the `.log` file and corrects the `.pdf` file by appending an update section.

2.2.3 Additional files

- `holtxdoc.sty`: This file is required, because it implements the generic macros used by `hypcap.dtx`.

  CTAN:macros/latex/contrib/supported/oberdiek/holtxdoc.zip

- `hyperref`: This package is highly recommended, because it adds link features for various output formats:

  CTAN:macros/latex/contrib/supported/hyperref/

- `url`: Available at:

  CTAN:macros/latex/contrib/other/misc/url.sty

- `thumbpdf`: For pdfTeX users who want to add thumbnails:

  CTAN:macros/pdftex/thumbpdf/

- `hothread`: The files for correction of the thread problems of pdfTeX are part of the zip archive:

  CTAN:macros/latex/contrib/supported/oberdiek/holtxdoc.zip

3 Implementation

```
1 ⟨*package⟩
```

The package identification is done at the top of the `.dtx` file in order to use only one identification string.

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

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

```
2 \@ifundefined{hyper@@anchor}{%
3   \PackageError{hypcap}{You have to load 'hyperref' first}\@ehc
4   \endinput
5 }{}
```

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

```
6 \newcommand*\hc@org@caption{}
7 \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.

```
8 \newif\if@capstart
```

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

```
9 \newcommand*\hypcapspace{.5\baselineskip}
```

`\capstart` The macro `\capstart` contains the first part of the `\caption` command: Incrementing the counter and setting the anchor.

```
\newcommand*\capstart{%
  \H@refstepcounter\@captype % first part of caption
  \hyper@makecurrent\@captype
  \vspace*{-\hypcapspace}%
  \begingroup
    \let\leavevmode\relax
    \hyper@@anchor\@currentHref\relax
  \endgroup
  \vspace*{\hypcapspace}%
  \let\caption\hc@caption
  \global\@capstarttrue
}
```

`\hc@caption` The new `\caption` command without the first part is defined in the macro `\hc@caption`.

```
\def\hc@caption{%
  \@dblarg{\hc@@caption\@captype}%
}
```

`\hc@@caption` This is a copy of package `hyperref`'s `\@caption` macro without making the anchor, because this is already done in `\capstart`.

```
\long\def\hc@@caption#1[#2]#3{%
  \let\caption\hc@org@caption
  \global\@capstartfalse
  \hyper@makecurrent\@captype
  \par\addcontentsline{%
    \csname ext@#1\endcsname}{#1}{%
    \protect\numberline{%
      \csname the#1\endcsname
    }{\ignorespaces #2}%
  }%
  \begingroup
    \@parboxrestore
    \normalsize
    \@makecaption{\csname fnum@#1\endcsname}{%
      \ignorespaces#3%
    }%
    \par
  \endgroup
}
```

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

```
\def\hypcapredef#1{%
  \expandafter\hc@redef\csname hc@org#1\expandafter\endcsname
                       \csname hc@orgend#1\expandafter\endcsname
                       \expandafter{#1}%
}
```

`\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).

```
\def\hc@redef#1#2#3{%
  \newcommand#1{}%
```

```
  \expandafter\let\expandafter#1\csname#3\endcsname
  \expandafter\let\expandafter#2\csname end#3\endcsname
  \renewenvironment*{#3}[1][]{%
    \ifx\\##1\\%
      #1\relax
    \else
      #1[##1]%
    \fi
    \capstart
  }{%
    \if@capstart
      \PackageError{hypcap}{You have forgotten to use \string\caption}%
      \global\@capstartfalse
    \else
    \fi
    #2%
  }%
}
```

At last the options are defined and processed.

```
\DeclareOption{figure}{\hypcapredef{\CurrentOption}}
\DeclareOption{figure*}{\hypcapredef{\CurrentOption}}
\DeclareOption{table}{\hypcapredef{\CurrentOption}}
\DeclareOption{table*}{\hypcapredef{\CurrentOption}}
\DeclareOption{all}{%
  \hypcapredef{figure}%
  \hypcapredef{figure*}%
  \hypcapredef{table}%
  \hypcapredef{table*}%
}
\ProcessOptions\relax
```

⟨/package⟩

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`).

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.