The tcbpagefootnote package

Page footnotes from inside tcolorbox

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https://github.com/munepi/tcbpagefootnote

v1.3 (2026/11/17)

1 Introduction

tcolorbox typesets the content of a box like a `minipage`: a `\footnote` inside the box is numbered with the `mpfootnote` counter (as a, b, c) and its text is put at the bottom of the box. This is often what you want for a box that stands apart from the text, but not for a box that is part of the running text, such as a note or a definition in a book: there, the footnotes should share the numbering of the body text and go to the bottom of the page.

The tcbpagefootnote package adds the tcolorbox key `page footnote` for this. The two boxes below differ only in this key.

An ordinary box

A footnote in an ordinary box[a] is a footnote of the box.

[a] This footnote is put at the bottom of the box.

A box with `page footnote`

A footnote in a box with `page footnote`[1] is a footnote of the page, numbered along with the footnotes of the body text.

Supported formats/engines pdfLaTeX, XeLaTeX, LuaLaTeX (with or without LuaTeX-ja), pLaTeX and upLaTeX (with dvipdfmx); horizontal (yoko) and vertical (tate) writing. The package requires tcolorbox and loads its `hooks` library.

2 Usage

```
\usepackage{tcbpagefootnote}

\begin{tcolorbox}[title=Note, page footnote]
  Text\footnote{A page footnote.}.
\end{tcolorbox}

\newtcolorbox{note}[1][]{colback=blue!5, page footnote, #1}
\tcbset{page footnote}  % for every box
```

The key acts on the footnotes in the title, the upper part and the lower part of the box:

[1] This footnote is put at the bottom of the page.

- the marks are made with the `footnote` counter and `\thefootnote`, as in the body text;
- the texts are collected while the box is typeset and are put into the ordinary footnote insertion right after the box, so that they go to the bottom of the page where the box is. If the box does not fit on the current page and moves to the next one, its footnotes move with it.

`\footnote[`⟨*number*⟩`]`, `\footnotemark` with `\footnotetext`, `\tcbox`, and boxes with `page footnote` inside each other work as usual. An ordinary box inside a box with `page footnote` keeps its own footnotes. With hyperref, each footnote mark links to its own footnote text.

Tagged PDF With the new footnote code of LaTeX (loaded, e.g., by `\DocumentMetadata{tagging=on}`), the footnote text is typeset where its mark is, as in a `minipage`, and the typeset text is put into the footnote insertion after the box. In the structure tree, the footnote (`FENote`) then directly follows its mark (`Lbl`), as for a footnote in the body text. The text is set in the `\columnwidth` outside the box and in the normal color, not in the text color of the box.

Vertical writing `page footnote` also works in tate, with the tate classes of pLaTeX and upLaTeX (e.g. `tarticle` and `utarticle`) and of LuaTeX-ja (e.g. `ltjtarticle`). With pLaTeX and upLaTeX, load the pxpgftate package as well: without it, TikZ/PGF, and so tcolorbox, draws the boxes sideways in tate. tcbpagefootnote does not load it itself.

```
\documentclass[dvipdfmx]{tarticle}
\usepackage{tcbpagefootnote}
\usepackage{pxpgftate}
```

3 Errors and warnings

`The key 'page footnote' cannot be used with 'float'.` A floating box (`float`) is not followed by the code that puts the footnotes.

`The 'after' code of this box no longer flushes the page footnotes.` The footnotes are put by the `after pre` code of the `hooks` library. Keys that set the whole `after` code (such as `after`, `after skip` and `nobeforeafter`) remove it when they come after `page footnote`: give them before it, e.g. `[after skip=1pt, page footnote]`.

`The tcolorbox key 'page footnote' is already defined.` Another package defines a key of the same name; tcbpagefootnote does not redefine it.

`This box is broken across pages.` **(warning)** See below.

4 Limitations

- A `breakable` box that is broken across pages puts the footnote texts of all its parts on the page where the box ends: the content of a breakable box is typeset as a whole before it is split, and footnote insertions do not travel with the split parts. The package issues a warning for such a box when it has footnotes. The footnotes of a breakable box that is not broken are put as usual.
- `page footnote` cannot be used with `float`.
- With pLaTeX and upLaTeX in tate, a `\footnotetext` in vertical mode (e.g. right after a box) does not work with the new footnote code of LaTeX (`\DocumentMetadata`), with or without this package. Put it in a paragraph.

5 Tests

`make test` compiles the test files with pdfLaTeX, XeLaTeX, LuaLaTeX, pLaTeX and upLaTeX (+ dvipdfmx) and checks the log. For every footnote, `test-common.tex` records in the `.aux` file at shipout the page and the mark of both the footnote mark and the footnote text, and whether the text is set in the full `\columnwidth` of the page (a page footnote) or in a box; when the `.aux` file is read back at `\end{document}`, it checks that every text is typeset exactly once, with its own mark, on the expected page (`TPF-RESULT OK`).

Test	What it covers
`test-basic.tex`	title/upper/lower, nesting, `\tcbox`, a box moved to the next page
`test-hyperref.tex`	`test-basic.tex` with hyperref: no duplicate anchors
`test-breakable.tex`	broken and unbroken breakable boxes, the warning
`test-japanese.tex`	Japanese classes (ltjbook, jbook, ujbook)
`test-tagging.tex`	the tests above with `\DocumentMetadata{tagging=on}`; `test-tagging.lua` checks that each `FENote` follows its `Lbl` in the structure tree
`test-tate.tex`	`test-basic.tex` and `test-breakable.tex` in tate (tarticle, utarticle, ltjtarticle)
`test-errors.tex`	the error messages

6 History

v1.3 (2026/11/17) Vertical writing: `page footnote` is tested in tate with pLaTeX, upLaTeX (with pxpgftate) and LuaTeX-ja. The code of the package is unchanged.

v1.2 (2026/11/16) Tagged PDF: with the new footnote code of LaTeX, the footnote text is typeset at its mark and output after the box, so that its `FENote` follows the `Lbl` of its mark (latex3/tagging-project#1709).

v1.1 (2026/11/14) With hyperref, a `\footnotetext` after a box for a `\footnotemark` in the box gets the anchor of its mark: the mark and the anchor of the last footnote are restored after the footnotes of the box are put.

v1.0 (2026/10/25) First public release.

7 License

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