The **aliascnt** package

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Abstract

Package aliascnt introduces *alias counters* that share the same counter register and clear list.

Contents

1 User interface

1.1 Introduction

There are features that rely on the name of counters. For example, hyperref's \autoref indirectly uses the counter name to determine which label text it puts in front of the reference number ([3]). In some circumstances this fail: several theorem environments are defined by \newtheorem that share the same counter.

1.2 Syntax

Macro names in user land contain the package name aliascnt in order to prevent name clashes.

\newaliascnt{⟨*ALIASCNT*⟩}{⟨*BASECNT*⟩}

An alias counter ALIASCNT is created that does not allocate a new TeX counter register. It shares the count register and the clear list with counter BASECNT. If the value of either the two registers is changed, the changes affects both.

\aliascntresetthe{⟨*ALIASCNT*⟩}

This fixes a problem with \newtheorem if it is fooled by an alias counter with the same name:

```
\newtheorem{foo}{Foo}% counter "foo"
\newaliascnt{bar}{foo}% alias counter "bar"
\newtheorem{bar}[bar]{Bar}
\aliascntresetthe{bar}
```

2 Implementation

2.1 Identification

```
1 ⟨*package⟩
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{aliascnt}%
4   [2006/09/25 v1.2 Alias counter (HO)]
```

2.2 Create new alias counter

\newaliascnt A new alias counter is set up by \newaliascnt. The following properties are added for the new counter CNT:

\theH⟨*CNT*⟩: Compatibility for hyperref

\AC@cnt@⟨*CNT*⟩: Name of the referenced counter in the definition.

```
5 \newcommand*{\newaliascnt}[2]{%
6   \begingroup
7     \def\AC@glet##1{%
8       \global\expandafter\let\csname##1#1\expandafter\endcsname
9         \csname##1#2\endcsname
10     }%
11     \@ifundefined{c@#2}{%
12       \@nocounterr{#2}%
13     }{%
14       \@ifdefinable{c@#1}{%
15         \AC@glet{c@}%
16         \AC@glet{the}%
17         \AC@glet{theH}%
18         \AC@glet{p@}%
19         \expandafter\gdef\csname AC@cnt@#1\endcsname{#2}%
20         \expandafter\gdef\csname cl@#1\expandafter\endcsname
21           \expandafter{\csname cl@#2\endcsname}%
22       }%
23     }%
24   \endgroup
25 }
```

\aliascntresetthe The \the⟨*CNT*⟩ macro is restored using the main counter.

```
26 \newcommand*{\aliascntresetthe}[1]{%
27   \@ifundefined{AC@cnt@#1}{%
28     \PackageError{aliascnt}{%
29       '#1' is not an alias counter%
30     }\@ehc
31   }{%
32     \expandafter\let\csname the#1\expandafter\endcsname
33       \csname the\csname AC@cnt@#1\endcsname\endcsname
```

2

```
34    }%
35 }
```

2.3 Counter clear list

The alias counters share the same register and clear list. Therefore we must ensure that manipulations to the clear list are done with the clear list macro of a real counter.

\AC@findrootcnt   \AC@findrootcnt walks throught the aliasing relations to find the base counter.

```
36 \newcommand*{\AC@findrootcnt}[1]{%
37    \@ifundefined{AC@cnt@#1}{%
38      #1%
39    }{%
40      \expandafter\AC@findrootcnt\csname AC@cnt@#1\endcsname
41    }%
42 }
```

Clear lists are manipulated by \@addtoreset and \@removefromreset. The latter one is provided by the remreset package ([2]).

\AC@patch   The same patch principle is applicable to both \@addtoreset and \@removefromreset.

```
43 \def\AC@patch#1{%
44    \expandafter\let\csname AC@org@#1reset\expandafter\endcsname
45      \csname @#1reset\endcsname
46    \expandafter\def\csname @#1reset\endcsname##1##2{%
47      \csname AC@org@#1reset\endcsname{##1}{\AC@findrootcnt{##2}}%
48    }%
49 }
```

If remreset is not loaded we cannot delay the patch to \AtBeginDocumen, because \@removefromreset can be called in between. Therefore we force the loading of the package.

```
50 \RequirePackage{remreset}
51 \AC@patch{addto}
52 \AC@patch{removefrom}
```

```
53 ⟨/package⟩
```

3 Installation

CTAN.   This package is available on CTAN[1]:

CTAN:macros/latex/contrib/oberdiek/aliascnt.dtx The source file.

CTAN:macros/latex/contrib/oberdiek/aliascnt.pdf Documentation.

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

    tex aliascnt.dtx

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

    aliascnt.sty   →   tex/latex/oberdiek/aliascnt.sty
    aliascnt.pdf   →   doc/latex/oberdiek/aliascnt.pdf
    aliascnt.dtx   →   source/latex/oberdiek/aliascnt.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.

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

Refresh file databases. If your TeX distribution (teTeX, mikTeX, ...) rely on file databases, you must refresh these. For example, teTeX users run `texhash` or `mktexlsr`.

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 aliascnt.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{aliascnt.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 pdfLaTeX:

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

4 Acknowledment

Ulrich Schwarz: The package is based on his draft for "Die TeXnische Komödie", see [1].

5 References

[1] Ulrich Schwarz: *Was hinten herauskommt zählt: Counter Aliasing in LaTeX*, *Die TeXnische Komödie*, 3/2006, pages 8–14, Juli 2006.

[2] David Carlisle: *The remreset package*; 1997/09/28; CTAN:macros/latex/contrib/carlisle/remreset.sty.

[3] Sebastian Rahtz, Heiko Oberdiek: *The hyperref package*; 2006/08/16 v6.75c; CTAN:macros/latex/contrib/hyperref/.

6 History

[2006/02/20 v1.0]

- First version.

[2006/08/16 v1.1]

- Update of bibliography.

[2006/09/25 v1.2]

- Bug fix (\aliascntresetthe).

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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.