The **elocalloc** Package[*]

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1 Introduction

Prior to the 2015/01/01 LaTeX release, access to extended registers was usually provided by the etex package. From 2015 on the base LaTeX format "knows" the register ranges for tex, etex, xetex and luatex, and so for most purposes the etex package is not required.

For existing documents etex may still be loaded and will work as before, however in general it is best not to load etex as it will over-write the new allocation scheme with its own.

Standard allocation macros such as `\newbox` and extended versions of tracing commands are now defined in the format for suitable engines however there were some features of etex not copied into the format, notably the "local" allocation macros. A search of CTAN showed that these were almost never used, and their use can often be avoided, however there are occasions when they may be useful. This package provides implementations based on the new allocation system in LaTeX 2015/01/01.

Within a local group a command such as `\locbox\tmpbox` defines `\tmpbox` to be a box register, but unlike `\newbox` the definition is local, and at the end of the group, `\tmpbox` loses its definition, and the box allocation number is restored.

The package defines: `\loccount`, `\locdimen`, `\locskip`, `\locmuskip`, `\locbox`, `\loctoks` and `\locmarks`.

2 Implementation

1 ⟨*package⟩

On old LaTeX, load `etex.sty` and stop.
2 `\ifx\e@alloc\@undefined`
3 `\RequirePackage{etex}`
4 `\expandafter\endinput`
5 `\fi`

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[*]This file has version number v0.03, last revised 2016/12/15. Please report any issues at https://github.com/davidcarlisle/dpctex/issues

If something else defined `\locbox`, stop with a warning.

```
6 \ifx\locbox\@undefined\else
7 \PackageWarning{elocalloc}{%
8   \string\locbox\space already defined, stopping}
9 \expandafter\endinput
10 \fi
```

Don't allow `\extrafloats` while a local allocation is in force. It is however OK to use `\extrafloats` with this package and to use floats within a group with a local allocation.

For local allocations, reduce the top of the range available for global allocations by one, and locally allocate the register from that top position.

Note that this means that (unlike the etex package originals) locally allocating one register affects the top of the other registers that share the same top of range, but doing otherwise would mean storing separate values for each type, and would make it harder to make `\extrafloats` work, should such an extension ever be needed.

```
11 \def\eloc@lloc#1#2#3#4#5{%
12   \def\extrafloats##1{%
13     \PackageWarning{elocalloc}{\string\extrafloats\space ignored}}%
14   \e@ch@ck{#1}#2\z@#3%
15   \expandafter\e@alloc@chardef\expandafter#2%
16                     \the\numexpr#2-1\relax
17    \allocationnumber=#2%
18  #3#5#2}
```

The top level local allocation commands.

```
19 \def\loccount {\eloc@lloc{\count 10}\float@count\countdef\count}
20 \def\locdimen {\eloc@lloc{\count 11}\float@count\dimendef\dimen}
21 \def\locskip  {\eloc@lloc{\count 12}\float@count\skipdef\skip}
22 \def\locmuskip{\eloc@lloc{\count 13}\e@alloc@top\muskipdef\muskip}
23 \def\locbox   {\eloc@lloc{\count 14}\float@count\e@alloc@chardef\box}
24 \def\loctoks  {\eloc@lloc{\count 15}\e@alloc@top\toksdef\toks}
25 \def\locmarks {\eloc@lloc{\count256}\e@alloc@top\e@alloc@chardef\marks}

26 ⟨/package⟩
```