

L^AT_EX News

Issue 38, November 2023 — DRAFT version for upcoming release (L^AT_EX release 2023-11-01)

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Introduction

Sockets and plugs

write

For documentation see `texdoc ltsockets-doc` for now.

Extended cross-referencing of document properties

Traditionally L^AT_EX allowed with `\label` to record two “local” properties of the document: the representation of the current page number and of the current counter. Their values could then be referenced with the (non-expandable) commands `\ref` and `\pageref` in arbitrary places of a document. With the summer 2023 release the `\label` was enhanced to record also if set by packages like `nameref` or `hyperref` the title and the name of the link target.

Over the years packages extended the label-ref system in various ways. Examples are for example the `refcount` package to reference the values expandably, the `smartref` package, which allows to store more counter values and so to reference the current chapter together with the current equation, the `cleveref` package, which stores in a second internal label beside other the name of the counter, the `hyperref` package whose `\autoref` command

tries to retrieve the name of the counter from the name of the link target, the `tikzmarks` which records absolute positions on the page, and the `zref` package which implements a general method to record and reference properties.

Starting with this release the L^AT_EX kernel contains now its own extension. It is loosely based on `zref`. It allows to declare new properties, to record arbitrary combinations of properties. The values are retrieved expandably.

As an example to setup a new property which records the current chapter number the following declaration could be used:

```
\NewProperty{chapter}{now}{?}{\thechapter}
```

The second argument means that the property is recorded immediately (“now”) and not at shipout. The third argument sets a default if a label is unknown. It is then possible to record a list of properties with `\RecordProperties`:

```
\RecordProperties{mylabel}{chapter,page,currentlabel}
```

To reference the value the `\RefProperty` command is provided which takes two arguments, the label and the property:

```
\RefProperty{mylabel}{chapter}
```

The new module predeclares a set of generally useful properties: `currentlabel` (the standard counter representation), `page` (the page representation), `title` (the title if set e.g. by `nameref`), `target` (the name of the link target if set e.g. by `hyperref`), `pagenum` (the page as an arabic number), `abspage` (the absolute page number), `counter` (the name of the current counter), `xpos` and `ypos` the position on the page as set by a previous `\pdfsavepos`.

The module provides both L^AT_EX 2_ε camel case commands and expl3 commands.

For documentation see `texdoc ltproperties-doc`.

New or improved commands

(*github issue xxx*)

Removed commands

It is very rare that commands are removed from the L^AT_EX kernel. However, in this release we have elected to remove `\GetDocumentCommandArgSpec`, `\GetDocumentEnvironmentArgSpec`,

`\ShowDocumentCommandArgSpec` and `\ShowDocumentEnvironmentArgSpec` from the kernel. These commands have been moved back to the “stub” `xparse` provided in `l3packages`. The reason for this change is that the commands were essentially part of debugging early forms of the kernel code, and expose implementation detail in a way that was not helpful.

Code improvements

Support for tabs in `\verb` and `verbatim*`*

L^AT_EX converts a single tab to a single space, which is then treated like a “real” space in typesetting. The same has been true to date inside `\verb`, but was done in a way that meant that they remained as normal spaces even in `\verb*`, etc. We have now adjusted the code so that tabs are retained within the argument to `\verb` and `\verb*`, and the `verbatim` and `verbatim*` environments independently from spaces, and are set up to print in the same way spaces do. This means that they now generate visible spaces inside `\verb*` and `verbatim*`, and their behavior can be adjusted if required to be different from that of spaces. *(github issue 1085)*

Bug fixes

Changes to packages in the `amsmath` category

Changes to packages in the `graphics` category

Changes to packages in the `tools` category

References