LaTeX News

Issue 40, November 2024 — DRAFT version for upcoming release (LaTeX release 2024-11-01)

Contents

Introduction

News from the "LaTeX Tagged PDF" project

The tagging of tabulars has been extended: it is now possible to tag also row headers and to create cells that span more than one row.

write more details ...

The math module will automatically generate a MathML file and use it to attach MathML associated files to the structure if luaLaTeX and the unicode-math package are used and the luamml is found. This new feature can be disabled with `\tagpdfsetup{math/mathml/luamml=false}` More details can be found in the documentation of latex-lab-math.

Handling paragraph continuation

Already LaTeX 2.09 offered some automatism to detect whether or not text after a list or some other display environment is meant to be a continuation of the current paragraph or should start a new one. The document-level syntax for this is that a blank line after such an environment signals to LaTeX that it should start a new paragraph; whilst no blank line signals that there should be no new paragraph and the text should be considered a continuation.

Unfortunately, there are a number of cases where the original 2.09 approach failed, e.g., with

{⟨*local customizations*⟩
`\begin{equation} a<b \end{equation}}`
⟨*some text*⟩

the ⟨*some text*⟩ incorrectly started a new paragraph. Bug reports about this behavior can be traced back to the time LaTeX 2ε was developed, e.g., one test file from 1992 has a note that the above case was unfortunately not resolvable despite some improvements made back then. The main cause of the issue (as you probably guessed) is that the mechanism failed whenever the environment was executed within a group (`{...}`, `\begingroup`/`\endgroup`, or `\bgroup`/`\egroup` pair) that was closed before the next blank line was reached.

While most of the time this could be visually corrected by adding some explicit `\noindent`, the situation got worse when we tried to implement tagged PDFs resulting in incorrect structures or worse.

We therefore made a new attempt to resolve this problem in every situation and this new solution is rolled out in the current release.

New or improved commands

Code improvements

Avoiding keyval option clashes between classes and packages

In LaTeX News 35 [3] we introduced keyval option processing to the kernel. Following the standard for LaTeX 2ε options, keyval options given to the `\documentclass` line were treated as global and so parsed by every package. However, with keyvals, the likelihood of a name clash between a class-specific option and one used by a package is much higher than it is with simple strings. We have therefore refined the mechanism in the current release.

When a class uses the kernel keyval processor, any options it recognises are recorded and any packages using the keyval processor will then *skip* these "global" options. To allow for the case where a class directly uses an option which should be global (for example `draft`), a new key property `.pass-to-packages` has been added. This can then be set to indicate that this key is not to be skipped. For example

```
\DeclareKeys{
  draft .if = {ifl@cls@draft},
  draft .pass-to-packages = true,
  mode  .store = \cls@mode
}
```

in a class would create two options, `draft` and `mode`. The `draft` option will be treated in the normal way by packages using keyvals, but they will ignore the `mode` option: it is effectively marked as "private" to the class. *(github issue 1279)*

Bug fixes

Fix wrong file type in a rollback warning

When LaTeX is rolled back to date ⟨*date1*⟩ and a class or package with minimum date requirement ⟨*date2*⟩ is to be loaded, a rollback warning is raised if ⟨*date2*⟩ is later than ⟨*date1*⟩:

```
LaTeX Warning: Suspicious rollback/min-date
               date given.
  A minimal date of YYYY-MM-DD has been
  specified for package '<pkgname>'.
  But this is in conflict with a rollback
  request to YYYY-MM-DD.
```

In some cases this message showed a wrong file type, i.e., `document class '<pkgname>'` or `package '<clsname>'`. This has now been corrected. *(github issue 870)*

Fix existence check of document environments

`\NewDocumentEnvironment` and friends define (or redefine) a document environment using the space-trimmed ⟨*envname*⟩, but the existence check for ⟨*envname*⟩ was done without space trimming. Thus when the user-specified ⟨*envname*⟩ consists of leading and/or trailing space(s), it may lead to erroneously silent environment declaration. For example, in

```
\NewDocumentEnvironment{myenv}{}{begin}{end}
\NewDocumentEnvironment{ myenv }{}{begin}{end}
```

the first line defines a new environment `myenv` but the second line would check existence for `myenv` (which is not yet defined), then redefine `myenv` environment without raising any errors. This has now been corrected. *(github issue 1399)*

doc: `\PrintDescribeMacro` in preamble

In doc version 2 it was possible alter the definition of `\PrintDescribeMacro` and similar commands in preamble. In version 3 this stopped working because they go reset at the end of the preamble. This has now been implemented differently and changes in the preamble are possible again. *(github issue 1000)*

Improvement to XeTeX `\showhyphens`

When using `\showhyphens` with XeTeX, missing character warnings would be generated for any character not in Latin Modern. This has been corrected and the warnings are suppressed. *(github issue 1380)*

Avoid code duplication in rollback

When the kernel uses `\AddToHook` in a region that might be rolled back (which happens in a few places) and a document requests a rollback, then we have the situation that the hook already contains code to which we added the same (or slightly different) code during the rollback; this results in code duplication or, worse, in errors. This has now been corrected by dropping any such code chunk (if there is one) prior to adding the rollback code. *(github issue 1407)*

Changes to packages in the amsmath category

Extend support for `\dots`

The implementation of `\dots` in amsmath has the feature that it selects different dots depending on the symbol that follows: e.g., dots between commas would normally be on the baseline, while dots between binary or relational symols would be raised. However, when symbols such as `\cong` were protected from expansion in moving arguments (so that they worked in places such as headings) it had the unfortunate side-effect that the `\dots` magic stopped working for them. This has now been corrected. *(github issue 1265)*

Changes to packages in the tools category

array: Tagging support for `\cline`

In the last release we added tagging support for array, longtable and other tabular packages, but we overlooked that the kernel definition for `\cline` also needs modification because the rule generated by the command needs to be tagged as an artifact. Furthermore, the processing of a `\cline` looks to the algorithm as if another row is added (which is technically what happens), thus it was also necessary to decrement the internal row counter to get a correct row count. This has now been corrected in array which is automatically loaded for tagging, so that all these packages are now

fully compatible with the tagging code if it is turned on.
(github tagging issue 134)

longtable: Extend caption type
The longtable has been extended and now provides the command `\LTcaptype` (stemming from the ltcaption package) to change the counter and caption type used by the `\caption` command from longtable. So with `\renewcommand\LTcaptype{figure}`, a longtable will step the figure counter instead of the table counter and produce an entry in the list of figures. An empty definition, `\renewcommand\LTcaptype{}`, will suppress increasing of the counter. This makes it easy to define an unnumbered variant of longtable:

```
\newenvironment{longtable*}
  {\renewcommand\LTcaptype{}\longtable}
  {\endlongtable}
```

References

[1] Leslie Lamport. *LaTeX: A Document Preparation System: User's Guide and Reference Manual*. Addison-Wesley, Reading, MA, USA, 2nd edition, 1994. ISBN 0-201-52983-1. Reprinted with corrections in 1996.

[2] LaTeX Project Team. *LaTeX 2ε news 1–39*. June, 2024. https://latex-project.org/news/latex2e-news/ltnews.pdf

[3] LaTeX Project Team. *LaTeX 2ε news 35*. June 2022. https://latex-project.org/news/latex2e-news/ltnews35.pdf

[4] LaTeX Project Team. *LaTeX 2ε news 39*. June 2024. https://latex-project.org/news/latex2e-news/ltnews39.pdf