LaTeX News

Issue 17, December 2005 (LaTeX release 2005-12-01)

Project licence news

The LaTeX Project Public License has been updated slightly so that it is now version 1.3c. In the warranty section the phrase "unless required by applicable law" has been reinstated, having got lost at some point. Also, it now contains three clarifications: of the difference between "maintained" and "author-maintained"; of the term "Base Interpreter"; and when clause 6b and 6d shall not apply.

Following requests, we now also provide the text of the licence as a LaTeX document (in the file `lppl.tex`). This file can be processed either as a stand-alone document or it can be included (without any modification) into another LaTeX document, e.g., as an appendix, using `\input` or `\include`.

New guide on font encodings

Way back in 1995 work was started on a guide to document the officially allocated LaTeX font encoding names. However, for one reason or another this guide (named *LaTeX font encodings*) was, until now, not added to the distribution. It describes the major 7-bit and 8-bit font encodings used in the LaTeX world and explains the restrictions required of conforming text font encodings. It also lists all the 'encoding specific commands' (the LICR or LaTeX Internal Character Representation) for characters supported by the encodings `OT1` and `T1`.

When the file `encguide.tex` is processed by LaTeX, it will attempt to typeset an encoding table for each encoding it describes. For this to be possible, LaTeX must be able to find `.tfm` files for a representative example font for each encoding. If LaTeX cannot find such a file then a warning is issued and the corresponding table is omitted.

Robust commands in math

The font changing commands in text-mode have been robust commands for years, but the same has not been true for the math versions such as `\mathbf`. While the math-mode commands worked correctly in section heads, they could cause problems in other places such as index entries. With this release, these math-mode commands are now robust in the same way as their text-mode counterparts.

Updates of required packages

Several of the packages in the tools bundle have been updated for this release.

The xspace package has some new features. One is an interface for adding and removing the exceptions it knows about and another is that it works with active characters. These remove problems of incompatibility with the babel system.

In *LaTeX News 16* we announced that some packages might begin to take advantage of ε-TeX extensions on systems where these are available: and the latest version of xspace does just that. Note also that fixltx2e will make use of the facilities in ε-TeX whenever these are present (see below).

The calc package has also been given an update with a few extra commands. The commands `\maxof` and `\minof`, each with two brace-delimited arguments, provide the usual numeric max and min operations. The commands `\settototalheight` and `\totalheightof` work like `\settoheight` and `\heightof`. There are also some internal improvements to make calc work with some more primitive TeX constructs, such as `\ifcase`.

The varioref package has acquired a few more default strings but there are still a number of languages for which good strings are still missing.

The showkeys package has also been updated slightly to work with more recent developments in varioref. Also, it now provides an easy way to define the look of the printed labels with the command `\showkeyslabelformat`.

Work on LaTeX fixes

The package known as fixltx2e has three new additions. A new command `\textsubscript` has been added as a complement to the command `\textsuperscript` in the kernel. Secondly, a new form of `\DeclareMathSizes` that allows all of its arguments to have a dimension suffix. This means you can now use expressions such as `\DeclareMathSizes{9.5dd}{9.5dd}{7.4dd}{6.6dd}`.

The third new addition is the robust command `\TextOrMath` which takes two arguments and executes one of them when typesetting in text or math mode respectively. This command also takes advantage of ε-TeX extensions if available; more specifically, when the ε-TeX extensions are available, it does not destroy kerning between previous letters and the text to be

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typeset. The command is also used internally in fixltx2e to resolve a problem with `\fnsymbol`.

Also, further work has been done on reimplementing the command `\addpenalty`, which is used internally in several places: we hope it is an improvement!

The graphics bundle

The graphics bundle now supports the `dvipdfmx` post-processor and Jonathan Kew's XETEX program. By support we mean that the graphics packages recognize the new options `xetex` and `dvipdfmx` but we do not distribute the respective driver files.

This leads elegantly to a description of the new policy concerning such driver files in the graphics bundle. Most driver files for our graphics packages are maintained by the developers of the associated post-processor or TEX programs. The teams developing these packages are working very hard: their rapid development offers a stark contrast to the current schedule of LATEX releases. It is therefore no longer practical for the LATEX Team to be responsible for distributing the latest versions of these driver files.

Therefore the installation files for graphics have been split: there is now `graphics.ins` to install the package files and `graphics-drivers.ins` for the driver files (located in `drivers.dtx`). There is no need to install all those provided in the file `drivers.dtx`.

Please also note that, as requested by the maintainers of PStricks, we have removed the package pstcol as current versions of PSTricks make it obsolete.

Future development

The title of this section is a little misleading as it actually describes *current* development. In 1998 the expl3 bundle of packages was put on CTAN to demonstrate a possible LATEX3 programming environment. These packages have been lying dormant for some time while the LATEX Project Team were preoccupied by other things such as developing the experimental packages xor, template, etc., (and also writing that indispensable and encyclopaedic volume, The LATEX Companion – 2nd edition).

In October 2004 work on this code base was resumed with the goal of some day turning it into a kernel for LATEX3. This work can now also make full use of the widely accepted ε-TEX extensions. Currently two areas are central to this work.

- Extending the kernel code of LATEX3.
- Converting the experimental packages such as xor, template to use the new syntax internally.

Beware! Development of expl3 is happening so fast that the descriptions above might be out of date when you read this! If you wish to see what's going on then go to `http://www.latex-project.org/code.html` where you can download fully working code (we hope!).