Overleaf and TEX Live

Tom Hejda

Abstract

Overleaf makes an annual deployment of TEX Live, which we sum up here, including the testing we perform as part of the deployment process. The talk at the TEX Users Group conference was followed by a discussion about Overleaf's process with regards to LATEX development and TEX Live testing; however, this discussion is not captured in this article.

1 Introduction

Overleaf is an online LATEX collaborative platform that is available at `overleaf.com`. For more background on TEX Live, see `tug.org/texlive`.

The LATEX compiler is run as a Docker image that contains a modified version of the `texlive-full` scheme. In this short article, the actions needed to successfully deploy new TEX Live images will be presented.

2 TEX Live deployment procedure

We deploy TEX Live usually in the third quarter each year. The procedure can be summed up in the following steps:

1. Prepare the initial Docker image that contains a full Linux installation and has `texlive-full`.
2. Use `tlmgr` to update the packages to the latest versions.
3. Make sure that helper tools such as ImageMagick, Inkscape, and requested R packages are properly installed.
4. Optimize fonts available in the Docker image — remove duplicates of fonts coming from multiple sources, and precompile fonts.
5. Remove the documentation that was installed together with `texlive-full` to decrease the image size.
6. Perform testing (see next section for details) and write documentation.
7. Go live and monitor for further issues reported by users.

3 Testing of the TEX Live image

Overleaf is running the Overleaf Gallery, which currently contains about 10 thousand LATEX templates and example documents. With each new TEX Live version, we check whether the templates compile under the new version; the goal is to make each template use by default the most recent version possible, and maximize the number of templates that can run on the new version.

To this end, we manually check the templates that fail with the latest TEX Live version; sometimes it is possible that a simple patch to a package would solve the issue, in which case we try to coordinate with the package maintainers and see whether a fix is feasible. If that is not possible, we keep the template at an older version to ensure it uses a version where it runs without errors.

4 Conclusion

We are always looking for improvements to the process; currently we are aware of the issue of bad alignment in timing between our process and the TEX Live annual build procedure, and we are looking into ways of improving this while still giving our users good and stable experiences with the compiler.

The video of the talk is available at `youtube.com/c/texusersgroup`.

◇ Tom Hejda
Overleaf
`tom dot hejda (at) overleaf dot com`

doi.org/10.47397/tb/44-2/tb137hejda-overleaf-tl