TEX Live 2013

TEX Live Manager’s rare gems
User mode and multi-repository support

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Overview

User mode       Multi repository

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example runs
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User mode
User mode – why do it?

Normal operation mode

➤ manages the full installation
➤ provides binaries
➤ system wide config: paper, formats, hyphenation …
➤ all-or-nothing access is required

What to do when you don't have access to these files?

➤ multi-user systems with system-wide installation
➤ distribution TeX Live with need for updates
User mode – why do it?

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- provides binaries
- system wide config: paper, formats, hyphenation …
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- distribution \TeX\ Live with need for updates
What is it?

**user mode**

- manages TEXMFHOME
- can only install packages that have all the files under a `texmf` tree, i.e., no packages with scripts or binaries
- does not manage formats, hyphenations
- integrates with multi-updmap
Necessary steps

1. initialize the user tree - by default TEXMFHOME generates a minimal \texttt{tlpdb}, creates a few necessary files
2. set up repositories defaults to CTAN mirror
3. install packages
Setting up the user tree

$ tlmgr init-usertree
$

$ tlmgr --usermode info --only-installed
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Installing a package

$ tlmgr --usermode install 12many
tlmgr: package repository /var/www/norbert/tlnet
[1/1, ??:??/??:??] install: 12many [376k]
tlmgr: package log updated: /home/norbu/texmf/\web2c/tlmgr.log
running mktexlsr ...
done running mktexlsr.
$
Real world trial
Supported operations

**install** packages and depending packages are installed, collection-collection dependences are not followed

backup, restore, remove, update like in system mode

option, paper, generate works and changes files in the user tree
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Warnings

- files in TEXMFHOME override files in system dir - updates on the system tree will come through
- size of TEXMFHOME versus ls -R
- configuration file mess
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Future work

- GUI support
- distribution installation mode (no \texttt{tlpdb})
- independent installation support – no main \TeX Live installation necessary
multi repository support
multi repository support for \texttt{tlmgr} — background

- traditionally \texttt{tlmgr} only supports one repository, the main \TeX{} Live repository
- since now 2 years (at least) additional repositories are in common use:
  - \texttt{tlcontrib} (for testing releases and items not distributable in \TeX{} Live)
  - \texttt{tlptexlive} Japanese \TeX{} integration
  - \texttt{tlcritical} by the \TeX{} Live team, test release of the \TeX{} Live Manager
  - \texttt{Korean \TeX{} User Group} (no details)
multi repository support – implementation notes

- distinction between main and subsidiary repositories
- by default everything is only taken from the main repo
- to get a package from a subsidiary repo one has to pin it to this repo
- absolute revision numbers are not compared between repositories, only the pinning counts (difference to Debian)
How to add/remove repositories

New `tlmgr` action `repository`:

- `tlmgr repository list`
- `tlmgr repository add url [tag]`
- `tlmgr repository remove url|tag`

Where the `tag` is a (optional) short-hand for `url`. The main repository always has the tag `main`. 
How to pin a package – format of the pinning file

- the pinning is specified in \texttt{TEXMFLOCAL/tlpkg/pinning.txt}
- format of this file: lines of the form
  \texttt{repo:pkg[,pkg]}
  where
  \texttt{repo} full url or a repository tag (see later)
  \texttt{pkg} shell-style glob for package names
Pinning with \texttt{tlmgr}

New \texttt{tlmgr} action pinning:

\begin{itemize}
\item \texttt{tlmgr pinning show}
\item \texttt{tlmgr pinning add} \texttt{<repo>} \texttt{<pkgglob>} \ldots
\item \texttt{tlmgr pinning remove} \texttt{<repo>} \texttt{<pkgglob>} \ldots
\item \texttt{tlmgr pinning remove} \texttt{<repo>} \texttt{--all}
\end{itemize}
Example setup: `tlptexlive`

Current status:

```
$ tlmgr repository
List of repositories (with tags if set):
  /var/www/norbert/tlnet (main)
```

Add the `tlptexlive` repository, and check again:

```
$ tlmgr repository add /var/www/norbert/tlptexlive tlptexlive
  tlmgr: added repository with tag tlptexlive: /var/www/norbert/tlptexlive
$ tlmgr repository
List of repositories (with tags if set):
  /var/www/norbert/tlnet (main)
  /var/www/norbert/tlptexlive (tlptexlive)
$
Example setup: tlptexlive

Current status:

$ tlmgr repository
List of repositories (with tags if set):
    /var/www/norbert/tlnet (main)

Add the tlptexlive repository, and check again:

$ tlmgr repository add /var/www/norbert/tlptexlive tlptexlive
tlmgr: added repository with tag tlptexlive: /var/www/norbert/tlptexlive
$ tlmgr repository
List of repositories (with tags if set):
    /var/www/norbert/tlnet (main)
    /var/www/norbert/tlptexlive (tlptexlive)
$
Example cont.

Tell \TeX\ Live Manager to get everything \texttt{*} from the new repository:

\begin{verbatim}
$ tlmgr pinning add tlptexlive '*'
tlmgr: package repositories:
main = /var/www/norbert/tlnet
tlptexlive = /var/www/norbert/tlptexlive
tlmgr: new pinning data for tlptexlive: *
$
\end{verbatim}
Exampl cont.

Now check for updates

$ tlmgr update --list

tlmgr: package repositories:
main = /var/www/norbert/tlnet
tlptexlive = /var/www/norbert/tlptexlive

tlmgr: saving backups to /home/norbert/tl/tug2013/tlpkg/backups

update: dvipdfmx.x86_64-linux [328k]: local: 30831, source: 31001@tlptexlive
other candidates: 30831@main

update: dvips.x86_64-linux [136k]: local: 30204, source: 31002@tlptexlive
other candidates: 30204@main

update: ptex.x86_64-linux [530k]: local: 30519, source: 31001@tlptexlive
other candidates: 30519@main

update: uptex.x86_64-linux [526k]: local: 30519, source: 31001@tlptexlive
other candidates: 30519@main

$ tlmgr update --all

...
Installing/updating a package

Install the package:

$ tlmgr install pmetapost

tlmgr: package repositories:
main = /var/www/norbert/tlnet
tlptexlive = /var/www/norbert/tlptexlive

[1/2, ??:??/??:??] install: pmetapost.x86_64-linux @tlptexlive [671k]
[2/2, 00:00/00:00] install: pmetapost @tlptexlive [1k]

tlmgr: package log updated: /home/norbert/tl/tug2013/texmf-var/web2c/tlmgr.log

running mktexlsr ...
done running mktexlsr.

$
Restrictions and caveats

- no way to make purely number based repository selection work
- not all operation of TeX Live Manager are supported
- use with caution!
- due to the fixed pinning, if an outdated package is not removed from the subsidiary repository, you will remain stuck with it even if main ships a newer version
Closing

Any wishes and requests?
Closing

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Thanks