

T_EX (Live) on Debian

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Current status

Etch = Stable

- ▶ teTeX 3
- ▶ T_EX Live 2005

Lenny = Testing

- ▶ T_EX Live 2007 (ev. 2008)

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We will provide backports of T_EX Live 2007 for Etch.

Debian T_EX Live and ‘upstream’

Relation to upstream

- ▶ Debian packages are more or less one-to-one the collections of T_EX Live
- ▶ Some stuff is packaged independently for Debian
- ▶ Overlap of contributors between Debian and upstream T_EX Live
- ▶ bugs found in Debian packages are fixed from us also upstream
- ▶ we include only stuff that it is also in upstream

Debian T_EX Live and ‘upstream’ (cont.)

Debian adaptations

Most adaptation regard the handling of configuration:

- ▶ must be in `/etc`, in fact all of ‘our’ are in `/etc/texmf`
- ▶ upgrades must preserve changes of the administrator
- ▶ configuration must be preserved during a removal/reinstallation cycle (not for purge)

Other things changed are the location of various `texmf` trees, font caching, etc.

Various (system) paths

TEXMFCONFIG Default location: `/etc/texmf`
Contains system-wide configuration

TEXMFSYVAR Default location: `/var/lib/texmf/`
Contains system-wide generated files

TEXMFLOCAL Default location:
`/usr/local/share/texmf/`
Contains system-wide input files

TEXMFMAIN Default location: `/usr/share/texmf/`
Contains system-wide, dpkg-managed input files
(\TeX add-on packages)

TEXMFDIST Default location:
`/usr/share/texmf-texlive`
Contains system-wide, dpkg-managed input files
(basic \TeX packages)

Various (user) paths

TEXMFCONFIG Default location:

`$HOME/.texmf-config/`

Contains user-specific configuration

TEXMFVAR Default location: `$HOME/.texmf-var/`

Contains user-specific generated files

TEXMFHOME Default location: `$HOME/texmf/`

Contains user-specific static input files, e.g. new \LaTeX packages.

Case studies for changes to Debian T_EX (Live)

The following most important task will be discussed from system administrators and users perspective:

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Installation of the natbib package from CTAN

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The following most important task will be discussed from system administrators and users perspective:

- ▶ Changing TEXMFHOME
from \$HOME/texmf to \$HOME/texlib
- ▶ Installation/Upgrade of a L^AT_EX package
Installation of the natbib package from CTAN
- ▶ Installation of the m_Tpro2 font package
Installation and activation of additional fonts for dvips
etc.

Adaptions of and additions to `texmf.cnf`

Things to know:

- ▶ located in `/etc/texmf/texmf.cnf`
(plus a link from `/u/s/texmf/web2c/`)
- ▶ generated from snippets in `/etc/texmf/texmf.d/`
- ▶ updated by `update-texmf`

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Rationale behind this: different packages can contribute new snippets to `texmf.cnf`

Changing TEXMFHOME (as root)

Users in my institute traditionally have their input files in `$HOME/texlib` instead of `$HOME/texmf`. Instead of moving all the directories one can do this in two ways:

1. Edit `/etc/texmf/texmf.d/05TeXMF.cnf`
2. know `kpathsea` and add a file `/etc/texmf/texmf.d/01local.cnf` with another `TEXMFHOME` setting, as earlier entries override later entries in `texmf.cnf`

After this call `update-texmf`.

Changing TEXMFHOME (as user)

User override of (parts of) `texmf.cnf` is (currently) not possible. The only way is knowing `kpathsea`, i.e.

- ▶ creating your own `texmf.cnf`
- ▶ setting the environment variable `$TEXMFCNF`

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As user do the same with TEXMFHOME instead of TEXMFLOCAL.

Installation of a font package (system wide)

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Installation of the files

Unzip the received zip file `mtp2fonts.zip`. This packages is already shipped as a TEXMF-tree, so just copy all the files under `texmf` to the same location in `TEXMFLOCAL`, e.g.,
`cp -a texmf/* /usr/local/share/texmf.`

Installation of the files (cont.)

If the package is not shipped as a TEXMF-tree you have to install all the files you have obtained as into the right places in TEXMFLOCAL, i.e.,

`.sty`, `.tex`, `.fd` into

`$TEXMFLOCAL/tex/latex/foo`

`.map` into

`$TEXMFLOCAL/fonts/map/dvips/foo`

`.tfm` into `$TEXMFLOCAL/fonts/tfm/
company/foo`

`.pfb` into `$TEXMFLOCAL/fonts/type1/
company/foo`

`.vf` into

`$TEXMFLOCAL/fonts/vf/company/foo`

(not all of these files have to be present).

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Activation of the fonts

Activation of the fonts are done by adding snippets to `/etc/texmf/updmap.d/` from which the final `updmap.cfg` is generated by `update-updmap`.

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Alternative way would be to put *all* locally installed map files in one file `/etc/texmf/updmap.d/99local.cfg`

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Why update-updmap?

- ▶ Takes the job of the T_EX Live installer which reads the information from the tpm files
- ▶ Several packages can ship fonts/map files and it must be possible to independently activate/deactivate them (lmodern, cm-super, latex-cjk, ...)
- ▶ the format of updmap.cfg cannot carry the necessary information on installation status of a package in Debian (installed, removed, purged)

Problems with `updmap-sys --enable`?

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As recommended on the net, in FAQs, etc., many people try to call `updmap-sys --enable`, but:

- ▶ It changes the `updmap.cfg` file directly
- ▶ it keeps no memory of what was added/removed over a removal/reinstallation of T_EX Live

Debian solution to `updmap-sys --enable`

The Debian `updmap` is patched such that when it is called with the arguments `--enable` or `--disable` it

- ▶ warns the user that this is not the way
- ▶ writes changes to `/etc/texmf/updmap.d/99local.cfg`
- ▶ calls `update-updmap`
- ▶ re-calls itself

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Advantages

- ▶ upgrade of the \TeX system still leaves the locally installed fonts active
- ▶ recommendations still work

Installation of a font package (for one user)

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When `update-updmap` is called by a normal user (`uid ≠ 0`) then it acts a bit different:

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When `update-updmap` is called by a normal user (`uid ≠ 0`) then it acts a bit different:

It merges all snippets present in `/etc/texmf/updmap.d/` and `$HOME/.texmf-config/updmap.d/`, *but* if there are snippets with the same name, the one on the user directory shadows the system wide one.

Example

Assume that I have my own Sanskrit fonts installed which provide fonts `skt10` etc, but the system file `10latex-sanskrit.cfg` already activates `skt.map` which contains different definitions for these fonts.

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Files present in `/etc/texmf/updmap.d/`:

- `10texlive-base.cfg`,
- `10texlive-latex-base.cfg`,
- `10latex-sanskrit.cfg`.

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Files present in `$HOME/.texmf-config/updmap.d/`:
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Merging of updmap.d snippets

Files used for *system wide* updmap.cfg generation:

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/etc/texmf/updmap.d/10texlive-base.cfg,  
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Files used for *user specific* updmap.cfg generation:

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10latex-sanskrit.cfg.
```

Call updmap.

Problems with user specific `updmap.cfg`

- ▶ changes to the system configuration files are not transferred to the user file - the user has to call `update-updmap` and `updmap` after every fundamental change.
- ▶ user config file creates problems (“Why does this or that not work?” - Because you have this config file which overrides the good default)

Hyphenation patterns and formats

Definition of hyphenation patterns and formats use the very same system as for map files (in fact there is only one `update-* script`), with:

- ▶ `updmap.d` is replaced by `language.d` or `fmt.d`
- ▶ `update-updmap` is replaced by `update-language` or `update-fmtutil`
- ▶ `updmap(-sys` is replaced by `fmtutil-sys`

Other things which might be of interest

We are trying to keep the Debian T_EX system as up to date as possible, within the precincts of stability for a release:

- ▶ T_EX Live 2007 is in Debian/unstable, bringing XeT_EX to Debian users (and hopefully soon in testing)
- ▶ LuaT_EX(-snapshot) is in Debian/unstable
- ▶ independent ConT_EXt packages (independent from the T_EX Live packages) are included and updated regularly

Current work

The Debian T_EX Task Force
(debian-tex-maint@lists.debian.org) is
currently working on:

- ▶ smoothing the upgrade from teT_EX3 and T_EX Live 2005 to T_EX Live 2007
- ▶ trying to make all packages in Debian currently depending on teT_EX only to work with T_EX Live (run dependencies are more or less done, build-deps open)
- ▶ (planned) creating backports of T_EX Live 2007 and other packages for Debian Etch
- ▶ drowning in bugs since the upload to unstable ;-)

Conclusion

If you want to help

ML `debian-tex-maint@lists.debian.org`
SVN `http://svn.debian.org/wsvn/debian-tex`

The Subversion repository contains all the Debian specific code for the following packages: T_EX Common (Debian specific), T_EX Live, T_EXinfo, Latin Modern fonts, CM-Super fonts, ConT_EXt, LuaT_EX.

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Thanks for the attention