README for project latex-tds

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1. Project latex-tds

> Bundle `latex-tds' provides a set of ZIP file modules containing TDS-
> compliant trees for items of the LaTeX distribution (both the base system
> and required packages), together with `user-friendly' documentation (PDF
> files with navigation support using bookmarks and links).

Version:

    2014/11/12

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CTAN home page with distribution files:

> CTAN:macros/latex/contrib/latex-tds/

Source repository (without distribution files):

> https://github.com/oberdiek/latex-tds

1.1. How it has started

The project started as I wanted to install the new LaTeX release 2005/12/01 that was announced at 2006/04/27. However the files are not packed in TDS format, ready for unpacking in the destination directory. And the documentation files were not yet generated or the provided PDF files are lacking of basic features such as bookmarks or link support. Thus this project has started. I thought it could be finished during the afternoon at the day of the announcement …

1.2. Goals of the project

- From the sources a TDS compliant tree is constructed and populated. The zipped result is distributed.

- All the documentation is generated from the sources. The PDF files are user friendly and provide navigational support with bookmarks and links.

- The PDF files are post-processed to reduce the file size.

1.3. Scope

I do not have the time to assemble a TeX distribution with thousands of packages. Therefore I restricted myself to the LaTeX base distribution and the required bundles. In the following I will use the term 'module' for a package bundle.

1.4. Module list

The link addresses are the sources for the modules.

base

> CTAN:macros/latex/base.zip
> CTAN:macros/latex/doc.zip
> http://www.latex-project.org/guides/lb2.err
> http://www.latex-project.org/guides/lgc2.err

http://www.latex-project.org/guides/manual.err

http://www.latex-project.org/guides/tlc2.err

tools

CTAN:macros/latex/required/tools.zip

cyrillic

CTAN:macros/latex/required/cyrillic.zip

amslatex

CTAN:install/macros/latex/required/amslatex/amscls.tds.zip

CTAN:install/macros/latex/required/amslatex/math.tds.zip

CTAN:macros/latex/contrib/amsrefs.zip

CTAN:macros/latex/required/amslatex.zip

ftp://ftp.ams.org/pub/tex/amsrefs/amsrefs.zip

ftp://ftp.ams.org/pub/tex/amscls.zip

ftp://ftp.ams.org/pub/tex/amsmath.zip

patch/amsbooka.zip

amsfonts

CTAN:install/fonts/amsfonts.tds.zip

psnfss

CTAN:macros/latex/required/psnfss.zip

tds

CTAN:tds.zip

knuth

CTAN:systems/knuth/dist/errata.zip

CTAN:systems/knuth/dist/etc.zip

CTAN:systems/knuth/dist/mfware.zip

CTAN:systems/knuth/dist/texware.zip

CTAN:systems/knuth/dist/web.zip

CTAN:systems/knuth/dist/tex.zip

CTAN:systems/knuth/dist/mf.zip

etex

CTAN:systems/e-tex/v2.1/etex_doc.zip

2. Abbreviations, Glossary

CTAN

Comprehensive TeX Archive Network.

FAQ entry: http://www.tex.ac.uk/cgi-bin/texfaq2html?label=archives

For example, you can resolve the prefix CTAN: by using http://mirror.ctan.org/.

latex-tds

> The name of this project.

TDS

> TeX Directory Structure.
>
> FAQ entry: http://www.tex.ac.uk/cgi-bin/texfaq2html?label=tds
>
> Specification: http://www.ctan.org/pkg/tds

3. Download

The home of the project is located at:

> CTAN:macros/latex/contrib/latex-tds/

The following files can be downloaded:

- README, README.html, README.pdf: The README file in different formats.

- <module>.tds.zip: The module distribution files, see section 'Module list' above for the available modules.

- source.tds.zip: The sources, mainly the build script, configuration and driver files, and patches. Some of the used tools are not provided, see section 'Build Hints'.

- latex-tds.tds.zip: The universe, the contents of all the ZIP files above, merged together.

4. Installation Hints

Hopefully the result of this project helps you in the installation process. You get a TDS compliant tree just by unpacking.

Example:

```
cd /some/where/texmf
unzip latex-tds
```

or unzip's option -d:

```
unzip latex-tds -d /some/where/texmf
```

Instead of the universe ZIP file single modules can be selected.

Important to remember, point your unpack process right in the root directory of your TDS

tree. The directory structure in the ZIP files start with the top-level directories:

```
doc/latex/base/...
tex/latex/tools/...
source/...
```

Rationale: The root directory of a TDS tree can have different names, such as texmf-dist, texmf-local, …

4.1. Hints

- Refresh the file name database.

- Be aware that unpacking can insert and update files, but never deletes obsolete ones. Remainders of previous releases can cause trouble.

- Depending on the module further installation steps can be necessary, consult the module's own documentation.

4.1.1. Module base

- The default texsys.cfg that LaTeX provides is put into TDS:tex/latex/base. It must be removed, if you need a specialized version. Consult your TeX distribution and TDS:doc/latex/base/source2e.pdf (module ltdirchk). Usually changes are not required for many TeX distributions such as Unix (web2c), MikTeX, …

- Formats need rebuilding (e.g., fmtutil).

4.1.2. Module psnfss

- The map files need further configuring (e.g., updmap).

4.1.3. Module graphics

- Module graphics does not provide all driver files, because some are developed independently (pdftex.def, …).

5. Copyright, License

Copyright © 2006-2014 Heiko Oberdiek.

License is **LPPL 1.3c**:

This work may be distributed and/or modified under the conditions of the LaTeX Project Public License, either version 1.3 of this license or (at your option) any later version. The latest version of this license is in

```
http://www.latex-project.org/lppl.txt
```

and version 1.3c or later is part of all distributions of LaTeX version 2005/12/01 or later.

This work has the LPPL maintenance status 'maintained'.

The Current Maintainer of this work is Heiko Oberdiek.

See the following section 'Manifest' for a list of all files belonging to the project 'latex-tds'.

6. Manifest

Included are the projects 'adjust_checksum' and 'ziptimetree'. They are projects of their own.

6.1. Documentation

README	plain text file
README.html	standalone HTML file
README.pdf	PDF version
README.asciidoc	main source code in text document format AsciiDoc
README-docinfo.html	source code, read by asciidoc to generate README.html

6.2. Licenses

license/lppl.txt	LPPL (The LaTeX Project Public License) for latex-tds and adjust_checksum
license/ziptimetree/lgpl.txt	LGPL (GNU Lesser General Public License) for ziptimetree, check-ascii, check-eolspaces

6.3. Scripts

build.pl	main script for building the distribution
lib/adjust_checksum.pl	Perl script that runs a DTX file through LaTeX and corrects its \Checksum if necessary
lib/check-ascii.pl	Perl script that looks for non-ASCII characters

lib/check-eolspaces.pl	Perl script that looks for trailing spaces
lib/check-tds-installation.pl	Perl script that compares a module with an installation inside a TDS tree.
lib/ziptimetree.pl	Perl script that generates a ZIP file from a directory tree with sorted entries (LGPL)

6.4. Configuration

tex/docstrip.cfg	enables TDS feature and creates directories
tex/errata.cfg	for errata lists of latex/base
tex/fix-expl3-lua.ini	fix for expl3, if used in format file
tex/hyperref.cfg	hyperref configuration file
tex/ltnews.cfg	for LaTeX News of latex/base
tex/ltugboat.cls	setup for class ltugboat
tex/ltxdoc.cfg	setup for class ltxdoc
tex/ltxguide.cfg	setup for the guide manuals in latex/base and required/psnfss
tex/lualatex-tds.ini	init file for format generation for LuaTeX
tex/lualatex-tds2.ini	init file for LuaTeX format without LM Math
tex/manual.cfg	setup for errata list of the LaTeX manual in latex/base
tex/pdflatex-tds.ini	init file for format generation for pdfTeX
tex/tdsguide.cfg	setup for class tdsguide.cls

6.5. Documentation driver

tex/ams.drv	generic doc driver for files from the amslatex bundle
tex/doc_lppl.tex	doc driver for base/lppl.tex

tex/errata.all	doc driver for knuth/errata/errata.pdf
tex/errata.drv	doc driver for knuth/errata/errata_*.pdf
tex/errorlog.drv	doc driver for knuth/errata/errorlog.tex
tex/etex_man.drv	doc driver for etex/etex_man.tex
tex/knuth.drv	doc driver for knuth/{texware,mfware,etc}+/*.web+
tex/knuth-outline.tex	outline file list for module knuth
tex/ltnews.tex	master file that merges all base/ltnews*.tex
tex/ltxcheck.drv	doc driver with patches for ltxcheck.tex
tex/psnfss2e.drv	doc driver with patches for psnfss2e.tex
tex/tools-overview.cls	class for tools.tex
tex/tools.tex	master file for tools overview, generated by the build.pl script from tools/manifest.txt

6.6. Patches

Diff/patch file	Patched file
patch/amsbooka.zip	amslatex/amsbooka.*
patch/amsclass.dtx.diff	amslatex/amsclass.dtx
patch/amsfndoc.def.diff	amsfonts/amsfndoc.def
patch/amsfndoc.tex.diff	amsfonts/amsfndoc.tex
patch/amsldoc.tex.diff	amslatex/amsldoc.tex
patch/changes.tex.diff	amslatex/amsrefs/changes.tex
patch/encguide.tex.diff	base/encguide.tex
patch/errorlog.tex.diff	knuth/errata/errorlog.tex
patch/logmac.tex.diff	knuth/errata/logmac.tex
patch/source2e.tex.diff	base/source2e.tex
patch/tlc2.err.diff	base/tlc2.err
patch/trapman.tex.diff	knuth/mf/trapman.tex
patch/tripman.tex.diff	knuth/tex/tripman.tex

Diff/patch file	Patched file
patch/utf8ienc.dtx.diff	base/utf8ienc.dtx
patch/webman.tex.diff	knuth/web/webman.tex

7. Design Principles

- Compliance with the latest TDS specification.

- No redundancy.

- User friendly PDF files with navigational support:
    - bookmarks
    - links

- Complete documentation. The documentation generation with enhanced PDF files is the tricky part and should be saved from the user.

- Output format of generated documentation is PDF, see above. Other formats such as DVI or PS are not generated and provided.

- Documentation bundles are preferred to many partial documentation files (e.g. source2e.pdf or ltnews.pdf).

- If several expansion stages of a documentation are available, then just the most complete expansion stage should be used.

- Files that do not fit in a program sub tree of TDS stay below TDS:source (e.g. latexbug.el from latex/base). Then they do not get lost at least.

- Page layout: a4paper with reduced vertical margins (exception: ltnews). (This also decreases the page number usually.)

- …

8. Remarks

8.1. Base

- source2e.pdf is used instead of many single lt*.pdf files.

- ltnews.pdf is introduced to avoid cluttering the doc directory with many single sheet ltnews*.pdf files.

- Patch for ltfssdcl.dtx: Checksum fixed.

- …

8.2. Tools

- Added: tools.pdf as overview/contents/index file with links and short descriptions of the single packages. (It uses the data from manifest.txt).

- …

8.3. Knuth

- Current CTAN → TDS mapping in use: CTAN:systems/knuth/dist → TDS: ⟨toplevel⟩/knuth

- Unsure where to put trip/trap files. Currently they are put in TDS:source, because the documentation files (tripman.pdf, trapman.pdf) are in TDS:doc. They lists the trip/trap files already.

- Not covered is CTAN:systems/knuth/dist/lib/ In TeX Live 2007/2008 the files are installed at different locations:

  texmf-dist/fonts/source/public/mflogo/logo10.mf
  texmf-dist/fonts/source/public/mflogo/logo8.mf
  texmf-dist/fonts/source/public/mflogo/logo9.mf
  texmf-dist/fonts/source/public/mflogo/logobf10.mf
  texmf-dist/fonts/source/public/mflogo/logo.mf
  texmf-dist/fonts/source/public/mflogo/logosl10.mf
  texmf-dist/fonts/source/public/misc/grayf.mf
  texmf-dist/fonts/source/public/misc/manfnt.mf
  texmf-dist/fonts/source/public/misc/slant.mf
  texmf-dist/metafont/base/expr.mf
  texmf-dist/metafont/base/io.mf
  texmf-dist/metafont/base/null.mf
  texmf-dist/metafont/base/plain.mf
  texmf-dist/metafont/misc/3test.mf
  texmf-dist/metafont/misc/6test.mf
  texmf-dist/metafont/misc/rtest.mf
  texmf-dist/metafont/misc/test.mf
  texmf-dist/metafont/misc/waits.mf
  texmf-dist/metafont/misc/ztest.mf
  texmf-dist/mft/base/cmbase.mft
  texmf-dist/mft/base/plain.mft
  texmf-dist/tex/generic/misc/null.tex
  texmf-dist/tex/plain/base/manmac.tex

texmf-dist/tex/plain/base/mftmac.tex

texmf-dist/tex/plain/base/plain.tex

texmf-dist/tex/plain/base/story.tex

texmf-dist/tex/plain/base/testfont.tex

texmf-dist/tex/plain/base/webmac.tex

texmf/tex/generic/hyphen/hyphen.tex

8.4. e-TeX

- Only the manual 'etex_man' is covered by this module.

9. Build Hints

The most important advice I can give: 'Forget it'! The purpose of the source files are rather to show, what was done in which way. The *.zip with TDS trees are the goal of the project, not the build process. Some remarks, if someone wants to build the modules himself:

- TeX compiler: LuaTeX and pdfTeX (≥ 1.30).

- An up-to-date LaTeX installation, at least TeX Live 2012.

- Additional packages can be necessary, e.g. CTAN:language/armenian/armtex.zip is not part of TeX Live 2012.

- Most of the PDF files are generated using lualatex and package 'fontspec' that uses the Latin Modern fonts as default. They are available as OpenType fonts. LuaTeX generates with OpenType fonts considerably smaller PDF files. Also PDF object stream compression is used (PDF 1.5). Therefore the further post-processing of PDF files are currently dropped.

- (Outdated since 2011-07-01) PDF post-processing, I have used two steps:

  1. First step:

     a. I have written a tool that analyzes page stream contents and optimizes them (removal of unnecessary color settings, minimize translation operations, …) → pdfbox-rewrite.jar.

     b. For reading and writing the PDF file I have used PDFBox → PDFBox-0.7.2.jar (http://pdfbox.apache.org/).

     c. To get better results I patched some of the classes of PDFBox (especially the write module) → pdfbox-rewrite.jar.

  2. The final conversion step was done by Multivalent, because it makes a very good job in PDF compression: → Multivalent20060102.jar (http://multivalent.sourceforge.net/)

Multivalent and PDFBox are available, pdfbox-rewrite.jar, however, is just a first prototype, not ripe for a release. Therefore this step of post-processing is optional for the project latex-tds. The build script looks for the library and skips this steps automatically if necessary. If you give the build script the option --nopostprocess, then it will skip the postprocess steps (building is faster, the pdf files a little larger). Install the jar files in the directory lib where they are expected by the build script.

- Unix, Perl background is expected.

- No support or documentation.

10. History

2006/04/27

- Start of the project (without babel, amslatex, psnfss).

2006/06/01

- Module amslatex added.

2006/06/03

- Modules psnfss and babel added, now all modules are covered.

2006/06/07

- The project uploaded to CTAN.

2006/07/31

- Index added to base/classes.dtx.

- ZIP files renamed: *-tds.zip → *.zip

- Comment added to ZIP files.

- Update of readme.txt.

2006/08/26

- Module tds for CTAN:tds/ added.

- Obsolete hyphenation patterns added to babel's source directory to avoid violation of LPPL.

- Script adjust_checksum added and scripts are put below TDS:scripts.

- TDS:makeindex/base/ renamed to TDS:makeindex/latex/

- Exception for sample2e.tex and small2e.tex that now go into TDS:tex/latex/base/.

2006/08/28

- Default texsys.cfg is generated.

- adjust_checksum.pl and ziptimetree.pl now moved from the scripts branch to TDS:source/latex/latex-tds/lib/.

2006/12/27

- Fix of ltxguide.cfg that had loaded doc.sty that disturbs the verbatim stuff in fntguide.tex.

2007/01/08

- Fix for documentation of longtable.

2007/03/19

- Patch for babel/latin.dtx added (babel/3922).

2007/09/04

- A minor update on CTAN regarding babel: iahyphen.tex, icehyph.tex, and lahyph.tex are now symbolic links to their location in CTAN:language/hyphenation/. Therefore also lahyph.tex is now installed in TDS:tex/generic/hyphen/.

2007/10/18

- Update of module amslatex because of updated package amsrefs.
- Fix in latin.dtx.diff.

2007/10/24

- Update of babel.
- Update of amsrefs (TDS:tex/latex/amscls → TDS:tex/latex/amsrefs).

2008/04/01

- Update of babel (2008/03/17).

2008/04/02

- Fix: latex/base/*.err added to TDS:source/latex/base/.

2008/04/05

- Using .tds.zip instead of .zip to follow CTAN:install's naming conventions.

2008/06/28

- Update of babel (2008/06/01).
- Babel documentation: table of contents reformatted.

2008/07/07

- Update of babel (2008/07/06).

2008/07/10

- Module knuth added.

- Update of babel (2008/07/07).

2008/07/11

- Fixes and additions for module knuth.

2008/07/25

- Module amslatex: instr-l.tex vanished from CTAN (but not at AMS side).

- Some unwanted spaces in generated PDF files fixed. (Caused by a wrong package file that was found on my system first.)

2008/08/10

- Module latex3 added.

- Module base: CTAN hyperlinks fixed.

- Module amslatex: Outdated URL fixed in amsldoc.tex.

- Module babel: Problem with already defined \meta in tb1604.tex fixed.

2008/09/06

- Module base:

    ○ Using uptodate versions from LaTeX project page for errata lists.

    ○ lgc2.err added (LaTeX Graphics Companion, 2. ed.).

    ○ Various fixes in errata lists.

- Module tools: array.dtx: documentation fixed (tools/4044).

2008/09/10

- Module base: Missing title date for utf8ienc.pdf fixed.

2009/09/05

- Module amslatex: updated.

- Module latex3: xpackages updated.

- Module latex3: expl3 removed, because nothing to do.

2009/09/25

- Module amslatex: updated.

- Module babel: updated.

- Update of LaTeX, release 2009/09/24.

2009/12/07

- Module amslatex: Unhappily the .zip files are quite a mess, because they contain a mixup of old and new versions. Tried to sort this out and fix the last update.

- Module latex3: xpackages removed, because nothing to do.

- Module latex3 removed, nothing left to do.

2010/05/04

- Module base: page layout for source2e fixed (changes, index).

- Module base: update of .err files.

2010/10/27

- Module amslatex: amscls and amsrefs updated.

- Module etex added (only for etex_man).

- Erratas updated.

2011/03/10

- Module base: patch for latex/4148 (Missing \label and \ref in lppl.tex).

2011/04/18

- Module amslatex: There is an outdated version of amsthm.sty in
  CTAN:install/macros/latex/required/amslatex/amscls.tds.zip. The package
  amsthm.sty is now generated from the source.

- Using TDS tree for missing packages that are not part of TeX Live. Module
  base: CTAN:language/armenian/armtex.zip.

2011/06/24

- Module amslatex: Two downloads from AMS server removed, because the
  files are not longer available (and they are on CTAN).

- Module amslatex: 00readme.txt and amsrefs.dtx taken from
  CTAN:macros/latex/contrib/amsrefs.zip instead of
  CTAN:install/macros/latex/contrib/amsrefs.tds.zip because the later archive
  file is out of sync.

2011/06/30

- Module base:
  - Update of LaTeX, release 2011/06/27.
  - Patch ltpatch.ltx to match the kernel version.
  - Patch lppl.tex.diff removed (no longer needed).
  - Patch ltfssdcl.dtx.diff added (checksum fixed).
- Module tools: Release 2011/06.
- Module babel: Release 2011/06.

2011/07/01

- PDF generation:
    - Use of LuaTeX instead of pdfTeX for most of the files.
    - Use of package 'fontspec' with Latin Modern fonts as default in OpenType format (smaller PDF file sizes). The post-processing of PDF files is skipped.
    - Various patches and fixes for LuaLaTeX and package 'fontspec'.
- Module base:
    - Update of LaTeX.
    - Patches ltpatch.ltx.diff and ltfssdcl.dtx.diff removed (no longer needed).
- Module tools: Update.

2011/07/03

- build.pl:
    - Caching for PDF generation added.
    - 'FINAL' markers in the output of build.pl for final (Lua|pdf)TeX runs.

2011/07/26

- PDF generation: Use of package unicode-math with Latin Modern Math where possible.

2011/08/10

- Update of tools.

2011/10/05

- Update of tools (varioref).

2011/11/16

- Update of babel.

2012/05/12

- Update of amslatex (amsrefs).
- Update of readme.txt that is renamed to README (CTAN convention).
- Update of tlc2.err.

2013/02/14

- Update of amslatex (amsrefs).
- Module amslatex: cite-x*.tex, jb.bib in TDS:source/, because these files are now classified as test files.
- Module base: lb2.err and tlc2.err updated.

- Change in version control system from CVS to git with public source repository.

2013/02/15

- Module amsfonts added.

2013/02/25

- Patch file lb2.err.diff removed by call of sed inside build.pl.

- README rewritten in text document format AsciiDoc and added as HTML and PDF files.

- README.asciidoc updated.

- Makefile: Target 'check-links' added.

2013/02/26

- README generated from README.asciidoc via README.html.

2013/02/27

- README.asciidoc: Additions and updates.

- README.pdf generated by wkhtmltopdf via README.html.

2013/03/07

- Update of amslatex (amsrefs 2013/03/06 v2.13).

2013/03/10

- Update of amslatex (amsrefs 2013/03/07 v2.14).

2013/03/30

- Update of babel (3.9) including reorganization of language files.

2014/02/03

- Removal of module babel. It has a new maintainer and the languages are now maintained separately.

- Update of knuth (2014/01/19).

- Update of base (errata lists: lb2.err, tlc2.err).

2014/05/03

- Update of LaTeX, release 2014/05/01 using public subversion repository of LaTeX2e. Modules: base, cyrillic, graphics, tools.

- Line ends are normalized in source text files of the LaTeX modules. Trailing spaces are removed and the line ends are Unix line ends.

- Update of armtex (needed to generate module base).

- New options --vcs and --vcs-update for using the files of the public source

repository of the LaTeX project.

2014/05/05

- Using LaTeX modules from CTAN.

2014/05/08

- Update of base and graphics.
- README.html with Unix line ends.
- ZIP file for CTAN upload with top level directory latex-tds.

2014/05/10

- Module cyrillic: Missing 00readme.txt added.

2014/05/15

- Module base: fix-cm updated (2014/05/13 v1.1q).
- Module tools: tabularx updated (2014/05/13 v2.10).
- Module tools: readme.txt renamed to 00readme.txt.
- Module knuth: .web files are put below TDS:web/knuth//.

2014/05/16

- Module base: Formatting of ltnews.pdf fixed.
- fix-expl3-lua.ini added to support putting package expl into a format.
- Script check-tds-installation.pl added.
- Module amslatex: TDS:bibtex/bst/ams renamed to TDS:bibtex/bst/amscls.

2014/05/21

- Module amslatex: Sources for amsbooka added.

2014/06/12

- Module base: Update of fixltx2e.dtx.

2014/09/17

- Module tools: Update of packages varioref and multicol.
- Module base: Update of fixltx2e.

2014/11/03

- Module base: Update (2014-10-12).
- Module tools: Update (2014-10-28).

2014/11/12

- Module graphics: Update (2014-11-07).

- Modules base, cyrillic, graphics, tools: 00readme.txt renamed to README.

- Module amslatex: Missing amsbooka.zip added to directory patch (until it is resolved at the AMS side).

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