The stampinclude package

Heiko Oberdiek
<heiko.oberdiek at googlemail.com>

2008/07/14 v1.0

Abstract

The package replaces `\includeonly` and selects the files for `\include` by inspecting the time stamp of the `.aux` file. The file is selected for inclusion if the `.aux` file does not yet exist or is older than the corresponding `.tex` file.

Contents

1 Documentation

1.1 Introduction

LaTeX provides two commands `\include` and `\includeonly` that helps in organizing large projects. Example for a master file:

```
\documentclass{book}
  % \includeonly{}
\begin{document}
 \include{fileA}
```

```
  \include{fileB}
  \include{fileC}
\end{document}
```

All files are read and compiled if `\includeonly` is not executed. Otherwise you can give `\includeonly` a list of files in the preamble, e.g.:

```
\includeonly{fileA,fileC}
```

Now only files `fileA.tex` and `fileC.tex` are read and compiled.

If you change file `fileB.tex` and want to see only this file, then you must change the line with `\includeonly` to

```
\includeonly{fileB}
```

It is tedious to do this again and again, if different files are changed.

Package askinclude [1] offers a solution for this problem. It interactively asks for the files to be included and saves the user from editing the master file.

This package stampinclude goes another way. LaTeX reads and writes a separate `.aux` file for each file that is included by `\include`. There LaTeX remembers counter valuses. Changed `.tex` files can therefore be detected by comparing the file date stamp of the `.tex` file with the date stamp of its `.aux` file. Since version 1.30.0 pdfTeX provides `\pdffilemoddate` that reads the file date stamp. Thus this package uses this command and redefines `\include` to include the files that do not have `.aux` files yet or that are newer than its `.aux` file. `\includeonly` is ignored.

1.2 Usage

The package is loaded as normal LaTeX package without options:

```
\usepackage{stampinclude}
```

Alternatively the package may be loaded on the command line (Example for shell 'bash'):

```
latex '\AtBeginDocument{\usepackage{stampinclude}}\input{master}'
```

Without `\AtBeginDocument` (and `\RequirePackage` instead of `\usepackage`) TeX would name the document `stampinclude.dvi` instead of `master.dvi`.

1.3 Limitations

1.3.1 Other file dependencies

A file that is included by `\include` may input ore reference other files:

- other TeX files using `\input`,
- graphics files (`\includegraphics`),
- listings of external files,
- ...

Updates of those files are not detected by this package. It limits the date stamp comparison of an `.aux` file to its `.tex` file.

1.3.2 \include dependencies

In the example, given in the introduction 1.1, three files fileA, fileB, and fileC are included in this order. Now file fileA is changed by adding four pages, fileB remains untouched, and fileC is also updated. Then the package only selects fileA and fileC for inclusion. File fileB is not included. But LaTeX has stored the counter values that are active at the end of fileB in fileB.aux in one of the previous runs when fileB was included. However the later addition of four pages in fileA was not known at that time. Therefore fileB.aux is out of date and the inclusion of file fileC starts with wrong counter values (especially the page counter).

1.3.3 Summary

This package stampinclude and the \include feature helps in accelerating the LaTeX compilation. But it is not intended for generating the final version. For the final version of the document it is better to include *all* files to get all counter values right. Then this package and any \includeonly lines should be commented out:

```
% \usepackage{stampinclude}
% \includeonly{...}
```

1.4 Requirements

- pdfTeX v1.30.0 (because of \pdffilemoddate and \pdfstrcmp), both modes for DVI and PDF are supported.
- Alternatively LuaTeX may be used. It lacks \pdffilemoddate and \pdfstrcmp. But its services are provided by package pdftexcmds [2] that is automatically loaded.

2 Implementation

```
⟨*package⟩
\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{stampinclude}
  [2008/07/14 v1.0 Include files based on time stamps (HO)]%
```

```
\RequirePackage{pdftexcmds}[2007/12/12]%
```

```
\begingroup
  \chardef\x=1 %
  \expandafter\ifx\csname pdf@filemoddate\endcsname\relax
    \chardef\x=0 %
  \fi
  \expandafter\ifx\csname pdf@strcmp\endcsname\relax
    \chardef\x=0 %
  \fi
\expandafter\endgroup\ifcase\x
  \PackageWarningNoLine{stampinclude}{%
    \string\pdffilemoddate\space or %
    \string\pdfstrcmp\space are not found,\MessageBreak
    that are provided by pdfTeX >= 1.30.0.\MessageBreak
    Also LuaTeX is not detected.\MessageBreak
    Therefore package loading is aborted%
  }%
  \expandafter\endinput
\fi
```

\SInc@org@include

```
\let\SInc@org@include\@include
```

\@include

```
\def\@include#1 {%
  \IfFileExists{#1.aux}{%
    \ifnum\pdf@strcmp{\pdf@filemoddate{#1.aux}}%
                    {\pdf@filemoddate{#1.tex}}<0 %
      \ifx\@partlist\@empty
        \gdef\@partlist{{#1}}%
      \else
        \g@addto@macro\@partlist{,{#1}}%
      \fi
    \fi
  }{%
    \ifx\@partlist\@empty
      \gdef\@partlist{{#1}}%
    \else
      \g@addto@macro\@partlist{,{#1}}%
    \fi
  }%
  \SInc@org@include{#1} \relax
}
```

\includeonly Macro `\includeonly` is ignored.

```
\renewcommand*{\includeonly}[1]{%
  \PackageInfo{stampinclude}{%
    Ignoring \string\includeonly
  }%
}
```

Simulate `\includeonly`.

```
\@partswtrue
\gdef\@partlist{}
```

Print included files at end of document.

```
\AtEndDocument{%
  \begingroup
    \expandafter\let\expandafter\@partlist\expandafter\@empty
    \expandafter\@for\expandafter\reserved@a
    \expandafter:\expandafter=\@partlist\do{%
      \ifx\@partlist\@empty
        \edef\@partlist{\reserved@a}%
      \else
        \edef\@partlist{\@partlist, \reserved@a}%
      \fi
    }%
    \typeout{********************%
             ********************%
             ********************%
             ******************%
    }%
    \ifx\@partlist\@empty
      \typeout{[stampinclude] No included files.}%
    \else
      \typeout{[stampinclude] Included files:}%
      \typeout{\@partlist}%
    \fi
    \typeout{********************%
             ********************%
             ********************%
             ******************%
    }%
  \endgroup
}
⟨/package⟩
```

3 Installation

3.1 Download

Package. This package is available on CTAN[1]:

CTAN:macros/latex/contrib/oberdiek/stampinclude.dtx The source file.

CTAN:macros/latex/contrib/oberdiek/stampinclude.pdf Documentation.

Bundle. All the packages of the bundle 'oberdiek' are also available in a TDS compliant ZIP archive. There the packages are already unpacked and the documentation files are generated. The files and directories obey the TDS standard.

CTAN:install/macros/latex/contrib/oberdiek.tds.zip

TDS refers to the standard "A Directory Structure for TEX Files" (CTAN:tds/tds.pdf). Directories with `texmf` in their name are usually organized this way.

3.2 Bundle installation

Unpacking. Unpack the `oberdiek.tds.zip` in the TDS tree (also known as `texmf` tree) of your choice. Example (linux):

```
unzip oberdiek.tds.zip -d ~/texmf
```

Script installation. Check the directory `TDS:scripts/oberdiek/` for scripts that need further installation steps. Package attachfile2 comes with the Perl script `pdfatfi.pl` that should be installed in such a way that it can be called as `pdfatfi`. Example (linux):

```
chmod +x scripts/oberdiek/pdfatfi.pl
cp scripts/oberdiek/pdfatfi.pl /usr/local/bin/
```

3.3 Package installation

Unpacking. The `.dtx` file is a self-extracting docstrip archive. The files are extracted by running the `.dtx` through plain TEX:

```
tex stampinclude.dtx
```

TDS. Now the different files must be moved into the different directories in your installation TDS tree (also known as `texmf` tree):

```
stampinclude.sty → tex/latex/oberdiek/stampinclude.sty
stampinclude.pdf → doc/latex/oberdiek/stampinclude.pdf
stampinclude.dtx → source/latex/oberdiek/stampinclude.dtx
```

If you have a `docstrip.cfg` that configures and enables docstrip's TDS installing feature, then some files can already be in the right place, see the documentation of docstrip.

3.4 Refresh file name databases

If your TEX distribution (teTEX, mikTEX, …) relies on file name databases, you must refresh these. For example, teTEX users run `texhash` or `mktexlsr`.

[1] ftp://ftp.ctan.org/tex-archive/

3.5 Some details for the interested

Attached source. The PDF documentation on CTAN also includes the `.dtx` source file. It can be extracted by AcrobatReader 6 or higher. Another option is pdftk, e.g. unpack the file into the current directory:

```
pdftk stampinclude.pdf unpack_files output .
```

Unpacking with LaTeX. The `.dtx` chooses its action depending on the format:

plain TeX: Run docstrip and extract the files.

LaTeX: Generate the documentation.

If you insist on using LaTeX for docstrip (really, docstrip does not need LaTeX), then inform the autodetect routine about your intention:

```
latex \let\install=y\input{stampinclude.dtx}
```

Do not forget to quote the argument according to the demands of your shell.

Generating the documentation. You can use both the `.dtx` or the `.drv` to generate the documentation. The process can be configured by the configuration file `ltxdoc.cfg`. For instance, put this line into this file, if you want to have A4 as paper format:

```
\PassOptionsToClass{a4paper}{article}
```

An example follows how to generate the documentation with pdfLaTeX:

```
pdflatex stampinclude.dtx
makeindex -s gind.ist stampinclude.idx
pdflatex stampinclude.dtx
makeindex -s gind.ist stampinclude.idx
pdflatex stampinclude.dtx
```

4 Catalogue

The following XML file can be used as source for the TeX Catalogue. The elements `caption` and `description` are imported from the original XML file from the Catalogue. The name of the XML file in the Catalogue is `stampinclude.xml`.

```
⟨*catalogue⟩
<?xml version='1.0' encoding='us-ascii'?>
<!DOCTYPE entry SYSTEM 'catalogue.dtd'>
<entry datestamp='$Date$' modifier='$Author$' id='stampinclude'>
  <name>stampinclude</name>
  <caption>Inclusion based on .aux file date stamps.</caption>
  <authorref id='auth:oberdiek'/>
  <copyright owner='Heiko Oberdiek' year='2008'/>
  <license type='lppl1.3'/>
  <version number='1.0'/>
  <description>
    This package replaces <tt>\includeonly</tt> and selects the files for
    <tt>\include</tt> by inspecting the timestamp of the <tt>.aux</tt> file.
    The file is selected for inclusion if the <tt>.aux</tt> file does
    not yet exist or is older than the corresponding <tt>.tex</tt> file.
    <p/>
    The package is part of the <xref refid='oberdiek'>oberdiek</xref>
    bundle.
  </description>
  <documentation details='Package documentation'
      href='ctan:/macros/latex/contrib/oberdiek/stampinclude.pdf'/>
  <ctan file='true' path='/macros/latex/contrib/oberdiek/stampinclude.dtx'/>
  <miktex location='oberdiek'/>
  <texlive location='oberdiek'/>
  <install path='/macros/latex/contrib/oberdiek/oberdiek.tds.zip'/>
</entry>
⟨/catalogue⟩
```

5 References

[1] Pablo A. Straub, Heiko Oberdiek: *The askinclude package*; 2007/10/23 v2.0; CTAN:macros/latex/contrib/oberdiek/askinclude.pdf.

[2] Heiko Oberdiek: *The pdftexcmds package*; 2007/12/12 v0.3; CTAN:macros/latex/contrib/oberdiek/pdftexcmds.pdf.

6 History

[2008/07/14 v1.0]

- First version.

7 Index

Numbers written in italic refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; plain numbers refer to the code lines where the entry is used.