The \texttt{ifvtex} package

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Abstract

This package looks for \VT{E}X, implements and sets the switches \texttt{\ifvtex}, \texttt{\ifvtex(mode)}, \texttt{\ifvtexesx}. It works with plain or \LaTeX{} formats.

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1 Usage

The package \texttt{ifvtex} can be used with both plain \TeX{} and \LaTeX{}:

\texttt{plain \TeX{}: \textbackslash input ifvtex.sty}
\LaTeX{} 2: \texttt{usepackage{ifvtex}}

The package implements switches for \TeX{} and its different modes and interprets \texttt{\LaTeXversion}, \texttt{\OpMode}, and \texttt{\gexmode}.

\texttt{\ifvtex}

The package provides the switch \texttt{\ifvtex}:

\begin{verbatim}
\ifvtex
  ... do things, if \TeX{} is running ...
\else
  ... other \TeX{} compiler ...
\fi
\end{verbatim}

Users of the package \texttt{ifthen} can use the switch as boolean:

\begin{verbatim}
\boolean{ifvtex}
\end{verbatim}

\texttt{\ifvtexdvi} \texttt{\ifvtexpdf} \texttt{\ifvtexps} \texttt{\ifvtexhtml}

\TeX{} knows different output modes that can be asked by these switches.

\texttt{\ifvtexgex}

This switch shows, whether GeX is available.

2 \hspace{1em} \textbf{Implementation}

2.1 Reload check and package identification

\begin{verbatim}
1 (*package*)
2 \begin{group}
catcode61=10 % ^
\catcode13=5 % ^^M
\endlinechar=13 %
\catcode35=6 % #
\catcode39=12 % '
\catcode44=12 % ,
\catcode45=12 % -
\catcode46=12 % .
\catcode58=12 % :%
\catcode64=11 % @
\catcode123=1 % {
\catcode125=2 % }
\expandafter\let\expandafter\x\csname ver@ifvtex.sty\endcsname
\ifx\x\relax % plain-\TeX, first loading
\else
\expandafter\ifx\csname PackageInfo\endcsname\relax
\immediate\write-1{Package #1 Info: #2.}%
\else
% variable is initialized, but \ProvidesPackage not yet seen
\expandafter\csname PackageInfo\endcsname\relax
\def\empty{}%
\expandafter\ifx\csname PackageInfo\endcsname\relax
\immediate\write-1{Package #1 Info: #2.}%
\else
% \ifxsym\endcsname
\end{group}
\end{verbatim}

2
\ifx\ifvtex\relax
\PackageWarning{The package is already loaded}{}
\aftergroup\endinput
\fi
\fi
\endgroup

Package identification:
\begingroup\catcode61\catcode48\catcode32=10\relax
\catcode13=5 % ^^M
\endlinechar=13 %
\catcode35=6 % #
\catcode40=12 % (:
\catcode41=12 % )\)
\catcode44=12 % ,
\catcode45=12 % -
\catcode46=12 % .
\catcode47=12 % /
\catcode58=12 % :
\catcode64=11 % @
\catcode91=12 % [\[
\catcode93=12 % ]\]
\catcode123=1 % {
\catcode125=2 % }
\expandafter\ifx\csname ProvidesPackage\endcsname\relax
\def\x#1#2#3[#4]{\endgroup
\immediate\write-1{Package: #3 #4}\
\xdef#1{#4}\
}\else
\def\x#1#2[#3]{\endgroup
#2[#3]\
\ifx#1\@undefined
\xdef#1{#3}\
\fi
\ifx#1\relax
\xdef#1{#3}\
\fi
}\fi
\expandafter\if\csname ifvtex@AtEnd\endcsname
\endlinechar=\the\endlinechar\relax
\catcode13=\the\catcode13\relax
\catcode32=\the\catcode32\relax
\catcode35=\the\catcode35\relax
\catcode61=\the\catcode61\relax
\catcode64=\the\catcode64\relax
\fi
\expandafter\if\csname ifvtex\endcsname\relax
\catcode13=5 % ^^M
\endlinechar=13 %
\catcode35=6 % #
\catcode40=12 % (:
\catcode41=12 % )\)
\catcode44=12 % ,
\catcode45=12 % -
\catcode46=12 % .
\catcode47=12 % /
\catcode58=12 % :
\catcode64=11 % @
\catcode91=12 % [\[
\catcode93=12 % ]\]
\catcode123=1 % {
\catcode125=2 % }
\fi
\fi
\endgroup

\begin{document}

\begin{verbatim}
\begin{verbatim}
\end{document}
2.3 Check for previously defined `ifvtex`

\begingroup
\edef\i/{\csname ifvtex\endcsname}
\else
\PackageError{ifvtex}{\i/ is already defined}{}
\expandafter\PackageError\expandafter{ifvtex}{\i/ is already defined}{% 
\errhelp{Package ifvtex Error: #1}% \errmessage{Package ifvtex Error: #1}%
\fi
\endgroup

2.4 Provide `newif`

\begingroup
\expandafter\expandafter\expandafter\endgroup
\expandafter\ifx\csname newif\endcsname\relax
\PackageError{ifvtex}{#1}{#2}%
\expandafter\MessageBreak%
\fi
\endgroup
\expandafter\expandafter\expandafter\endgroup
\expandafter\ifx\csname ifx\endcsname\relax
\PackageError{ifvtex}{\i/ is already defined}{% 
\errhelp{Incompatible versions of \i/ can cause problems,\y
therefore package loading is aborted.}%
\fi
\endgroup

```text
\catcode123=\the\catcode123\relax
\catcode125=\the\catcode125\relax
\x\catcode61\catcode48\catcode32=10\relax
\catcode13=5 \^^M
\endlinechar=13 %
\catcode35=6 %
\catcode64=11 %
\catcode123=1 %
\catcode125=2 %
\def\TMP@EnsureCode#1#2{\def\ifvtex@AtEnd{\ifvtex@AtEnd
\catcode#1=\the\catcode#1\relax
\catcode#1=#2\relax}
\TMP@EnsureCode{10}{12}% ^^J
\TMP@EnsureCode{39}{12}% '
\TMP@EnsureCode{44}{12}% ,
\TMP@EnsureCode{45}{12}% -
\TMP@EnsureCode{46}{12}% .
\TMP@EnsureCode{47}{12}% /
\TMP@EnsureCode{58}{12}% :
\TMP@EnsureCode{60}{12}% <
\TMP@EnsureCode{62}{12}% >
\TMP@EnsureCode{94}{7}% ^
\TMP@EnsureCode{96}{12}% `
\edef\ifvtex@AtEnd{\ifvtex@AtEnd\noexpand\endinput}
```

\begin{verbatim}
2.3 Check for previously defined `ifvtex`
\begingroup
\edef\i/{\csname ifvtex\endcsname}
\else
\PackageError{ifvtex}{\i/ is already defined}{}
\expandafter\PackageError\expandafter{ifvtex}{\i/ is already defined}{% 
\errhelp{Package ifvtex Error: #1}% \errmessage{Package ifvtex Error: #1}%
\fi
\endgroup
\expandafter\expandafter\expandafter\endgroup
\expandafter\ifx\csname newif\endcsname\relax
\PackageError{ifvtex}{#1}{#2}%
\expandafter\MessageBreak%
\fi
\endgroup
\expandafter\expandafter\expandafter\endgroup
\expandafter\ifx\csname ifx\endcsname\relax
\PackageError{ifvtex}{\i/ is already defined}{% 
\errhelp{Incompatible versions of \i/ can cause problems,\y
therefore package loading is aborted.}%
\fi
\endgroup
```
Create and set the switch. \texttt{\newif} initializes the switch with \texttt{\iffalse}.

\begin{verbatim}
\ifvtex@newif
  \def\ifvtex@newif#1{%
    \begingroup
      \escapechar=-1 %
      \expandafter\endgroup
      \expandafter\ifvtex@@newif\string#1\@nil\}%
  \else
    \ifvtex@newif\ifvtex@newif\ifvtex@newif\ifvtex@newif\fi
  \fi
\end{verbatim}

\subsection*{2.5 \texttt{\ifvtex}}

\texttt{\ifvtex} Create and set the switch. \texttt{\newif} initializes the switch with \texttt{\iffalse}.

\begin{verbatim}
\ifvtex@newif\ifvtex
  \begingroup\expandafter\expandafter\expandafter\endgroup
  \expandafter\ifx\csname VTeXversion\endcsname\relax
    \else
      \begingroup\expandafter\expandafter\expandafter\endgroup
        \expandafter\ifx\csname OpMode\endcsname\relax
          \vtextrue
        \fi
      \fi
  \fi
\else
  \vtextrue
\fi
\end{verbatim}

\subsection*{2.6 Mode and GeX switches}

\begin{verbatim}
\ifvtex@newif\ifvtexdvi
\ifvtex@newif\ifvtexpdf
\ifvtex@newif\ifvtexpxs
\ifvtex@newif\ifvtexhtml
\ifvtex@newif\ifvtexgex
\ifvtex
  \ifcase\OpMode\relax
    \vtexdrintrue
  \or \vtexpdftrue
  \or \vtexpstrue
  \or \vtexpstrue
  \or \vtexhtmltrue
  \or \vtextrue
  \else
    \vtextrue
  \fi
\end{verbatim}
2.7 Protocol entry

Log comment:

\begin{group}
\ifx\csname PackageInfo\endcsname\relax
\def\x#1#2{\
\immediate\write-1{Package #1 Info: #2.}}\
\else
\let\x\PackageInfo
\let\csname on@line\endcsname\empty
\fi
\x{ifvtex}{VTeX \ifvtex\in DVI\fi \ifvtexpdf PDF\fi \ifvtexps PS\fi \ifvtexhtml HTML\fi \space mode \ifvtexgex\else out\space GeX \fi}
\else
not detected\fi
\end{group}

3 Test

3.1 Catcode checks for loading

\catcode\{=1 \catcode\}=2 \catcode\#=6 \catcode\@=11
\expandafter\ifx\csname count@\endcsname\relax\countdef\count@=255\\fi
\expandafter\ifx\csname @gobble\endcsname\relax\long\def\@gobble#1{}\\fi
\expandafter\ifx\csname @firstofone\endcsname\relax\long\def\@firstofone#1{#1}\\fi
\expandafter\ifx\csname loop\endcsname\relax\else\fi
4 Installation

4.1 Download

Package. This package is available on CTAN:\footnote{ftp://ftp.ctan.org/tex-archive/}: 


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 \texttt{texmf} in their name are usually organized this way.

4.2 Bundle installation

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

\begin{verbatim}
unzip oberdiek.tds.zip -d ~/texmf
\end{verbatim}

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):

\begin{verbatim}
chmod +x scripts/oberdiek/pdflatfi.pl
cp scripts/oberdiek/pdflatfi.pl /usr/local/bin/
\end{verbatim}

4.3 Package installation

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

\begin{verbatim}
tex ifvtex.dtx
\end{verbatim}
TDS. Now the different files must be moved into the different directories in your installation TDS tree (also known as \texttt{texmf} tree):

\begin{verbatim}
ifvtex.sty → tex/generic/oberdiek/ifvtex.sty
ifvtex.pdf → doc/latex/oberdiek/ifvtex.pdf
test/ifvtex-test1.tex → doc/latex/oberdiek/test/ifvtex-test1.tex
ifvtex.dtx → source/latex/oberdiek/ifvtex.dtx
\end{verbatim}

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

4.4 Refresh file name databases

If your \TeX{} distribution (\TeX{}, mik\TeX{}, ...) relies on file name databases, you must refresh these. For example, \TeX{} users run \texttt{texhash} or \texttt{mktexlsr}.

4.5 Some details for the interested

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

\begin{verbatim}
pdftk ifvtex.pdf unpack_files output .
\end{verbatim}

\textbf{Unpacking with \LaTeX{}.} The \texttt{.dtx} chooses its action depending on the format:

\begin{enumerate}
\item \texttt{plain \TeX{}}: Run \texttt{docstrip} and extract the files.
\item \texttt{\LaTeX{}}: Generate the documentation.
\end{enumerate}

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

\begin{verbatim}
ltx \let\install=y\input{ifvtex.dtx}
\end{verbatim}

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

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

\begin{verbatim}
\PassOptionsToClass{a4paper}{article}
\end{verbatim}

An example follows how to generate the documentation with pdf\LaTeX{}:

\begin{verbatim}
pdflatex ifvtex.dtx
makeindex -s gind.ist ifvtex.idx
pdflatex ifvtex.dtx
makeindex -s gind.ist ifvtex.idx
pdflatex ifvtex.dtx
\end{verbatim}

5 Catalogue

The following XML file can be used as source for the \TeX{} Catalogue. The elements \texttt{caption} and \texttt{description} are imported from the original XML file from the Catalogue. The name of the XML file in the Catalogue is \texttt{ifvtex.xml}.

\begin{verbatim}
<entry datestamp='$Date$' modifier='$Author$' id='ifvtex'>
323 ⟨*𭖼𭖺𭗍𭖺𭗅𭗈𭗀𭗎𭖾⟩
324 <?xml version='1.0' encoding='us-ascii'?>
325 <!DOCTYPE entry SYSTEM 'catalogue.dtd'>
326 <entry datestamp='$Date$' modifier='$Author$' id='ifvtex'>
\end{verbatim}
6 History

[2001/09/26 v1.0]
• First public version.

[2006/02/20 v1.1]
• DTX framework.
• Undefined tests changed.

[2007/01/10 v1.2]
• Fix of the \ProvidesPackage description.

[2007/09/09 v1.3]
• Catcode section added.

[2008/11/04 v1.4]
• Bug fix: Misspelled \OpMode (found by Hideo Umeki).

[2010/03/01 v1.5]
• Compatibility with iniTeX.

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.

Symbols
\%
\# 227 \@

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