

# The ifvtex package

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## Abstract

This package looks for VT<sub>E</sub>X, implements and sets the switches `\ifvtex`, `\ifvtex<mode>`, `\ifvtexgex`. It works with plain or L<sup>A</sup>T<sub>E</sub>X formats.

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## 1 Usage

The package ifvtex can be used with both plain-T<sub>E</sub>X and L<sup>A</sup>T<sub>E</sub>X:

plain-T<sub>E</sub>X: `\input ifvtex.sty`

L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>: `\usepackage{ifvtex}`

The package implements switches for  $\text{\TeX}$  and its different modes and interprets `\TeXversion`, `\OpMode`, and `\gexmode`.

`\ifvtex`

The package provides the switch `\ifvtex`:

```
\ifvtex
... do things, if  $\text{\TeX}$  is running ...
\else
... other  $\text{\TeX}$  compiler ...
\fi
```

Users of the package `ifthen` can use the switch as boolean:

```
\boolean{ifvtex}
```

`\ifvtexdvi`  
`\ifvtexpdf`  
`\ifvtexps`  
`\ifvtexhtml`

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

`\ifvtexgex`

This switch shows, whether GeX is available.

## 2 Implemenation

### 2.1 Reload check and package identification

```
1 \<{*package}
```

Reload check, especially if the package is not used with  $\text{\LaTeX}$ .

```
2 \begingroup
3   \catcode44 12 % ,
4   \catcode45 12 % -
5   \catcode46 12 % .
6   \catcode58 12 % :
7   \catcode64 11 % @
8   \catcode123 1 % {
9   \catcode125 2 % }
10  \expandafter\let\expandafter\x\csname ver@ifvtex.sty\endcsname
11  \ifx\x\relax % plain-TeX, first loading
12  \else
13    \def\empty{}%
14    \ifx\x\empty % LaTeX, first loading,
15      % variable is initialized, but \ProvidesPackage not yet seen
16    \else
17      \catcode35 6 % #
18      \expandafter\ifx\csname PackageInfo\endcsname\relax
19        \def\x#1#2{%
20          \immediate\write-1{Package #1 Info: #2.}%
21        }%
22      \else
23        \def\x#1#2{\PackageInfo{#1}{#2, stopped}}%
24      \fi
25      \x{ifvtex}{The package is already loaded}%
26  \aftergroup\endinput
```

```

27   \fi
28   \fi
29 \endgroup
Package identification:
30 \begingroup
31   \catcode35 6 % #
32   \catcode40 12 % (
33   \catcode41 12 % )
34   \catcode44 12 % ,
35   \catcode45 12 % -
36   \catcode46 12 % .
37   \catcode47 12 % /
38   \catcode58 12 % :
39   \catcode64 11 % @
40   \catcode91 12 % [
41   \catcode93 12 % ]
42   \catcode123 1 % {
43   \catcode125 2 % }
44   \expandafter\ifx\csname ProvidesPackage\endcsname\relax
45     \def\x#1#2#3[#4]{\endgroup
46       \immediate\write-1{Package: #3 #4}%
47       \xdef#1{#4}%
48     }%
49   \else
50     \def\x#1#2[#3]{\endgroup
51       #2[#{#3}]%
52       \ifx#1\@undefined
53         \xdef#1{#3}%
54       \fi
55       \ifx#1\relax
56         \xdef#1{#3}%
57       \fi
58     }%
59   \fi
60 \expandafter\x\csname ver@ifvtex.sty\endcsname
61 \ProvidesPackage{ifvtex}%
62 [2010/03/01 v1.5 Switches for detecting VTEX and its modes (HO)]

```

## 2.2 Catcodes

```

63 \begingroup
64   \catcode123 1 % {
65   \catcode125 2 % }
66   \def\x{\endgroup
67     \expandafter\edef\csname ifvtex@AtEnd\endcsname{%
68       \catcode35 \the\catcode35\relax
69       \catcode64 \the\catcode64\relax
70       \catcode123 \the\catcode123\relax
71       \catcode125 \the\catcode125\relax
72     }%
73   }%
74 \x
75 \catcode35 6 % #
76 \catcode64 11 % @
77 \catcode123 1 % {
78 \catcode125 2 % }
79 \def\TMP@EnsureCode#1#2{%
80   \edef@ifvtex@AtEnd{%
81     \ifvtex@AtEnd
82     \catcode#1 \the\catcode#1\relax
83   }%
84   \catcode#1 #2\relax
85 }

```

```

86 \TMP@EnsureCode{10}{12}% ^^J
87 \TMP@EnsureCode{39}{12}% '
88 \TMP@EnsureCode{44}{12}% ,
89 \TMP@EnsureCode{45}{12}% -
90 \TMP@EnsureCode{46}{12}% .
91 \TMP@EnsureCode{47}{12}% /
92 \TMP@EnsureCode{58}{12}% :
93 \TMP@EnsureCode{60}{12}% <
94 \TMP@EnsureCode{61}{12}% =
95 \TMP@EnsureCode{62}{12}% >
96 \TMP@EnsureCode{94}{7}% ^
97 \TMP@EnsureCode{96}{12}% '

```

## 2.3 Check for previously defined \ifvtex

```

98 \begingroup
99   \expandafter\ifx\csname ifvtex\endcsname\relax
100   \else
101     \edef\i/{\expandafter\string\csname ifvtex\endcsname}%
102     \expandafter\ifx\csname PackageError\endcsname\relax
103       \def\x#1#2{%
104         \edef\z{#2}%
105         \expandafter\errhelp\expandafter{\z}%
106         \errmessage{Package ifvtex Error: #1}%
107       }%
108       \def\y{^^J}%
109       \newlinechar=10 %
110     \else
111       \def\x#1#2{%
112         \PackageError{ifvtex}{#1}{#2}%
113       }%
114       \def\y{\MessageBreak}%
115     \fi
116     \x{Name clash, \i/ is already defined}{%
117       Incompatible versions of \i/ can cause problems,\y
118       therefore package loading is aborted.%
119     }%
120   \endgroup
121   \ifvtex@AtEnd
122   \expandafter\endinput
123 \fi
124 \endgroup

```

## 2.4 Provide \newif

```

125 \begingroup\expandafter\expandafter\expandafter\endgroup
126 \expandafter\ifx\csname newif\endcsname\relax

\ifvtex@newif

127 \def\ifvtex@newif#1{%
128   \begingroup
129   \escapechar=-1 %
130   \expandafter\endgroup
131   \expandafter\ifvtex@@newif\string#1\@nil
132 }%

\ifvtex@@newif

133 \def\ifvtex@@newif#1#2#3\@nil{%
134   \expandafter\edef\csname#3true\endcsname{%
135     \let
136     \expandafter\noexpand\csname if#3\endcsname
137     \expandafter\noexpand\csname iftrue\endcsname
138   }%
139   \expandafter\edef\csname#3false\endcsname{%

```

```

140     \let
141     \expandafter\noexpand\csname if#3\endcsname
142     \expandafter\noexpand\csname iffalse\endcsname
143   }%
144   \csname#3false\endcsname
145 }%

146 \else

\ifvtex@newif
147 \expandafter\let\expandafter\ifvtex@newif\csname newif\endcsname
148 \fi

```

## 2.5 \ifvtex

`\ifvtex` Create and set the switch. `\newif` initializes the switch with `\iffalse`.

```

149 \ifvtex@newif\ifvtex

150 \begingroup\expandafter\expandafter\expandafter\endgroup
151 \expandafter\ifx\csname VTeXversion\endcsname\relax
152 \else
153   \begingroup\expandafter\expandafter\expandafter\endgroup
154   \expandafter\ifx\csname OpMode\endcsname\relax
155   \else
156     \vtexttrue
157   \fi
158 \fi

```

## 2.6 Mode and GeX switches

```

159 \ifvtex@newif\ifvtexdvi
160 \ifvtex@newif\ifvtexpdf
161 \ifvtex@newif\ifvtexps
162 \ifvtex@newif\ifvtexhtml
163 \ifvtex@newif\ifvtexgex
164 \ifvtex
165   \ifcase\OpMode\relax
166     \vtextdvi true
167   \or % 1
168     \vtextpdf true
169   \or % 2
170     \vtextps true
171   \or % 3
172     \vtextps true
173   \or\or\or\or\or\or % 10
174     \vtexthtml true
175   \fi
176 \begingroup\expandafter\expandafter\expandafter\endgroup
177 \expandafter\ifx\csname gexmode\endcsname\relax
178 \else
179   \ifnum\gexmode>0 %
180     \vtextgex true
181   \fi
182 \fi
183 \fi

```

## 2.7 Protocol entry

Log comment:

```

184 \begingroup
185 \expandafter\ifx\csname PackageInfo\endcsname\relax
186   \def\x#1#2{%
187     \immediate\write-1{Package #1 Info: #2.}%

```

```

188 }%
189 \else
190   \let\x\PackageInfo
191   \expandafter\let\csname on@line\endcsname\empty
192 \fi
193 \x{ifvtex}{%
194   VTeX %
195   \ifvtex
196     in \ifvtexdvi DVI\fi
197     \ifvtexpdf PDF\fi
198     \ifvtexps PS\fi
199     \ifvtexhtml HTML\fi
200     \space mode %
201     with\ifvtexgex\else out\fi\space GeX %
202   \else
203     not %
204   \fi
205   detected%
206 }%
207 \endgroup
208 \ifvtex@AtEnd
209 \</package>

```

### 3 Test

#### 3.1 Catcode checks for loading

```

210 \<{*test1}
211 \catcode'\{=1 %
212 \catcode'\}=2 %
213 \catcode'\#=6 %
214 \catcode'\@=11 %
215 \expandafter\ifx\csname count@\endcsname\relax
216   \countdef\count@=255 %
217 \fi
218 \expandafter\ifx\csname @gobble\endcsname\relax
219   \long\def\@gobble#1{%
220 \fi
221 \expandafter\ifx\csname @firstofone\endcsname\relax
222   \long\def\@firstofone#1{#1}%
223 \fi
224 \expandafter\ifx\csname loop\endcsname\relax
225   \expandafter\@firstofone
226 \else
227   \expandafter\@gobble
228 \fi
229 {%
230   \def\loop#1\repeat{%
231     \def\body{#1}%
232     \iterate
233   }%
234   \def\iterate{%
235     \body
236     \let\next\iterate
237   \else
238     \let\next\relax
239   \fi
240   \next
241 }%
242 \let\repeat=\fi
243 }%

```

```

244 \def\RestoreCatcodes{}
245 \count@=0 %
246 \loop
247   \edef\RestoreCatcodes{%
248     \RestoreCatcodes
249     \catcode\the\count@=\the\catcode\count@\relax
250   }%
251 \ifnum\count@<255 %
252   \advance\count@ 1 %
253 \repeat
254
255 \def\RangeCatcodeInvalid#1#2{%
256   \count@=#1\relax
257   \loop
258     \catcode\count@=15 %
259   \ifnum\count@<#2\relax
260     \advance\count@ 1 %
261   \repeat
262 }
263 \expandafter\ifx\csname LoadCommand\endcsname\relax
264 \def\LoadCommand{\input ifvtex.sty\relax}%
265 \fi
266 \def\Test{%
267   \RangeCatcodeInvalid{0}{47}%
268   \RangeCatcodeInvalid{58}{64}%
269   \RangeCatcodeInvalid{91}{96}%
270   \RangeCatcodeInvalid{123}{255}%
271   \catcode'\@=12 %
272   \catcode'\=0 %
273   \catcode'\{=1 %
274   \catcode'\}=2 %
275   \catcode'\#=6 %
276   \catcode'\[=12 %
277   \catcode'\]=12 %
278   \catcode'\%=14 %
279   \catcode'\ =10 %
280   \catcode13=5 %
281   \LoadCommand
282   \RestoreCatcodes
283 }
284 \Test
285 \csname @@end\endcsname
286 \end
287 </test1>

```

## 4 Installation

### 4.1 Download

**Package.** This package is available on CTAN<sup>1</sup>:

[CTAN:macros/latex/contrib/oberdiek/ifvtex.dtx](http://ctan.org/macros/latex/contrib/oberdiek/ifvtex.dtx) The source file.

[CTAN:macros/latex/contrib/oberdiek/ifvtex.pdf](http://ctan.org/macros/latex/contrib/oberdiek/ifvtex.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](http://ctan.org/install/macros/latex/contrib/oberdiek.tds.zip)

---

<sup>1</sup>[ftp://ftp.ctan.org/tex-archive/](http://ftp://ftp.ctan.org/tex-archive/)

*TDS* refers to the standard “A Directory Structure for  $\text{\TeX}$  Files” ([CTAN:tds/tds.pdf](#)). Directories with `texmf` in their name are usually organized this way.

## 4.2 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/
```

## 4.3 Package installation

**Unpacking.** The `.dtx` file is a self-extracting `docstrip` archive. The files are extracted by running the `.dtx` through plain- $\text{\TeX}$ :

```
tex ifvtex.dtx
```

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

<code>ifvtex.sty</code>	$\rightarrow$ <code>tex/generic/oberdiek/ifvtex.sty</code>
<code>ifvtex.pdf</code>	$\rightarrow$ <code>doc/latex/oberdiek/ifvtex.pdf</code>
<code>test/ifvtex-test1.tex</code>	$\rightarrow$ <code>doc/latex/oberdiek/test/ifvtex-test1.tex</code>
<code>ifvtex.dtx</code>	$\rightarrow$ <code>source/latex/oberdiek/ifvtex.dtx</code>

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`.

## 4.4 Refresh file name databases

If your  $\text{\TeX}$  distribution (`te $\text{\TeX}$` , `mik $\text{\TeX}$` , ...) relies on file name databases, you must refresh these. For example, `te $\text{\TeX}$`  users run `texhash` or `mktextlsr`.

## 4.5 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 ifvtex.pdf unpack_files output .
```

**Unpacking with  $\text{\LaTeX}$ .** The `.dtx` chooses its action depending on the format:

**plain- $\text{\TeX}$ :** Run `docstrip` and extract the files.

**$\text{\LaTeX}$ :** Generate the documentation.

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

```
latex \let\install=y\input{ifvtex.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 pdfL<sup>A</sup>T<sub>E</sub>X:

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

## 5 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 iniT<sub>E</sub>X.

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

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