

The ifvtex package

Heiko Oberdiek
<oberdiek@uni-freiburg.de>

2008/11/04 v1.4

Abstract

This package looks for VT_EX, implements and sets the switches `\ifvtex`, `\ifvtex<mode>`, `\ifvtexgex`. It works with plain or L^AT_EX formats.

Contents

1	Usage	1
2	Implementation	2
2.1	Reload check and package identification	2
2.2	Catcodes	3
2.3	Check for previously defined <code>\ifvtex</code>	4
2.4	<code>\ifvtex</code>	4
2.5	Mode and GeX switches	4
2.6	Protocol entry	5
3	Test	5
3.1	Catcode checks for loading	5
4	Installation	7
4.1	Download	7
4.2	Bundle installation	7
4.3	Package installation	7
4.4	Refresh file name databases	8
4.5	Some details for the interested	8
5	History	8
	[2001/09/26 v1.0]	8
	[2006/02/20 v1.1]	8
	[2007/01/10 v1.2]	8
	[2007/09/09 v1.3]	9
	[2008/11/04 v1.4]	9
6	Index	9

1 Usage

The package ifvtex can be used with both plain- $\text{T}_{\text{E}}\text{X}$ and L^AT_EX:

plain- $\text{T}_{\text{E}}\text{X}$: `\input ifvtex.sty`

L^AT_EX 2_ε: `\usepackage{ifvtex}`

The package implements switches for \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`

\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 \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 [2008/11/04 v1.4 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 \ifvtex

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

```

125 \newif\ifvtex
126 \begingroup\expandafter\expandafter\expandafter\endgroup
127 \expandafter\ifx\csname VTeXversion\endcsname\relax
128 \else
129   \begingroup\expandafter\expandafter\expandafter\endgroup
130   \expandafter\ifx\csname OpMode\endcsname\relax
131   \else
132     \vtexttrue
133   \fi
134 \fi

```

2.5 Mode and GeX switches

```

135 \newif\ifvtexdvi
136 \newif\ifvtexpdf
137 \newif\ifvtexps
138 \newif\ifvtexhtml

```

```

139 \newif\ifvtexgex
140 \ifvtex
141   \ifcase\OpMode\relax
142     \vtexdvitrue
143   \or % 1
144     \vtexpdftrue
145   \or % 2
146     \vtexpstrue
147   \or % 3
148     \vtexpstrue
149   \or\or\or\or\or\or\or % 10
150     \vtexhtmltrue
151   \fi
152 \begingroup\expandafter\expandafter\expandafter\endgroup
153 \expandafter\ifx\csname gexmode\endcsname\relax
154 \else
155   \ifnum\gexmode>0 %
156     \vtexgextrue
157   \fi
158 \fi
159 \fi

```

2.6 Protocol entry

Log comment:

```

160 \begingroup
161   \expandafter\ifx\csname PackageInfo\endcsname\relax
162     \def\x#1#2{%
163       \immediate\write-1{Package #1 Info: #2.}%
164     }%
165   \else
166     \let\x\PackageInfo
167     \expandafter\let\csname on@line\endcsname\empty
168   \fi
169   \x{ifvtex}{%
170     VTeX %
171     \ifvtex
172       in \ifvtexdvi DVI\fi
173       \ifvtexpdf PDF\fi
174       \ifvtexps PS\fi
175       \ifvtexhtml HTML\fi
176       \space mode %
177       with\ifvtexgex\else out\fi\space GeX %
178     \else
179       not %
180     \fi
181     detected%
182   }%
183 \endgroup
184 \ifvtex@AtEnd
185 \end{package}

```

3 Test

3.1 Catcode checks for loading

```

186 (*test1)
187 \catcode'\{=1 %
188 \catcode'\}=2 %
189 \catcode'\#=6 %
190 \catcode'\@=11 %

```

```

191 \expandafter\ifx\csname count@\endcsname\relax
192   \countdef\count@=255 %
193 \fi
194 \expandafter\ifx\csname @gobble\endcsname\relax
195   \long\def\@gobble#1{}%
196 \fi
197 \expandafter\ifx\csname @firstofone\endcsname\relax
198   \long\def\@firstofone#1{#1}%
199 \fi
200 \expandafter\ifx\csname loop\endcsname\relax
201   \expandafter\@firstofone
202 \else
203   \expandafter\@gobble
204 \fi
205 {%
206   \def\loop#1\repeat{%
207     \def\body{#1}%
208     \iterate
209   }%
210   \def\iterate{%
211     \body
212     \let\next\iterate
213   \else
214     \let\next\relax
215   \fi
216   \next
217 }%
218 \let\repeat=\fi
219 }%
220 \def\RestoreCatcodes{}
221 \count@=0 %
222 \loop
223   \edef\RestoreCatcodes{%
224     \RestoreCatcodes
225     \catcode\the\count@=\the\catcode\count@\relax
226   }%
227 \ifnum\count@<255 %
228   \advance\count@ 1 %
229 \repeat
230
231 \def\RangeCatcodeInvalid#1#2{%
232   \count@=#1\relax
233   \loop
234     \catcode\count@=15 %
235   \ifnum\count@<#2\relax
236     \advance\count@ 1 %
237   \repeat
238 }
239 \expandafter\ifx\csname LoadCommand\endcsname\relax
240   \def\LoadCommand{\input ifvtex.sty\relax}%
241 \fi
242 \def\Test{%
243   \RangeCatcodeInvalid{0}{47}%
244   \RangeCatcodeInvalid{58}{64}%
245   \RangeCatcodeInvalid{91}{96}%
246   \RangeCatcodeInvalid{123}{255}%
247   \catcode'\@=12 %
248   \catcode'\=0 %
249   \catcode'\{=1 %
250   \catcode'\}=2 %
251   \catcode'\#=6 %
252   \catcode'\[=12 %

```

```

253 \catcode'\]=12 %
254 \catcode'\%=14 %
255 \catcode'\ =10 %
256 \catcode13=5 %
257 \LoadCommand
258 \RestoreCatcodes
259 }
260 \Test
261 \csname @@end\endcsname
262 \end
263 </test1>

```

4 Installation

4.1 Download

Package. This package is available on CTAN¹:

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

[CTAN: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](#)

TDS refers to the standard “A Directory Structure for T_EX 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-T_EX:

```
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):

```

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

```

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

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 \TeX distribution (`te\TeX`, `mik\TeX`, ...) relies on file name databases, you must refresh these. For example, `te\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 \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{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 `pdf\LaTeX`:

```
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).

6 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; numbers in roman refer to the code lines where the entry is used.

Symbols	I
\# 189, 251	\i 101, 116, 117
\% 254	\ifcase 141
\@ 190, 247	\ifnum 155, 227, 235
\@firstofone 198, 201	\ifvtx 2, 125, 140, 171
\@gobble 195, 203	\ifvtx@AtEnd 80, 81, 121, 184
\@undefined 52	\ifvtxdvi 2, 135, 172
\[..... 252	\ifvtxgex 2, 139, 177
\] 248	\ifvtxhtml 2, 138, 175
\{ 187, 249	\ifvtxpdf 2, 136, 173
\} 188, 250	\ifvtxps 2, 137, 174
\] 253	\ifx 11, 14, 18, 44, 52, 55, 99, 102, 127, 130, 153, 161, 191, 194, 197, 200, 239
_ 255	\immediate 20, 46, 163
	\input 240
A	\iterate 208, 210, 212
\advance 228, 236	
\aftergroup 26	L
	\LoadCommand 240, 257
B	\loop 206, 222, 233
\body 207, 211	
	M
C	\MessageBreak 114
\catcode 3, 4, 5, 6, 7, 8, 9, 17, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 64, 65, 68, 69, 70, 71, 75, 76, 77, 78, 82, 84, 187, 188, 189, 190, 225, 234, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256	N
\count@ 192, 221, 225, 227, 228, 232, 234, 235, 236	\newif 125, 135, 136, 137, 138, 139
\countdef 192	\newlinechar 109
\csname 10, 18, 44, 60, 67, 99, 101, 102, 127, 130, 153, 161, 167, 191, 194, 197, 200, 239, 261	\next 212, 214, 216
	O
E	\OpMode 141
\empty 13, 14, 167	
\end 262	P
\endcsname 10, 18, 44, 60, 67, 99, 101, 102, 127, 130, 153, 161, 167, 191, 194, 197, 200, 239, 261	\PackageError 112
\endinput 26, 122	\PackageInfo 23, 166
\errhelp 105	\ProvidesPackage 15, 61
\errmessage 106	
	R
G	\RangeCatcodeInvalid 231, 243, 244, 245, 246
\gexmode 155	\repeat 206, 218, 229, 237
	\RestoreCatcodes .. 220, 223, 224, 258
	S
	\space 176, 177
	T
	\Test 242, 260

<code>\the</code>	68, 69, 70, 71, 82, 225	W	
<code>\TMP@EnsureCode</code>	79, 86, 87,	<code>\write</code>	20, 46, 163
	88, 89, 90, 91, 92, 93, 94, 95, 96, 97		
		X	
V		<code>\x</code> .	10, 11, 14, 19, 23, 25, 45, 50, 60,
<code>\vtexdvitrue</code>	142		66, 74, 103, 111, 116, 162, 166, 169
<code>\vtexgextrue</code>	156	Y	
<code>\vtexhtmltrue</code>	150	<code>\y</code>	108, 114, 117
<code>\vtexpdftrue</code>	144		
<code>\vtexpstrue</code>	146, 148	Z	
<code>\vtexttrue</code>	132	<code>\z</code>	104, 105