

The ifvtex package

Heiko Oberdiek
<heiko.oberdiek at gmail.com>

2010/03/01 v1.5

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	Provide <code>\newif</code>	4
2.5	<code>\ifvtex</code>	5
2.6	Mode and GeX switches	5
2.7	Protocol entry	5
3	Test	6
3.1	Catcode checks for loading	6
4	Installation	7
4.1	Download	7
4.2	Bundle installation	8
4.3	Package installation	8
4.4	Refresh file name databases	8
4.5	Some details for the interested	8
5	History	9
	[2001/09/26 v1.0]	9
	[2006/02/20 v1.1]	9
	[2007/01/10 v1.2]	9
	[2007/09/09 v1.3]	9
	[2008/11/04 v1.4]	9
	[2010/03/01 v1.5]	9
6	Index	9

1 Usage

The package ifvtex can be used with both plain-T_EX and L^AT_EX:

plain-T_EX: `\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 [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 CTAN¹:

[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)

¹ftp://ftp.ctan.org/tex-archive/

TDS refers to the standard “A Directory Structure for $\text{T}_{\text{E}}\text{X}$ 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- $\text{T}_{\text{E}}\text{X}$:

```
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 $\text{T}_{\text{E}}\text{X}$ distribution (`te $\text{T}_{\text{E}}\text{X}$` , `mik $\text{T}_{\text{E}}\text{X}$` , ...) relies on file name databases, you must refresh these. For example, `te $\text{T}_{\text{E}}\text{X}$` 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 $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$. The `.dtx` chooses its action depending on the format:

plain- $\text{T}_{\text{E}}\text{X}$: Run `docstrip` and extract the files.

$\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$: Generate the documentation.

If you insist on using $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ for `docstrip` (really, `docstrip` does not need $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$), 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^AT_EX:

```
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_EX.

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		
<code>\#</code>	213, 275	<code>\}</code> 212, 274
<code>\%</code>	278	<code>\]</code> 277
<code>\@</code>	214, 271	
<code>\@firstofone</code>	222, 225	<code>_</code> 279
<code>\@gobble</code>	219, 227	
<code>\@nil</code>	131, 133	A
<code>\@undefined</code>	52	<code>\advance</code> 252, 260
<code>\[</code>	276	<code>\aftergroup</code> 26
<code>\%</code>	272	
<code>\{</code>	211, 273	B
		<code>\body</code> 231, 235

C		L	
<code>\catcode</code>	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, 211, 212, 213, 214, 249, 258, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280	<code>\LoadCommand</code>	264, 281
<code>\count@</code>	216, 245, 249, 251, 252, 256, 258, 259, 260	<code>\loop</code>	230, 246, 257
<code>\countdef</code>	216	M	
<code>\csname</code>	10, 18, 44, 60, 67, 99, 101, 102, 126, 134, 136, 137, 139, 141, 142, 144, 147, 151, 154, 177, 185, 191, 215, 218, 221, 224, 263, 285	<code>\MessageBreak</code>	114
E		N	
<code>\empty</code>	13, 14, 191	<code>\newlinechar</code>	109
<code>\end</code>	286	<code>\next</code>	236, 238, 240
<code>\endcsname</code>	10, 18, 44, 60, 67, 99, 101, 102, 126, 134, 136, 137, 139, 141, 142, 144, 147, 151, 154, 177, 185, 191, 215, 218, 221, 224, 263, 285	O	
<code>\endinput</code>	26, 122	<code>\OpMode</code>	165
<code>\errhelp</code>	105	P	
<code>\errmessage</code>	106	<code>\PackageError</code>	112
<code>\escapechar</code>	129	<code>\PackageInfo</code>	23, 190
G		<code>\ProvidesPackage</code>	15, 61
<code>\gexmode</code>	179	R	
I		<code>\RangeCatcodeInvalid</code>	255, 267, 268, 269, 270
<code>\i</code>	101, 116, 117	<code>\repeat</code>	230, 242, 253, 261
<code>\ifcase</code>	165	<code>\RestoreCatcodes</code>	244, 247, 248, 282
<code>\ifnum</code>	179, 251, 259	S	
<code>\ifvtex</code>	2, 149, 164, 195	<code>\space</code>	200, 201
<code>\ifvtex@newif</code>	131, 133	T	
<code>\ifvtex@AtEnd</code>	80, 81, 121, 208	<code>\Test</code>	266, 284
<code>\ifvtex@newif</code>	127, 147, 149, 159, 160, 161, 162, 163	<code>\the</code>	68, 69, 70, 71, 82, 249
<code>\ifvtexdvi</code>	2, 159, 196	<code>\TMP@EnsureCode</code>	79, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97
<code>\ifvtexgex</code>	2, 163, 201	V	
<code>\ifvtexhtml</code>	2, 162, 199	<code>\vtxdvitrue</code>	166
<code>\ifvtexpdf</code>	2, 160, 197	<code>\vtexgextrue</code>	180
<code>\ifvtexps</code>	2, 161, 198	<code>\vtexhtmltrue</code>	174
<code>\ifx</code>	11, 14, 18, 44, 52, 55, 99, 102, 126, 151, 154, 177, 185, 215, 218, 221, 224, 263	<code>\vtexpdfrtrue</code>	168
<code>\immediate</code>	20, 46, 187	<code>\vtexpstrue</code>	170, 172
<code>\input</code>	264	<code>\vtexttrue</code>	156
<code>\iterate</code>	232, 234, 236	W	
X		<code>\write</code>	20, 46, 187
<code>\x</code>	10, 11, 14, 19, 23, 25, 45, 50, 60, 66, 74, 103, 111, 116, 186, 190, 193	Y	
Y		<code>\y</code>	108, 114, 117
Z		Z	
<code>\z</code>	104, 105		