

The iftex package

The L^AT_EX Project Team*

2019/11/04 v1.0b TeX engine tests

Contents

1	Introduction	1
2	Loading the package	2
2.1	Loading the package in plain T _E X	2
2.2	Loading the package in L ^A T _E X	2
2.3	Loading the package in iniT _E X	2
3	Engine test conditionals	2
4	Requiring specific engines	3
5	Output mode conditional	4
6	Additional packages	4

1 Introduction

This original iftex was written as part of the bidi collection (by the Persian TeX Group / Vafa Khalighi) and provided checks for whether a document was being processed with PDF_T_EX, or Xe_T_EX, or Lua_T_EX. This version recodes the package and incorporates similar tests from the ifetex package by Martin Scharrer, the ifxetex package by Will Robertson, the ifluatex and ifvtex packages from Heiko Oberdiek and parts of ifptex by Takayuki Yato.

For each T_EX variant engine supported two commands are provided:

- a conditional, `\iffootex` that is true if the (footex) engine (or a compatible extension) is being used.

For compatibility with earlier packages which did not all use the same naming convention all these conditionals are provided in two forms, a lowercase name `\iffootex` and a mixed case name `\ifooTeX`.

*<https://github.com/latex3/iftex>

- a command `RequireFooTeX` which checks that `footex` is being used, and stops the run with an error message if a different engine is detected.

2 Loading the package

The package can be loaded in the usual way in both Plain $\text{T}_{\text{E}}\text{X}$ and $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$.

2.1 Loading the package in plain $\text{T}_{\text{E}}\text{X}$

```
\input iftex.sty
```

2.2 Loading the package in $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$

```
\usepackage{iftex}
```

2.3 Loading the package in $\text{iniT}_{\text{E}}\text{X}$

The package assumes no existing macros and may be loaded during format setup in a format without the plain $\text{T}_{\text{E}}\text{X}$ or $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ format being loaded. From an initial $\text{iniT}_{\text{E}}\text{X}$ setup the package may be loaded as for plain $\text{T}_{\text{E}}\text{X}$.

3 Engine test conditionals

All the conditionals defined here are used in the same way:

```
\ifluatex
  luatex specific code
\else
  code for other engines
\fi
```

```
\ifetex, \ifeTeX
  True if an e $\text{T}_{\text{E}}\text{X}$  enabled format is in use. (This is necessarily true in all
   $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  variants.)
```

```
\ifpdfTeX, \ifPDFTeX
  True if PDF $\text{T}_{\text{E}}\text{X}$  is in use (whether writing PDF or DVI), so this is true
  for documents processed with both the latex and pdflatex commands.
```

```
\ifxetex, \ifXeTeX
  True if Xe $\text{T}_{\text{E}}\text{X}$  is in use.
```

```
\ifluatex, \ifLuaTeX
  True if Lua $\text{T}_{\text{E}}\text{X}$  and extensions such as LuaHB $\text{T}_{\text{E}}\text{X}$  are in use.
```

`\ifluahbtex`, `\ifLuaHBTeX`
 True if the `luaharftex` Lua module is available. This will be true in `luahbtex` and may be true in `luatex` if a binary Lua `luaharftex` module has been compiled and is available in Lua's search path.

`\ifptex`, `\ifpTeX`
 True if any of the p \TeX variants are in use.

`\ifuptex`, `\ifupTeX`
 True if any of the up \TeX variants are in use. (`\ifetex` could be used in addition to distinguish `uptex` and `euptex`.)

`\ifptexng`, `\ifpTeXng`
 True if p \TeX -ng (Asiatic p \TeX) is in use.

`\ifvtex`, `\ifVTeX`
 True if V \TeX is in use.

`\ifalephtex`, `\ifAlephTeX`
 True if Aleph is in use. (The aleph-based \LaTeX command is lamed.)

`\iftutex`, `\ifTUTeX`
 This is not strictly an engine variant, but it is true if `\Umathchardef` is available, which essentially means that it is true for Lua \TeX and Xe \TeX , allowing constructs such as

```

\iftutex
  \usepackage{fontspec}
  \setmainfont{TeX Gyre Termes}
  \usepackage{unicode-math}
  \setmathfont{Stix Two Math}
\else
  \usepackage{newtxtext,newtxmath}
\fi

```

4 Requiring specific engines

For each supported engine, the package provides a command `\Require...` which checks that the document is being processed with a suitable engine, and stops with an error message if not.

`\RequireeTeX`
`\RequirePDFTeX`
`\RequireXeTeX`
`\RequireLuaTeX`

```

\RequireLuaHBTeX
\RequirepTeX
\RequireupTeX
\RequirepTeXng
\RequireVTeX
\RequireAlephTeX
\RequireTUTeX

```

5 Output mode conditional

This package also provides an `\ifpdf` conditional that is true if the format is set up to output in PDF mode rather than DVI. This is equivalent to the test in the existing `ifpdf` package.

Unlike the engine tests above this is defined as if by `\newif` with user-documented commands `\pdftrue` and `\pdffalse` that can change the boolean value. These would be needed to reset the boolean if the output mode is reset (for example by setting `\pdfoutput=0` in PDF \LaTeX).

Unlike the original `ifpdf` package, the version here also detects PDF output mode if running in V \TeX .

6 Additional packages

This extended `iftex` is designed to replace the original `iftex` and also the packages `ifetex`, `ifluatex`, `ifvtex`, `ifxetex`, `ifpdf`.

This collection includes small packages with these names that include the main `iftex` package, and in some cases define additional commands for increased compatibility. These packages should mean that authors do not need to change existing documents, although it is recommended that new documents use the `iftex` package directly.

Note that while this package provides basic support for detecting p \TeX (Japanese \TeX) variants and is broadly compatible with the `ifptex` package, the `ifptex` package has many more detailed tests for p \TeX variants and this package does *not* replace the `ifptex` (or `ifxptex`) packages, which are maintained by their original authors and recommended for Japanese documents that need fine control over the Japanese \TeX system in use.