

The grffile package

Heiko Oberdiek
<oberdiek@uni-freiburg.de>

2007/04/11 v1.3

Abstract

The package extends the file name processing of package `graphics` to support a larger range of file names. For example, the file name may contain several dots. Or in case of pdfTeX in PDF mode the file name may contain spaces.

Contents

1	Usage	1
1.1	Option <code>multidot</code>	1
1.2	Option <code>babel</code>	2
1.3	Option <code>extendedchars</code>	2
1.4	Option <code>space</code>	2
1.5	General use	3
1.6	Default settings	3
2	Implementation	3
2.1	Identification	3
2.2	Catcode stuff	3
2.3	Options	4
3	Installation	6
3.1	Download	6
3.2	Bundle installation	7
3.3	Package installation	7
3.4	Refresh file name databases	7
3.5	Some details for the interested	7
4	References	8
5	History	8
	[2004/07/18 v0.5]	8
	[2006/08/15 v1.0]	8
	[2006/08/17 v1.1]	8
	[2006/11/30 v1.2]	8
	[2007/04/11 v1.3]	8
6	Index	9

1 Usage

1.1 Option `multidot`

The file name parsing of package `graphics` is changed, in order to detect known extensions. This allows both the use of dots inside the base file name and extensions with several dots.

Assume there are two files in the current directory: `Hello.World.eps` and `Hello.World.pdf`. `\includegraphics{Hello.World}` will find `Hello.World.pdf` with driver `pdftex` or `Hello.World.eps` with driver `dvips`.

Limitations: Problem could occur on systems, which don't use the dot as extension delimiter. These systems need an own `texsys.cfg` containing definitions for `\filename@parse`. The author could not test that, due to a missing example.

1.2 Option `babel`

This option allows the use of shorthand characters of package `babel` inside the graphics file name. Additionally the tilde `~` is supported. The option is turned on as default. (In version v1.1 or below of this package, the features of this option were part of option `extendedchars`.)

Example:

```
\usepackage[frenchb]{babel}
\usepackage{grffile}
Image: \includegraphics{C:/path/image}
```

1.3 Option `extendedchars`

If the input encoding is the same encoding as the encoding that is used for file names and the driver allows non-ascii characters, then this option can be used to use file names with such characters.

Example:

```
\usepackage[latin1]{inputenc}
\usepackage[extendedchars]{grffile}
\includegraphics{Bäckerstraße}
```

If the `draft` option of the graphics package is enabled, the file name is printed with the current font encoding for `\ttfamily`. Thus it is possible, that such characters are omitted or the wrong characters are displayed, if the font encoding is not the same as the file name encoding.

Limitations: As mentioned above. The `inputenc` package is used to determine the encoding of the special characters in the file name. What if the document uses utf-8 inputenc, but the system use latin1 encoding to create files? The option "extendedchar" will work anyway, but the file name has to be handed over to `\includegraphics` using latin1 encoding.

1.4 Option `space`

This option allows graphics file names that contain spaces if possible.

In general it is not possible to use space inside file names, because `TEX` considers the space character as termination in its syntax for commands that expect a file name.

Regarding graphics inclusion with the package `graphics` file names are used in two or three contexts:

1. The basic `\special` statement or primitive command for graphics inclusion. The `\special` statements for drivers `dvips` or `dvipdfm` do not allow spaces. However pdfT_EX's primitive `\pdfximage` uses curly braces to delimit the file name and allows spaces.
2. `\includegraphics` checks the existence of the file. Also it looks for the right extension if the extension is not given. If pdfT_EX 1.30 is given, the file existence test can be rewritten using a new primitive that allows spaces. This works in both modes DVI and PDF.

3. Sometimes files are read as T_EX input files. For example, .bb files or MPS files.

If pdfT_EX 1.30 or greater is used in PDF mode then the graphics file names may contain spaces except for MPS files. Therefore option `space` is only enabled by default, if the supported pdfT_EX in PDF mode is detected. You can enable the option manually, if you know, your DVI driver supports spaces in its `\special` syntax and if there is no need to read the image file as T_EX input file (third context).

1.5 General use

The options can be given at many places:

1. As package options:
`\usepackage[<options>]{grffile}`
2. Setup command of package grffile:
`\grffilesetup{<options>}`
3. The options are also available as options for package `graphicx`:
`\setkeys{Gin}{<options>}`
4. If package `graphicx` is loaded the options can also be applied for a single image:
`\includegraphics[<options>]{...}`

1.6 Default settings

<code>multidot</code>	<code>true</code>	
<code>babel</code>	<code>true</code>	
<code>extendedchars</code>	<code>false</code>	
<code>space</code>	<code>true</code>	if pdfT _E X 1.30 or greater is used in PDF mode
	<code>false</code>	otherwise

2 Implementation

2.1 Identification

```

1 <(*package>
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{grffile}%
4 [2007/04/11 v1.3 Extended file name support for graphics (HO)]%
```

2.2 Catcode stuff

```

5 \edef\grffile@RestoreCatcodes{%
6   \catcode'\noexpand\=\the\catcode'\=\relax
7   \catcode'\noexpand\:\the\catcode'\:\relax
8   \catcode'\noexpand\.\the\catcode'\.\relax
9   \catcode'\noexpand\' \the\catcode'\'\relax
10  \catcode'\noexpand\<\the\catcode'\<\relax
11  \catcode'\noexpand\>\the\catcode'\>\relax
12  \catcode'\noexpand*\the\catcode'\*\relax
13  \catcode'\noexpand^\the\catcode'\^\relax
14  \catcode'\noexpand~\the\catcode'\~\relax
15 }
16 \@makeother\=
17 \@makeother\:
18 \@makeother\.
19 \@makeother\'
20 \@makeother\<
```

```

21 \@makeother\>
22 \@makeother\*
23 \catcode'\^=7 %
24 \catcode'\~= \active

```

2.3 Options

```

25 \RequirePackage{ifpdf}
26 \RequirePackage{kvoptions}[2006/08/17]
27 \SetupKeyvalOptions{%
28   family=Gin,%
29   prefix=grffile@%
30 }
31 \DeclareBoolOption[true]{multidot}
32 \DeclareBoolOption[true]{babel}
33 \DeclareBoolOption[false]{extendedchars}
34 \DeclareBoolOption{space}
35 \DeclareDefaultOption{%
36   \PassOptionsToPackage\CurrentOption{graphics}%
37 }

```

Default setting for option space.

```

38 \begingroup\expandafter\expandafter\expandafter\endgroup
39 \expandafter\ifx\csname pdffilesize\endcsname\relax
40   \grffile@spacefalse
41   \let\grffile@space@disabled\@empty
42   \def\grffile@spacetrue{%
43     \PackageWarning{grffile}{%
44       Option 'space' is not available,\MessageBreak
45       because it needs pdfTeX >= 1.30%
46     }%
47   }%
48 \else
49   \ifpdf
50     \grffile@spacetrue
51   \else
52     \grffile@spacefalse
53   \fi
54 \fi
55 \ProcessKeyvalOptions*
56 \RequirePackage{graphics}

```

`\grffilesetup`

```

57 \newcommand*{\grffilesetup}{%
58   \setkeys{Gin}%
59 }

60 \let\grffile@org@Gininclude@graphics\Gininclude@graphics
61 \renewcommand*{\Gininclude@graphics}{%
62   \ifnum0\ifgrffile@babel 1\fi\ifgrffile@extendedchars 1\fi>\z@
63   \begingroup

```

Support of babel's shorthand characters.

```

64     \ifgrffile@babel
65     \csname @safe@activetrue\endcsname

```

Support of active tilde.

```

66     \edef~{\string~}%

```

Support of characters controlled by package inputenc.

```

67     \fi
68     \ifgrffile@extendedchars
69       \grffile@inputenc@loop\^^A\^^H%
70       \grffile@inputenc@loop\^^K\^^K%
71       \grffile@inputenc@loop\^^N\^^_%

```

```

72     \grffile@inputenc@loop\^^?\^^ff%
73     \fi
74     \expandafter\grffile@extchar@Ginclude@graphics
75 \else
76     \expandafter\grffile@Ginclude@graphics
77 \fi
78 }
79 \def\grffile@extchar@Ginclude@graphics#1{%
80     \edef\x{\endgroup
81         \noexpand\grffile@Ginclude@graphics{#1}%
82     }%
83     \x
84 }
85 \def\grffile@inputenc@loop#1#2{%
86     \count@=#1\relax
87     \loop
88         \begingroup
89             \uccode'\~=\count@
90             \uppercase{%
91                 \endgroup
92                 \edef~{\string~}%
93             }%
94     \ifnum\count@<#2\relax
95         \advance\count@\@ne
96     \repeat
97 }

```

Support for option space

```

98 \def\grffile@space@getbase#1{%
99     \edef\grffile@tempa{%
100         \def\noexpand\@tempa####1#1\noexpand\@nil{%
101             \def\noexpand\Gin@base{####1}%
102         }%
103     }%
104     \grffile@ifFileExists{\filename@area\filename@base#1}{%
105         \grffile@tempa
106         \expandafter\@tempa\grffile@file@found\@nil
107     \edef\Gin@ext{#1}%
108     }{%
109     }%
110 }
111 \def\grffile@ifFileExists#1{%
112     \expandafter\ifx\expandafter\\\pdffilesize{#1}\\\%
113     \let\reserved@a\@secondoftwo
114     \ifx\input@path\@undefined
115     \else
116         \expandafter\@tfor\expandafter\reserved@b\expandafter
117             :\expandafter=\input@path\do{%
118                 \expandafter\ifx\expandafter\\\pdffilesize{\reserved@b#1}\\\%
119                 \else
120                     \edef\grffile@file@found{\reserved@b#1}%
121                     \let\reserved@a\@firstoftwo
122                     \@break@tfor
123                 \fi
124             }%
125         \fi
126         \expandafter\reserved@a
127     \else
128         \edef\grffile@file@found{#1}%
129         \expandafter\@firstoftwo
130     \fi
131 }
132

```

```

133 \def\grffile@Ginclude@graphics#1{%
134   \begingroup
135     \ifgrffile@space
136       \let\Gin@getbase\grffile@space@getbase
137     \fi
138     \ifgrffile@multidot
139       \let\filename@base\@empty
140       \let\filename@simple\grffile@filename@simple
141     \fi
142     \grffile@org@Ginclude@graphics{#1}%
143   \endgroup
144 }%
145
146 \def\grffile@filename@simple#1.#2\{%
147   \ifx\#2\%
148     \let\filename@ext\relax
149   \else
150     \expandafter\ifx\csname
151       Gin@rule@.\filename@dot #2\endcsname\relax
152     \edef\filename@base{\filename@base #1}%
153     \grffile@ReturnAfterFiFiBase{\grffile@filename@simple #2\}%
154   \else
155     \edef\filename@ext{\filename@dot #2\}%
156   \fi
157 \fi
158 \edef\filename@base{\filename@base #1}%
159 }
160 \def\grffile@ReturnAfterFiFiBase#1#2\filename@base#3{\fi\fi#1}
161
162   Print current option setting
163
164 \def\grffile@option@status#1{%
165   \begingroup
166     \let\on@line\@empty
167     \PackageInfo{grffile}{%
168       Option ‘#1’ is %
169       \expandafter\ifx\csname ifgrffile@#1\expandafter\endcsname
170         \csname iftrue\endcsname
171         set to ‘true’%
172       \else
173         \expandafter\ifx\csname grffile@#1@disabled\endcsname\@empty
174         not available%
175       \else
176         set to ‘false’%
177       \fi
178     \fi
179   }%
180 \endgroup
181
182 \grffile@option@status{multidot}
183 \grffile@option@status{extendedchars}
184 \grffile@option@status{space}
185
186 \grffile@RestoreCatcodes
187
188 \endpackage

```

3 Installation

3.1 Download

Package. This package is available on CTAN¹:

¹<ftp://ftp.ctan.org/tex-archive/>

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

[CTAN:macros/latex/contrib/oberdiek/grffile.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:macros/latex/contrib/oberdiek/oberdiek-tds.zip](#)

3.2 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/
```

3.3 Package installation

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

```
tex grffile.dtx
```

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

```
grffile.sty → tex/latex/oberdiek/grffile.sty
grffile.pdf → doc/latex/oberdiek/grffile.pdf
grffile.dtx → source/latex/oberdiek/grffile.dtx
```

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`.

3.4 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`.

3.5 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 grffile.pdf unpack_files output .
```

Unpacking with L^AT_EX. The .dtx chooses its action depending on the format:

plain-T_EX: Run docstrip and extract the files.

L^AT_EX: Generate the documentation.

If you insist on using L^AT_EX for docstrip (really, docstrip does not need L^AT_EX), then inform the autodetect routine about your intention:

```
latex \let\install=y\input{grffile.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 grffile.dtx
makeindex -s gind.ist grffile.idx
pdflatex grffile.dtx
makeindex -s gind.ist grffile.idx
pdflatex grffile.dtx
```

4 References

- [1] David Carlisle, Sebastian Rahtz: *The graphics package*; 2006/02/20 v1.0o; CTAN:macros/latex/required/graphics/graphics.dtx.
- [2] Sebastian Rahtz, Heiko Oberdiek: *The graphicx package*; 1999/02/16 v1.0f; CTAN:macros/latex/required/graphics/graphicx.dtx.

5 History

[2004/07/18 v0.5]

- First version.

[2006/08/15 v1.0]

- File existence check by new primitives of pdfTeX 1.30.
- Implementation partly rewritten.
- New DTX framework.

[2006/08/17 v1.1]

- Adaptation to version 2.3 of package kvoptions.

[2006/11/30 v1.2]

- New option babel. Before this feature was part of option extendedchars.

[2007/04/11 v1.3]

- Line ends sanitized.

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		
\'	9, 19	\grffile@Ginclud@graphics 76, 81, 133
*	12, 22	\grffile@IfFileExists 104, 111
\.	8, 18	\grffile@inputenc@loop 69, 70, 71, 72, 85
\:	7, 17	\grffile@option@status 161, 179, 180, 181
\<	10, 20	\grffile@org@Ginclud@graphics 60, 142
\=	6, 16	\grffile@RestoreCatcodes 5, 182
\>	11, 21	\grffile@ReturnAfterFiFiBase 153, 160
\@break@tfor	122	\grffile@space@disabled 41
\@empty	41, 139, 163, 170	\grffile@space@getbase 98, 136
\@firstoftwo	121, 129	\grffile@spacefalse 40, 52
\@makeother	16, 17, 18, 19, 20, 21, 22	\grffile@spacetrue 42, 50
\@one	95	\grffile@tempa 99, 105
\@nil	100, 106	\grffilesetup 57
\@secondoftwo	113	
\@tempa	100, 106	
\@tfor	116	
\@undefined	114	
\\	112, 118, 146, 147, 151, 153, 155	
\^	13, 23, 69, 70, 71, 72	
\~	14, 24, 89	
A		I
\active	24	\ifgrffile@babel 62, 64
\advance	95	\ifgrffile@extendedchars 62, 68
C		\ifgrffile@multidot 138
\catcode	6, 7, 8, 9, 10, 11, 12, 13, 14, 23, 24	\ifgrffile@space 135
\count@	86, 89, 94, 95	\ifnum 62, 94
\csize	39, 65, 150, 166, 167, 170	\ifpdf 49
\CurrentOption	36	\ifx 39, 112, 114, 118, 147, 150, 166, 170
D		\input@path 114, 117
\DeclareBoolOption	31, 32, 33, 34	
\DeclareDefaultOption	35	
\do	117	
E		L
\endcsname	39, 65, 151, 166, 167, 170	\loop 87
F		M
\filename@area	104	\MessageBreak 44
\filename@base	104, 139, 152, 158, 160	
\filename@dot	151, 155	
\filename@ext	148, 155	
\filename@simple	140	
G		N
\Gin@base	101	\NeedsTeXFormat 2
\Gin@ext	107	\newcommand 57
\Gin@getbase	136	
\Ginclud@graphics	60, 61	
\grffile@extchar@Ginclud@graphics	74, 79	
\grffile@file@found	106, 120, 128	
\grffile@filename@simple	140, 146, 153	
		O
		\on@line 163
		P
		\PackageInfo 164
		\PackageWarning 43
		\PassOptionsToPackage 36
		\pdffilesize 112, 118
		\ProcessKeyvalOptions 55
		\ProvidesPackage 3
		R
		\renewcommand 61
		\repeat 96
		\RequirePackage 25, 26, 56
		\reserved@a 113, 121, 126
		\reserved@b 116, 118, 120
		S
		\setkeys 58
		\SetupKeyvalOptions 27

T		X	
\the	6, 7, 8, 9, 10, 11, 12, 13, 14	\x	80, 83
U		Z	
\uccode	89		
\uppercase	90	\z@	62