

The hypdvips package

Hyperref extensions for use with dvips

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Abstract

The hypdvips package is a collection of add-ons and fixes for problems when using hyperref with dvips. It adds support for breaking links, hyperlinked tablenotes, file attachments, embedded documents and different types of GoTo-links. In addition, the cooperation with cleveref allows an enhanced back-referencing system.

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1 Introduction

The `hypdvips` package fixes some problems when using `hyperref` with `dvips` as backend driver. As you may have noticed, the converted PostScript® language files created by the standalone `hyperref` package have some features missing compared to the direct PDF output of the `pdflatex` driver. Probably the most severe deficit is the inability to break links, which often leads to protruding lines in the table of contents. Another problem is, for example, that footnote links point to the baseline of the note text, thus placing the footnote itself outside of the reader window¹. Furthermore, with `hypdvips` the use of nested links will no longer produce misplaced active link areas, but the nested link will be discarded properly.

In fact, every time I encountered a problem when using the `hyperref/dvips` bundle, I tried to fix it and put it into a collection. So, `hypdvips` has no specific purpose, I just thought it could be useful to share.

The main features of `hypdvips` are:

- breaking links
- support for `acronym`, `backref`, `biblatex`, `cleveref`, and `threeparttable`
- file attachments
- embedded documents
- `GoTo`-, `GoToR`-, and `GoToE`-links
- custom pagelabels
- document open-actions

PDF Reference links: This documentation often refers to PDF 32000-1 : 2008 [2], which is the successor of the PDF Reference [1] published at http://www.adobe.com/devnet/pdf/pdf_reference_archive.html. As this document is a rather huge file (approx. 21 MiB), it is not included in this documentation — but it is linked. To get these links to work, download the file http://www.adobe.com/content/dam/acom7/en/devnet/pdf/PDF32000_2008.pdf and put it into the same folder as this documentation.

2 Usage

The `hypdvips` package can be loaded using the following command:

```
\usepackage[options]{hypdvips}
```

Table 1 shows all possible package *options*. They can be specified using key/value pairs, e. g.

```
\usepackage[autotitle=true,JavaScript=false,Mac=true,showdests]{hypdvips}
```

If a boolean (`true/false`) option key is used without a specific value, it is assumed to be “true” (like `showdests` in the example above).

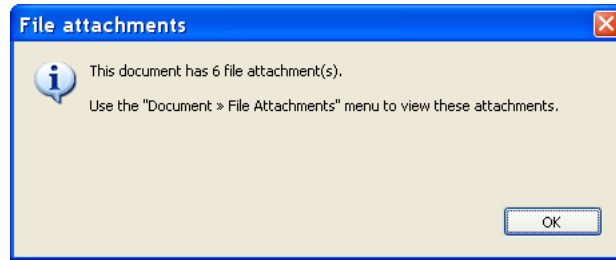
Package sequence: As `hypdvips` depends on the `hyperref` package, `hyperref` must be loaded before `hypdvips`. If used, `cleveref` should be loaded after `hyperref` and before `hypdvips`. Generally speaking, `hypdvips` should be the last package loaded.

¹at least Adobe Reader software does so, but there may be other programs which put the link destination in the center of the window — in this case it wouldn't matter

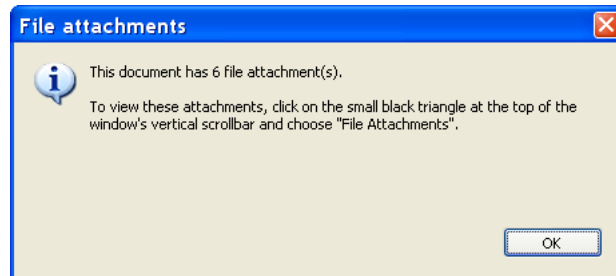
Table 1 | Package options for hypdvips

Option	Default	Description
autoauthor	false	Automatically sets the hyperref option pdfauthor to the name given by the \author command.
autotitle	false	Automatically sets the hyperref option pdftitle to the title given by the \title command.
detailedbr	false	Only used in back-referencing: back-references that originally just point to the page top are expanded to point to the real occurrence of the citation on the page.
emptypagelabels	true	Produces empty PDF pagelabels when the pagestyle is set to empty.
evenboxes	false	Sets the height of links to a fixed value. See the description of the \evenboxesstring command for further details.
fish	true	Only used when attaching files: Shows an animation on the console during calculation of MD5-checksums.
flip	false	Flips all pages of the document.
fullbookmarks	false	Creates bookmark entries for starred sections/chapters (e. g. the “Contents” or “References” sections).
german	false	Configures hypdvips to be used in german documents. This includes cleveref definitions and affects the List of File Attachments, the open-message and the back-referencing system ⁴ .
hypertnotes	true	Only used with package threeparttable: Changes the \tnote command to create hyperlinks to the corresponding tablenote text. The \item command in the tablenotes environment must use literally the same mark as the linking \tnote command.
JavaScript	true	Only used when attaching files: Allows or denies the document to contain JavaScript [®] language code. Most of the option buttons in the List of File Attachments won’t work anymore when JavaScript=false.
loabr	false	Only used in back-referencing: Allows back-references to citations occurring in the List of File Attachments (e. g. if a file attachment description contains a citation).
lofbr	false	Only used in back-referencing: Allows back-references to citations occurring in the List of Figures (e. g. if a figure caption contains a citation).
lotbr	false	Only used in back-referencing: Allows back-references to citations occurring in the List of Tables (e. g. if a table caption contains a citation).
Mac	false	Only used when attaching files: Includes the resource fork of Mac computer files.
mirror	false	Mirrors all pages of the document.
nlwarning	true	Creates warning messages for links which are discarded due to link nesting.
openmessage	true	Only used when attaching files: Shows a message concerning file attachments when opening the PDF document with some older Adobe Reader software versions. It instructs the user how to open the attached files (see fig. 1). The open-message is implemented using JavaScript language code, so it won’t work with JavaScript=false.
quadpoints	true	Only used for broken links: Uses a QuadPoints array to define the active link area. With quadpoints=false, independent links are created on each line. See table 173 and figure 64 of PDF 32000-1 : 2008 [2] for further details.
showdests	false	Indicates horizontal link destinations by red lines — useful for hyperlink checking. Here you can see an embedded copy of this documentation compiled with showdests=true.
smallfootnotes	true	Changes the size of frames around footnote marks: The default uses \@thefnmark as boundary, whereas smallfootnotes=false uses the \@makefnmark command (like hyperref does). If you experience problems with footnote links, use smallfootnotes=false.
tocbr	false	Only used in back-referencing: Allows back-references to citations occurring in the Table of Contents (e. g. if a section heading contains a citation).

⁴ please [contact me](#) if you want to provide a translation into another language



(a) standalone



(b) in browser window

Figure 1 | Open-message shown with the Adobe Reader 6 software

3 Command list

3.1 \attachfile[options]{filename}

Creates a PDF file attachment annotation, using data of the file referenced by *filename*. Table 2 shows all possible options. They are mostly similar to those of the \attachfile command of the attachfile/attachfile2 packages.

By default, the embedded file specification includes the size, MD5-checksum and creation/modification dates² of the attached file. Author and subject fields of the annotation are also automatically filled in, if not otherwise specified by an option. For example, the command

```
\attachfile[author={Jem Berkes - http://www.pc-tools.net/}, subject={MD5sums 1.2}, description={Generate MD5 hashes of files (with progress indicator)}, mimetype=application/zip, modified=, created=, color={0.2 0.65 1}, icon=tag]{c:/utils/md5sums-1.2.zip}
```

yields the following result³:

Another example (that creates the icon to the left):



```
\attachfile[description={Draft copy of this documentation with enabled {\ttfamily showdests} option}, name=hypdvips\string_showdests.pdf, mimetype=application/pdf, iconfilename=images/icon\string_draft.eps, rect={25 235 45 260}]{draft.pdf}
```





Filenames: Depending on the program used to convert the PostScript language file to PDF, you have to specify the full path to the file or not. E. g. the Ghostscript[®] software allows relative paths, but needs to be run with the -dNOSAFER command line argument if the attached file doesn't reside in the same directory as the PostScript language file. The Adobe Distiller[®] software always needs the full path, and besides from that, it has to be run without the -F command line argument for versions below 8.1, but **with** the -F command line argument for newer versions⁴.

²if possible (depending on the PDF creator application and operating system used)

³appearance may vary depending on the viewer application used

⁴see [Adobe Acrobat[®] X SDK Release Notes \[3\]](#) for options to be used within various operating systems

Table 2 | Options for the `\attachfile` command

Option	Default	Description
anncreated	(\LaTeX time)	Creation date of the annotation (CreationDate in annotation dictionary) ^d
annmodified	(\LaTeX time)	Modification date of the annotation (M in annotation dictionary) ^d
author	(value of <code>hyperref</code> option <code>pdfauthor</code>)	Name for the author field of the annotation (T in annotation dictionary).
checksum	(from file)	MD5-checksum of the file, written in hexadecimal format (Checksum in embedded file parameter dictionary; use <code>checksum=</code> to omit this entry). The MD5 algorithm is described in RFC 1321 [7].
color	(color of <code>\embeddedbordercolor</code>)	Color of the annotation icon, specified by three numbers between 0 and 1 according to the RGB color model (C in annotation dictionary).
created	(from file)	Creation date of the file (CreationDate in embedded file parameter dictionary) ^d
creator	(absent)	Only used with the package option <code>Mac</code> : The 4-character file creator signature (Creator in file information dictionary for the Mac OS operating system software). E. g. <code>og1e</code> for the QuickTime <code>PictureViewer</code> application program.
description	(absent)	Text for the description field of the annotation (Contents in annotation dictionary and Desc in embedded file specification dictionary).
filetype	(absent)	Only used with the package option <code>Mac</code> : The 4-character file type signature (Subtype in file information dictionary for the Mac OS operating system software). E. g. <code>GIFf</code> for a Graphics Interchange Format (.GIF-)file.
flags	<code>2#0000000100</code> (Print = true, all others false)	Flags for the annotation, written as PostScript language integer (F in annotation dictionary). The default value e. g. can also be written decimal as 4 or hexadecimal as <code>16#4</code> . Bit positions are: ^b 1 = Invisible, 2 = Hidden, 3 = Print, 4 = NoZoom, 5 = NoRotate, 6 = NoView, 7 = ReadOnly, 8 = Locked, 9 = ToggleNoView, 10 = LockedContents. See table 165 of PDF 32000-1:2008 [2] for detailed meanings of these flags.
icon	<code>paperclip</code>	Name of the annotation icon (Name in annotation dictionary). Allowed names are:  <code>graph</code> ,  <code>pushpin</code> ,  <code>paperclip</code> and  <code>tag</code> . The actual appearance may vary depending on the viewer application used to read the PDF document.
iconfilename	(undefined, i. e. use <code>icon/text</code>)	Filename of an Encapsulated PostScript language (.EPS-)file which acts as the annotation icon. This option must be paired with the <code>rect</code> option.
mimetype	(absent)	The MIME-type of the file (Subtype in embedded file stream dictionary; it can also be specified by a PDF first-class name, see annex E of PDF 32000-1:2008 [2] for details). MIME media types are specified in RFC 2046 [4]. An up-to-date list can be found at http://www.iana.org/assignments/media-types/ .
modified	(from file)	Modification date of the file (ModDate in embedded file parameter dictionary) ^d
name	<i>filename</i> (without path)	The filename for the F and UF entries of the file specification dictionary, written as PDF file specification string. Can be used to attach the file under a different name. See table 43 in section 7.11.2 of PDF 32000-1:2008 [2] for information on how to write filenames of different operating systems.
opacity	1.0	The opacity of the annotation icon. Its value ranges from 0 – 1, where 0 means transparent and 1 means opaque.
overprint	false	Only used with the option <code>text</code> : Overprints the annotation text, thus making the annotation printable even if the “Print” flag is false ^c . Does not work when option <code>rect</code> is used.
rect	(rectangle at the current point, scaled to the current font size)	Set of 4 numbers which act as coordinates of a rectangle defining the position of the annotation icon/text. The first 2 numbers define the lower left, and the second 2 numbers the upper right corner of the rectangle. The numbers are given in default PDF coordinate space, where (0,0) is the lower left corner of the page with increasing values to the right and to the top. The resolution is 72 dots per inch.
resourcefork	<i>filename/..namedfork/rsrc</i>	Only used with the package option <code>Mac</code> : Filename of a file which holds the data for the resource fork of the embedded file stream (ResFork in file information dictionary for the Mac OS operating system software; use <code>resourcefork=</code> to omit this entry).
size	(from file)	Size of the file, written as decimal number (Size in embedded file parameter dictionary; use <code>size=</code> to omit this entry)
subject	File attachment "name"	Text for the subject field of the annotation (Subj in annotation dictionary).
text	(undefined, i. e. use <code>icon/iconfilename</code>)	Uses any \LaTeX text to define the clickable area of the annotation. Can be used in conjunction with option <code>rect</code> to place the text anywhere on the page.
timezone	(absent)	The timezone offset which is appended to the \LaTeX time, written in the format <code>0HH'mm'</code> ^d

^a see remark *Date format* in this section for details on how to write PDF dates

^b bit position 1 = LSB (least significant bit)

^c this is because Adobe Reader software seems to never print file attachment annotations, even if their “Print” flag is true

File sizes: The **Size** entry in the embedded file parameter dictionary is limited to the highest supported integer number of the PDF creator program's PostScript language interpreter. The usual limit of 32 bit-wide integers leads to a maximum size of 2,147,483,647 bytes (2 GiB). At the beginning of processing, `hypdvips` logs information about the PostScript language interpreter to the standard output file. There you can find whether 64 bit-wide integers are supported (see fig. 2).

Date format: PDF dates are written in the form `D:YYYYMMDDHHmmSSOHH'mm'`. `YYYY` is the year, `MM` is the month, `DD` is the day, `HH` is the hour, `mm` is the minute, `SS` is the second and `OHH'mm'` is the relationship of local time to Universal Time. `0` can be `+`, `-` or `Z` (= zero). The prefix `D:` and the apostrophe `'` characters in `OHH'mm'` are part of the syntax. See section 7.9.4 of PDF 32000-1:2008 [2] for more information on PDF date strings.

```
GPL Ghostscript 9.27 (2019-04-04)
Copyright (C) 2018 Artifex Software, Inc. All rights reserved.
This software is supplied under the GNU AGPLv3 and comes with NO WARRANTY:
see the file COPYING for details.
Machine serial number: 42
Product name: GPL Ghostscript
Product revision level: 927
Interpreter version: 3010
Language level: 3
64-bit support: yes
Calculating MD5-checksum of file: c:/documents/rfc/rfc1321.txt
<c6beb4140671d319f6433a3399cf6df2>
Calculating MD5-checksum of file: c:/documents/rfc/rfc2046.txt
..
<6225c196e3c5a20155f3a2082aea2801>
Calculating MD5-checksum of file: c:/utils/md5sums-1.2.zip
<7e67b89a695bfhffcr05h7ed7c38f927f>
```

Figure 2 | Sample `hypdvips` log file output

See section 12.5.6.15 of PDF 32000-1:2008 [2] for further information on file attachment annotations.

3.2 `\bmstyle{level}{style}`

Sets the appearance of a certain bookmark level. *level* can be a positive number (starting with zero) or the character `*` (= bookmarks originating from starred sections/chapters). *style* is a set of valid layout options, as seen in section 1.2.3 of the bookmark package documentation [6]. The styles are cumulative, i. e. if a certain bookmark level is defined as bold, and starred sections are defined as italic, then a starred section in this certain bookmark level will be italic **and** bold. E. g. the commands used in this documentation are:

```
\bmstyle{1}{bold}
\bmstyle{*}{italic}
```

3.3 Color commands

There are two types of commands which change the color of links. The first ones, like

```
\backrefcolor{color} (Default: hyperref option citecolor)
\embeddedcolor{color} (Default: hyperref option runcolor)
```


`\footnotecolor{color}` (Default: hyperref option `linkcolor`)

`\tablenotecolor{color}` (Default: hyperref option `linkcolor`)

change the color of the link **text** and are only used with the hyperref option `colorlinks=true`. The *color* must be known to the `xcolor` package, see section 2.5.2 of the `xcolor` package documentation [5] for an explanation of how to define colors.

The other ones

`\backrefbordercolor{R G B}` (Default: hyperref option `citebordercolor`)

`\embeddedbordercolor{R G B}` (Default: hyperref option `runbordercolor`)

`\footnotebordercolor{R G B}` (Default: hyperref option `linkbordercolor`)

`\tablenotebordercolor{R G B}` (Default: hyperref option `linkbordercolor`)

set the color of the link **border** according to the RGB color model. Values for *R*, *G* and *B* range from 0–1 and are separated by spaces.

3.4 `\embedfile[options]{filename}`

Attaches the file referenced by the path *filename* as embedded file. Table 3 shows all possible options. E. g. this is the command which embeds the bibliography of this documentation:

```
\embedfile[description={Bibliography file for {\ttfamily hypdvips.tex}}, mimetype=text/plain]{bibdat.bib}
```

Table 3 | Options for the `\embedfile` command

Option	Default	Description
<code>checksum</code>	(from file)	MD5-checksum of the file, written in hexadecimal format (Checksum in embedded file parameter dictionary; use <code>checksum=</code> to omit this entry). The MD5 algorithm is described in RFC 1321 [7].
<code>created</code>	(from file)	Creation date of the file (CreationDate in embedded file parameter dictionary) ⁴
<code>creator</code>	(absent)	Only used with the package option <code>Mac</code> : The 4-character file creator signature (Creator in file information dictionary for the Mac OS operating system software). E. g. <code>og1e</code> for the QuickTime PictureViewer application program.
<code>description</code>	(absent)	Descriptive text associated with the file (Desc in embedded file specification dictionary).
<code>filetype</code>	(absent)	Only used with the package option <code>Mac</code> : The 4-character file type signature (Subtype in file information dictionary for the Mac OS operating system software). E. g. <code>GIFf</code> for a Graphics Interchange Format (.GIF-)file.
<code>mimetype</code>	(absent)	The MIME-type of the file (Subtype in embedded file stream dictionary; it can also be specified by a PDF first-class name, see annex E of PDF 32000-1:2008 [2] for details). MIME media types are specified in RFC 2046 [4]. An up-to-date list can be found at http://www.iana.org/assignments/media-types/ .
<code>modified</code>	(from file)	Modification date of the file (ModDate in embedded file parameter dictionary) ⁴
<code>name</code>	<i>filename</i> (without path)	The filename for the F and UF entries of the file specification dictionary, written as PDF file specification string. Can be used to embed the file under a different name. See table 43 in section 7.11.2 of PDF 32000-1:2008 [2] for information on how to write filenames of different operating systems.
<code>resourcefork</code>	<i>filename/.named7fork/rsrc</i>	Only used with the package option <code>Mac</code> : Filename of a file which holds the data for the resource fork of the embedded file stream (ResFork in file information dictionary for the Mac OS operating system software; use <code>resourcefork=</code> to omit this entry).
<code>size</code>	(from file)	Size of the file, written as decimal number (Size in embedded file parameter dictionary; use <code>size=</code> to omit this entry).

⁴ see remark *Date format* in section 3.1 for details on how to write PDF dates

3.5 `\evenboxesstring{text}`

Only used with the option `evenboxes`: Sets the height of links to the height of any *text*. E. g. after the command

```
\evenboxesstring{X}
```

all links are **as high as the character X**. This command can be used in conjunction with the `hyperref` option `pdfborderstyle=[/W 1 /S /U]` to produce underlined links, where the line is **always at the same height**.

The default value is a string containing all alphanumeric characters plus some parentheses and a superscript, to be sure to not produce links which are too small in height (or depth).

3.6 `\file{filename}{description}`

This is basically a shortcut of the `\attachfile` command. It attaches the file referenced by the path *filename* using the given *description*, `overprint=true` with low opacity and default options apart from that. E. g. the command

```
\file{c:/latex/hypdvips/hypdvips.tex}{Source code of this documentation}
```

has the following result: [hypdvips.tex](#)

The annotation text color can be defined with the command `\embeddedcolor`.

3.7 `\goto[options]{text}`

This command is used to create links inside or between PDF documents. It features the capabilities of the

- `\hyperlink{name}{text}`
- `\href{file:filename}{text}`
- `\href{gotoe:options}{text}`

commands, but offers an uniform and easy-to-use interface. You just have to specify the destination, and `\goto` decides which type of GoTo-link is created, depending on the *options* used. Links inside a document are called GoTo-links, links to external documents are GoToR-links and links to or between embedded files are called GoToE-links. Table 4 shows all possible *options* of the `\goto` command. E. g. the command

```
\goto[dest=section.3]{This is a link to the section ``Command list''}
```

[This is a link to the section “Command list”](#)

makes a GoTo-link to the byte string (section.3). If the named destination starts with a slash, the GoTo-link points to the name object⁵ /section.3:

```
\goto[dest=/section.3]{This is a deprecated link to the section ``Command list''}
```

[This is a deprecated⁶ link to the section “Command list”](#)

Table 4 | Options for the `\goto` command

Option	Default	Description
<code>dest</code>	<code>[0 /Fit]</code>	The destination to jump to in the target. It can be either a named destination (specified by a name object or a byte string ⁴) or an explicit destination. Explicit destinations are written with squared brackets; see table 151 of PDF 32000-1:2008 [2] for the syntax. Name objects have a preceding slash / character. In order to force <code>dest</code> to be a byte string even when it starts with a slash or a squared bracket, <code>dest</code> has to be enclosed by parentheses. See section 12.3.2.3 of PDF 32000-1:2008 [2] for more information on named destinations.
<code>filename</code>	(absent, i.e. use current document as target document)	Path to an external file which acts as target document for the link. See table 43 in section 7.11.2 of PDF 32000-1:2008 [2] for information on how to write filenames of different operating systems. This option cannot be used with the <code>id</code> option.
<code>id</code>	(absent, i.e. use current document as target document)	The ID of an attached file which acts as target document for the link. This ID can be found in the List of File Attachments: it is the number to the left of the file description (see fig. 3). IDs are only valid within the current document, thus this option cannot be paired with the <code>filename</code> option.
<code>newwindow</code>	<code>false</code>	Specifies whether the viewer application should use a new window to display the destination.
<code>target</code>	(absent, i.e. target document is the final target which holds the destination)	The content of a target dictionary which specifies the final target of the link relative to the target document (given by the <code>id</code> or <code>filename</code> option). See table 202 of PDF 32000-1:2008 [2] for entries in a target dictionary.

⁴ older versions of the Ghostscript software seem to convert the byte strings of GoTo-links to name objects when writing to PDF – this caused problems when version 9.14 started to use the PDF 1.2 name dictionary (a fix for that is in version 9.20, see <http://git.ghostscript.com/?p=ghostpd1.git;a=commitdiff;h=1e214a7382f35f52ae1efe2b53169704913e4df5>)

List of File Attachments

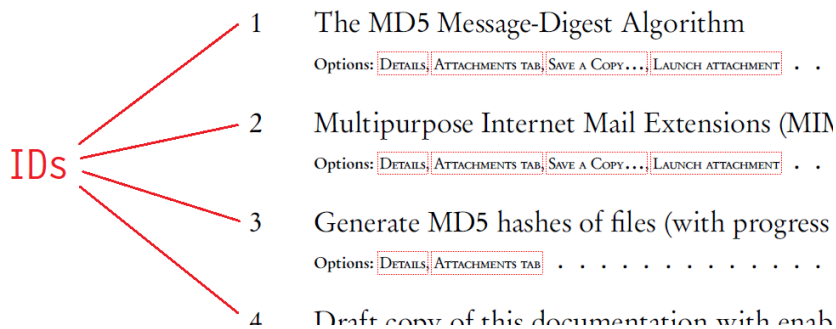


Figure 3 | ID numbers of file attachments

You can also specify explicit destinations:

```
\goto[dest=[0 /Fit 100 530 520 620]]{This is a link which centers on the abstract}
```

[This is a link which centers on the abstract](#)

When linking to external documents, you have to use the `filename` option:

```
\goto[dest=M13.9.20535.3Heading.Named.Destinations, filename=pdf\_reference\_1-7.pdf, newwindow]{This is a link to the section ``Named Destinations'' in the PDF~Reference~\cite{pdfref}}
```

[This is a link to the section “Named Destinations” in the PDF Reference \[1\]](#)

⁵this is the PostScript language type of destinations created by `hyperref`, though some PDF creator applications (like the Ghostscript software starting from version 9.15) convert them to byte strings when writing to PDF

⁶known to work with the Ghostscript software up to version 9.14

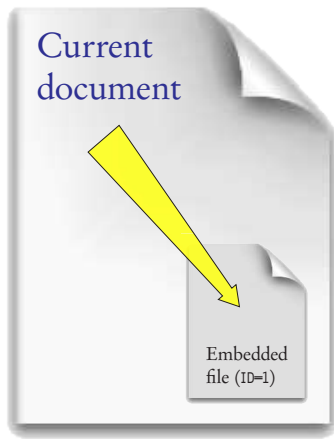


Figure 4 | Link to a child

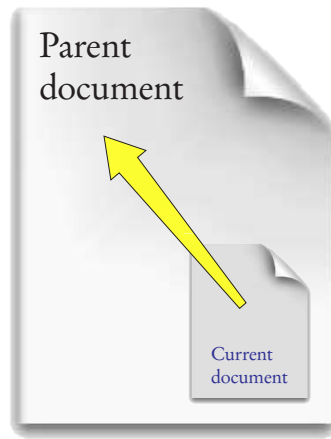


Figure 5 | Link to the parent

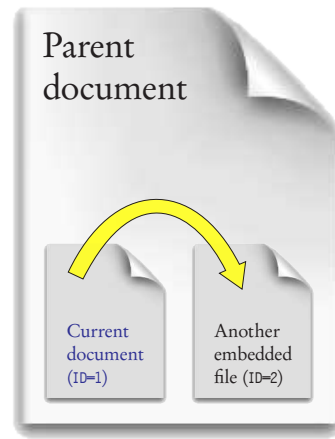


Figure 6 | Link to a sibling

Note that these examples use three different kinds of destinations, i. e. **byte strings**, **name objects** and **explicit destinations**. See section 12.3.2 of PDF 32000-1:2008 [2] for detailed information on PDF destinations.

As you also may have noticed, the border color of the external link is different than in the two examples before. External links have the color of hyperref options `filecolor` and `filebordercolor`, whereas local links use the `linkcolor/linkbordercolor`. Links to embedded files have the color defined by `\embeddedcolor` and `\embeddedbordercolor`.

Links to embedded documents can be accomplished with the `id` or `target` option. `id` is used when linking to embedded documents which have been attached with the `\attachfile`, `\file` or `\embedfile` commands in the the current \LaTeX document, whereas the option `target` can go farther. The following code samples are based upon the example on page 421 of PDF 32000-1:2008 [2]:

1. `\goto[dest=(Chapter 1), id=1]{Link to a child}`
2. `\goto[dest=(Chapter 1), target=/R/P]{Link to the parent}`
3. `\goto[dest=(Chapter 1), target=/R /P /T << /R /C /N (Attachment 2) >>]{Link to a sibling}`
4. `\goto[dest=(Chapter 1), filename=someFile.pdf, target=/R /C /N (Attachment 1)]{Link to an embedded file in an external document}`
5. `\goto[dest=(Chapter 1), filename=someFile.pdf]{Link from an embedded file to a normal file}`
6. `\goto[dest=(Chapter 1), id=1, target=/R /C /P 2 /A (Attachment 1)]{Link to a grandchild}`
7. `\goto[dest=(destination), target=/R /P /T << /R /C /N (Attachment 2) /T << /R /C /P 3 /A (Attachment 1) >>]{Link to a niece/nephew through the source's parent}`

As the `id` option is just a shortcut, item 1. could also be written as

```
\goto[dest=(Chapter 1), target=/R /C /N (Attachment 1)]{Link to a child}
```

or

```
\goto[dest=(Chapter 1), target=/R /C /P page /A (Attachment 1)]{Link to a child}
```

depending on the type of the child (either embedded file or file attachment annotation).

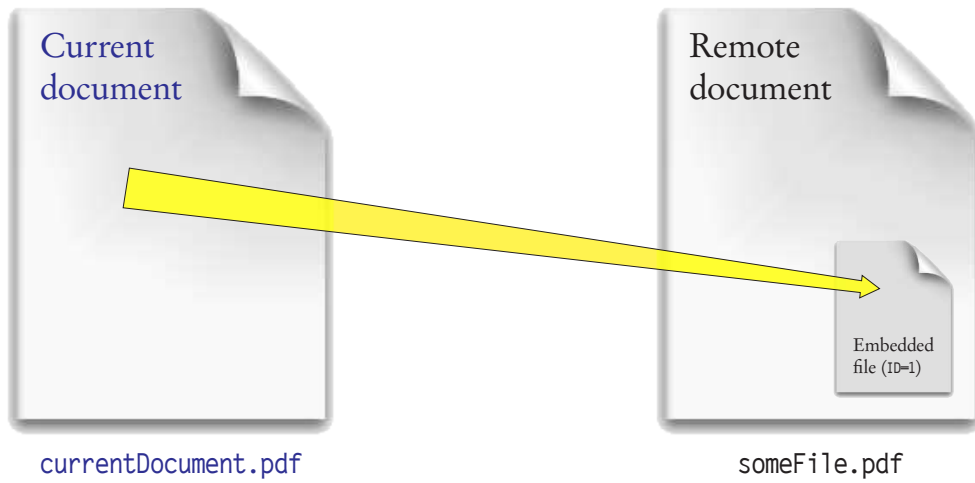


Figure 7 | Link to an embedded file in an external document

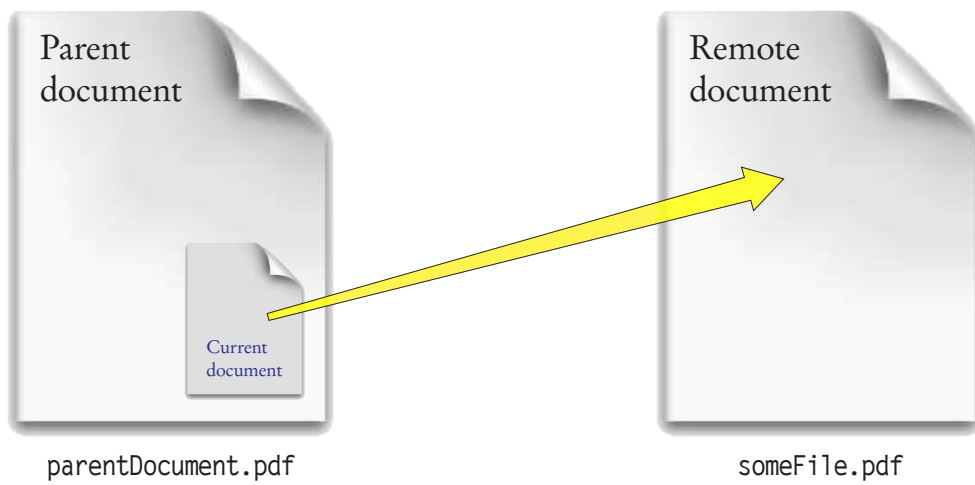


Figure 8 | Link from an embedded file to a normal file

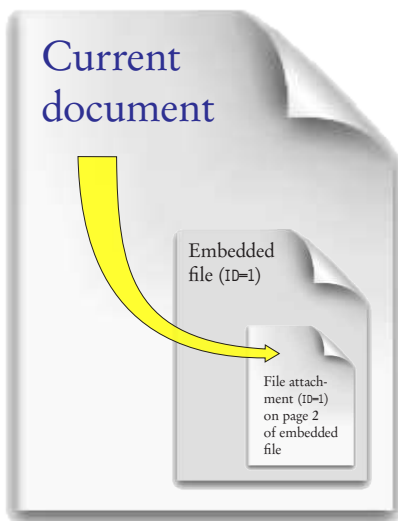


Figure 9 | Link to a grandchild

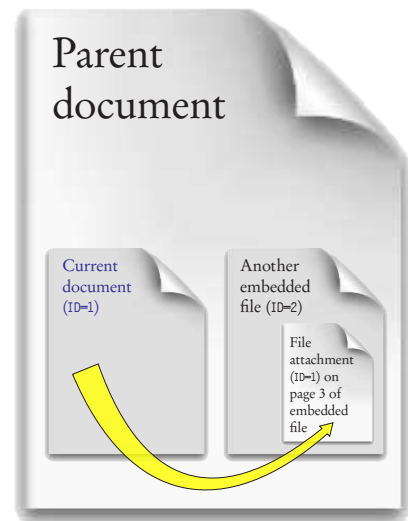


Figure 10 | Link to a niece/nephew through the source's parent

3.8 `\gotoparent{destination}{text}`

This is a shortcut of the `\goto` command. It lets the given *text* point to a *destination* in the parent document.

3.9 `\listofattachments`

Creates a list of file attachments, analogous to the `\listoffigures` or `\listoftables` commands. The lines in this list are formatted by `\loaformat`, which can be changed to customize the appearance of the list:

```
\renewcommand{\loaformat}[4]{LaTeX-code...}
```

The `\loaformat` command has 4 arguments:

#1 = Attachment ID

#2 = Attachment type (either `FileAttachment` or `EmbeddedFile`)

#3 = *filename* from the corresponding `\attachfile` or `\embedfile` command

#4 = all *options* that were given to the corresponding `\attachfile` or `\embedfile` command

3.10 `\odest{name}{offset}`

Creates the named destination */name* located with a vertical *offset* relative to the current point. The *offset* can be given in any \LaTeX dimension. E. g. the command

```
\odest{odestexample}{1.5cm}
```

creates the destination `/odestexample` 1.5 cm above the `\odest` command. In the **draft copy with `showdests=true`** you can see the newly created destination. The `\hyperlink` command can be used to [link to that destination](#).

3.11 `\openaction{action}`

Sets the PDF document's open-action. *action* is the content of an action dictionary. E. g. this documentation uses an open-action to show the attachments tab:

```
\openaction{/N/ShowHideFileAttachment/S/Named}
```

See section 12.6 of PDF 32000-1 : 2008 [2] for information on PDF actions and action dictionaries.

3.12 `\pagelabel[page]{pagelabel}`

Sets the PDF *pagelabel* for the specified *page*. The page number is optional — it defaults to the current page. E. g. the following command

```
\pagelabel{- \Roman{page}\space-}
```

uses the current page number in Roman format enclosed by dashes - as *pagelabel* for the current page.

Unnumbered pages: `hypdvips` modifies the `\pagestyle` and `\thispagestyle` commands to produce empty *pagelabels* when the `pagestyle` is set to `empty`, as seen on the [title page](#) of this documentation. This behaviour can be inhibited with the package option `emptypagelabels=false`.

3.13 `\runattachment{ID}{text}`

Creates a link from any *text* which launches the embedded file with the given *ID*. The color of the link can be defined with `\embeddedcolor` and `\embeddedbordercolor`. For example:

```
\runattachment{1}{Click here to open RFC 1321 \cite{rfc1321}}
```

[Click here to open RFC 1321 \[7\]](#)

Currently, the PDF JavaScript language API only allows to export embedded files. Files in file attachment annotations can only be exported via the PDF viewer application. Note that with `JavaScript=false` the `\runattachment` command just produces the *text* without link.

References

- [1] Adobe Systems Incorporated. *PDF Reference*, Adobe Portable Document Format, Version 1.7, sixth edition, November 2006.
http://www.adobe.com/content/dam/acom/en/devnet/pdf/pdf_reference_archive/pdf_reference_1-7.pdf.
Referenced in: SECTION 1, SECTION 3.7
- [2] Adobe Systems Incorporated. *Document management — Portable document format — Part 1: PDF 1.7*, first edition, July 2008.
http://www.adobe.com/content/dam/acom/en/devnet/pdf/PDF32000_2008.pdf.
Referenced in: SECTION 1, TABLE 1, TABLE 2, TABLE 2, SECTION 3.1, SECTION 3.1, TABLE 3, TABLE 3, TABLE 4, TABLE 4, TABLE 4, SECTION 3.7, SECTION 3.7, SECTION 3.11
- [3] Adobe Systems Incorporated. *Adobe Acrobat X SDK Release Notes*, Version 10.0, Readme File, edition 1.0, February 2011.
<http://www.adobe.com/content/dam/acom/en/devnet/acrobat/pdfs/release-notes-acrobatxsdk.pdf>.
Referenced in: FOOTNOTE 4
- [4] N. Freed and N. Borenstein. *Multipurpose Internet Mail Extensions (MIME)*, Part Two: Media Types, November 1996. Updated by RFCs 2646, 3798, 5147, 6657, and 8098.
<http://tools.ietf.org/html/rfc2046>.
Referenced in: TABLE 2, TABLE 3
- [5] U. Kern. *Extending L^AT_EX's color facilities: the xcolor package*, May 2016.
<http://www.ctan.org/tex-archive/macros/latex/contrib/xcolor/xcolor.pdf>.
Referenced in: SECTION 3.3
- [6] H. Oberdiek. *The bookmark package*, June 2019.
<http://www.ctan.org/tex-archive/macros/latex/contrib/oberdiek/bookmark.pdf>.
Referenced in: SECTION 3.2
- [7] R. Rivest. *The MD5 Message-Digest Algorithm*, April 1992. Updated by RFC 6151.
<http://tools.ietf.org/html/rfc1321>.
Referenced in: TABLE 2, TABLE 3, SECTION 3.13