

The bookmark package

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Abstract

This package implements a new bookmark (outline) organization for package `hyperref`. Bookmark properties such as style and color can now be set. Other action types are available (URI, GoToR, Named). The bookmarks are generated in the first compile run. Package `hyperref` uses two runs.

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	[2008/08/08 v1.3]	44
	[2008/09/13 v1.4]	44
	[2009/08/13 v1.5]	44
	[2009/12/06 v1.6]	44
	[2009/12/07 v1.7]	44
	[2009/12/17 v1.8]	44
	[2010/03/30 v1.9]	44
	[2010/04/03 v1.10]	44
	[2010/04/04 v1.11]	44
	[2010/04/08 v1.12]	44
	[2010/07/23 v1.13]	44
	[2010/09/02 v1.14]	45
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1 Documentation

1.1 Introduction

This package `bookmark` tries to provide a more modern management for bookmarks:

- The bookmarks are already generated in the first \TeX compile run.
- The font style and color of the bookmarks can be changed.
- More actions than simple `GoTo` actions are possible.

In the same way as `hyperref` [1] the bookmarks are generated in the order of the bookmark generating macros (`\bookmark`). A level number is used to define the tree structure of the bookmarks. The restrictions are less strict:

- The level values may jump and omit values. A `\subsubsection` may follow a `\chapter`. This was an error in `hyperref`, that prints a warning and tries to fix this.
- Several bookmarks may point to the same destination. In `hyperref` this would mess up the bookmark tree completely, because the algorithm assumes that the destination names are keys (unique).

Note that this package is intended as experimentation platform for bookmark management. Feedback is welcome. Also the interfaces may change in future versions.

1.2 Options

Options can be given at four places:

1. `\usepackage[options]{bookmark}`
This is the only place for driver options and option `atend`.
2. `\bookmarksetup{options}`
This command is just for setting options.
3. `\bookmarksetupnext{options}`
The options are stored and called after the options of the next `\bookmark` command.
4. `\bookmark[options]{title}`
This command sets the bookmark. The option settings remain limited to this bookmark.

Exception: Driver options, option `atend` and options `draft/final` cannot be changed after the package is loaded.

1.2.1 Options `draft` and `final`

If a \LaTeX file is compiled several times, then a little time can be saved, if option `draft` is used to disable the bookmark stuff of this package. Default is `final`. If `\pdfdraftmode` is available, then the default is `draft` if draft mode is enabled. Both options are boolean options, without value the value `true` is used. `draft=true` is the same as `final=false`.

Options of package `bookmark` are local options with the exception of driver options. Therefore `draft` or `final` given as class option is not seen by this package. If you want to optimize first \LaTeX runs depending on a global `draft`, then package `ifdraft` and \LaTeX 's `\PassOptionsToPackage` might help in the organization of the preamble, for example:

```

\documentclass[draft]{article}
\usepackage{ifdraft}
\ifdraft{%
  \PassOptionsToPackage{draft}{bookmark}%
}{}

```

1.2.2 Driver options

Supported drivers are `pdftex`, `dvips`, `dvipsone`, `textures`, `dvipdfm` (`xetex`), and `vtex`. The \TeX engines `pdf \TeX` , `X \TeX` , and `V \TeX` are automatically detected. The default for the DVI drivers is `dvips`. This can be changed in the configuration file `bookmark.cfg` by `\BookmarkDefaultDriver`, e.g.:

```
\def\BookmarkDefaultDriver{dvipdfm}
```

Open bookmarks with dvipdfmx. Since 2007-04-25 the cvs version of `dvipdfm` contains a patch that extends the `\special` for bookmarks in order to specify the open status of an outline entry. Option `dvipdfmx-outline-open` notifies the package that the dvi driver program understands this kind of `\special`. Alternatively `\SpecialDvipdfmxOutlineOpen` can be defined as number one in the configuration file or before the package is loaded, e.g.:

```
\chardef\SpecialDvipdfmxOutlineOpen=1\relax
```

1.2.3 Layout options

Font options.

bold: The bookmark is shown with a bold font if the PDF viewer supports this (since PDF 1.4).

italic: An italic font is used (since PDF 1.4).

Both **bold** and **italic** can be used together. Using value `false` disables the font option.

Color option. Colored bookmarks are a feature of PDF 1.4, they are not supported by all PDF viewers.

color: Here the color can be given as color specification of packages `color` or `xcolor`. An empty value means that the color property is not set. Without package `xcolor` the recognized values are restricted to

- Empty value, no color is set, example: `color={}`
- Explicit color specification of color model `rgb`, example for red: `color=[rgb]{1,0,0}`
- Explicit color specification of color model `gray`, example for dark gray: `color=[gray]{0.25}`

Note that this restriction also holds if package `color` is loaded. With `xcolor`, however, the full range of color specifications can be used.

1.2.4 Action options

dest: Destination name.

page: Page number, first page is 1.

view: View specification, examples:

```
view={FitB}, view={FitH 842}, view={XYZ 0 100 null}
```

Some view specification parameters expect numbers as parameters with unit bp. They can be given either as plain numbers or as length expressions inside `\calc`. Expressions of package `calc` are supported if the package is loaded. Otherwise ϵ - \TeX 's `\dimexpr` is used. Example:

```
view={FitH \calc{\paperheight-\topmargin-1in}}
view={XYZ 0 \calc{\paperheight} null}
```

Note that `\calc` cannot be used for the third parameter of `XYZ`. This parameter is the zoom value, not a length.

named: Named action name:

FirstPage, LastPage, NextPage, PrevPage

gotor: Name of the external PDF file.

uri: URI specification.

rawaction: Raw action specification. Because these specification depends on the driver this option should not be used.

The appropriate action for the bookmark is selected by analyzing the specified options. The actions are distinguished by different sets of options:

Action	Options
GoTo:	dest
GoTo:	page + view
GoToR:	gotor + dest
GoToR:	gotor + page + view
Named:	named
URI:	uri

Missing actions. If the action is missing package `bookmark` throws an error message. Depending on the driver (`pdftex`, `dvips` and `friends`) the package detects it quite late at the end of the document. Since version 2011/04/21 v1.21 the package tries printing the line number and file name of the corresponding occurrence of `\bookmark`. However, \TeX does provide the line number, but unhappily the file name is a secret. The package supports some ways to get the file name:

- If $\text{Lua}\TeX$ (independently from DVI or PDF modus) is running, then its `status.filename` is used automatically.
- Package `\currfile` [2] redefines $\text{L}\text{A}\text{T}\text{E}\text{X}$ internals to keep track of the file name. If the package is loaded, then its `\currfilepath` is detected and used automatically by package `bookmark`.
- The file name can be set manually by option `scrfile` in `\bookmarksetup` or `\bookmark`. But be careful, manual setting disables the previous ways for file name detection. And a wrong or missed file name setting might get you a wrong source location in the error message.

1.2.5 Level options

The order of the bookmark entries are defined by the appearance order of `\bookmark` commands. The tree structure is constructed by the property `level` of the bookmark nodes. The values of `level` are integers. If the level of a bookmark entry has a higher value than the previous node, then the entry becomes a child of the previous node. The absolute value of the difference does not matter.

Package `bookmark` remembers the level of the previous bookmark entry in a global property ‘current level’.

The behaviour of the level system can be configured by following options:

level: Sets the level, see the description above. If option `level` is given without value, then the default behaviour is restored, that the ‘current level’ is used as level value. Since version 2010/10/19 v1.16 package `bookmark` also supports names `part`, `section` and `other`, if the macros `\toclevel@part`, `\toclevel@section` are defined (done by package `hyperref`, see option `bookmarkdepth`).

rellevel: Sets the level relative to the previous level. A positive value means that the bookmark entry become a child of the previous one.

keeplevel: Use the level, set by `level` or `rellevel`, but do not change the global property ‘current level’. The option can be disabled by setting to `false`.

startatroot: At this time the bookmark tree starts at the top level again. The next bookmark entry is not sorted as child to a previous entry. Example scenario: A document uses `part`. However there are last chapters that should not be put below the last part:

```
\documentclass{book}
[...]
\begin{document}
  \part{First part}
    \chapter{First chapter in first part}
    [...]
  \part{Second part}
    \chapter{First chapter in second part}
    [...]
  \bookmarksetup{startatroot}
  \chapter{Index}% does not belong to second part
\end{document}
```

1.2.6 Style definitions

A style is a group of option settings. It can be defined by macro `\bookmarkdefinestyle` and is used by option `style`.

`\bookmarkdefinestyle {<name>} {<key value list>}`

The *<key value list>* of option settings is assigned the style *<name>*.

style: The value of option `style` is the name of a previously defined style. Its option settings are now executed. The options may include option `style`. Endless recursion by calling the same style recursively is prevented and throws an error.

1.2.7 Hook support

A hook is called right after the processing the optional options of macro `\bookmark`.

addtohook: Code, given as value to this option is added to the hook.

`\bookmarkget {<option>}`

Macro `\bookmarkget` extracts the value of the latest option setting of option *<option>*. In case of boolean options number one is returned, if the boolean option is enabled, otherwise the result is zero. The resulting numbers can directly be used in `\ifnum` or `\ifcase`. If you want to have the digits 0 and 1, then prefix `\bookmarkget` with `\number`. Macro `\bookmarkget` is expandable. In case of unsupported options an empty string is returned. Supported boolean options are

`bold`, `italic`, `open`

Other supported options:

`depth`, `dest`, `color`, `gotor`, `level`, `named`, `openlevel`, `page`, `rawaction`, `uri`,
`view`,

Additionally the following key is available:

`text`

It returns the text of the outline entry.

Option setting. Inside the hook an option can be set using `\bookmarksetup`.

1.3 Compatibility with hyperref

Package `bookmark` automatically disables `hyperref`'s bookmarks. However the package uses some of the code of `hyperref`. For example, the package redefines the hook `\Hy@writebookmark` that `hyperref` inserts in `\addcontentsline` and other commands. Therefore `hyperref`'s bookmarks should not be disabled.

Package `bookmark` uses `hyperref`'s `\pdfstringdef` and does not provide a replacement.

Some options of `hyperref` are also implemented in package `bookmark`:

<code>hyperref</code>	<code>bookmark</code>
<code>bookmarksdepth</code>	<code>depth</code>
<code>bookmarksopen</code>	<code>open</code>
<code>bookmarksopenlevel</code>	<code>openlevel</code>
<code>bookmarksnumbered</code>	<code>numbered</code>

The following commands are also available:

```
\pdfbookmark
\currentpdfbookmark
\subpdfbookmark
\belowpdfbookmark
```

1.4 Adding bookmarks at the end

Package option `atend` enables the following macro:

```
\BookmarkAtEnd {stuff}
```

Macro `\BookmarkAtEnd` puts *stuff* at the end of the document. *stuff* means bookmark commands. Example:

```
\usepackage[atend]{bookmark}
\BookmarkAtEnd{%
  \bookmarksetup{startatroot}%
  \bookmark[named=LastPage, level=0]{Last page}%
}
```

Alternatively, option `startatroot` can be given in `\bookmark`:

```
\BookmarkAtEnd{%
  \bookmark[
    startatroot,
    named=LastPage,
    level=0,
  ]{Last page}%
}
```

Remarks.

- `\BookmarkAtEnd` hides the fact that the method for adding bookmarks at the end of the document depends on the driver.

Some drivers (`pdftex`, `dvips`, `dvipsone`, `textures`) use package `atveryend`'s for this purpose. `\AtEndDocument` is too early, the last page might not been shipped out. Because the `.aux` file is needed, these drivers use `\AfterLastShipout`.

The implementation of the other drivers (`dvipdfm`, `xetex`, `vtex`) depends on `\special` that does not have an effect after the last page. In this case

`\AtEndDvi` of package `atenddvi` helps. It puts its argument on last page of the document. Two `LATEX` runs are necessary at least, because the last page is detected by a reference.

- The time of expansion of the argument of `\BookmarkAtEnd` is not specified. This can happen immediately or at the end of the document.

1.5 Limitations/ToDos

- Support for missing actions (Launch, ...).
- Better design for `hyperref`'s option `bookmarkstype`.

2 Example

```
1 \example
2 \documentclass{article}
3 \usepackage{xcolor}[2007/01/21]
4 \usepackage{hyperref}
5 \usepackage[
6   open,
7   openlevel=2,
8   atend
9 ]{bookmark}[2011/04/21]
10
11 \bookmarksetup{color=blue}
12
13 \BookmarkAtEnd{%
14   \bookmarksetup{startatroot}%
15   \bookmark[named=LastPage, level=0]{End/Last page}%
16   \bookmark[named=FirstPage, level=1]{First page}%
17 }
18
19 \begin{document}
20 \section{First section}
21 \subsection{Subsection A}
22 \begin{figure}
23   \hypertarget{fig}{}%
24   A figure.
25 \end{figure}
26 \bookmark[
27   rellevel=1,
28   keeplevel,
29   dest=fig
30 ]{A figure}
31 \subsection{Subsection B}
32 \subsubsection{Subsubsection C}
33 \subsection{Umlauts: \text{A}\text{O}\text{U}\text{a}\text{o}\text{u}}
34 \newpage
35 \bookmarksetup{
36   bold,
37   color=[rgb]{1,0,0}
38 }
39 \section{Very important section}
40 \bookmarksetup{
41   italic,
42   bold=false,
43   color=blue
44 }
45 \subsection{Italic section}
46 \bookmarksetup{
```



```

47 italic=false
48 }
49 \part{Misc}
50 \section{Diverse}
51 \subsubsection{Subsubsection, omitting subsection}
52 \bookmarksetup{
53 startatroot
54 }
55 \section{Last section outside part}
56 \subsection{Subsection}
57 \bookmarksetup{
58 color={}
59 }
60 \begingroup
61 \bookmarksetup{level=0, color=green!80!black}
62 \bookmark[named=FirstPage]{First page}
63 \bookmark[named=LastPage]{Last page}
64 \bookmark[named=PrevPage]{Previous page}
65 \bookmark[named=NextPage]{Next page}
66 \endgroup
67 \bookmark[
68 page=2,
69 view=FitH 800
70 ]{Page 2, FitH 800}
71 \bookmark[
72 page=2,
73 view=FitBH \calc{\paperheight-\topmargin-1in-\headheight-\headsep}
74 ]{Page 2, FitBH top of text body}
75 \bookmark[
76 uri={http://www.dante.de/},
77 color=magenta
78 ]{Dante homepage}
79 \bookmark[
80 gotor={t.pdf},
81 page=1,
82 view={XYZ 0 1000 null},
83 color=cyan!75!black
84 ]{File t.pdf}
85 \bookmark[named=FirstPage]{First page}
86 \bookmark[rellevel=1, named=LastPage]{Last page (rellevel=1)}
87 \bookmark[named=PrevPage]{Previous page}
88 \bookmark[level=0, named=FirstPage]{First page (level=0)}
89 \bookmark[
90 rellevel=1,
91 keeplevel,
92 named=LastPage
93 ]{Last page (rellevel=1, keeplevel)}
94 \bookmark[named=PrevPage]{Previous page}
95 \end{document}
96 \</example>

```

3 Implementation

3.1 Package

```

97 <*package>
98 \NeedsTeXFormat{LaTeX2e}
99 \ProvidesPackage{bookmark}%
100 [2011/04/21 v1.21 PDF bookmarks (HO)]%

```

3.1.1 Requirements

ϵ -TEX.

\BKM@CalcExpr

```
101 \begingroup\expandafter\expandafter\expandafter\endgroup
102 \expandafter\ifx\csname numexpr\endcsname\relax
103   \def\BKM@CalcExpr#1#2#3#4{%
104     \begingroup
105       \count@=#2\relax
106       \advance\count@ by#3#4\relax
107       \edef\x{\endgroup
108         \def\noexpand#1{\the\count@}%
109       }%
110     \x
111   }%
112 \else
113   \def\BKM@CalcExpr#1#2#3#4{%
114     \edef#1{%
115       \the\numexpr#2#3#4\relax
116     }%
117   }%
118 \fi
```

Escape features of pdf \TeX .

```
119 \RequirePackage{pdfescape}[2007/03/20]
```

\BKM@EscapeName

```
120 \def\BKM@EscapeName#1{%
121   \ifx#1\@empty
122   \else
123     \EdefEscapeName#1#1%
124   \fi
125 }%
```

\BKM@EscapeString

```
126 \def\BKM@EscapeString#1{%
127   \ifx#1\@empty
128   \else
129     \EdefEscapeString#1#1%
130   \fi
131 }%
```

\BKM@EscapeHex

```
132 \def\BKM@EscapeHex#1{%
133   \ifx#1\@empty
134   \else
135     \EdefEscapeHex#1#1%
136   \fi
137 }%
```

\BKM@UnescapeHex

```
138 \def\BKM@UnescapeHex#1{%
139   \EdefUnescapeHex#1#1%
140 }%
```

Packages.

```
141 \RequirePackage{ifpdf}[2009/04/10]
142 \RequirePackage{ifxetex}
143 \RequirePackage{ifvtex}[2008/11/04]
144 \RequirePackage{ifluatex}[2010/03/01]
145 \RequirePackage{pdftexcmds}[2010/11/04]
146 \RequirePackage{hyperref}[2010/06/18]
147 \RequirePackage{auxhook}[2007/04/06]
```

```

148 \RequirePackage{kvsetkeys}[2010/03/01]
149 \RequirePackage{kvoptions}[2009/08/13]
150 \RequirePackage{hycolor}[2008/09/08]
151 \RequirePackage{bitset}[2011/01/30]
152 \RequirePackage{ltxcmds}[2011/04/14]

```

3.1.2 Package options

```

153 \SetupKeyvalOptions{family=BKM,prefix=BKM@}
154 \DeclareLocalOptions{%
155   atend,%
156   bold,%
157   color,%
158   depth,%
159   dest,%
160   draft,%
161   final,%
162   gotor,%
163   italic,%
164   keeplevel,%
165   level,%
166   named,%
167   numbered,%
168   open,%
169   openlevel,%
170   page,%
171   rawaction,%
172   rellevel,%
173   srcfile,%
174   srcline,%
175   startatroot,%
176   uri,%
177   view,%
178 }

```

`\bookmarksetup`

```

179 \newcommand*{\bookmarksetup}{\kvsetkeys{BKM}}

```

`\BKM@setup`

```

180 \def\BKM@setup#1{%
181   \bookmarksetup{#1}%
182   \ifx\BKM@HookNext\ltx@empty
183     \else
184       \expandafter\bookmarksetup\expandafter{\BKM@HookNext}%
185       \BKM@HookNextClear
186     \fi
187     \BKM@hook
188     \ifBKM@keeplevel
189     \else
190       \xdef\BKM@currentlevel{\BKM@level}%
191     \fi
192 }

```

`\bookmarksetupnext`

```

193 \newcommand*{\bookmarksetupnext}[1]{%
194   \ltx@GlobalAppendToMacro\BKM@HookNext{,#1}%
195 }

```

`\BKM@setupnext`

`\BKM@HookNextClear`

```

196 \def\BKM@HookNextClear{%

```

```

197 \global\let\BKM@HookNext\ltx@empty
198 }

\BKM@HookNext

199 \BKM@HookNextClear

200 \DeclareBoolOption{draft}
201 \DeclareComplementaryOption{final}{draft}
202 \pdf@ifdraftmode\BKM@drafttrue{

\BKM@DisableOptions

203 \def\BKM@DisableOptions{%
204 \DisableKeyvalOption[action=warning,package=bookmark]%
205 {BKM}{draft}%
206 \DisableKeyvalOption[action=warning,package=bookmark]%
207 {BKM}{final}%
208 }

209 \DeclareBoolOption[\ifHy@bookmarksopen true\else false\fi]{open}

\bookmark@open

210 \def\bookmark@open{%
211 \ifBKM@open\ltx@one\else\ltx@zero\fi
212 }

213 \DeclareStringOption[\maxdimen]{openlevel}

\BKM@openlevel

214 \edef\BKM@openlevel{\number\@bookmarksopenlevel}

215 %\DeclareStringOption[\c@tocdepth]{depth}
216 \ltx@ifundefined{Hy@bookmarksdepth}{%
217 \def\BKM@depth{\c@tocdepth}%
218 }{%
219 \let\BKM@depth\Hy@bookmarksdepth
220 }

221 \define@key{BKM}{depth}[]{%
222 \edef\BKM@param{#1}%
223 \ifx\BKM@param\@empty
224 \def\BKM@depth{\c@tocdepth}%
225 \else
226 \ltx@ifundefined{toclevel@\BKM@param}{%
227 \onelevel@sanitize\BKM@param
228 \edef\BKM@temp{\expandafter\@car\BKM@param\@nil}%
229 \ifcase 0\expandafter\ifx\BKM@temp-1\fi
230 \expandafter\ifnum\expandafter'\BKM@temp>47 %
231 \expandafter\ifnum\expandafter'\BKM@temp<58 %
232 1%
233 \fi
234 \fi
235 \relax
236 \PackageWarning{bookmark}{%
237 Unknown document division name (\BKM@param)\MessageBreak
238 for option 'depth'%
239 }%
240 \else
241 \BKM@SetDepthOrLevel\BKM@depth\BKM@param
242 \fi
243 }{%
244 \BKM@SetDepthOrLevel\BKM@depth{%
245 \csname toclevel@\BKM@param\endcsname
246 }%

```

```

247   }%
248   \fi
249 }

```

`\bookmark@depth`

```

250 \def\bookmark@depth{\BKM@depth}

```

`\BKM@SetDepthOrLevel`

```

251 \def\BKM@SetDepthOrLevel#1#2{%
252   \begingroup
253   \setbox\z@=\hbox{%
254     \count=#2\relax
255     \expandafter
256   }%
257   \expandafter\endgroup
258   \expandafter\def\expandafter#1\expandafter{\the\count@}%
259 }

260 \DeclareStringOption[\BKM@currentlevel]{level}[\BKM@currentlevel]
261 \define@key{BKM}{level}{%
262   \edef\BKM@param{#1}%
263   \ifx\BKM@param\BKM@MacroCurrentLevel
264     \let\BKM@level\BKM@param
265   \else
266     \ltx@ifundefined{toclevel@\BKM@param}{%
267       \@onelevel@sanitize\BKM@param
268       \edef\BKM@temp{\expandafter\@car\BKM@param\@nil}%
269       \ifcase 0\expandafter\ifx\BKM@temp-1\fi
270         \expandafter\ifnum\expandafter'\BKM@temp>47 %
271           \expandafter\ifnum\expandafter'\BKM@temp<58 %
272             1%
273           \fi
274         \fi
275         \relax
276       \PackageWarning{bookmark}{%
277         Unknown document division name (\BKM@param)\MessageBreak
278         for option 'level'%
279       }%
280     \else
281       \BKM@SetDepthOrLevel\BKM@level\BKM@param
282     \fi
283   }{%
284     \BKM@SetDepthOrLevel\BKM@level{%
285       \csname toclevel@\BKM@param\endcsname
286     }%
287   }%
288   \fi
289 }

```

`\BKM@MacroCurrentLevel`

```

290 \def\BKM@MacroCurrentLevel{\BKM@currentlevel}

291 \DeclareBoolOption{keeplevel}
292 \DeclareBoolOption{startatroot}

```

`\BKM@startatrootfalse`

```

293 \def\BKM@startatrootfalse{%
294   \global\let\ifBKM@startatroot\iffalse
295 }

```

`\BKM@startatroottrue`

```

296 \def\BKM@startatroottrue{%

```

```

297 \global\let\ifBKM@startatroot\iftrue
298 }

299 \define@key{BKM}{rellevel}{%
300 \BKM@CalcExpr\BKM@level{#1}+\BKM@currentlevel
301 }

```

\bookmark@level

```
302 \def\bookmark@level{\BKM@level}
```

\BKM@currentlevel

```
303 \def\BKM@currentlevel{0}
```

Make bookmark's option numbered an alias for hyperref's bookmarksnumbered.

```

304 \DeclareBoolOption[%
305 \ifHy@bookmarksnumbered true\else false\fi
306 ]{numbered}
307 \g@addto@macro\BKM@numberedtrue{%
308 \let\ifHy@bookmarksnumbered\iftrue
309 }
310 \g@addto@macro\BKM@numberedfalse{%
311 \let\ifHy@bookmarksnumbered\iffalse
312 }
313 \g@addto@macro\Hy@bookmarksnumberedtrue{%
314 \let\ifBKM@numbered\iftrue
315 }
316 \g@addto@macro\Hy@bookmarksnumberedfalse{%
317 \let\ifBKM@numbered\iffalse
318 }

```

\bookmark@numbered

```

319 \def\bookmark@numbered{%
320 \ifBKM@numbered\ltx@one\else\ltx@zero\fi
321 }

```

Redefinitions hyperref's options

\BKM@PatchHyperrefOption

```

322 \def\BKM@PatchHyperrefOption#1{%
323 \expandafter\BKM@@PatchHyperrefOption\csname KV@Hyp@#1\endcsname%
324 }

```

\BKM@@PatchHyperrefOption

```

325 \def\BKM@@PatchHyperrefOption#1{%
326 \expandafter\BKM@@@PatchHyperrefOption#1{##1}\BKM@nil#1%
327 }

```

\BKM@@@PatchHyperrefOption

```

328 \def\BKM@@@PatchHyperrefOption#1\BKM@nil#2#3{%
329 \def#2##1{%
330 #1%
331 \bookmarksetup{#3={##1}}%
332 }%
333 }

```

```

334 \BKM@PatchHyperrefOption{bookmarksopen}{open}
335 \BKM@PatchHyperrefOption{bookmarksopenlevel}{openlevel}
336 \BKM@PatchHyperrefOption{bookmarksdepth}{depth}

```

Font style options. Caution: Package bitset is zero-based, the PDF specifications starts with one.

```

337 \bitsetReset{BKM@FontStyle}%
338 \define@key{BKM}{italic}[true]{%
339   \expandafter\ifx\csname if#1\endcsname\iftrue
340     \bitsetSet{BKM@FontStyle}{0}%
341   \else
342     \bitsetClear{BKM@FontStyle}{0}%
343   \fi
344 }%
345 \define@key{BKM}{bold}[true]{%
346   \expandafter\ifx\csname if#1\endcsname\iftrue
347     \bitsetSet{BKM@FontStyle}{1}%
348   \else
349     \bitsetClear{BKM@FontStyle}{1}%
350   \fi
351 }%

```

`\bookmark@italic`

```

352 \def\bookmark@italic{%
353   \ifnum\bitsetGet{BKM@FontStyle}{0}=1 \ltx@one\else\ltx@zero\fi
354 }

```

`\bookmark@bold`

```

355 \def\bookmark@bold{%
356   \ifnum\bitsetGet{BKM@FontStyle}{1}=1 \ltx@one\else\ltx@zero\fi
357 }

```

`\BKM@PrintStyle`

```

358 \def\BKM@PrintStyle{%
359   \bitsetGetDec{BKM@FontStyle}%
360 }%

```

Options for color.

```

361 \define@key{BKM}{color}{%
362   \HyColor@BookmarkColor{#1}\BKM@color{bookmark}{color}%
363 }

```

`\BKM@color`

```

364 \let\BKM@color\@empty

```

`\bookmark@color`

```

365 \def\bookmark@color{\BKM@color}

```

3.1.3 Action options

```

366 \def\BKM@temp#1{%
367   \DeclareStringOption{#1}%
368   \expandafter\edef\csname bookmark@#1\endcsname{%
369     \expandafter\noexpand\csname BKM@#1\endcsname
370   }%
371 }

```

`\bookmark@dest`

```

372 \BKM@temp{dest}

```

`\bookmark@named`

```

373 \BKM@temp{named}

```

`\bookmark@uri`

```

374 \BKM@temp{uri}

```

```

\bookmark@gotor
375 \BKM@temp{gotor}

\bookmark@rawaction
376 \BKM@temp{rawaction}

377 \define@key{BKM}{page}{%
378   \def\BKM@page{#1}%
379   \ifx\BKM@page\@empty
380   \else
381     \edef\BKM@page{\number\BKM@page}%
382     \ifnum\BKM@page>\z@
383     \else
384       \PackageError{bookmark}{Page must be positive}\@ehc
385     \def\BKM@page{1}%
386     \fi
387   \fi
388 }

\BKM@page
389 \let\BKM@page\@empty

\bookmark@page
390 \def\bookmark@page{\BKM@@page}

391 \define@key{BKM}{view}{%
392   \BKM@CheckView{#1}%
393 }

\BKM@view
394 \let\BKM@view\@empty

\bookmark@view
395 \def\bookmark@view{\BKM@view}

BKM@CheckView
396 \def\BKM@CheckView#1{%
397   \BKM@CheckViewType#1 \@nil
398 }

\BKM@CheckViewType
399 \def\BKM@CheckViewType#1 #2\@nil{%
400   \def\BKM@type{#1}%
401   \@onelevel@sanitize\BKM@type
402   \BKM@TestViewType{Fit}{}%
403   \BKM@TestViewType{FitB}{}%
404   \BKM@TestViewType{FitH}{%
405     \BKM@CheckParam#2 \@nil{top}%
406   }%
407   \BKM@TestViewType{FitBH}{%
408     \BKM@CheckParam#2 \@nil{top}%
409   }%
410   \BKM@TestViewType{FitV}{%
411     \BKM@CheckParam#2 \@nil{bottom}%
412   }%
413   \BKM@TestViewType{FitBV}{%
414     \BKM@CheckParam#2 \@nil{bottom}%
415   }%
416   \BKM@TestViewType{FitR}{%
417     \BKM@CheckRect{#2}{ }%
418   }%

```



```

419 \BKM@TestViewType{XYZ}{%
420   \BKM@CheckXYZ{#2}{ }%
421 }%
422 \@car{%
423   \PackageError{bookmark}{%
424     Unknown view type '\BKM@type',\MessageBreak
425     using 'FitH' instead%
426   }\@ehc
427   \def\BKM@view{FitH}%
428 }%
429 \@nil
430 }

```

\BKM@TestViewType

```

431 \def\BKM@TestViewType#1{%
432   \def\BKM@temp{#1}%
433   \@onelevel@sanitize\BKM@temp
434   \ifx\BKM@type\BKM@temp
435     \let\BKM@view\BKM@temp
436     \expandafter\@car
437   \else
438     \expandafter\@gobble
439   \fi
440 }

```

BKM@CheckParam

```

441 \def\BKM@CheckParam#1 #2\@nil#3{%
442   \def\BKM@param{#1}%
443   \ifx\BKM@param\@empty
444     \PackageWarning{bookmark}{%
445       Missing parameter (#3) for '\BKM@type',\MessageBreak
446       using 0%
447     }%
448     \def\BKM@param{0}%
449   \else
450     \BKM@CalcParam
451   \fi
452   \edef\BKM@view{\BKM@view\space\BKM@param}%
453 }

```

BKM@CheckRect

```

454 \def\BKM@CheckRect#1#2{%
455   \BKM@@CheckRect#1#2#2#2\@nil
456 }

```

\BKM@@CheckRect

```

457 \def\BKM@@CheckRect#1 #2 #3 #4 #5\@nil{%
458   \def\BKM@temp{0}%
459   \def\BKM@param{#1}%
460   \ifx\BKM@param\@empty
461     \def\BKM@param{0}%
462     \def\BKM@temp{1}%
463   \else
464     \BKM@CalcParam
465   \fi
466   \edef\BKM@view{\BKM@view\space\BKM@param}%
467   \def\BKM@param{#2}%
468   \ifx\BKM@param\@empty
469     \def\BKM@param{0}%
470     \def\BKM@temp{1}%
471   \else
472     \BKM@CalcParam

```

```

473 \fi
474 \edef\BKM@view{\BKM@view\space\BKM@param}%
475 \def\BKM@param{#3}%
476 \ifx\BKM@param\@empty
477   \def\BKM@param{0}%
478   \def\BKM@temp{1}%
479 \else
480   \BKM@CalcParam
481 \fi
482 \edef\BKM@view{\BKM@view\space\BKM@param}%
483 \def\BKM@param{#4}%
484 \ifx\BKM@param\@empty
485   \def\BKM@param{0}%
486   \def\BKM@temp{1}%
487 \else
488   \BKM@CalcParam
489 \fi
490 \edef\BKM@view{\BKM@view\space\BKM@param}%
491 \ifnum\BKM@temp>z@
492   \PackageWarning{bookmark}{Missing parameters for ‘\BKM@type’}%
493 \fi
494 }

```

\BKM@CheckXYZ

```

495 \def\BKM@CheckXYZ#1#2{%
496   \BKM@@CheckXYZ#1#2#2\@nil
497 }

```

\BKM@@CheckXYZ

```

498 \def\BKM@@CheckXYZ#1 #2 #3 #4\@nil{%
499   \def\BKM@param{#1}%
500   \let\BKM@temp\BKM@param
501   \@onelevel@sanitize\BKM@temp
502   \ifx\BKM@param\@empty
503     \let\BKM@param\BKM@null
504   \else
505     \ifx\BKM@temp\BKM@null
506       \else
507         \BKM@CalcParam
508       \fi
509     \fi
510   \edef\BKM@view{\BKM@view\space\BKM@param}%
511   \def\BKM@param{#2}%
512   \let\BKM@temp\BKM@param
513   \@onelevel@sanitize\BKM@temp
514   \ifx\BKM@param\@empty
515     \let\BKM@param\BKM@null
516   \else
517     \ifx\BKM@temp\BKM@null
518       \else
519         \BKM@CalcParam
520       \fi
521     \fi
522   \edef\BKM@view{\BKM@view\space\BKM@param}%
523   \def\BKM@param{#3}%
524   \ifx\BKM@param\@empty
525     \let\BKM@param\BKM@null
526   \fi
527   \edef\BKM@view{\BKM@view\space\BKM@param}%
528 }

```

\BKM@null

```

529 \def\BKM@null{null}
530 \@onelevel@sanitize\BKM@null

```

\BKM@CalcParam

```

531 \def\BKM@CalcParam{%
532   \begingroup
533   \let\calc@\firstofone
534   \expandafter\BKM@@CalcParam\BKM@param\@empty\@empty\@nil
535 }

```

\BKM@@CalcParam

```

536 \def\BKM@@CalcParam#1#2#3\@nil{%
537   \ifx\calc#1%
538     \@ifundefined{calc@assign@dimen}{%
539       \@ifundefined{dimexpr}{%
540         \setlength{\dimen@}{#2}%
541       }{%
542         \setlength{\dimen@}{\dimexpr#2\relax}%
543       }%
544     }{%
545       \setlength{\dimen@}{#2}%
546     }%
547     \dimen@.99626\dimen@
548     \edef\BKM@param{\strip@pt\dimen@}%
549     \expandafter\endgroup
550     \expandafter\def\expandafter\BKM@param\expandafter{\BKM@param}%
551   \else
552     \endgroup
553   \fi
554 }

```

3.1.4 Option atend

```

555 \DeclareBoolOption{atend}
556 \g@addto@macro\BKM@DisableOptions{%
557   \DisableKeyvalOption[action=warning,package=bookmark]%
558     {BKM}{atend}%
559 }

```

3.1.5 Option style

\bookmarkdefinestyle

```

560 \newcommand*{\bookmarkdefinestyle}[2]{%
561   \@ifundefined{BKM@style@#1}{%
562     }{%
563       \PackageInfo{bookmark}{Redefining style ‘#1’}%
564     }%
565   \@namedef{BKM@style@#1}{#2}%
566 }

567 \define@key{BKM}{style}{%
568   \BKM@StyleCall{#1}%
569 }
570 \newif\ifBKM@ok

```

\BKM@StyleCall

```

571 \def\BKM@StyleCall#1{%
572   \@ifundefined{BKM@style@#1}{%
573     \PackageError{bookmark}{%
574       Undefined style ‘#1’%
575     }\@ehc
576   }{%

```

Check style stack.

```
577 \BKM@oktrue
578 \edef\BKM@StyleCurrent{#1}%
579 \@onelevel@sanitize\BKM@StyleCurrent
580 \let\BKM@StyleEntry\BKM@StyleEntryCheck
581 \BKM@StyleStack
582 \ifBKM@ok
583 \expandafter\@firstofone
584 \else
585 \PackageError{bookmark}{%
586 Ignoring recursive call of style ‘\BKM@StyleCurrent’%
587 }\@ehc
588 \expandafter\@gobble
589 \fi
590 {%
```

Push current style on stack.

```
591 \let\BKM@StyleEntry\relax
592 \edef\BKM@StyleStack{%
593 \BKM@StyleEntry{\BKM@StyleCurrent}%
594 \BKM@StyleStack
595 }%
```

Call style.

```
596 \expandafter\expandafter\expandafter\bookmarksetup
597 \expandafter\expandafter\expandafter{%
598 \cename BKM@style@\BKM@StyleCurrent\endcsname
599 }%
```

Pop current style from stack.

```
600 \BKM@StyleStackPop
601 }%
602 }%
603 }
```

\BKM@StyleStackPop

```
604 \def\BKM@StyleStackPop{%
605 \let\BKM@StyleEntry\relax
606 \edef\BKM@StyleStack{%
607 \expandafter\@gobbletwo\BKM@StyleStack
608 }%
609 }
```

\BKM@StyleEntryCheck

```
610 \def\BKM@StyleEntryCheck#1{%
611 \def\BKM@temp{#1}%
612 \ifx\BKM@temp\BKM@StyleCurrent
613 \BKM@okfalse
614 \fi
615 }
```

\BKM@StyleStack

```
616 \def\BKM@StyleStack{}
```

3.1.6 Options for source file location

```
617 \DeclareStringOption{srcline}
618 \DeclareStringOption{srcfile}
```

3.1.7 Hook support

\BKM@hook

```
619 \def\BKM@hook{}
```

```

620 \define@key{BKM}{addtohook}{%
621   \ltx@LocalAppendToMacro\BKM@hook{#1}%
622 }

```

bookmarkget

```

623 \newcommand*{\bookmarkget}[1]{%
624   \romannumeral0%
625   \ltx@ifundefined{bookmark@#1}{%
626     \ltx@space
627   }{%
628     \expandafter\expandafter\expandafter\ltx@space
629     \csname bookmark@#1\endcsname
630   }%
631 }

```

3.1.8 Driver setup and loading

Driver detection.

\BKM@DefineDriverKey

```

632 \def\BKM@DefineDriverKey#1{%
633   \define@key{BKM}{#1}[]{%
634     \def\BKM@driver{#1}%
635   }%
636   \g@addto@macro\BKM@DisableOptions{%
637     \DisableKeyvalOption[action=warning,package=bookmark]%
638     {BKM}{#1}%
639   }%
640 }

641 \BKM@DefineDriverKey{pdftex}
642 \BKM@DefineDriverKey{dvips}
643 \BKM@DefineDriverKey{dvipsone}
644 \BKM@DefineDriverKey{textures}
645 \BKM@DefineDriverKey{dviplfm}
646 \BKM@DefineDriverKey{dviplfmx}
647 \BKM@DefineDriverKey{xetex}
648 \BKM@DefineDriverKey{vtex}
649 \define@key{BKM}{dviplfmx-outline-open}[true]{%
650   \expandafter\ifx\csname if#1\expandafter\endcsname
651     \csname iftrue\endcsname
652   \chardef\SpecialDviplfmxOutlineOpen\@ne
653   \else
654     \chardef\SpecialDviplfmxOutlineOpen\z@
655   \fi
656 }
657 \g@addto@macro\BKM@DisableOptions{%
658   \DisableKeyvalOption{BKM}{dviplfmx-outline-open}%
659 }

```

\bookmark@driver

```

660 \def\bookmark@driver{\BKM@driver}

661 \InputIfFileExists{bookmark.cfg}{-}{-}

```

\BookmarkDriverDefault

```

662 \providecommand*\BookmarkDriverDefault{dvips}

```

\BKM@driver

```

663 \ifpdf
664   \def\BKM@driver{pdftex}%
665 \else

```

```

666 \ifxetex
667   \def\BKM@driver{dvipdfm}%
668 \else
669   \ifvtex
670     \def\BKM@driver{vtex}%
671   \else
672     \edef\BKM@driver{\BookmarkDriverDefault}%
673   \fi
674 \fi
675 \fi

```

Process options.

```

676 \ProcessKeyvalOptions*
677 \BKM@DisableOptions

```

Option draft

```

678 \ifBKM@draft
679   \PackageWarningNoLine{bookmark}{Draft mode on}%
680   \let\bookmarksetup\ltx@gobble
681   \let\BookmarkAtEnd\ltx@gobble
682   \let\bookmarkdefinestyle\ltx@gobbletwo
683   \let\bookmarkget\ltx@gobble
684   \renewcommand*{\pdfbookmark}[3][{}]{%
685     \let\currentpdfbookmark\ltx@gobbletwo
686     \let\subpdfbookmark\ltx@gobbletwo
687     \let\belowpdfbookmark\ltx@gobbletwo
688     \newcommand*{\bookmark}[2][{}]{%
689       \renewcommand*{\Hy@writebookmark}[5]{%
690         \let\ReadBookmarks\relax
691         \let\BKM@DefGotoNameAction\ltx@gobbletwo % package 'hypdestopt'
692         \expandafter\endinput
693       \fi

```

Driver validation and loading.

```

694 \newif\ifBKM@DvipdfmxOutlineOpen
695 \ltx@ifundefined{SpecialDvipdfmxOutlineOpen}{%
696   \ifxetex
697     \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
698     \else
699       \chardef\SpecialDvipdfmxOutlineOpen\ltx@one
700       \BKM@DvipdfmxOutlineOpentruer
701     \fi
702   \fi
703 }{%
704   \ifnum\SpecialDvipdfmxOutlineOpen>\z@
705     \BKM@DvipdfmxOutlineOpentruer
706   \fi
707 }

708 \def\BKM@temp{dvipdfmx}%
709 \ifx\BKM@temp\BKM@driver
710   \def\BKM@driver{dvipdfm}%
711 \fi
712 \def\BKM@temp{pdftex}%
713 \ifpdf
714   \ifx\BKM@temp\BKM@driver
715   \else
716     \PackageWarningNoLine{bookmark}{%
717       Wrong driver '\BKM@driver', using 'pdftex' instead%
718     }%
719   \let\BKM@driver\BKM@temp

```

```

720 \fi
721 \else
722 \ifx\BKM@temp\BKM@driver
723 \PackageError{bookmark}{%
724 Wrong driver, pdfTeX is not running in PDF mode.\MessageBreak
725 Package loading is aborted%
726 }\@ehc
727 \expandafter\expandafter\expandafter\endinput
728 \fi
729 \def\BKM@temp{dvipdfm}%
730 \ifxetex
731 \ifx\BKM@temp\BKM@driver
732 \else
733 \PackageWarningNoLine{bookmark}{%
734 Wrong driver '\BKM@driver',\MessageBreak
735 using 'dvipdfm' for XeTeX instead%
736 }%
737 \let\BKM@driver\BKM@temp
738 \fi
739 \else
740 \def\BKM@temp{vtex}%
741 \ifvtex
742 \ifx\BKM@temp\BKM@driver
743 \else
744 \PackageWarningNoLine{bookmark}{%
745 Wrong driver '\BKM@driver',\MessageBreak
746 using 'vtex' for VTeX instead%
747 }%
748 \let\BKM@driver\BKM@temp
749 \fi
750 \else
751 \ifx\BKM@temp\BKM@driver
752 \PackageError{bookmark}{%
753 Wrong driver, VTeX is not running in PDF mode.\MessageBreak
754 Package loading is aborted%
755 }\@ehc
756 \expandafter\expandafter\expandafter\endinput
757 \fi
758 \fi
759 \fi
760 \fi
761 \InputIfFileExists{bkm-\BKM@driver.def}{}{%
762 \PackageError{bookmark}{%
763 Unsupported driver '\BKM@driver'.\MessageBreak
764 Package loading is aborted%
765 }\@ehc
766 \endinput
767 }

```

3.1.9 Compatibility for hyperref

`\pdfbookmark`

```

768 \renewcommand*{\pdfbookmark}[3][0]{%
769 \bookmark[level=#1,dest={#3.#1}]{#2}%
770 \hyper@anchorstart{#3.#1}\hyper@anchorend
771 }

```

`\currentpdfbookmark`

```

772 \renewcommand*{\currentpdfbookmark}{%
773 \pdfbookmark[\BKM@currentlevel]%
774 }

```

`\subpdfbookmark`

```
775 \renewcommand*{\subpdfbookmark}{%
776   \BKM@CalcExpr\BKM@CalcResult\BKM@currentlevel+1%
777   \expandafter\pdfbookmark\expandafter[\BKM@CalcResult]%
778 }
```

`\belowpdfbookmark`

```
779 \renewcommand*{\belowpdfbookmark}[2]{%
780   \xdef\BKM@temp{\number\BKM@currentlevel}%
781   \subpdfbookmark{#1}{#2}%
782   \global\let\BKM@currentlevel\BKM@temp
783 }
```

Section number, text, label, level, file

`\Hy@writebookmark`

```
784 \renewcommand*{\Hy@writebookmark}[5]{%
785   \ifnum#4>\BKM@depth\relax
786   \else
787     \def\BKM@type{#5}%
788     \ifx\BKM@type\Hy@bookmarkstype
789       \begingroup
790         \ifBKM@numbered
791           \let\numberline\Hy@numberline
792           \let\booknumberline\Hy@numberline
793           \let\partnumberline\Hy@numberline
794           \let\chapternumberline\Hy@numberline
795         \else
796           \let\numberline@gobble
797           \let\booknumberline@gobble
798           \let\partnumberline@gobble
799           \let\chapternumberline@gobble
800         \fi
801         \bookmark[level=#4,dest={#3}]{#2}%
802       \endgroup
803     \fi
804   \fi
805 }
```

`\ReadBookmarks`

```
806 \let\ReadBookmarks\relax
807 </package>
```

3.2 Driver for dvipdfm

```
808 <*dvipdfm>
809 \NeedsTeXFormat{LaTeX2e}
810 \ProvidesFile{bkm-dvipdfm.def}%
811 [2011/04/21 v1.21 bookmark driver for dvipdfm (HO)]%
```

`\BKM@id`

```
812 \newcount\BKM@id
813 \BKM@id=\z@
```

`\BKM@0`

```
814 \@namedef{BKM@0}{000}
```

`\ifBKM@sw`

```
815 \newif\ifBKM@sw
```


\bookmark

```
816 \newcommand*{\bookmark}[2][ ]{%
817   \if@filesw
818     \begingroup
819       \def\bookmark@text{#2}%
820       \BKM@setup{#1}%
821       \edef\BKM@prev{\the\BKM@id}%
822       \global\advance\BKM@id\@ne
823       \BKM@swtrue
824       \@whilesw\ifBKM@sw\fi{%
825         \def\BKM@abslevel{1}%
826         \ifnum\ifBKM@startatroot\z@\else\BKM@prev\fi=\z@
827           \BKM@startatrootfalse
828           \expandafter\xdef\csname BKM@\the\BKM@id\endcsname{%
829             0{\BKM@level}\BKM@abslevel
830           }%
831           \BKM@swfalse
832         \else
833           \expandafter\expandafter\expandafter\BKM@getx
834             \csname BKM@\BKM@prev\endcsname
835           \ifnum\BKM@level>\BKM@x@level\relax
836             \BKM@CalcExpr\BKM@abslevel\BKM@x@abslevel+1%
837             \expandafter\xdef\csname BKM@\the\BKM@id\endcsname{%
838               {\BKM@prev}{\BKM@level}\BKM@abslevel
839             }%
840             \BKM@swfalse
841           \else
842             \let\BKM@prev\BKM@x@parent
843           \fi
844         \fi
845       }%
846       \csname HyPsd@XeTeXBigCharstrue\endcsname
847       \pdfstringdef\BKM@title{\bookmark@text}%
848       \edef\BKM@FLAGS{\BKM@PrintStyle}%
849       \let\BKM@action\@empty
850       \ifx\BKM@goto\@empty
851         \ifx\BKM@dest\@empty
852           \ifx\BKM@named\@empty
853             \ifx\BKM@rawaction\@empty
854               \ifx\BKM@uri\@empty
855                 \ifx\BKM@page\@empty
856                   \PackageError{bookmark}{Missing action}\@ehc
857                   \edef\BKM@action{/Dest[@page/Fit]}%
858                 \else
859                   \ifx\BKM@view\@empty
860                     \def\BKM@view{Fit}%
861                   \fi
862                   \edef\BKM@action{/Dest[@page\BKM@page/\BKM@view]}%
863                 \fi
864               \else
865                 \BKM@EscapeString\BKM@uri
866                 \edef\BKM@action{%
867                   /A<<%
868                   /S/URI%
869                   /URI(\BKM@uri)%
870                   >>%
871                 }%
872               \fi
873             \else
874               \edef\BKM@action{/A<<\BKM@rawaction>>}%
875             \fi
876           \else
```

```

877         \BKM@EscapeName\BKM@named
878         \edef\BKM@action{%
879             /A<</S/Named/N/\BKM@named>>%
880         }%
881     \fi
882 \else
883     \BKM@EscapeString\BKM@dest
884     \edef\BKM@action{%
885         /A<<%
886         /S/GoTo%
887         /D(\BKM@dest)%
888     >>%
889     }%
890 \fi
891 \else
892     \ifx\BKM@dest\@empty
893     \ifx\BKM@page\@empty
894     \def\BKM@page{0}%
895     \else
896     \BKM@CalcExpr\BKM@page\BKM@page-1%
897     \fi
898     \ifx\BKM@view\@empty
899     \def\BKM@view{Fit}%
900     \fi
901     \edef\BKM@action{/D[\BKM@page/\BKM@view]}%
902 \else
903     \BKM@EscapeString\BKM@dest
904     \edef\BKM@action{/D(\BKM@dest)}%
905 \fi
906 \BKM@EscapeString\BKM@gotor
907 \edef\BKM@action{%
908     /A<<%
909     /S/GoToR%
910     /F(\BKM@gotor)%
911     \BKM@action
912 >>%
913 }%
914 \fi
915 \special{pdf:
916     out \ifBKM@DvipdfmxOutlineOpen
917     [%
918     \ifBKM@open
919     \ifnum\BKM@level<%
920     \expandafter\ltx@firstofone\expandafter
921     {\number\BKM@openlevel} %
922     \else
923     -%
924     \fi
925     \else
926     -%
927     \fi
928     ] %
929     \fi
930     \BKM@abslevel
931 <<%
932 /Title(\BKM@title)%
933 \ifx\BKM@color\@empty
934 \else
935 /C[\BKM@color]%
936 \fi
937 \ifnum\BKM@FLAGS>\z@
938 /F \BKM@FLAGS

```

```

939         \fi
940         \BKM@action
941         >>%
942     }%
943 \endgroup
944 \fi
945 }

```

`\BKM@getx`

```

946 \def\BKM@getx#1#2#3{%
947   \def\BKM@x@parent{#1}%
948   \def\BKM@x@level{#2}%
949   \def\BKM@x@abslevel{#3}%
950 }
951 </dvipdfm>

```

3.3 Driver for VTeX

```

952 <*vtex>
953 \NeedsTeXFormat{LaTeX2e}
954 \ProvidesFile{bkm-vtex.def}%
955 [2011/04/21 v1.21 bookmark driver for VTeX (HO)]%
956 \ifvtexpdf
957 \else
958   \PackageWarningNoLine{bookmark}{%
959     The VTeX driver only supports PDF mode%
960   }%
961 \fi

```

`\BKM@id`

```

962 \newcount\BKM@id
963 \BKM@id=\z@

```

`\BKM@O`

```

964 \@namedef{BKM@O}{00}

```

`\ifBKM@sw`

```

965 \newif\ifBKM@sw

```

`\bookmark`

```

966 \newcommand*{\bookmark}[2][1]{%
967   \if@filesw
968     \begingroup
969       \def\bookmark@text{#2}%
970       \BKM@setup{#1}%
971       \edef\BKM@prev{\the\BKM@id}%
972       \global\advance\BKM@id\one
973       \BKM@swtrue
974       \@whilesw\ifBKM@sw\fi{%
975         \ifnum\ifBKM@startatroot\z@\else\BKM@prev\fi=\z@
976           \BKM@startatrootfalse
977           \def\BKM@parent{0}%
978           \expandafter\xdef\csname BKM@\the\BKM@id\endcsname{%
979             0{\BKM@level}}%
980           }%
981           \BKM@swfalse
982         \else
983           \expandafter\expandafter\expandafter\BKM@getx
984             \csname BKM@\BKM@prev\endcsname
985           \ifnum\BKM@level>\BKM@x@level\relax

```

```

986         \let\BKM@parent\BKM@prev
987         \expandafter\xdef\csname BKM@\the\BKM@id\endcsname{%
988             {\BKM@prev}{\BKM@level}}%
989         }%
990         \BKM@swfalse
991     \else
992         \let\BKM@prev\BKM@x@parent
993     \fi
994 \fi
995 }%
996 \pdfstringdef\BKM@title{\bookmark@text}%
997 \BKM@vtex@title
998 \edef\BKM@FLAGS{\BKM@PrintStyle}%
999 \let\BKM@action\@empty
1000 \ifx\BKM@gotor\@empty
1001     \ifx\BKM@dest\@empty
1002         \ifx\BKM@named\@empty
1003             \ifx\BKM@rawaction\@empty
1004                 \ifx\BKM@uri\@empty
1005                     \ifx\BKM@page\@empty
1006                         \PackageError{bookmark}{Missing action}\@ehc
1007                         \def\BKM@action{!}%
1008                     \else
1009                         \edef\BKM@action{!\BKM@page}%
1010                     \fi
1011                 \else
1012                     \BKM@EscapeString\BKM@uri
1013                     \edef\BKM@action{%
1014                         <u=%
1015                         /S/URI%
1016                         /URI(\BKM@uri)%
1017                         >%
1018                     }%
1019                 \fi
1020             \else
1021                 \edef\BKM@action{<u=\BKM@rawaction>}%
1022             \fi
1023         \else
1024             \BKM@EscapeName\BKM@named
1025             \edef\BKM@action{%
1026                 <u=%
1027                 /S/Named%
1028                 /N/\BKM@named
1029                 >%
1030             }%
1031         \fi
1032     \else
1033         \BKM@EscapeString\BKM@dest
1034         \edef\BKM@action{\BKM@dest}%
1035     \fi
1036 \else
1037     \ifx\BKM@dest\@empty
1038         \ifx\BKM@page\@empty
1039             \def\BKM@page{1}%
1040         \fi
1041         \ifx\BKM@view\@empty
1042             \def\BKM@view{Fit}%
1043         \fi
1044         \edef\BKM@action{/D[\BKM@page/\BKM@view]}%
1045     \else
1046         \BKM@EscapeString\BKM@dest
1047         \edef\BKM@action{/D(\BKM@dest)}%

```

```

1048     \fi
1049     \BKM@EscapeString\BKM@gotor
1050     \edef\BKM@action{%
1051         <u=%
1052         /S/GoToR%
1053         /F(\BKM@gotor)%
1054         \BKM@action
1055         >>%
1056     }%
1057 \fi
1058 \ifx\BKM@color\@empty
1059     \let\BKM@RGBcolor\@empty
1060 \else
1061     \expandafter\BKM@toRGB\BKM@color\@nil
1062 \fi
1063 \special{%
1064     !outline \BKM@action;%
1065     p=\BKM@parent,%
1066     i=\number\BKM@id,%
1067     s=%
1068     \ifBKM@open
1069         \ifnum\BKM@level<\BKM@openlevel
1070             o%
1071         \else
1072             c%
1073         \fi
1074     \else
1075         c%
1076     \fi,%
1077     \ifx\BKM@RGBcolor\@empty
1078     \else
1079         c=\BKM@RGBcolor,%
1080     \fi
1081     \ifnum\BKM@FLAGS>\z@
1082         f=\BKM@FLAGS,%
1083     \fi
1084     t=\BKM@title
1085 }%
1086 \endgroup
1087 \fi
1088 }

```

\BKM@getx

```

1089 \def\BKM@getx#1#2{%
1090     \def\BKM@x@parent{#1}%
1091     \def\BKM@x@level{#2}%
1092 }

```

\BKM@toRGB

```

1093 \def\BKM@toRGB#1 #2 #3\@nil{%
1094     \let\BKM@RGBcolor\@empty
1095     \BKM@toRGBComponent{#1}%
1096     \BKM@toRGBComponent{#2}%
1097     \BKM@toRGBComponent{#3}%
1098 }

```

\BKM@toRGBComponent

```

1099 \def\BKM@toRGBComponent#1{%
1100     \dimen@=#1pt\relax
1101     \ifdim\dimen@>\z@
1102         \ifdim\dimen@<\p@
1103             \dimen@=255\dimen@

```

```

1104     \advance\dimen@ by 32768sp\relax
1105     \divide\dimen@ by 65536\relax
1106     \dimen@ii=\dimen@
1107     \divide\dimen@ii by 16\relax
1108     \edef\BKM@RGBcolor{%
1109         \BKM@RGBcolor
1110         \BKM@toHexDigit\dimen@ii
1111     }%
1112     \dimen@ii=16\dimen@ii
1113     \advance\dimen@-\dimen@ii
1114     \edef\BKM@RGBcolor{%
1115         \BKM@RGBcolor
1116         \BKM@toHexDigit\dimen@
1117     }%
1118     \else
1119         \edef\BKM@RGBcolor{\BKM@RGBcolor FF}%
1120     \fi
1121 \else
1122     \edef\BKM@RGBcolor{\BKM@RGBcolor00}%
1123 \fi
1124 }

```

\BKM@toHexDigit

```

1125 \def\BKM@toHexDigit#1{%
1126     \expandafter\ifcase\expandafter\@firstofone\expandafter{\number#1} %
1127     0\or 1\or 2\or 3\or 4\or 5\or 6\or 7\or
1128     8\or 9\or A\or B\or C\or D\or E\or F%
1129     \fi
1130 }

1131 \begingroup
1132 \catcode'\|=0 %
1133 \catcode'\|=12 %

```

\BKM@vtex@title

```

1134 |gdef|BKM@vtex@title{%
1135     |@onelevel@sanitize|BKM@title
1136     |edef|BKM@title{|expandafter|BKM@vtex@leftparen|BKM@title\(|@nil}%
1137     |edef|BKM@title{|expandafter|BKM@vtex@rightparen|BKM@title\)|@nil}%
1138     |edef|BKM@title{|expandafter|BKM@vtex@zero|BKM@title\0|@nil}%
1139     |edef|BKM@title{|expandafter|BKM@vtex@one|BKM@title\1|@nil}%
1140     |edef|BKM@title{|expandafter|BKM@vtex@two|BKM@title\2|@nil}%
1141     |edef|BKM@title{|expandafter|BKM@vtex@three|BKM@title\3|@nil}%
1142 }%

```

\BKM@vtex@leftparen

```

1143 |gdef|BKM@vtex@leftparen#1\|#2|@nil{%
1144     #1%
1145     |ifx||#2||%
1146     |else
1147         (%
1148         |ltx@ReturnAfterFi{%
1149         |BKM@vtex@leftparen#2|@nil
1150         }%
1151     |fi
1152 }%

```

\BKM@vtex@rightparen

```

1153 |gdef|BKM@vtex@rightparen#1\|#2|@nil{%
1154     #1%
1155     |ifx||#2||%
1156     |else

```

```

1157     )%
1158     |ltx@ReturnAfterFi{%
1159     |BKM@vtex@rightparen#2|@nil
1160     }%
1161     |fi
1162     }%

```

\BKM@vtex@zero

```

1163 |gdef|BKM@vtex@zero#1\0#2|@nil{%
1164 #1%
1165 |ifx||#2||%
1166 |else
1167 |noexpand|hv@pdf@char0%
1168 |ltx@ReturnAfterFi{%
1169 |BKM@vtex@zero#2|@nil
1170 }%
1171 |fi
1172 }%

```

\BKM@vtex@one

```

1173 |gdef|BKM@vtex@one#1\1#2|@nil{%
1174 #1%
1175 |ifx||#2||%
1176 |else
1177 |noexpand|hv@pdf@char1%
1178 |ltx@ReturnAfterFi{%
1179 |BKM@vtex@one#2|@nil
1180 }%
1181 |fi
1182 }%

```

\BKM@vtex@two

```

1183 |gdef|BKM@vtex@two#1\2#2|@nil{%
1184 #1%
1185 |ifx||#2||%
1186 |else
1187 |noexpand|hv@pdf@char2%
1188 |ltx@ReturnAfterFi{%
1189 |BKM@vtex@two#2|@nil
1190 }%
1191 |fi
1192 }%

```

\BKM@vtex@three

```

1193 |gdef|BKM@vtex@three#1\3#2|@nil{%
1194 #1%
1195 |ifx||#2||%
1196 |else
1197 |noexpand|hv@pdf@char3%
1198 |ltx@ReturnAfterFi{%
1199 |BKM@vtex@three#2|@nil
1200 }%
1201 |fi
1202 }%

```

1203 |endgroup

1204 </vtex>

3.4 Driver for pdf_TE_X

1205 <*pdf_TE_X>

```

1206 \NeedsTeXFormat{LaTeX2e}
1207 \ProvidesFile{bkm-pdf.tex.def}%
1208 [2011/04/21 v1.21 bookmark driver for pdfTeX (HO)]%

```

\BKM@D@entry

```

1209 \def\BKM@D@entry#1#2{%
1210   \begingroup
1211     \kvsetkeys{BKM@D@}{#1}%
1212     \def\BKM@D@title{#2}%
1213     \ifx\BKM@D@srcfile\@empty
1214     \else
1215       \BKM@UnescapeHex\BKM@D@srcfile
1216     \fi
1217     \BKM@UnescapeHex\BKM@D@title
1218     \expandafter\expandafter\expandafter\BKM@getx
1219     \csname BKM@\BKM@D@id\endcsname\@empty\@empty
1220     \let\BKM@attr\@empty
1221     \ifx\BKM@D@flags\@empty
1222     \else
1223       \edef\BKM@attr{\BKM@attr/F \BKM@D@flags}%
1224     \fi
1225     \ifx\BKM@D@color\@empty
1226     \else
1227       \edef\BKM@attr{\BKM@attr/C[\BKM@D@color]}%
1228     \fi
1229     \ifx\BKM@attr\@empty
1230     \else
1231       \edef\BKM@attr{attr{\BKM@attr}}%
1232     \fi
1233     \let\BKM@action\@empty
1234     \ifx\BKM@D@gotor\@empty
1235     \ifx\BKM@D@dest\@empty
1236     \ifx\BKM@D@named\@empty
1237     \ifx\BKM@D@rawaction\@empty
1238     \ifx\BKM@D@uri\@empty
1239     \ifx\BKM@D@page\@empty
1240       \PackageError{bookmark}{%
1241         Missing action\BKM@SourceLocation
1242       }\@ehc
1243       \edef\BKM@action{goto page1{/Fit}}%
1244     \else
1245     \ifx\BKM@D@view\@empty
1246     \def\BKM@D@view{Fit}%
1247     \fi
1248     \edef\BKM@action{goto page\BKM@D@page{/ \BKM@D@view}}%
1249     \fi
1250     \else
1251     \BKM@UnescapeHex\BKM@D@uri
1252     \BKM@EscapeString\BKM@D@uri
1253     \edef\BKM@action{user{<</S/URI/URI(\BKM@D@uri)>>}}%
1254     \fi
1255     \else
1256     \BKM@UnescapeHex\BKM@D@rawaction
1257     \edef\BKM@action{%
1258       user{%
1259         <<%
1260           \BKM@D@rawaction
1261         >>%
1262       }%
1263     }%
1264     \fi
1265     \else
1266     \BKM@EscapeName\BKM@D@named

```



```

1267         \edef\BKM@action{%
1268             user{<</S/Named/N/\BKM@DO@named>>}}%
1269         }%
1270     \fi
1271 \else
1272     \BKM@UnescapeHex\BKM@DO@dest
1273     \BKM@DefGotoNameAction\BKM@action\BKM@DO@dest
1274 \fi
1275 \else
1276     \ifx\BKM@DO@dest\@empty
1277         \ifx\BKM@DO@page\@empty
1278             \def\BKM@DO@page{0}%
1279         \else
1280             \BKM@CalcExpr\BKM@DO@page\BKM@DO@page-1%
1281         \fi
1282         \ifx\BKM@DO@view\@empty
1283             \def\BKM@DO@view{Fit}%
1284         \fi
1285         \edef\BKM@action{/D[\BKM@DO@page/\BKM@DO@view]}%
1286     \else
1287         \BKM@UnescapeHex\BKM@DO@dest
1288         \BKM@EscapeString\BKM@DO@dest
1289         \edef\BKM@action{/D(\BKM@DO@dest)}%
1290     \fi
1291     \BKM@UnescapeHex\BKM@DO@gotor
1292     \BKM@EscapeString\BKM@DO@gotor
1293     \edef\BKM@action{%
1294         user{%
1295             <<%
1296                 /S/GoToR%
1297                 /F(\BKM@DO@gotor)%
1298                 \BKM@action
1299             >>%
1300         }%
1301     }%
1302 \fi
1303 \pdfoutline\BKM@attr\BKM@action
1304         count\ifBKM@DO@open\else-\fi\BKM@x@childs
1305         {\BKM@DO@title}%
1306 \endgroup
1307 }

```

\BKM@DefGotoNameAction Macro \BKM@DefGotoNameAction is a hook for package hypdestopt.

```

1308 \def\BKM@DefGotoNameAction#1#2{%
1309     \BKM@EscapeString\BKM@DO@dest
1310     \edef#1{goto name{#2}}%
1311 }

1312 </pdfTeX>
1313 < *pdfTeX | pdfmark >

```

\BKM@SourceLocation

```

1314 \def\BKM@SourceLocation{%
1315     \ifx\BKM@DO@srcfile\@empty
1316         \ifx\BKM@DO@srcline\@empty
1317             \else
1318                 .\MessageBreak
1319                 Source: line \BKM@DO@srcline
1320             \fi
1321         \else
1322             \ifx\BKM@DO@srcline\@empty
1323                 .\MessageBreak

```

```

1324     Source: file '\BKM@DO@srcfile'%
1325   \else
1326     .\MessageBreak
1327     Source: file '\BKM@DO@srcfile', line \BKM@DO@srcline
1328   \fi
1329 \fi
1330 }

1331 </pdfTeX | pdfmark>

```

3.5 Drivers with pdfmark specials

3.5.1 Driver dvips

```

1332 <*dvips>
1333 \NeedsTeXFormat{LaTeX2e}
1334 \ProvidesFile{bkm-dvips.def}%
1335 [2011/04/21 v1.21 bookmark driver for dvips (HO)]%

```

\BKM@PSHeaderFile

```

1336 \def\BKM@PSHeaderFile#1{%
1337   \special{header=#1}%
1338 }

```

1339 </dvips>

3.5.2 Driver dvipsone

```

1340 <*dvipsone>
1341 \NeedsTeXFormat{LaTeX2e}
1342 \ProvidesFile{bkm-dvipsone.def}%
1343 [2011/04/21 v1.21 bookmark driver for dvipsone (HO)]%

```

\BKM@PSHeaderFile

```

1344 \def\BKM@PSHeaderFile#1{%
1345   \special{header=#1}%
1346 }

```

1347 </dvipsone>

3.5.3 Driver textures

```

1348 <*textures>
1349 \NeedsTeXFormat{LaTeX2e}
1350 \ProvidesFile{bkm-textures.def}%
1351 [2011/04/21 v1.21 bookmark driver for textures (HO)]%

```

\BKM@PSHeaderFile

```

1352 \def\BKM@PSHeaderFile#1{%
1353   \special{prePostScriptfile #1}%
1354 }

```

1355 </textures>

3.5.4 Common part

1356 <*pdfmark>

\BKM@filename

```

1357 \def\BKM@filename{\jobname.out.ps}

1358 \BKM@PSHeaderFile\BKM@filename

1359 \RequirePackage{atveryend}[2009/12/07]
1360 \AfterLastShipout{\BKM@pdfmark@out}

```

`\BKM@pdfmark@out` Do not use package `rerunfilecheck` here, because the file `\BKM@filename` is not read during the \TeX run.

```
1361 \def\BKM@pdfmark@out{%
1362   \if@filesw
1363     \newwrite\BKM@file
1364     \immediate\openout\BKM@file=\BKM@filename\relax
1365     \BKM@write{\@percentchar!}%
1366     \BKM@write{/pdfmark where{pop}}%
1367     \BKM@write{%
1368       {%
1369         /globaldict where{pop globaldict}{userdict}ifelse%
1370         /pdfmark/clearbookmark load put%
1371       }%
1372     }%
1373     \BKM@write{ifelse}%
1374   \else
1375     \let\BKM@write\@gobble
1376     \let\BKM@DD@entry\@gobbletwo
1377   \fi
1378 }
```

`\BKM@write`

```
1379 \def\BKM@write#{%
1380   \immediate\write\BKM@file
1381 }
```

`\BKM@DD@entry` The specification for `pdfmark` says that `/Color` is the name of the key for color, however `ghostscript` only passes the key into the PDF file, thus the key name must be `/C`.

```
1382 \def\BKM@DD@entry#1#2{%
1383   \begingroup
1384     \kvsetkeys{BKM@DD}{#1}%
1385     \ifx\BKM@DD@srcfile\@empty
1386     \else
1387       \BKM@UnescapeHex\BKM@DD@srcfile
1388     \fi
1389     \def\BKM@DD@title{#2}%
1390     \BKM@UnescapeHex\BKM@DD@title
1391     \expandafter\expandafter\expandafter\BKM@getx
1392     \csname BKM@\BKM@DD@id\endcsname\@empty\@empty
1393     \let\BKM@attr\@empty
1394     \ifx\BKM@DD@flags\@empty
1395     \else
1396       \edef\BKM@attr{\BKM@attr/F \BKM@DD@flags}%
1397     \fi
1398     \ifx\BKM@DD@color\@empty
1399     \else
1400       \edef\BKM@attr{\BKM@attr/C[\BKM@DD@color]}%
1401     \fi
1402     \let\BKM@action\@empty
1403     \ifx\BKM@DD@goto\@empty
1404     \ifx\BKM@DD@dest\@empty
1405     \ifx\BKM@DD@named\@empty
1406     \ifx\BKM@DD@rawaction\@empty
1407     \ifx\BKM@DD@uri\@empty
1408     \ifx\BKM@DD@page\@empty
1409       \PackageError{bookmark}{%
1410         Missing action\BKM@SourceLocation
1411       }\@ehc
1412     \edef\BKM@action{%
1413       /Action/GoTo%
1414     /Page 1%
```

```

1415         /View[/Fit]%
1416     }%
1417     \else
1418         \ifx\BKM@DO@view\@empty
1419             \def\BKM@DO@view{Fit}%
1420         \fi
1421         \edef\BKM@action{%
1422             /Action/GoTo%
1423             /Page \BKM@DO@page
1424             /View[/\BKM@DO@view]%
1425         }%
1426     \fi
1427     \else
1428         \BKM@UnescapeHex\BKM@DO@uri
1429         \BKM@EscapeString\BKM@DO@uri
1430         \edef\BKM@action{%
1431             /Action<<%
1432             /Subtype/URI%
1433             /URI(\BKM@DO@uri)%
1434         >>%
1435     }%
1436     \fi
1437     \else
1438         \BKM@UnescapeHex\BKM@DO@rawaction
1439         \edef\BKM@action{%
1440             /Action<<%
1441             \BKM@DO@rawaction
1442         >>%
1443     }%
1444     \fi
1445     \else
1446         \BKM@EscapeName\BKM@DO@named
1447         \edef\BKM@action{%
1448             /Action<<%
1449             /Subtype/Named%
1450             /N/\BKM@DO@named
1451         >>%
1452     }%
1453     \fi
1454     \else
1455         \BKM@UnescapeHex\BKM@DO@dest
1456         \BKM@EscapeString\BKM@DO@dest
1457         \edef\BKM@action{%
1458             /Action/GoTo%
1459             /Dest(\BKM@DO@dest)cvn%
1460         }%
1461     \fi
1462     \else
1463         \ifx\BKM@DO@dest\@empty
1464             \ifx\BKM@DO@page\@empty
1465                 \def\BKM@DO@page{1}%
1466             \fi
1467             \ifx\BKM@DO@view\@empty
1468                 \def\BKM@DO@view{Fit}%
1469             \fi
1470             \edef\BKM@action{%
1471                 /Page \BKM@DO@page
1472                 /View[/\BKM@DO@view]%
1473             }%
1474         \else
1475             \BKM@UnescapeHex\BKM@DO@dest
1476             \BKM@EscapeString\BKM@DO@dest

```

```

1477     \edef\BKM@action{%
1478         /Dest(\BKM@DO@dest) cvn%
1479     }%
1480     \fi
1481     \BKM@UnescapeHex\BKM@DO@gotor
1482     \BKM@EscapeString\BKM@DO@gotor
1483     \edef\BKM@action{%
1484         /Action/GoToR%
1485         /File(\BKM@DO@gotor)%
1486     \BKM@action
1487     }%
1488     \fi
1489     \BKM@write{[]}%
1490     \BKM@write{/Title(\BKM@DO@title)}%
1491     \ifnum\BKM@x@chlds>\z@
1492         \BKM@write{/Count \ifBKM@DO@open\else-\fi\BKM@x@chlds}%
1493     \fi
1494     \ifx\BKM@attr\@empty
1495     \else
1496         \BKM@write{\BKM@attr}%
1497     \fi
1498     \BKM@write{\BKM@action}%
1499     \BKM@write{/OUT pdfmark}%
1500 \endgroup
1501 }

1502 </pdfmark>

```

3.6 Common part for pdftex and pdfmark

```
1503 <*pdftex | pdfmark>
```

3.6.1 Write auxiliary file

```

1504 \RequirePackage{auxhook}
1505 \AddLineBeginMainAux{%
1506     \string\providecommand\string\BKM@entry[2]{}%
1507 }

```

\BKM@id

```

1508 \newcount\BKM@id
1509 \BKM@id=\z@

```

\BKM@O

```
1510 \@namedef{BKM@O}{000}
```

\ifBKM@sw

```
1511 \newif\ifBKM@sw
```

\bookmark

```

1512 \newcommand*{\bookmark}[2][ ]{%
1513     \if@filesw
1514         \begingroup
1515             \BKM@InitSourceLocation
1516             \def\bookmark@text{#2}%
1517             \BKM@setup{#1}%
1518             \ifx\BKM@srcfile\@empty
1519             \else
1520                 \BKM@EscapeHex\BKM@srcfile
1521             \fi
1522             \edef\BKM@prev{\the\BKM@id}%
1523             \global\advance\BKM@id\@ne

```

```

1524 \BKM@swtrue
1525 \@whilesw\ifBKM@sw\fi{%
1526   \ifnum\ifBKM@startatroot\z@\else\BKM@prev\fi=\z@
1527     \BKM@startatrootfalse
1528     \expandafter\xdef\csname BKM@\the\BKM@id\endcsname{%
1529       0{\BKM@level}0%
1530     }%
1531     \BKM@swfalse
1532   \else
1533     \expandafter\expandafter\expandafter\BKM@getx
1534       \csname BKM@\BKM@prev\endcsname
1535     \ifnum\BKM@level>\BKM@x@level\relax
1536       \expandafter\xdef\csname BKM@\the\BKM@id\endcsname{%
1537         {\BKM@prev}{\BKM@level}0%
1538       }%
1539       \ifnum\BKM@prev>\z@
1540         \BKM@CalcExpr\BKM@CalcResult\BKM@x@childs+1%
1541         \expandafter\xdef\csname BKM@\BKM@prev\endcsname{%
1542           {\BKM@x@parent}{\BKM@x@level}{\BKM@CalcResult}%
1543         }%
1544         \fi
1545         \BKM@swfalse
1546       \else
1547         \let\BKM@prev\BKM@x@parent
1548       \fi
1549     \fi
1550   }%
1551   \pdfstringdef\BKM@title{\bookmark@text}%
1552   \edef\BKM@FLAGS{\BKM@PrintStyle}%
1553   \csname BKM@HypDestOptHook\endcsname
1554   \BKM@EscapeHex\BKM@dest
1555   \BKM@EscapeHex\BKM@uri
1556   \BKM@EscapeHex\BKM@gotor
1557   \BKM@EscapeHex\BKM@rawaction
1558   \BKM@EscapeHex\BKM@title
1559   \immediate\write\@mainaux{%
1560     \string\BKM@entry{%
1561       id=\number\BKM@id
1562       \ifBKM@open
1563         \ifnum\BKM@level<\BKM@openlevel
1564           ,open%
1565         \fi
1566       \fi
1567       \BKM@auxentry{dest}%
1568       \BKM@auxentry{named}%
1569       \BKM@auxentry{uri}%
1570       \BKM@auxentry{gotor}%
1571       \BKM@auxentry{page}%
1572       \BKM@auxentry{view}%
1573       \BKM@auxentry{rawaction}%
1574       \BKM@auxentry{color}%
1575       \ifnum\BKM@FLAGS>\z@
1576         ,flags=\BKM@FLAGS
1577       \fi
1578       \BKM@auxentry{srcline}%
1579       \BKM@auxentry{srcfile}%
1580     }{\BKM@title}%
1581   }%
1582 \endgroup
1583 \fi
1584 }

```

\BKM@getx

```
1585 \def\BKM@getx#1#2#3{%
1586   \def\BKM@x@parent{#1}%
1587   \def\BKM@x@level{#2}%
1588   \def\BKM@x@childs{#3}%
1589 }
```

\BKM@auxentry

```
1590 \def\BKM@auxentry#1{%
1591   \expandafter\ifx\csname BKM@#1\endcsname\@empty
1592   \else
1593     ,#1={\csname BKM@#1\endcsname}%
1594   \fi
1595 }
```

\BKM@InitSourceLocation

```
1596 \def\BKM@InitSourceLocation{%
1597   \edef\BKM@srcline{\the\inputlineno}%
1598   \BKM@LuaTeX@InitFile
1599   \ifx\BKM@srcfile\@empty
1600     \ltx@ifundefined{currfilepath}{}{%
1601       \edef\BKM@srcfile{\currfilepath}%
1602     }%
1603   \fi
1604 }
```

\BKM@LuaTeX@InitFile

```
1605 \ifluatex
1606   \ifnum\luatexversion>36 %
1607     \def\BKM@LuaTeX@InitFile{%
1608       \begingroup
1609         \ltx@LocToksA={}%
1610       \edef\x{\endgroup
1611         \def\noexpand\BKM@srcfile{%
1612           \the\expandafter\ltx@LocToksA
1613         \directlua{%
1614           if status and status.filename then %
1615             tex.settoks('ltx@LocToksA', status.filename)%
1616           end%
1617         }}%
1618       }%
1619     }\x
1620   }%
1621 \else
1622   \let\BKM@LuaTeX@InitFile\relax
1623 \fi
1624 \else
1625   \let\BKM@LuaTeX@InitFile\relax
1626 \fi
```

3.6.2 Read auxiliary data

```
1627 \SetupKeyvalOptions{family=BKM@DO,prefix=BKM@DO@}
1628 \DeclareStringOption[0]{id}
1629 \DeclareBoolOption{open}
1630 \DeclareStringOption{flags}
1631 \DeclareStringOption{color}
1632 \DeclareStringOption{dest}
1633 \DeclareStringOption{named}
1634 \DeclareStringOption{uri}
1635 \DeclareStringOption{gotor}
1636 \DeclareStringOption{page}
```

```

1637 \DeclareStringOption{view}
1638 \DeclareStringOption{rawaction}
1639 \DeclareStringOption{srcline}
1640 \DeclareStringOption{srcfile}

1641 \AtBeginDocument{%
1642   \let\BKM@entry\BKM@D0@entry
1643 }

1644 </pdftex | pdfmark>

```

3.7 Option `atend`

3.7.1 Hook

```

1645 <*package>
1646 \ifBKM@atend
1647 \else
\BookmarkAtEnd This is a dummy definition that generates a warning if option atend has not been
given.
1648   \newcommand{\BookmarkAtEnd}[1]{%
1649     \PackageWarning{bookmark}{%
1650       Ignored, because option ‘atend’ is missing%
1651     }%
1652   }%

1653   \expandafter\endinput
1654 \fi

```

```

\BookmarkAtEnd
1655 \newcommand*{\BookmarkAtEnd}{%
1656   \g@addto@macro\BKM@EndHook
1657 }

1658 \let\BKM@EndHook\@empty
1659 </package>

```

3.7.2 Drivers using hooks at end of document

The following drivers use package `atveryend`’s `\AfterLastShipout`, because they still need the `.aux` file.

- Driver `pdftex` uses `\pdfoutline` that can be used after the last page.
- PostScript drivers such as `dvips` use an external PostScript header file for the bookmarks. File writing can be done after the last shipout page, but before the `.aux` file is closed.

```

1660 <*pdftex | pdfmark>
1661 \ifBKM@atend
1662   \AfterLastShipout{%
1663     \BKM@EndHook
1664   }%
1665 \fi
1666 </pdftex | pdfmark>

```

3.7.3 Drivers using `\AtEndDvi`

The other drivers implement `\bookmark` using `\special` commands. Thus the last bookmarks must be put on the last page, not afterwards. `\AtEndDocument` cannot be used, because it is too late, the last page can already be output. Therefore we use package `atenddvi` that uses the help of packages `atbegshi` and `zref`. The

argument of `\AtEndDvi` is put at the end of the last page. At least two \LaTeX runs are necessary.

```
1667 <*dvipdfm | vtex>
1668 \ifBKM@atend
1669   \RequirePackage{atenddvi}%
1670   \AtEndDvi{\BKM@EndHook}%
1671 \fi
1672 </dvipdfm | vtex>
```

4 Installation

4.1 Download

Package. This package is available on CTAN¹:

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

[CTAN:macros/latex/contrib/oberdiek/bookmark.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 \TeX 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 \TeX :

```
tex bookmark.dtx
```

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

¹<http://ftp.ctan.org/tex-archive/>

```

bookmark.sty          → tex/latex/oberdiek/bookmark.sty
bkm-dvipdfm.def      → tex/latex/oberdiek/bkm-dvipdfm.def
bkm-dvips.def        → tex/latex/oberdiek/bkm-dvips.def
bkm-dvipsones.def    → tex/latex/oberdiek/bkm-dvipsones.def
bkm-textures.def     → tex/latex/oberdiek/bkm-textures.def
bkm-pdftex.def       → tex/latex/oberdiek/bkm-pdftex.def
bkm-vmex.def         → tex/latex/oberdiek/bkm-vmex.def
bookmark.pdf         → doc/latex/oberdiek/bookmark.pdf
bookmark-example.tex → doc/latex/oberdiek/bookmark-example.tex
bookmark.dtx         → source/latex/oberdiek/bookmark.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`.

4.4 Refresh file name databases

If your \TeX distribution (te \TeX , mi \TeX , ...) relies on file name databases, you must refresh these. For example, te \TeX users run `texhash` or `mktexlsr`.

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 bookmark.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{bookmark.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 bookmark.dtx
makeindex -s gind.ist bookmark.idx
pdflatex bookmark.dtx
makeindex -s gind.ist bookmark.idx
pdflatex bookmark.dtx

```

5 References

- [1] Sebastian Rahtz, Heiko Oberdiek: *The hyperref package*; 2011/04/17 v6.82g; CTAN:macros/latex/contrib/hyperref/
- [2] Martin Scharrer: *The currfile package*; 2011/01/09 v0.4. CTAN:macros/latex/contrib/currfile/

6 History

[2007/02/19 v0.1]

- First experimental version.

[2007/02/20 v0.2]

- Option `startatroot` added.
- Dummies for `\pdf(un)escape...` commands added to get the package basically work for non-pdf_T_E_X users.

[2007/02/21 v0.3]

- Dependency from pdf_T_E_X 1.30 removed by using package `pdfescape`.

[2007/02/22 v0.4]

- `hyperref`'s `bookmarkstype` respected.

[2007/03/02 v0.5]

- Driver options `vtex` (PDF mode), `dvipsone`, and `textures` added.
- Implementation of option `depth` completed. Division names are supported, see `hyperref`'s option `bookmarksdepth`.
- `hyperref`'s options `bookmarksopen`, `bookmarksopenlevel`, and `bookmarksdepth` respected.

[2007/03/03 v0.6]

- Option `numbered` as alias for `hyperref`'s `bookmarksnumbered`.

[2007/03/07 v0.7]

- Dependency from ϵ -_T_E_X removed.

[2007/04/09 v0.8]

- Option `atend` added.
- Option `rgbcolor` removed. `rgbcolor=<r> <g> ` can be replaced by `color=[rgb]{<r>,<g>,}`.
- Support of recent cvs version (2007-03-29) of `dvipdfmx` that extends the `\special` for bookmarks to specify open outline entries. Option `dvipdfmx-outline-open` or `\SpecialDvipdfmxOutlineOpen` notify the package.

[2007/04/25 v0.9]

- The syntax of `\special` of `dvipdfmx`, if feature `dvipdfmx-outline-open` is enabled, has changed. Now cvs version 2007-04-25 is needed.

[2007/05/29 v1.0]

- Bug fix in code for second parameter of `XYZ`.

[2007/07/13 v1.1]

- Fix for pdfmark with GoToR action.

[2007/09/25 v1.2]

- pdfmark driver respects `\nofiles`.

[2008/08/08 v1.3]

- Package flags replaced by package bitset. Now flags are also supported without ϵ -TeX.
- Hook for package hypdestopt added.

[2008/09/13 v1.4]

- Fix for bug introduced in v1.3, package flags is one-based, but package bitset is zero-based. Thus options bold and italic are wrong in v1.3. (Daniel Müllner)

[2009/08/13 v1.5]

- Except for driver options the other options are now local options. This resolves a problem with KOMA-Script v3.00 and its option open.

[2009/12/06 v1.6]

- Use of package atveryend for drivers pdftex and pdfmark.

[2009/12/07 v1.7]

- Use of package atveryend fixed.

[2009/12/17 v1.8]

- Support of hyperref 2009/12/17 v6.79v for XeTeX.

[2010/03/30 v1.9]

- Package name in an error message fixed.

[2010/04/03 v1.10]

- Option style and macro `\bookmarkdefinestyle` added.
- Hook support with option addtohook added.
- `\bookmarkget` added.

[2010/04/04 v1.11]

- Bug fix (introduced in v1.10).

[2010/04/08 v1.12]

- Requires ltxcmds 2010/04/08.

[2010/07/23 v1.13]

- Support for memoir's `\booknumberline` added.

[2010/09/02 v1.14]

- (Local) options draft and final added.

[2010/09/25 v1.15]

- Fix for option dvipdfmx-outline-open.
- Option dvipdfmx-outline-open is set automatically, if XeTeX ≥ 0.9995 is detected.

[2010/10/19 v1.16]

- Option ‘startatroot’ now acts globally.
- Option ‘level’ also accepts names the same way as option ‘depth’.

[2010/10/25 v1.17]

- `\bookmarksetupnext` added.
- Using `\kvsetkeys` of package `kvsetkeys`, because `\setkeys` of package `keyval` is not reentrant. This can cause problems (unknown keys) with older versions of `hyperref` that also uses `\setkeys` (found by GL).

[2010/11/05 v1.18]

- Use of `\pdf@ifdraftmode` of package `pdftexcmds` for the default of option `draft`.

[2011/03/20 v1.19]

- Use of `\dimexpr` fixed, if ε -TeX is not used. (Bug found by Martin Münch.)
- Fix in documentation. Also layout options work without ε -TeX.

[2011/04/13 v1.20]

- Bug fix: `\BKM@SetDepth` renamed to `\BKM@SetDepthOrLevel`.

[2011/04/21 v1.21]

- Some support for file name and line number in error messages at end of document (pdfTeX and pdfmark based drivers).

7 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; plain numbers refer to the code lines where the entry is used.

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