

The `bookmark` package

Heiko Oberdiek
<heiko.oberdiek at googlemail.com>

2011/04/13 v1.20

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.

Contents

1	Documentation	2
1.1	Introduction	2
1.2	Options	3
1.2.1	Options <code>draft</code> and <code>final</code>	3
1.2.2	Driver options	3
1.2.3	Layout options	4
1.2.4	Action options	4
1.2.5	Level options	5
1.2.6	Style definitions	5
1.2.7	Hook support	6
1.3	Compatibility with <code>hyperref</code>	6
1.4	Adding bookmarks at the end	7
1.5	Limitations/Todos	7
2	Example	7
3	Implementation	9
3.1	Package	9
3.1.1	Requirements	9
3.1.2	Package options	10
3.1.3	Action options	15
3.1.4	Option <code>atend</code>	19
3.1.5	Option <code>style</code>	19
3.1.6	Hook support	20
3.1.7	Driver setup and loading	20
3.1.8	Compatibility for <code>hyperref</code>	23
3.2	Driver for <code>dvipdfm</code>	24
3.3	Driver for <code>V_TE_X</code>	26
3.4	Driver for <code>pdf_TE_X</code>	31
3.5	Drivers with <code>pdfmark</code> specials	33
3.5.1	Driver <code>dvips</code>	33
3.5.2	Driver <code>dvipsone</code>	33
3.5.3	Driver <code>textures</code>	33
3.5.4	Common part	33
3.6	Common part for <code>pdftex</code> and <code>pdfmark</code>	36
3.6.1	Write auxiliary file	36

3.6.2	Read auxiliary data	38
3.7	Option <code>atend</code>	38
3.7.1	Hook	38
3.7.2	Drivers using hooks at end of document	38
3.7.3	Drivers using <code>\AtEndDvi</code>	39
4	Installation	39
4.1	Download	39
4.2	Bundle installation	39
4.3	Package installation	40
4.4	Refresh file name databases	40
4.5	Some details for the interested	40
5	History	41
[2007/02/19 v0.1]		41
[2007/02/20 v0.2]		41
[2007/02/21 v0.3]		41
[2007/02/22 v0.4]		41
[2007/03/02 v0.5]		41
[2007/03/03 v0.6]		41
[2007/03/07 v0.7]		41
[2007/04/09 v0.8]		41
[2007/04/25 v0.9]		41
[2007/05/29 v1.0]		41
[2007/07/13 v1.1]		42
[2007/09/25 v1.2]		42
[2008/08/08 v1.3]		42
[2008/09/13 v1.4]		42
[2009/08/13 v1.5]		42
[2009/12/06 v1.6]		42
[2009/12/07 v1.7]		42
[2009/12/17 v1.8]		42
[2010/03/30 v1.9]		42
[2010/04/03 v1.10]		42
[2010/04/04 v1.11]		42
[2010/04/08 v1.12]		42
[2010/07/23 v1.13]		42
[2010/09/02 v1.14]		43
[2010/09/25 v1.15]		43
[2010/10/19 v1.16]		43
[2010/10/25 v1.17]		43
[2010/11/05 v1.18]		43
[2011/03/20 v1.19]		43
[2011/04/13 v1.20]		43
6	Index	43

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` 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 dvipdfmx 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

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}[2011/04/13]
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: "A" "O" "U" "a" "o" "u" \ss}
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 \begin{group}
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 \end{group}
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 [2011/04/13 v1.20 PDF bookmarks (H0)]%

```

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 pdfTeX.

```

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{pdftexcmds}[2010/11/04]
145 \RequirePackage{hyperref}[2010/06/18]
146 \RequirePackage{auxhook}[2007/04/06]
147 \RequirePackage{kvsetkeys}[2010/03/01]
148 \RequirePackage{kvoptions}[2009/08/13]
149 \RequirePackage{hycolor}[2008/09/08]
150 \RequirePackage{bitset}
151 \RequirePackage{ltxcmds}[2010/04/08]

```

3.1.2 Package options

```

152 \SetupKeyvalOptions{family=BKM,prefix=BKM@}
153 \DeclareLocalOptions{%
154   atend,%
155   bold,%
156   color,%
157   depth,%
158   dest,%
159   draft,%
160   final,%
161   gotor,%
162   italic,%
163   keeplevel,%
164   level,%
165   named,%
166   numbered,%
167   open,%
168   openlevel,%
169   page,%

```

```

170 rawaction,%
171 rellevel,%
172 startatroot,%
173 uri,%
174 view,%
175 }

\bookmarksetup

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

\BKM@setup

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

\bookmarksetupnext

190 \newcommand*{\bookmarksetupnext}[1]{%
191   \ltx@GlobalAppendToMacro\BKM@HookNext{,#1}%
192 }

\BKM@setupnext

\BKM@HookNextClear

193 \def\BKM@HookNextClear{%
194   \global\let\BKM@HookNext\ltx@empty
195 }

\BKM@HookNext

196 \BKM@HookNextClear

197 \DeclareBoolOption{draft}
198 \DeclareComplementaryOption{final}{draft}
199 \pdf@ifdraftmode\BKM@drafttrue{}

\BKM@DisableOptions

200 \def\BKM@DisableOptions{%
201   \DisableKeyvalOption[action=warning,package=bookmark]%
202     {BKM}{draft}%
203   \DisableKeyvalOption[action=warning,package=bookmark]%
204     {BKM}{final}%
205 }

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

\bookmark@open

207 \def\bookmark@open{%
208   \ifBKM@open\ltx@one\else\ltx@zero\fi
209 }

210 \DeclareStringOption[\maxdimen]{openlevel}

```

\BKM@openlevel

```
211 \edef\BKM@openlevel{\number\@bookmarksopenlevel}

212 %\DeclareStringOption[\c@tocdepth]{depth}
213 \ltx@ifundefined{Hy@bookmarksdepth}{%
214   \def\BKM@depth{\c@tocdepth}%
215 }{%
216   \let\BKM@depth\Hy@bookmarksdepth
217 }
218 \define@key{BKM}{depth}[]{%
219   \edef\BKM@param{#1}%
220   \ifx\BKM@param\@empty
221     \def\BKM@depth{\c@tocdepth}%
222   \else
223     \ltx@ifundefined{toclevel@\BKM@param}{%
224       \@onelevel@sanitize\BKM@param
225       \edef\BKM@temp{\expandafter\@car\BKM@param\@nil}%
226       \ifcase 0\expandafter\ifx\BKM@temp-1\fi
227         \expandafter\ifnum\expandafter'\BKM@temp>47 %
228           \expandafter\ifnum\expandafter'\BKM@temp<58 %
229             1%
230           \fi
231         \fi
232       \relax
233       \PackageWarning{bookmark}{%
234         Unknown document division name (\BKM@param)\MessageBreak
235         for option 'depth'%
236       }%
237     \else
238       \BKM@SetDepthOrLevel\BKM@depth\BKM@param
239     \fi
240   }{%
241     \BKM@SetDepthOrLevel\BKM@depth{%
242       \csname toclevel@\BKM@param\endcsname
243     }%
244   }%
245 \fi
246 }
```

\bookmark@depth

```
247 \def\bookmark@depth{\BKM@depth}
```

\BKM@SetDepthOrLevel

```
248 \def\BKM@SetDepthOrLevel#1#2{%
249   \begingroup
250     \setbox\z@=\hbox{%
251       \count@=#2\relax
252     \expandafter
253   }%
254   \expandafter\endgroup
255   \expandafter\def\expandafter#1\expandafter{\the\count@}%
256 }

257 \DeclareStringOption[\BKM@currentlevel]{level}[\BKM@currentlevel]
258 \define@key{BKM}{level}{%
259   \edef\BKM@param{#1}%
260   \ifx\BKM@param\BKM@MacroCurrentLevel
261     \let\BKM@level\BKM@param
262   \else
263     \ltx@ifundefined{toclevel@\BKM@param}{%
264       \@onelevel@sanitize\BKM@param
265       \edef\BKM@temp{\expandafter\@car\BKM@param\@nil}%

```

```

266     \ifcase 0\expandafter\ifx\BKM@temp-1\fi
267     \expandafter\ifnum\expandafter'\BKM@temp>47 %
268     \expandafter\ifnum\expandafter'\BKM@temp<58 %
269     1%
270     \fi
271     \fi
272     \relax
273     \PackageWarning{bookmark}{%
274     Unknown document division name (\BKM@param)\MessageBreak
275     for option 'level'%
276     }%
277     \else
278     \BKM@SetDepthOrLevel\BKM@level\BKM@param
279     \fi
280     }{%
281     \BKM@SetDepthOrLevel\BKM@level{%
282     \csname toplevel@\BKM@param\endcsname
283     }%
284     }%
285     \fi
286 }

```

\BKM@MacroCurrentLevel

```

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

288 \DeclareBoolOption{keeplevel}
289 \DeclareBoolOption{startatroot}

```

\BKM@startatrootfalse

```

290 \def\BKM@startatrootfalse{%
291   \global\let\ifBKM@startatroot\iffalse
292 }

```

\BKM@startatroottrue

```

293 \def\BKM@startatroottrue{%
294   \global\let\ifBKM@startatroot\iftrue
295 }

296 \define@key{BKM}{rellevel}{%
297   \BKM@CalcExpr\BKM@level{#1}+\BKM@currentlevel
298 }

```

\bookmark@level

```

299 \def\bookmark@level{\BKM@level}

```

\BKM@currentlevel

```

300 \def\BKM@currentlevel{0}

```

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

```

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

```

```

314 \let\ifBKM@numbered\iffalse
315 }

```

\bookmark@numbered

```

316 \def\bookmark@numbered{%
317 \ifBKM@numbered\ltx@one\else\ltx@zero\fi
318 }

```

Redefinitions hyperref's options

\BKM@PatchHyperrefOption

```

319 \def\BKM@PatchHyperrefOption#1{%
320 \expandafter\BKM@@PatchHyperrefOption\csname KV@Hyp@#1\endcsname%
321 }

```

\BKM@@PatchHyperrefOption

```

322 \def\BKM@@PatchHyperrefOption#1{%
323 \expandafter\BKM@@@PatchHyperrefOption#1{##1}\BKM@nil#1%
324 }

```

\BKM@@@PatchHyperrefOption

```

325 \def\BKM@@@PatchHyperrefOption#1\BKM@nil#2#3{%
326 \def#2##1{%
327 #1%
328 \bookmarksetup{#3={##1}}%
329 }%
330 }

331 \BKM@PatchHyperrefOption{bookmarksopen}{open}
332 \BKM@PatchHyperrefOption{bookmarksopenlevel}{openlevel}
333 \BKM@PatchHyperrefOption{bookmarksdepth}{depth}

```

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

```

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

```

\bookmark@italic

```

349 \def\bookmark@italic{%
350 \ifnum\bitsetGet{BKM@FontStyle}{0}=1 \ltx@one\else\ltx@zero\fi
351 }

```

\bookmark@bold

```

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

```

\BKM@PrintStyle

```
355 \def\BKM@PrintStyle{%
356   \bitsetGetDec{BKM@FontStyle}%
357 }%
```

Options for color.

```
358 \define@key{BKM}{color}{%
359   \HyColor@BookmarkColor{#1}\BKM@color{bookmark}{color}%
360 }
```

\BKM@color

```
361 \let\BKM@color\@empty
```

\bookmark@color

```
362 \def\bookmark@color{\BKM@color}
```

3.1.3 Action options

```
363 \def\BKM@temp#1{%
364   \DeclareStringOption{#1}%
365   \expandafter\edef\csname bookmark@#1\endcsname{%
366     \expandafter\noexpand\csname BKM@#1\endcsname
367   }%
368 }
```

\bookmark@dest

```
369 \BKM@temp{dest}
```

\bookmark@named

```
370 \BKM@temp{named}
```

\bookmark@uri

```
371 \BKM@temp{uri}
```

\bookmark@gotor

```
372 \BKM@temp{gotor}
```

\bookmark@rawaction

```
373 \BKM@temp{rawaction}
```

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

\BKM@page

```
386 \let\BKM@page\@empty
```

\bookmark@page

```
387 \def\bookmark@page{\BKM@@page}
```

```

388 \define@key{BKM}{view}{%
389   \BKM@CheckView{#1}%
390 }

\BKM@view

391 \let\BKM@view\@empty

\bookmark@view

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

BKM@CheckView

393 \def\BKM@CheckView#1{%
394   \BKM@CheckViewType#1 \@nil
395 }

\BKM@CheckViewType

396 \def\BKM@CheckViewType#1 #2\@nil{%
397   \def\BKM@type{#1}%
398   \@onelevel@sanitize\BKM@type
399   \BKM@TestViewType{Fit}{}%
400   \BKM@TestViewType{FitB}{}%
401   \BKM@TestViewType{FitH}{%
402     \BKM@CheckParam#2 \@nil{top}%
403   }%
404   \BKM@TestViewType{FitBH}{%
405     \BKM@CheckParam#2 \@nil{top}%
406   }%
407   \BKM@TestViewType{FitV}{%
408     \BKM@CheckParam#2 \@nil{bottom}%
409   }%
410   \BKM@TestViewType{FitBV}{%
411     \BKM@CheckParam#2 \@nil{bottom}%
412   }%
413   \BKM@TestViewType{FitR}{%
414     \BKM@CheckRect{#2}{ }%
415   }%
416   \BKM@TestViewType{XYZ}{%
417     \BKM@CheckXYZ{#2}{ }%
418   }%
419   \@car{%
420     \PackageError{bookmark}{%
421       Unknown view type ‘\BKM@type’,\MessageBreak
422       using ‘FitH’ instead%
423     }\@ehc
424     \def\BKM@view{FitH}%
425   }%
426   \@nil
427 }

\BKM@TestViewType

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

```


BKM@CheckParam

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

BKM@CheckRect

```
451 \def\BKM@CheckRect#1#2{%
452   \BKM@@CheckRect#1#2#2#2\@nil
453 }
```

\BKM@@CheckRect

```
454 \def\BKM@@CheckRect#1 #2 #3 #4 #5\@nil{%
455   \def\BKM@temp{0}%
456   \def\BKM@param{#1}%
457   \ifx\BKM@param\@empty
458     \def\BKM@param{0}%
459     \def\BKM@temp{1}%
460   \else
461     \BKM@CalcParam
462   \fi
463   \edef\BKM@view{\BKM@view\space\BKM@param}%
464   \def\BKM@param{#2}%
465   \ifx\BKM@param\@empty
466     \def\BKM@param{0}%
467     \def\BKM@temp{1}%
468   \else
469     \BKM@CalcParam
470   \fi
471   \edef\BKM@view{\BKM@view\space\BKM@param}%
472   \def\BKM@param{#3}%
473   \ifx\BKM@param\@empty
474     \def\BKM@param{0}%
475     \def\BKM@temp{1}%
476   \else
477     \BKM@CalcParam
478   \fi
479   \edef\BKM@view{\BKM@view\space\BKM@param}%
480   \def\BKM@param{#4}%
481   \ifx\BKM@param\@empty
482     \def\BKM@param{0}%
483     \def\BKM@temp{1}%
484   \else
485     \BKM@CalcParam
486   \fi
487   \edef\BKM@view{\BKM@view\space\BKM@param}%
488   \ifnum\BKM@temp>\z@
489     \PackageWarning{bookmark}{Missing parameters for '\BKM@type'}%
490   \fi
491 }
```

\BKM@CheckXYZ

```

492 \def\BKM@CheckXYZ#1#2{%
493   \BKM@@CheckXYZ#1#2#2#\@nil
494 }

\BKM@@CheckXYZ

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

\BKM@null

526 \def\BKM@null{null}
527 \@onelevel@sanitize\BKM@null

\BKM@CalcParam

528 \def\BKM@CalcParam{%
529   \begingroup
530   \let\calc\@firstofone
531   \expandafter\BKM@@CalcParam\BKM@param\@empty\@empty\@nil
532 }

\BKM@@CalcParam

533 \def\BKM@@CalcParam#1#2#3\@nil{%
534   \ifx\calc#1%
535     \@ifundefined{calc@assign@dimen}{%
536       \@ifundefined{dimexpr}{%
537         \setlength{\dimen@}{#2}%
538       }{%
539         \setlength{\dimen@}{\dimexpr#2\relax}%
540       }%
541     }{%
542       \setlength{\dimen@}{#2}%
543     }%
544     \dimen@.99626\dimen@
545     \edef\BKM@param{\strip@pt\dimen@}%

```

```

546     \expandafter\endgroup
547     \expandafter\def\expandafter\BKM@param\expandafter{\BKM@param}%
548   \else
549     \endgroup
550   \fi
551 }

```

3.1.4 Option atend

```

552 \DeclareBoolOption{atend}
553 \g@addto@macro\BKM@DisableOptions{%
554   \DisableKeyvalOption[action=warning,package=bookmark]%
555     {BKM}{atend}%
556 }

```

3.1.5 Option style

\bookmarkdefinestyle

```

557 \newcommand*{\bookmarkdefinestyle}[2]{%
558   \@ifundefined{BKM@style@#1}{%
559     }{%
560       \PackageInfo{bookmark}{Redefining style ‘#1’}%
561     }%
562   \@namedef{BKM@style@#1}{#2}%
563 }

564 \define@key{BKM}{style}{%
565   \BKM@StyleCall{#1}%
566 }
567 \newif\ifBKM@ok

```

\BKM@StyleCall

```

568 \def\BKM@StyleCall#1{%
569   \@ifundefined{BKM@style@#1}{%
570     \PackageError{bookmark}{%
571       Undefined style ‘#1’%
572     }\@ehc
573   }{%

```

Check style stack.

```

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

```

Push current style on stack.

```

588     \let\BKM@StyleEntry\relax
589     \edef\BKM@StyleStack{%
590       \BKM@StyleEntry{\BKM@StyleCurrent}%
591       \BKM@StyleStack
592     }%

```

Call style.

```

593     \expandafter\expandafter\expandafter\bookmarksetup

```

```

594      \expandafter\expandafter\expandafter{%
595      \csname BKM@style@\BKM@StyleCurrent\endcsname
596      }%

```

Pop current style from stack.

```

597      \BKM@StyleStackPop
598      }%
599      }%
600 }

```

\BKM@StyleStackPop

```

601 \def\BKM@StyleStackPop{%
602   \let\BKM@StyleEntry\relax
603   \edef\BKM@StyleStack{%
604     \expandafter\@gobbletwo\BKM@StyleStack
605   }%
606 }

```

\BKM@StyleEntryCheck

```

607 \def\BKM@StyleEntryCheck#1{%
608   \def\BKM@temp{#1}%
609   \ifx\BKM@temp\BKM@StyleCurrent
610     \BKM@okfalse
611   \fi
612 }

```

\BKM@StyleStack

```

613 \def\BKM@StyleStack{}

```

3.1.6 Hook support

\BKM@hook

```

614 \def\BKM@hook{}
615 \define@key{BKM}{addtohook}{%
616   \ltx@LocalAppendToMacro\BKM@hook{#1}%
617 }

```

bookmarkget

```

618 \newcommand*{\bookmarkget}[1]{%
619   \romannumeral0%
620   \ltx@ifundefined{bookmark@#1}{%
621     \ltx@space
622   }{%
623     \expandafter\expandafter\expandafter\ltx@space
624     \csname bookmark@#1\endcsname
625   }%
626 }

```

3.1.7 Driver setup and loading

Driver detection.

\BKM@DefineDriverKey

```

627 \def\BKM@DefineDriverKey#1{%
628   \define@key{BKM}{#1}[]{%
629     \def\BKM@driver{#1}%
630   }%
631   \g@addto@macro\BKM@DisableOptions{%
632     \DisableKeyvalOption[action=warning,package=bookmark]%
633     {BKM}{#1}%
634   }%
635 }

```

```

636 \BKM@DefineDriverKey{pdftex}
637 \BKM@DefineDriverKey{dvips}
638 \BKM@DefineDriverKey{dvipsone}
639 \BKM@DefineDriverKey{textures}
640 \BKM@DefineDriverKey{dvipdfm}
641 \BKM@DefineDriverKey{dvipdfmx}
642 \BKM@DefineDriverKey{xetex}
643 \BKM@DefineDriverKey{vtex}
644 \define@key{BKM}{dvipdfmx-outline-open}[true]{%
645   \expandafter\ifx\csname if#1\expandafter\endcsname
646     \csname iftrue\endcsname
647     \chardef\SpecialDvipdfmxOutlineOpen\@ne
648   \else
649     \chardef\SpecialDvipdfmxOutlineOpen\z@
650   \fi
651 }
652 \g@addto@macro\BKM@DisableOptions{%
653   \DisableKeyvalOption{BKM}{dvipdfmx-outline-open}%
654 }

```

\bookmark@driver

```

655 \def\bookmark@driver{\BKM@driver}
656 \InputIfFileExists{bookmark.cfg}{-}{-}

```

\BookmarkDriverDefault

```

657 \providecommand*\BookmarkDriverDefault{dvips}

```

\BKM@driver

```

658 \ifpdf
659   \def\BKM@driver{pdftex}%
660 \else
661   \ifxetex
662     \def\BKM@driver{dvipdfm}%
663   \else
664     \ifvtex
665       \def\BKM@driver{vtex}%
666     \else
667       \edef\BKM@driver{\BookmarkDriverDefault}%
668     \fi
669   \fi
670 \fi

```

Process options.

```

671 \ProcessKeyvalOptions*
672 \BKM@DisableOptions

```

Option draft

```

673 \ifBKM@draft
674   \PackageWarningNoLine{bookmark}{Draft mode on}%
675   \let\bookmarksetup\ltx@gobble
676   \let\BookmarkAtEnd\ltx@gobble
677   \let\bookmarkdefinestyle\ltx@gobbletwo
678   \let\bookmarkget\ltx@gobble
679   \renewcommand*\pdfbookmark[3][{}]{%
680     \let\currentpdfbookmark\ltx@gobbletwo
681     \let\subpdfbookmark\ltx@gobbletwo
682     \let\belowpdfbookmark\ltx@gobbletwo
683     \newcommand*\bookmark[2][{}]{%
684       \renewcommand*\Hy@writebookmark[5]{}%
685     \let\ReadBookmarks\relax

```

```

686 \let\BKM@DefGotoNameAction\ltx@gobbletwo % package 'hypdestopt'
687 \expandafter\endinput
688 \fi

```

Driver validation and loading.

```

689 \newif\ifBKM@DvipdfmxOutlineOpen
690 \ltx@ifundefined{SpecialDvipdfmxOutlineOpen}{%
691   \ifxetex
692     \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
693     \else
694       \chardef\SpecialDvipdfmxOutlineOpen\ltx@one
695       \BKM@DvipdfmxOutlineOpenttrue
696     \fi
697   \fi
698 }{%
699   \ifnum\SpecialDvipdfmxOutlineOpen>\z@
700     \BKM@DvipdfmxOutlineOpenttrue
701   \fi
702 }

703 \def\BKM@temp{dvipdfmx}%
704 \ifx\BKM@temp\BKM@driver
705   \def\BKM@driver{dvipdfm}%
706 \fi
707 \def\BKM@temp{pdftex}%
708 \ifpdf
709   \ifx\BKM@temp\BKM@driver
710   \else
711     \PackageWarningNoLine{bookmark}{%
712       Wrong driver '\BKM@driver', using 'pdftex' instead%
713     }%
714     \let\BKM@driver\BKM@temp
715   \fi
716 \else
717   \ifx\BKM@temp\BKM@driver
718     \PackageError{bookmark}{%
719       Wrong driver, pdfTeX is not running in PDF mode.\MessageBreak
720       Package loading is aborted%
721     }\@ehc
722     \expandafter\expandafter\expandafter\endinput
723   \fi
724   \def\BKM@temp{dvipdfm}%
725   \ifxetex
726     \ifx\BKM@temp\BKM@driver
727     \else
728       \PackageWarningNoLine{bookmark}{%
729         Wrong driver '\BKM@driver',\MessageBreak
730         using 'dvipdfm' for XeTeX instead%
731       }%
732       \let\BKM@driver\BKM@temp
733     \fi
734   \else
735     \def\BKM@temp{vtex}%
736     \ifvtex
737       \ifx\BKM@temp\BKM@driver
738       \else
739         \PackageWarningNoLine{bookmark}{%
740           Wrong driver '\BKM@driver',\MessageBreak
741           using 'vtex' for VTeX instead%
742         }%
743         \let\BKM@driver\BKM@temp
744       \fi
745     \else

```

```

746 \ifx\BKM@temp\BKM@driver
747 \PackageError{bookmark}{%
748 Wrong driver, VTeX is not running in PDF mode.\MessageBreak
749 Package loading is aborted%
750 }\@ehc
751 \expandafter\expandafter\expandafter\endinput
752 \fi
753 \fi
754 \fi
755 \fi
756 \InputIfFileExists{bkm-\BKM@driver.def}{\fi}{%
757 \PackageError{bookmark}{%
758 Unsupported driver '\BKM@driver'.\MessageBreak
759 Package loading is aborted%
760 }\@ehc
761 \endinput
762 }

```

3.1.8 Compatibility for hyperref

\pdfbookmark

```

763 \renewcommand*{\pdfbookmark}[3][0]{%
764 \bookmark[level=#1,dest={#3.#1}]{#2}%
765 \hyper@anchorstart{#3.#1}\hyper@anchorend
766 }

```

\currentpdfbookmark

```

767 \renewcommand*{\currentpdfbookmark}{%
768 \pdfbookmark[\BKM@currentlevel]%
769 }

```

\subpdfbookmark

```

770 \renewcommand*{\subpdfbookmark}{%
771 \BKM@CalcExpr\BKM@CalcResult\BKM@currentlevel+1%
772 \expandafter\pdfbookmark\expandafter[\BKM@CalcResult]%
773 }

```

\belowpdfbookmark

```

774 \renewcommand*{\belowpdfbookmark}[2]{%
775 \xdef\BKM@gtemp{\number\BKM@currentlevel}%
776 \subpdfbookmark{#1}{#2}%
777 \global\let\BKM@currentlevel\BKM@gtemp
778 }

```

Section number, text, label, level, file

\Hy@writebookmark

```

779 \renewcommand*{\Hy@writebookmark}[5]{%
780 \ifnum#4>\BKM@depth\relax
781 \else
782 \def\BKM@type{#5}%
783 \ifx\BKM@type\Hy@bookmarkstype
784 \begingroup
785 \ifBKM@numbered
786 \let\numberline\Hy@numberline
787 \let\booknumberline\Hy@numberline
788 \let\partnumberline\Hy@numberline
789 \let\chapternumberline\Hy@numberline
790 \else
791 \let\numberline\@gobble
792 \let\booknumberline\@gobble

```

```

793      \let\partnumberline\@gobble
794      \let\chapternumberline\@gobble
795      \fi
796      \bookmark[level=#4,dest={#3}]{#2}%
797    \endgroup
798  \fi
799 \fi
800 }

```

\ReadBookmarks

```

801 \let\ReadBookmarks\relax
802 </package>

```

3.2 Driver for dvipdfm

```

803 <*dvipdfm>
804 \NeedsTeXFormat{LaTeX2e}
805 \ProvidesFile{bkm-dvipdfm.def}%
806 [2011/04/13 v1.20 bookmark driver for dvipdfm (HO)]%

\BKM@id
807 \newcount\BKM@id
808 \BKM@id=\z@

\BKM@O
809 \@namedef{BKM@O}{000}

\ifBKM@sw
810 \newif\ifBKM@sw

\bookmark
811 \newcommand*{\bookmark}[2][{}]{%
812   \if@filesw
813     \begingroup
814     \def\bookmark@text{#2}%
815     \BKM@setup{#1}%
816     \edef\BKM@prev{\the\BKM@id}%
817     \global\advance\BKM@id\@ne
818     \BKM@swtrue
819     \@whilesw\ifBKM@sw\fi{%
820       \def\BKM@abslevel{1}%
821       \ifnum\ifBKM@startatroot\z@\else\BKM@prev\fi=\z@
822         \BKM@startatrootfalse
823         \expandafter\xdef\csname BKM@\the\BKM@id\endcsname{%
824           0{\BKM@level}\BKM@abslevel
825         }%
826         \BKM@swfalse
827       \else
828         \expandafter\expandafter\expandafter\BKM@getx
829         \csname BKM@\BKM@prev\endcsname
830         \ifnum\BKM@level>\BKM@x@level\relax
831           \BKM@CalcExpr\BKM@abslevel\BKM@x@abslevel+1%
832           \expandafter\xdef\csname BKM@\the\BKM@id\endcsname{%
833             {\BKM@prev}{\BKM@level}\BKM@abslevel
834           }%
835           \BKM@swfalse
836         \else
837           \let\BKM@prev\BKM@x@parent
838         \fi
839       \fi
840     }%

```



```

841 \csname HyPsd@XeTeXBigCharstrue\endcsname
842 \pdfstringdef\BKM@title{\bookmark@text}%
843 \edef\BKM@FLAGS{\BKM@PrintStyle}%
844 \let\BKM@action\@empty
845 \ifx\BKM@goto\@empty
846   \ifx\BKM@dest\@empty
847     \ifx\BKM@named\@empty
848       \ifx\BKM@rawaction\@empty
849         \ifx\BKM@uri\@empty
850           \ifx\BKM@page\@empty
851             \PackageError{bookmark}{Missing action}\@ehc
852             \edef\BKM@action{/Dest[@page1/Fit]}%
853           \else
854             \ifx\BKM@view\@empty
855               \def\BKM@view{Fit}%
856             \fi
857             \edef\BKM@action{/Dest[@page\BKM@page/\BKM@view]}%
858           \fi
859         \else
860           \BKM@EscapeString\BKM@uri
861           \edef\BKM@action{%
862             /A<<%
863             /S/URI%
864             /URI(\BKM@uri)%
865             >>%
866           }%
867         \fi
868       \else
869         \edef\BKM@action{/A<<\BKM@rawaction>>}%
870       \fi
871     \else
872       \BKM@EscapeName\BKM@named
873       \edef\BKM@action{%
874         /A<</S/Named/N/\BKM@named>>%
875       }%
876     \fi
877   \else
878     \BKM@EscapeString\BKM@dest
879     \edef\BKM@action{%
880       /A<<%
881       /S/GoTo%
882       /D(\BKM@dest)%
883       >>%
884     }%
885   \fi
886 \else
887   \ifx\BKM@dest\@empty
888     \ifx\BKM@page\@empty
889       \def\BKM@page{0}%
890     \else
891       \BKM@CalcExpr\BKM@page\BKM@page-1%
892     \fi
893     \ifx\BKM@view\@empty
894       \def\BKM@view{Fit}%
895     \fi
896     \edef\BKM@action{/D[\BKM@page/\BKM@view]}%
897   \else
898     \BKM@EscapeString\BKM@dest
899     \edef\BKM@action{/D(\BKM@dest)}%
900   \fi
901   \BKM@EscapeString\BKM@goto
902   \edef\BKM@action{%

```

```

903      /A<<%
904      /S/GoToR%
905      /F(\BKM@gotor)%
906      \BKM@action
907      >>%
908    }%
909  \fi
910  \special{pdf:%
911    out \ifBKM@DvipdfmxOutlineOpen
912    [%
913      \ifBKM@open
914        \ifnum\BKM@level<%
915          \expandafter\ltx@firstofone\expandafter
916          {\number\BKM@openlevel} %
917        \else
918          -%
919        \fi
920      \else
921        -%
922      \fi
923    ] %
924    \fi
925    \BKM@abslevel
926  <<%
927  /Title(\BKM@title)%
928  \ifx\BKM@color\@empty
929  \else
930    /C[\BKM@color]%
931  \fi
932  \ifnum\BKM@FLAGS>\z@
933    /F \BKM@FLAGS
934  \fi
935  \BKM@action
936  >>%
937  }%
938  \endgroup
939  \fi
940 }

```

\BKM@getx

```

941 \def\BKM@getx#1#2#3{%
942   \def\BKM@x@parent{#1}%
943   \def\BKM@x@level{#2}%
944   \def\BKM@x@abslevel{#3}%
945 }

```

946 </dviPDFm>

3.3 Driver for VTeX

```

947 <*vtex>
948 \NeedsTeXFormat{LaTeX2e}
949 \ProvidesFile{bkm-vtex.def}%
950 [2011/04/13 v1.20 bookmark driver for VTeX (HO)]%
951 \ifvtexpdf
952 \else
953   \PackageWarningNoLine{bookmark}{%
954     The VTeX driver only supports PDF mode%
955   }%
956 \fi

```

\BKM@id

```

957 \newcount\BKM@id
958 \BKM@id=\z@

\BKM@O

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

\ifBKM@sw

960 \newif\ifBKM@sw

\bookmark

961 \newcommand*{\bookmark}[2][ ]{%
962   \if@filesw
963     \begingroup
964     \def\bookmark@text{#2}%
965     \BKM@setup{#1}%
966     \edef\BKM@prev{\the\BKM@id}%
967     \global\advance\BKM@id\@ne
968     \BKM@swtrue
969     \@whilesw\ifBKM@sw\fi{%
970       \ifnum\ifBKM@startatroot\z@\else\BKM@prev\fi=\z@
971         \BKM@startatrootfalse
972         \def\BKM@parent{0}%
973         \expandafter\xdef\csname BKM@\the\BKM@id\endcsname{%
974           0{\BKM@level}%
975         }%
976         \BKM@swfalse
977       \else
978         \expandafter\expandafter\expandafter\BKM@getx
979         \csname BKM@\BKM@prev\endcsname
980         \ifnum\BKM@level>\BKM@x@level\relax
981           \let\BKM@parent\BKM@prev
982           \expandafter\xdef\csname BKM@\the\BKM@id\endcsname{%
983             {\BKM@prev}{\BKM@level}%
984           }%
985           \BKM@swfalse
986         \else
987           \let\BKM@prev\BKM@x@parent
988         \fi
989       \fi
990     }%
991     \pdfstringdef\BKM@title{\bookmark@text}%
992     \BKM@vtex@title
993     \edef\BKM@FLAGS{\BKM@PrintStyle}%
994     \let\BKM@action\@empty
995     \ifx\BKM@gotor\@empty
996       \ifx\BKM@dest\@empty
997         \ifx\BKM@named\@empty
998           \ifx\BKM@rawaction\@empty
999             \ifx\BKM@uri\@empty
1000               \ifx\BKM@page\@empty
1001                 \PackageError{bookmark}{Missing action}\@ehc
1002                 \def\BKM@action{!1}%
1003               \else
1004                 \edef\BKM@action{!\BKM@page}%
1005               \fi
1006             \else
1007               \BKM@EscapeString\BKM@uri
1008               \edef\BKM@action{%
1009                 <u=%
1010                 /S/URI%
1011                 /URI(\BKM@uri)%
1012                 >%

```

```

1013         }%
1014     \fi
1015     \else
1016         \edef\BKM@action{<u=\BKM@rawaction>}%
1017     \fi
1018     \else
1019         \BKM@EscapeName\BKM@named
1020         \edef\BKM@action{%
1021             <u=%
1022                 /S/Named%
1023                 /N/\BKM@named
1024             >%
1025         }%
1026     \fi
1027     \else
1028         \BKM@EscapeString\BKM@dest
1029         \edef\BKM@action{\BKM@dest}%
1030     \fi
1031     \else
1032         \ifx\BKM@dest\@empty
1033             \ifx\BKM@page\@empty
1034                 \def\BKM@page{1}%
1035             \fi
1036             \ifx\BKM@view\@empty
1037                 \def\BKM@view{Fit}%
1038             \fi
1039             \edef\BKM@action{/D[\BKM@page/\BKM@view]}%
1040         \else
1041             \BKM@EscapeString\BKM@dest
1042             \edef\BKM@action{/D(\BKM@dest)}%
1043         \fi
1044         \BKM@EscapeString\BKM@gotor
1045         \edef\BKM@action{%
1046             <u=%
1047                 /S/GoToR%
1048                 /F(\BKM@gotor)%
1049             \BKM@action
1050         >>%
1051     }%
1052 \fi
1053 \ifx\BKM@color\@empty
1054     \let\BKM@RGBcolor\@empty
1055 \else
1056     \expandafter\BKM@toRGB\BKM@color\@nil
1057 \fi
1058 \special{%
1059     !outline \BKM@action;%
1060     p=\BKM@parent,%
1061     i=\number\BKM@id,%
1062     s=%
1063     \ifBKM@open
1064         \ifnum\BKM@level<\BKM@openlevel
1065             o%
1066         \else
1067             c%
1068         \fi
1069     \else
1070         c%
1071     \fi,%
1072 \ifx\BKM@RGBcolor\@empty
1073 \else
1074     c=\BKM@RGBcolor,%

```

```

1075         \fi
1076         \ifnum\BKM@FLAGS>\z@
1077             f=\BKM@FLAGS,%
1078         \fi
1079         t=\BKM@title
1080     }%
1081 \endgroup
1082 \fi
1083 }

\BKM@getx
1084 \def\BKM@getx#1#2{%
1085     \def\BKM@x@parent{#1}%
1086     \def\BKM@x@level{#2}%
1087 }

\BKM@toRGB
1088 \def\BKM@toRGB#1 #2 #3\@nil{%
1089     \let\BKM@RGBcolor\@empty
1090     \BKM@toRGBComponent{#1}%
1091     \BKM@toRGBComponent{#2}%
1092     \BKM@toRGBComponent{#3}%
1093 }

\BKM@toRGBComponent
1094 \def\BKM@toRGBComponent#1{%
1095     \dimen@=#1pt\relax
1096     \ifdim\dimen@>\z@
1097         \ifdim\dimen@<\p@
1098             \dimen@=255\dimen@
1099             \advance\dimen@ by 32768sp\relax
1100             \divide\dimen@ by 65536\relax
1101             \dimen@ii=\dimen@
1102             \divide\dimen@ii by 16\relax
1103             \edef\BKM@RGBcolor{%
1104                 \BKM@RGBcolor
1105                 \BKM@toHexDigit\dimen@ii
1106             }%
1107             \dimen@ii=16\dimen@ii
1108             \advance\dimen@-\dimen@ii
1109             \edef\BKM@RGBcolor{%
1110                 \BKM@RGBcolor
1111                 \BKM@toHexDigit\dimen@
1112             }%
1113         \else
1114             \edef\BKM@RGBcolor{\BKM@RGBcolor FF}%
1115         \fi
1116     \else
1117         \edef\BKM@RGBcolor{\BKM@RGBcolor 00}%
1118     \fi
1119 }

\BKM@toHexDigit
1120 \def\BKM@toHexDigit#1{%
1121     \expandafter\ifcase\expandafter\@firstofone\expandafter{\number#1} %
1122     0\or 1\or 2\or 3\or 4\or 5\or 6\or 7\or
1123     8\or 9\or A\or B\or C\or D\or E\or F%
1124     \fi
1125 }

1126 \begingroup
1127 \catcode'\|=0 %
1128 \catcode'\|=12 %

```

\BKM@vtex@title

```
1129 |gdef|BKM@vtex@title{%  
1130 |@onelevel@sanitize|BKM@title  
1131 |edef|BKM@title{|expandafter|BKM@vtex@leftparen|BKM@title\(|@nil}%  
1132 |edef|BKM@title{|expandafter|BKM@vtex@rightparen|BKM@title\)|@nil}%  
1133 |edef|BKM@title{|expandafter|BKM@vtex@zero|BKM@title\0|@nil}%  
1134 |edef|BKM@title{|expandafter|BKM@vtex@one|BKM@title\1|@nil}%  
1135 |edef|BKM@title{|expandafter|BKM@vtex@two|BKM@title\2|@nil}%  
1136 |edef|BKM@title{|expandafter|BKM@vtex@three|BKM@title\3|@nil}%  
1137 }%
```

\BKM@vtex@leftparen

```
1138 |gdef|BKM@vtex@leftparen#1\(#2|@nil{%  
1139 #1%  
1140 |ifx||#2||%  
1141 |else  
1142 (%  
1143 |ltx@ReturnAfterFi{%  
1144 |BKM@vtex@leftparen#2|@nil  
1145 }%  
1146 |fi  
1147 }%
```

\BKM@vtex@rightparen

```
1148 |gdef|BKM@vtex@rightparen#1\)#2|@nil{%  
1149 #1%  
1150 |ifx||#2||%  
1151 |else  
1152 )%  
1153 |ltx@ReturnAfterFi{%  
1154 |BKM@vtex@rightparen#2|@nil  
1155 }%  
1156 |fi  
1157 }%
```

\BKM@vtex@zero

```
1158 |gdef|BKM@vtex@zero#1\0#2|@nil{%  
1159 #1%  
1160 |ifx||#2||%  
1161 |else  
1162 |noexpand|hv@pdf@char0%  
1163 |ltx@ReturnAfterFi{%  
1164 |BKM@vtex@zero#2|@nil  
1165 }%  
1166 |fi  
1167 }%
```

\BKM@vtex@one

```
1168 |gdef|BKM@vtex@one#1\1#2|@nil{%  
1169 #1%  
1170 |ifx||#2||%  
1171 |else  
1172 |noexpand|hv@pdf@char1%  
1173 |ltx@ReturnAfterFi{%  
1174 |BKM@vtex@one#2|@nil  
1175 }%  
1176 |fi  
1177 }%
```

\BKM@vtex@two

```
1178 |gdef|BKM@vtex@two#1\2#2|@nil{%
```

```

1179 #1%
1180 |ifx||#2||%
1181 |else
1182 |noexpand|hv@pdf@char2%
1183 |ltx@ReturnAfterFi{%
1184 |BKM@vtex@two#2|@nil
1185 }%
1186 |fi
1187 }%

```

\BKM@vtex@three

```

1188 |gdef|BKM@vtex@three#1\3#2|@nil{%
1189 #1%
1190 |ifx||#2||%
1191 |else
1192 |noexpand|hv@pdf@char3%
1193 |ltx@ReturnAfterFi{%
1194 |BKM@vtex@three#2|@nil
1195 }%
1196 |fi
1197 }%

```

1198 |endgroup

1199 </vtex>

3.4 Driver for pdfTeX

```

1200 <*pdfTeX>
1201 \NeedsTeXFormat{LaTeX2e}
1202 \ProvidesFile{bkm-pdfTeX.def}%
1203 [2011/04/13 v1.20 bookmark driver for pdfTeX (HO)]%

```

\BKM@DO@entry

```

1204 \def\BKM@DO@entry#1#2{%
1205 \begingroup
1206 \kvsetkeys{BKM@DO}{#1}%
1207 \def\BKM@DO@title{#2}%
1208 \BKM@UnescapeHex\BKM@DO@title
1209 \expandafter\expandafter\expandafter\BKM@getx
1210 \csname BKM@BKM@DO@id\endcsname\@empty\@empty
1211 \let\BKM@attr\@empty
1212 \ifx\BKM@DO@flags\@empty
1213 \else
1214 \edef\BKM@attr{\BKM@attr/F \BKM@DO@flags}%
1215 \fi
1216 \ifx\BKM@DO@color\@empty
1217 \else
1218 \edef\BKM@attr{\BKM@attr/C[\BKM@DO@color]}%
1219 \fi
1220 \ifx\BKM@attr\@empty
1221 \else
1222 \edef\BKM@attr{attr{\BKM@attr}}%
1223 \fi
1224 \let\BKM@action\@empty
1225 \ifx\BKM@DO@goto\@empty
1226 \ifx\BKM@DO@dest\@empty
1227 \ifx\BKM@DO@named\@empty
1228 \ifx\BKM@DO@rawaction\@empty
1229 \ifx\BKM@DO@uri\@empty
1230 \ifx\BKM@DO@page\@empty
1231 \PackageError{bookmark}{Missing action}\@ehc
1232 \edef\BKM@action{goto page1{Fit}}%

```

```

1233         \else
1234         \ifx\BKM@D0@view\@empty
1235         \def\BKM@D0@view{Fit}%
1236         \fi
1237         \edef\BKM@action{goto page\BKM@D0@page{/ \BKM@D0@view}}%
1238         \fi
1239     \else
1240         \BKM@UnescapeHex\BKM@D0@uri
1241         \BKM@EscapeString\BKM@D0@uri
1242         \edef\BKM@action{user{<</S/URI/URI(\BKM@D0@uri)>>}}%
1243         \fi
1244     \else
1245         \BKM@UnescapeHex\BKM@D0@rawaction
1246         \edef\BKM@action{%
1247             user{%
1248                 <<%
1249                 \BKM@D0@rawaction
1250                 >>%
1251             }%
1252         }%
1253     \fi
1254 \else
1255     \BKM@EscapeName\BKM@D0@named
1256     \edef\BKM@action{%
1257         user{<</S/Named/N/\BKM@D0@named>>}}%
1258     }%
1259 \fi
1260 \else
1261     \BKM@UnescapeHex\BKM@D0@dest
1262     \BKM@DefGotoNameAction\BKM@action\BKM@D0@dest
1263 \fi
1264 \else
1265     \ifx\BKM@D0@dest\@empty
1266     \ifx\BKM@D0@page\@empty
1267     \def\BKM@D0@page{0}%
1268     \else
1269     \BKM@CalcExpr\BKM@D0@page\BKM@D0@page-1%
1270     \fi
1271     \ifx\BKM@D0@view\@empty
1272     \def\BKM@D0@view{Fit}%
1273     \fi
1274     \edef\BKM@action{/D[\BKM@D0@page/\BKM@D0@view]}%
1275 \else
1276     \BKM@UnescapeHex\BKM@D0@dest
1277     \BKM@EscapeString\BKM@D0@dest
1278     \edef\BKM@action{/D(\BKM@D0@dest)}%
1279 \fi
1280 \BKM@UnescapeHex\BKM@D0@gotor
1281 \BKM@EscapeString\BKM@D0@gotor
1282 \edef\BKM@action{%
1283     user{%
1284         <<%
1285         /S/GoToR%
1286         /F(\BKM@D0@gotor)%
1287         \BKM@action
1288         >>%
1289     }%
1290 }%
1291 \fi
1292 \pdfoutline\BKM@attr\BKM@action
1293     count\ifBKM@D0@open\else-\fi\BKM@x@childs
1294     {\BKM@D0@title}%

```



```
1295 \endgroup
1296 }
```

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

```
1297 \def\BKM@DefGotoNameAction#1#2{%
1298 \BKM@EscapeString\BKM@D0@dest
1299 \edef#1{goto name{#2}}}%
1300 }
```

```
1301 </pdfTeX>
```

3.5 Drivers with pdfmark specials

3.5.1 Driver dvips

```
1302 <*dvips>
1303 \NeedsTeXFormat{LaTeX2e}
1304 \ProvidesFile{bkm-dvips.def}%
1305 [2011/04/13 v1.20 bookmark driver for dvips (H0)]%
```

`\BKM@PSHeaderFile`

```
1306 \def\BKM@PSHeaderFile#1{%
1307 \special{header=#1}%
1308 }
```

```
1309 </dvips>
```

3.5.2 Driver dvipsone

```
1310 <*dvipsone>
1311 \NeedsTeXFormat{LaTeX2e}
1312 \ProvidesFile{bkm-dvipsone.def}%
1313 [2011/04/13 v1.20 bookmark driver for dvipsone (H0)]%
```

`\BKM@PSHeaderFile`

```
1314 \def\BKM@PSHeaderFile#1{%
1315 \special{header=#1}%
1316 }
```

```
1317 </dvipsone>
```

3.5.3 Driver textures

```
1318 <*textures>
1319 \NeedsTeXFormat{LaTeX2e}
1320 \ProvidesFile{bkm-textures.def}%
1321 [2011/04/13 v1.20 bookmark driver for textures (H0)]%
```

`\BKM@PSHeaderFile`

```
1322 \def\BKM@PSHeaderFile#1{%
1323 \special{prePostScriptfile #1}%
1324 }
```

```
1325 </textures>
```

3.5.4 Common part

```
1326 <*pdfmark>
```

`\BKM@filename`

```
1327 \def\BKM@filename{\jobname.out.ps}

1328 \BKM@PSHeaderFile\BKM@filename
```

```

1329 \RequirePackage{atveryend}[2009/12/07]
1330 \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.
1331 \def\BKM@pdfmark@out{%
1332   \if@filesw
1333     \newwrite\BKM@file
1334     \immediate\openout\BKM@file=\BKM@filename\relax
1335     \BKM@write{\@percentchar!}%
1336     \BKM@write{/pdfmark where{pop}}%
1337     \BKM@write{%
1338       {%
1339         /globaldict where{pop globaldict}{userdict}ifelse%
1340         /pdfmark/cleartomark load put%
1341       }%
1342     }%
1343     \BKM@write{ifelse}%
1344   \else
1345     \let\BKM@write\@gobble
1346     \let\BKM@D0@entry\@gobbletwo
1347   \fi
1348 }

\BKM@write
1349 \def\BKM@write#{%
1350   \immediate\write\BKM@file
1351 }

\BKM@D0@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.
1352 \def\BKM@D0@entry#1#2{%
1353   \begingroup
1354     \kvsetkeys{BKM@D0}{#1}%
1355     \def\BKM@D0@title{#2}%
1356     \BKM@UnescapeHex\BKM@D0@title
1357     \expandafter\expandafter\expandafter\BKM@getx
1358       \csname BKM@\BKM@D0@id\endcsname\@empty\@empty
1359     \let\BKM@attr\@empty
1360     \ifx\BKM@D0@flags\@empty
1361       \else
1362         \edef\BKM@attr{\BKM@attr/F \BKM@D0@flags}%
1363       \fi
1364     \ifx\BKM@D0@color\@empty
1365       \else
1366         \edef\BKM@attr{\BKM@attr/C[\BKM@D0@color]}%
1367       \fi
1368     \let\BKM@action\@empty
1369     \ifx\BKM@D0@goto\@empty
1370       \ifx\BKM@D0@dest\@empty
1371         \ifx\BKM@D0@named\@empty
1372           \ifx\BKM@D0@rawaction\@empty
1373             \ifx\BKM@D0@uri\@empty
1374               \ifx\BKM@D0@page\@empty
1375                 \PackageError{bookmark}{Missing action}\@ehc
1376                 \edef\BKM@action{%
1377                   /Action/GoTo%
1378                   /Page 1%
1379                   /View[/Fit]%
1380                 }%
1381               \else

```

```

1382         \ifx\BKM@D0@view\@empty
1383         \def\BKM@D0@view{Fit}%
1384     \fi
1385     \edef\BKM@action{%
1386         /Action/GoTo%
1387         /Page \BKM@D0@page
1388         /View[/\BKM@D0@view]%
1389     }%
1390 \fi
1391 \else
1392     \BKM@UnescapeHex\BKM@D0@uri
1393     \BKM@EscapeString\BKM@D0@uri
1394     \edef\BKM@action{%
1395         /Action<<%
1396         /Subtype/URI%
1397         /URI(\BKM@D0@uri)%
1398     >>%
1399     }%
1400 \fi
1401 \else
1402     \BKM@UnescapeHex\BKM@D0@rawaction
1403     \edef\BKM@action{%
1404         /Action<<%
1405         \BKM@D0@rawaction
1406     >>%
1407     }%
1408 \fi
1409 \else
1410     \BKM@EscapeName\BKM@D0@named
1411     \edef\BKM@action{%
1412         /Action<<%
1413         /Subtype/Named%
1414         /N/\BKM@D0@named
1415     >>%
1416     }%
1417 \fi
1418 \else
1419     \BKM@UnescapeHex\BKM@D0@dest
1420     \BKM@EscapeString\BKM@D0@dest
1421     \edef\BKM@action{%
1422         /Action/GoTo%
1423         /Dest(\BKM@D0@dest)cvn%
1424     }%
1425 \fi
1426 \else
1427     \ifx\BKM@D0@dest\@empty
1428     \ifx\BKM@D0@page\@empty
1429     \def\BKM@D0@page{1}%
1430     \fi
1431     \ifx\BKM@D0@view\@empty
1432     \def\BKM@D0@view{Fit}%
1433     \fi
1434     \edef\BKM@action{%
1435         /Page \BKM@D0@page
1436         /View[/\BKM@D0@view]%
1437     }%
1438 \else
1439     \BKM@UnescapeHex\BKM@D0@dest
1440     \BKM@EscapeString\BKM@D0@dest
1441     \edef\BKM@action{%
1442         /Dest(\BKM@D0@dest)cvn%
1443     }%

```

```

1444 \fi
1445 \BKM@UnescapeHex\BKM@DO@gotor
1446 \BKM@EscapeString\BKM@DO@gotor
1447 \edef\BKM@action{%
1448 /Action/GoToR%
1449 /File(\BKM@DO@gotor)%
1450 \BKM@action
1451 }%
1452 \fi
1453 \BKM@write{[]}%
1454 \BKM@write{/Title(\BKM@DO@title)}%
1455 \ifnum\BKM@x@chlds>\z@
1456 \BKM@write{/Count \ifBKM@DO@open\else-\fi\BKM@x@chlds}%
1457 \fi
1458 \ifx\BKM@attr\@empty
1459 \else
1460 \BKM@write{\BKM@attr}%
1461 \fi
1462 \BKM@write{\BKM@action}%
1463 \BKM@write{/OUT pdfmark}%
1464 \endgroup
1465 }

1466 </pdfmark>

```

3.6 Common part for pdftex and pdfmark

```
1467 <*pdftex | pdfmark>
```

3.6.1 Write auxiliary file

```

1468 \RequirePackage{auxhook}

1469 \AddLineBeginMainAux{%
1470 \string\providecommand\string\BKM@entry[2]{}%
1471 }

\BKM@id

1472 \newcount\BKM@id
1473 \BKM@id=\z@

\BKM@O

1474 \@namedef{BKM@O}{000}

\ifBKM@sw

1475 \newif\ifBKM@sw

\bookmark

1476 \newcommand*{\bookmark}[2][1]{%
1477 \if@filesw
1478 \begingroup
1479 \def\bookmark@text{#2}%
1480 \BKM@setup{#1}%
1481 \edef\BKM@prev{\the\BKM@id}%
1482 \global\advance\BKM@id\@ne
1483 \BKM@swtrue
1484 \@whilesw\ifBKM@sw\fi{%
1485 \ifnum\ifBKM@startatroot\z@\else\BKM@prev\fi=\z@
1486 \BKM@startatrootfalse
1487 \expandafter\xdef\csname BKM@\the\BKM@id\endcsname{%
1488 0{\BKM@level}0%
1489 }%
1490 \BKM@swfalse

```

```

1491         \else
1492         \expandafter\expandafter\expandafter\BKM@getx
1493         \csname BKM@\BKM@prev\endcsname
1494         \ifnum\BKM@level>\BKM@x@level\relax
1495         \expandafter\xdef\csname BKM@\the\BKM@id\endcsname{%
1496         {\BKM@prev}{\BKM@level}0%
1497         }%
1498         \ifnum\BKM@prev>\z@
1499         \BKM@CalcExpr\BKM@CalcResult\BKM@x@childs+1%
1500         \expandafter\xdef\csname BKM@\BKM@prev\endcsname{%
1501         {\BKM@x@parent}{\BKM@x@level}{\BKM@CalcResult}%
1502         }%
1503         \fi
1504         \BKM@swfalse
1505         \else
1506         \let\BKM@prev\BKM@x@parent
1507         \fi
1508     \fi
1509 }%
1510 \pdfstringdef\BKM@title{\bookmark@text}%
1511 \edef\BKM@FLAGS{\BKM@PrintStyle}%
1512 \csname BKM@HypDestOptHook\endcsname
1513 \BKM@EscapeHex\BKM@dest
1514 \BKM@EscapeHex\BKM@uri
1515 \BKM@EscapeHex\BKM@goto
1516 \BKM@EscapeHex\BKM@rawaction
1517 \BKM@EscapeHex\BKM@title
1518 \immediate\write\@mainaux{%
1519     \string\BKM@entry{%
1520         id=\number\BKM@id
1521         \ifBKM@open
1522             \ifnum\BKM@level<\BKM@openlevel
1523                 ,open%
1524             \fi
1525         \fi
1526         \BKM@auxentry{dest}%
1527         \BKM@auxentry{named}%
1528         \BKM@auxentry{uri}%
1529         \BKM@auxentry{goto}%
1530         \BKM@auxentry{page}%
1531         \BKM@auxentry{view}%
1532         \BKM@auxentry{rawaction}%
1533         \BKM@auxentry{color}%
1534         \ifnum\BKM@FLAGS>\z@
1535             ,flags=\BKM@FLAGS
1536         \fi
1537     }{\BKM@title}%
1538 }%
1539 \endgroup
1540 \fi
1541 }

\BKM@getx

1542 \def\BKM@getx#1#2#3{%
1543     \def\BKM@x@parent{#1}%
1544     \def\BKM@x@level{#2}%
1545     \def\BKM@x@childs{#3}%
1546 }

\BKM@auxentry

1547 \def\BKM@auxentry#1{%
1548     \expandafter\ifx\csname BKM@#1\endcsname\@empty

```

```

1549 \else
1550     ,#1={\csname BKM@#1\endcsname}%
1551 \fi
1552 }

```

3.6.2 Read auxiliary data

```

1553 \SetupKeyvalOptions{family=BKM@DO,prefix=BKM@DO@}
1554 \DeclareStringOption[0]{id}
1555 \DeclareBoolOption{open}
1556 \DeclareStringOption{flags}
1557 \DeclareStringOption{color}
1558 \DeclareStringOption{dest}
1559 \DeclareStringOption{named}
1560 \DeclareStringOption{uri}
1561 \DeclareStringOption{goto}
1562 \DeclareStringOption{page}
1563 \DeclareStringOption{view}
1564 \DeclareStringOption{rawaction}

1565 \AtBeginDocument{%
1566     \let\BKM@entry\BKM@DO@entry
1567 }

1568 </pdftex | pdfmark>

```

3.7 Option atend

3.7.1 Hook

```

1569 <*package>

1570 \ifBKM@atend
1571 \else

\BookmarkAtEnd This is a dummy definition that generates a warning if option atend has not been
given.

1572 \newcommand{\BookmarkAtEnd}[1]{%
1573     \PackageWarning{bookmark}{%
1574         Ignored, because option ‘atend’ is missing%
1575     }%
1576 }%

1577 \expandafter\endinput
1578 \fi

\BookmarkAtEnd

1579 \newcommand*{\BookmarkAtEnd}{%
1580     \g@addto@macro\BKM@EndHook
1581 }

1582 \let\BKM@EndHook\@empty
1583 </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.

```

1584 <*pdfTeX | pdfmark>
1585 \ifBKM@atend
1586   \AfterLastShipout{%
1587     \BKM@EndHook
1588   }%
1589 \fi
1590 </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 `atendddvi` 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 L^AT_EX runs are necessary.

```

1591 <*dvipdfm | vtex>
1592 \ifBKM@atend
1593   \RequirePackage{atendddvi}%
1594   \AtEndDvi{\BKM@EndHook}%
1595 \fi
1596 </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 T_EX 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/

```

¹<http://ftp.ctan.org/tex-archive/>

4.3 Package installation

Unpacking. The `.dtx` file is a self-extracting `docstrip` archive. The files are extracted by running the `.dtx` through plain $\mathrm{T}_{\mathrm{E}}\mathrm{X}$:

```
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):

<code>bookmark.sty</code>	\rightarrow <code>tex/latex/oberdiek/bookmark.sty</code>
<code>bkm-dvipdfm.def</code>	\rightarrow <code>tex/latex/oberdiek/bkm-dvipdfm.def</code>
<code>bkm-dvips.def</code>	\rightarrow <code>tex/latex/oberdiek/bkm-dvips.def</code>
<code>bkm-dvipsones.def</code>	\rightarrow <code>tex/latex/oberdiek/bkm-dvipsones.def</code>
<code>bkm-textures.def</code>	\rightarrow <code>tex/latex/oberdiek/bkm-textures.def</code>
<code>bkm-pdftex.def</code>	\rightarrow <code>tex/latex/oberdiek/bkm-pdftex.def</code>
<code>bkm-vtex.def</code>	\rightarrow <code>tex/latex/oberdiek/bkm-vtex.def</code>
<code>bookmark.pdf</code>	\rightarrow <code>doc/latex/oberdiek/bookmark.pdf</code>
<code>bookmark-example.tex</code>	\rightarrow <code>doc/latex/oberdiek/bookmark-example.tex</code>
<code>bookmark.dtx</code>	\rightarrow <code>source/latex/oberdiek/bookmark.dtx</code>

If you have a `docstrip.cfg` that configures and enables `docstrip`'s TDS installing feature, then some files can already be in the right place, see the documentation of `docstrip`.

4.4 Refresh file name databases

If your $\mathrm{T}_{\mathrm{E}}\mathrm{X}$ distribution (`te $\mathrm{T}_{\mathrm{E}}\mathrm{X}$` , `mik $\mathrm{T}_{\mathrm{E}}\mathrm{X}$` , ...) relies on file name databases, you must refresh these. For example, `te $\mathrm{T}_{\mathrm{E}}\mathrm{X}$` users run `texhash` or `mktextlsr`.

4.5 Some details for the interested

Attached source. The PDF documentation on CTAN also includes the `.dtx` source file. It can be extracted by AcrobatReader 6 or higher. Another option is `pdftk`, e.g. unpack the file into the current directory:

```
pdftk bookmark.pdf unpack_files output .
```

Unpacking with $\mathrm{L}^{\mathrm{A}}\mathrm{T}_{\mathrm{E}}\mathrm{X}$. The `.dtx` chooses its action depending on the format:

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

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

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

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


5 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-`pdfTeX` users.

[2007/02/21 v0.3]

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

[2007/02/22 v0.4]

- `hyperref`'s `bookmarkstyle` 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-TeX` 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`.

6 Index

Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; plain numbers refer to the code lines where the entry is used.

Symbols		
<code>\"</code>	..... 33	1032, 1033, 1036, 1053, 1054, 1072, 1089, 1210, 1211, 1212,
<code>\(</code>	..... 1131, 1138	1216, 1220, 1224, 1225, 1226,
<code>\)</code>	..... 1132, 1148	1227, 1228, 1229, 1230, 1234,
<code>\@bookmarksopenlevel</code>	..... 211	1265, 1266, 1271, 1358, 1359,
<code>\@car</code>	..... 225, 265, 419, 433	1360, 1364, 1368, 1369, 1370,
<code>\@ehc</code>	..... 381, 423, 572, 584, 721, 750, 760, 851, 1001, 1231, 1375	1371, 1372, 1373, 1374, 1382, 1427, 1428, 1431, 1458, 1548, 1582
<code>\@empty</code>	121, 127, 133, 220, 361, 376, 386, 391, 440, 457, 465, 473, 481, 499, 511, 521, 531, 844, 845, 846, 847, 848, 849, 850, 854, 887, 888, 893, 928, 994, 995, 996, 997, 998, 999, 1000,	<code>\@firstofone</code> 530, 580, 1121 <code>\@gobble</code> 435, 585, 791, 792, 793, 794, 1345 <code>\@gobbletwo</code> 604, 1346 <code>\@ifundefined</code> 535, 536, 558, 569 <code>\@mainaux</code> 1518

\@namedef	562, 809, 959, 1474	\BKM@CheckRect	414, 451, 451
\@ne	647, 817, 967, 1482	\BKM@CheckView	389, 393, 393
\@nil	225, 265, 394, 396, 402, 405, 408, 411, 426, 438, 452, 454, 493, 495, 531, 533, 1056, 1088	\BKM@CheckViewType	394, 396
\@onelevel@sanitize	224, 264, 398, 430, 498, 510, 527, 576	\BKM@CheckXYZ	417, 492
\@percentchar	1335	\BKM@color	359, 361, 362, 928, 930, 1053, 1056
\@whiles	819, 969, 1484	\BKM@currentlevel	187, 257, 287, 297, 300, 768, 771, 775, 777
\@	1128	\BKM@DefGotoNameAction	686, 1262, 1297
\|	1127	\BKM@DefineDriverKey	627, 636, 637, 638, 639, 640, 641, 642, 643
Numbers			
\0	1133, 1158	\BKM@depth	214, 216, 221, 238, 241, 247, 780
\1	1134, 1168	\BKM@dest	846, 878, 882, 887, 898, 899, 996, 1028, 1029, 1032, 1041, 1042, 1513
\2	1135, 1178	\BKM@DisableOptions	200, 553, 631, 652, 672
\3	1136, 1188	\BKM@DO@color	1216, 1218, 1364, 1366
A			
\AddLineBeginMainAux	1469	\BKM@DO@dest	1226, 1261, 1262, 1265, 1276, 1277, 1278, 1298, 1370, 1419, 1420, 1423, 1427, 1439, 1440, 1442
\advance	106, 817, 967, 1099, 1108, 1482	\BKM@DO@entry	1204, 1346, 1352, 1566
\AfterLastShipout	1330, 1586	\BKM@DO@flags	1212, 1214, 1360, 1362
\AtBeginDocument	1565	\BKM@DO@gotor	1225, 1280, 1281, 1286, 1369, 1445, 1446, 1449
\AtEndDvi	1594	\BKM@DO@id	1210, 1358
B			
\begin	19, 22	\BKM@DO@named	1227, 1255, 1257, 1371, 1410, 1414
\belowpdfbookmark	682, 774	\BKM@DO@page	1230, 1237, 1266, 1267, 1269, 1274, 1374, 1387, 1428, 1429, 1435
\bitsetClear	339, 346	\BKM@DO@rawaction	1228, 1245, 1249, 1372, 1402, 1405
\bitsetGet	350, 353	\BKM@DO@title	1207, 1208, 1294, 1355, 1356, 1454
\bitsetGetDec	356	\BKM@DO@uri	1229, 1240, 1241, 1242, 1373, 1392, 1393, 1397
\bitsetReset	334	\BKM@DO@view	1234, 1235, 1237, 1271, 1272, 1274, 1382, 1383, 1388, 1431, 1432, 1436
\bitsetSet	337, 344	\BKM@drafttrue	199
\BKM@0	809, 959, 1474	\BKM@driver	629, 655, 658, 704, 705, 709, 712, 714, 717, 726, 729, 732, 737, 740, 743, 746, 756, 758
\BKM@@@PatchHyperrefOption	323, 325	\BKM@DvipdfmxOutlineOpentru	695, 700
\BKM@@@CalcParam	531, 533	\BKM@EndHook	1580, 1582, 1587, 1594
\BKM@@@CheckRect	452, 454	\BKM@entry	1470, 1519, 1566
\BKM@@@CheckXYZ	493, 495	\BKM@EscapeHex	132, 1513, 1514, 1515, 1516, 1517
\BKM@@@page	387	\BKM@EscapeName	120, 872, 1019, 1255, 1410
\BKM@@@PatchHyperrefOption	320, 322	\BKM@EscapeString	126, 860, 878, 898, 901, 1007, 1028, 1041, 1044, 1241, 1277, 1281, 1298, 1393, 1420, 1440, 1446
\BKM@abslevel	820, 824, 831, 833, 925	\BKM@file	1333, 1334, 1350
\BKM@action	844, 852, 857, 861, 869, 873, 879, 896, 899, 902, 906, 935, 994, 1002, 1004, 1008, 1016, 1020, 1029, 1039, 1042, 1045, 1049, 1059, 1224, 1232, 1237, 1242, 1246, 1256, 1262, 1274, 1278, 1282, 1287, 1292, 1368, 1376, 1385, 1394, 1403, 1411, 1421, 1434, 1441, 1447, 1450, 1462	\BKM@filename	1327, 1328, 1334
\BKM@attr	1211, 1214, 1218, 1220, 1222, 1292, 1359, 1362, 1366, 1458, 1460	\BKM@FLAGS	843, 932, 933, 993, 1076, 1077, 1511, 1534, 1535
\BKM@auxentry	1526, 1527, 1528, 1529, 1530, 1531, 1532, 1533, 1547		
\BKM@CalcExpr	101, 297, 771, 831, 891, 1269, 1499		
\BKM@CalcParam	447, 461, 469, 477, 485, 504, 516, 528		
\BKM@CalcResult	771, 772, 1499, 1501		
\BKM@CheckParam	402, 405, 408, 411, 438, 438		

\BKM@getx	828, 941 , 978 , 1084 , 1209 , 1357 , 1492 , 1542	\BKM@StyleStack	578, 589 , 591 , 603 , 604 , 613
\BKM@gotor	845, 901 , 905 , 995 , 1044 , 1048 , 1515	\BKM@StyleStackPop	597 , 601
\BKM@gtemp	775, 777	\BKM@swfalse	826, 835 , 976 , 985 , 1490 , 1504
\BKM@hook	184, 614 , 616	\BKM@swtrue	818, 968 , 1483
\BKM@HookNext	179, 181 , 191 , 194 , 196	\BKM@temp	225, 226 , 227 , 228 , 265 , 266 , 267 , 268 , 363 , 369 , 370 , 371 , 372 , 373 , 429 , 430 , 431 , 432 , 455 , 459 , 467 , 475 , 483 , 488 , 497 , 498 , 502 , 509 , 510 , 514 , 608 , 609 , 703 , 704 , 707 , 709 , 714 , 717 , 724 , 726 , 732 , 735 , 737 , 743 , 746
\BKM@HookNextClear	182, 193 , 196	\BKM@TestViewType	399, 400 , 401 , 404 , 407 , 410 , 413 , 416 , 428
\BKM@id	807, 816 , 817 , 823 , 832 , 957 , 966 , 967 , 973 , 982 , 1061 , 1472 , 1481 , 1482 , 1487 , 1495 , 1520	\BKM@title	842, 927 , 991 , 1079 , 1510 , 1517 , 1537
\BKM@level	187, 261 , 278 , 281 , 297 , 299 , 824 , 830 , 833 , 914 , 974 , 980 , 983 , 1064 , 1488 , 1494 , 1496 , 1522	\BKM@toHexDigit	1105, 1111 , 1120
\BKM@MacroCurrentLevel	260, 287	\BKM@toRGB	1056, 1088
\BKM@named	847, 872 , 874 , 997 , 1019 , 1023	\BKM@toRGBComponent	1090, 1091 , 1092 , 1094
\BKM@nil	323, 325	\BKM@type	397, 398 , 421 , 431 , 442 , 489 , 782 , 783
\BKM@null	500, 502 , 512 , 514 , 522 , 526	\BKM@UnescapeHex	138, 1208 , 1240 , 1245 , 1261 , 1276 , 1280 , 1356 , 1392 , 1402 , 1419 , 1439 , 1445
\BKM@numberedfalse	307	\BKM@uri	849, 860 , 864 , 999 , 1007 , 1011 , 1514
\BKM@numberedtrue	304	\BKM@view	391, 392 , 424 , 432 , 449 , 463 , 471 , 479 , 487 , 507 , 519 , 524 , 854 , 855 , 857 , 893 , 894 , 896 , 1036 , 1037 , 1039
\BKM@okfalse	610	\BKM@vtex@leftparen	1138
\BKM@oktrue	574	\BKM@vtex@one	1168
\BKM@openlevel	211, 916 , 1064 , 1522	\BKM@vtex@rightparen	1148
\BKM@page	375, 376 , 378 , 379 , 382 , 386 , 850 , 857 , 888 , 889 , 891 , 896 , 1000 , 1004 , 1033 , 1034 , 1039	\BKM@vtex@three	1188
\BKM@param	219, 220 , 223 , 224 , 225 , 234 , 238 , 242 , 259 , 260 , 261 , 263 , 264 , 265 , 274 , 278 , 282 , 439 , 440 , 445 , 449 , 456 , 457 , 458 , 463 , 464 , 465 , 466 , 471 , 472 , 473 , 474 , 479 , 480 , 481 , 482 , 487 , 496 , 497 , 499 , 500 , 507 , 508 , 509 , 511 , 512 , 519 , 520 , 521 , 522 , 524 , 531 , 545 , 547	\BKM@vtex@title	992, 1129
\BKM@parent	972, 981 , 1060	\BKM@vtex@two	1178
\BKM@PatchHyperrefOption	319, 331 , 332 , 333	\BKM@vtex@zero	1158
\BKM@pdfmark@out	1330, 1331	\BKM@write	1335, 1336 , 1337 , 1343 , 1345 , 1349 , 1453 , 1454 , 1456 , 1460 , 1462 , 1463
\BKM@prev	816, 821 , 829 , 833 , 837 , 966 , 970 , 979 , 981 , 983 , 987 , 1481 , 1485 , 1493 , 1496 , 1498 , 1500 , 1506	\BKM@x@abslevel	831, 944
\BKM@PrintStyle	355, 843 , 993 , 1511	\BKM@x@chlds	1293, 1455 , 1456 , 1499 , 1545
\BKM@PSHeaderFile	1306, 1314 , 1322 , 1328	\BKM@x@level	830, 943 , 980 , 1086 , 1494 , 1501 , 1544
\BKM@rawaction	848, 869 , 998 , 1016 , 1516	\BKM@x@parent	837, 942 , 987 , 1085 , 1501 , 1506 , 1543
\BKM@RGBcolor	1054, 1072 , 1074 , 1089 , 1103 , 1104 , 1109 , 1110 , 1114 , 1117	\bookmark	15, 16 , 26 , 62 , 63 , 64 , 65 , 67 , 71 , 75 , 79 , 85 , 86 , 87 , 88 , 89 , 94 , 683 , 764 , 796 , 811 , 961 , 1476
\BKM@SetDepthOrLevel	238, 241 , 248 , 278 , 281	\bookmark@bold	352
\BKM@setup	177, 815 , 965 , 1480	\bookmark@color	362
\BKM@setupnext	193	\bookmark@depth	247
\BKM@startatrootfalse	290, 822 , 971 , 1486	\bookmark@dest	369
\BKM@startatroottrue	293	\bookmark@driver	655
\BKM@StyleCall	565, 568	\bookmark@gotor	372
\BKM@StyleCurrent	575, 576 , 583 , 590 , 595 , 609	\bookmark@italic	349
\BKM@StyleEntry	577, 588 , 590 , 602	\bookmark@level	299
\BKM@StyleEntryCheck	577, 607	\bookmark@named	370

\bookmark@numbered	316		G	
\bookmark@open	207		\g@addto@macro	304,
\bookmark@page	387			307, 310, 313, 553, 631, 652, 1580
\bookmark@rawaction	373			
\bookmark@text			H	
...	814, 842, 964, 991, 1479, 1510		\hbox	250
\bookmark@uri	371		\headheight	73
\bookmark@view	392		\headsep	73
\BookmarkAtEnd	7, 13, 676, 1572, 1579		\Hy@bookmarksdepth	216
\bookmarkdefinestyle	6, 557, 677		\Hy@bookmarksnumberedfalse	313
\BookmarkDriverDefault	657, 667		\Hy@bookmarksnumberedtrue	310
\bookmarkget	6, 618, 618, 678		\Hy@bookmarkstype	783
\bookmarksetup	11, 14, 35, 40, 46, 52,		\Hy@numberline	786, 787, 788, 789
	57, 61, 176, 178, 181, 328, 593, 675		\Hy@writebookmark	684, 779
\bookmarksetupnext	190		\HyColor@BookmarkColor	359
\booknumberline	787, 792		\hyper@anchorend	765
			\hyper@anchorstart	765
			\hypertarget	23
C				
\c@tocdepth	212, 214, 221		I	
\calc	73, 530, 534		\if@files	812, 962, 1332, 1477
\catcode	1127, 1128		\ifBKM@atend	1570, 1585, 1592
\chapternumberline	789, 794		\ifBKM@DO@open	1293, 1456
\chardef	647, 649, 694		\ifBKM@draft	673
\count@	105, 106, 108, 251, 255		\ifBKM@DvipdfmxOutlineOpen	689, 911
\csname	102, 242, 282, 320,		\ifBKM@keeplevel	185
	336, 343, 365, 366, 595, 624,		\ifBKM@numbered	311, 314, 317, 785
	645, 646, 823, 829, 832, 841,		\ifBKM@ok	567, 579
	973, 979, 982, 1210, 1358, 1487,		\ifBKM@open	208, 913, 1063, 1521
	1493, 1495, 1500, 1512, 1548, 1550		\ifBKM@startatroot	
\currentpdfbookmark	680, 767			291, 294, 821, 970, 1485
			\ifBKM@sw	810, 819, 960, 969, 1475, 1484
D			\ifcase	226, 266, 1121
\DeclareBoolOption	197, 206, 288, 289, 301, 552, 1555		\ifdim	692, 1096, 1097
\DeclareComplementaryOption	198		\iffalse	291, 308, 314
\DeclareLocalOptions	153		\ifHy@bookmarksnumbered	302, 305, 308
\DeclareStringOption	210, 212, 257,		\ifHy@bookmarksopen	206
	364, 1554, 1556, 1557, 1558,		\ifnum	227, 228, 267, 268, 350, 353,
	1559, 1560, 1561, 1562, 1563, 1564			379, 488, 699, 780, 821, 830,
\define@key	218, 258, 296, 335, 342,			914, 932, 970, 980, 1064, 1076,
	358, 374, 388, 564, 615, 628, 644			1455, 1485, 1494, 1498, 1522, 1534
\dimen@	537, 539,		\ifpdf	658, 708
	542, 544, 545, 1095, 1096, 1097,		\iftrue	294, 305, 311, 336, 343
	1098, 1099, 1100, 1101, 1108, 1111		\ifvtex	664, 736
\dimen@ii	1101, 1102, 1105, 1107, 1108		\ifvtexpdf	951
\dimexpr	539		\ifx	102, 121, 127,
\DisableKeyvalOption				133, 179, 220, 226, 260, 266,
	201, 203, 554, 632, 653			336, 343, 376, 431, 440, 457,
\divide	1100, 1102			465, 473, 481, 499, 502, 511,
\documentclass	2			514, 521, 534, 609, 645, 704,
				709, 717, 726, 737, 746, 783,
E				845, 846, 847, 848, 849, 850,
\EdefEscapeHex	135			854, 887, 888, 893, 928, 995,
\EdefEscapeName	123			996, 997, 998, 999, 1000, 1032,
\EdefEscapeString	129			1033, 1036, 1053, 1072, 1212,
\EdefUnescapeHex	139			1216, 1220, 1225, 1226, 1227,
\end	25, 95			1228, 1229, 1230, 1234, 1265,
\endcsname	102, 242, 282, 320,			1266, 1271, 1360, 1364, 1369,
	336, 343, 365, 366, 595, 624,			1370, 1371, 1372, 1373, 1374,
	645, 646, 823, 829, 832, 841,			1382, 1427, 1428, 1431, 1458, 1548
	973, 979, 982, 1210, 1358, 1487,		\ifxetex	661, 691, 725
	1493, 1495, 1500, 1512, 1548, 1550		\immediate	1334, 1350, 1518
\endinput	687, 722, 751, 761, 1577		\InputIfFileExists	656, 756

J	
\jobname	1327
K	
\kvsetkeys	176, 1206, 1354
L	
\ltx@empty	179, 194
\ltx@firstofone	915
\ltx@GlobalAppendToMacro	191
\ltx@gobble	675, 676, 678
\ltx@gobbletwo	677, 680, 681, 682, 686
\ltx@ifUndefined ..	213, 223, 263, 690
\ltx@ifundefined	620
\ltx@LocalAppendToMacro	616
\ltx@one	208, 317, 350, 353, 694
\ltx@space	621, 623
\ltx@zero	208, 317, 350, 353
M	
\maxdimen	210
\MessageBreak	234, 274, 421, 442, 719, 729, 740, 748, 758
N	
\NeedsTeXFormat	98, 804, 948, 1201, 1303, 1311, 1319
\newcommand	176, 190, 557, 618, 683, 811, 961, 1476, 1572, 1579
\newcount	807, 957, 1472
\newif	567, 689, 810, 960, 1475
\newpage	34
\newwrite	1333
\number	211, 378, 692, 775, 916, 1061, 1121, 1520
\numberline	786, 791
\numexpr	115
O	
\openout	1334
P	
\p@	1097
\PackageError ..	381, 420, 570, 582, 718, 747, 757, 851, 1001, 1231, 1375
\PackageInfo	560
\PackageWarning ..	233, 273, 441, 489, 1573
\PackageWarningNoLine	674, 711, 728, 739, 953
\paperheight	73
\part	49
\partnumberline	788, 793
\pdf@ifdraftmode	199
\pdfbookmark	679, 763, 768, 772
\pdfoutline	1292
\pdfstringdef	842, 991, 1510
\ProcessKeyvalOptions	671
\providecommand	657, 1470
\ProvidesFile	805, 949, 1202, 1304, 1312, 1320
\ProvidesPackage	99
R	
\ReadBookmarks	685, 801
\renewcommand	679, 684, 763, 767, 770, 774, 779
\RequirePackage	119, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 1329, 1468, 1593
\romannumeral	619
S	
\section	20, 39, 50, 55
\setbox	250
\setlength	537, 539, 542
\SetupKeyvalOptions	152, 1553
\space	449, 463, 471, 479, 487, 507, 519, 524
\special ..	910, 1058, 1307, 1315, 1323
\SpecialDvipdfmxOutlineOpen	647, 649, 694, 699
\ss	33
\strip@pt	545
\subpdfbookmark	681, 770, 776
\subsection	21, 31, 33, 45, 56
\subsubsection	32, 51
T	
\the	108, 115, 255, 816, 823, 832, 966, 973, 982, 1481, 1487, 1495
\topmargin	73
U	
\usepackage	3, 4, 5
W	
\write	1350, 1518
X	
\x	107, 110
\XeTeXrevision	692
\XeTeXversion	692
Z	
\z@	250, 379, 488, 649, 699, 808, 821, 932, 958, 970, 1076, 1096, 1455, 1473, 1485, 1498, 1534