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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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. 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 pdfTEX, XETEX, and VTEX 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 dvipmdfmx 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 occurence 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 LuaTEX (indenpendently from DVI or PDF modus) is running, then its `status.filename` is used automatically.
- Package `\currfile` [2] redefines LATEX 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:

hyperref	bookmark
bookmarksdepth	depth
bookmarksopen	open
bookmarksopenlevel	openlevel
bookmarksnumbered	numbered

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}[2016/05/17]
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{
```

```
  bold,
  color=[rgb]{1,0,0}
}
\section{Very important section}
\bookmarksetup{
  italic,
  bold=false,
  color=blue
}
\subsection{Italic section}
\bookmarksetup{
  italic=false
}
\part{Misc}
\section{Diverse}
\subsubsection{Subsubsection, omitting subsection}
\bookmarksetup{
  startatroot
}
\section{Last section outside part}
\subsection{Subsection}
\bookmarksetup{
  color={}
}
\begingroup
  \bookmarksetup{level=0, color=green!80!black}
  \bookmark[named=FirstPage]{First page}
  \bookmark[named=LastPage]{Last page}
  \bookmark[named=PrevPage]{Previous page}
  \bookmark[named=NextPage]{Next page}
\endgroup
\bookmark[
  page=2,
  view=FitH 800
]{Page 2, FitH 800}
\bookmark[
  page=2,
  view=FitBH \calc{\paperheight-\topmargin-1in-\headheight-\headsep}
]{Page 2, FitBH top of text body}
\bookmark[
  uri={http://www.dante.de/},
  color=magenta
]{Dante homepage}
\bookmark[
  gotor={t.pdf},
  page=1,
  view={XYZ 0 1000 null},
  color=cyan!75!black
]{File t.pdf}
\bookmark[named=FirstPage]{First page}
\bookmark[rellevel=1, named=LastPage]{Last page (rellevel=1)}
\bookmark[named=PrevPage]{Previous page}
\bookmark[level=0, named=FirstPage]{First page (level=0)}
\bookmark[
  rellevel=1,
  keeplevel,
  named=LastPage
]{Last page (rellevel=1, keeplevel)}
\bookmark[named=PrevPage]{Previous page}
\end{document}
```

⟨/example⟩

3 Implementation

3.1 Package

```
97 ⟨*package⟩
98 \NeedsTeXFormat{LaTeX2e}
99 \ProvidesPackage{bookmark}%
100   [2016/05/17 v1.26 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 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.

```
\RequirePackage{ifpdf}[2009/04/10]
\RequirePackage{ifxetex}
\RequirePackage{ifvtex}[2008/11/04]
\RequirePackage{ifluatex}[2010/03/01]
\RequirePackage{pdftexcmds}[2010/11/04]
\RequirePackage{hyperref}[2010/06/18]
\RequirePackage{auxhook}[2007/04/06]
\RequirePackage{kvsetkeys}[2010/03/01]
\RequirePackage{kvoptions}[2009/08/13]
\RequirePackage{hycolor}[2008/09/08]
\RequirePackage{bitset}[2011/01/30]
\RequirePackage{ltxcmds}[2011/04/14]
```

3.1.2 Package options

```
\SetupKeyvalOptions{family=BKM,prefix=BKM@}
\DeclareLocalOptions{%
  atend,%
  bold,%
  color,%
  depth,%
  dest,%
  draft,%
  final,%
  gotor,%
  italic,%
  keeplevel,%
  level,%
  named,%
  numbered,%
  open,%
  openlevel,%
  page,%
  rawaction,%
  rellevel,%
  srcfile,%
  srcline,%
  startatroot,%
  uri,%
  view,%
}
```

\bookmarksetup

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

\BKM@setup

```
\def\BKM@setup#1{%
  \bookmarksetup{#1}%
  \ifx\BKM@HookNext\ltx@empty
  \else
    \expandafter\bookmarksetup\expandafter{\BKM@HookNext}%
    \BKM@HookNextClear
  \fi
  \BKM@hook
  \ifBKM@keeplevel
  \else
    \xdef\BKM@currentlevel{\BKM@level}%
  \fi
}
```

\bookmarksetupnext

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

\BKM@setupnext

\BKM@HookNextClear

```
\def\BKM@HookNextClear{%
  \global\let\BKM@HookNext\ltx@empty
}
```

\BKM@HookNext

```
\BKM@HookNextClear

\DeclareBoolOption{draft}
\DeclareComplementaryOption{final}{draft}
```

\BKM@DisableOptions

```
\def\BKM@DisableOptions{%
  \DisableKeyvalOption[action=warning,package=bookmark]%
     {BKM}{draft}%
  \DisableKeyvalOption[action=warning,package=bookmark]%
     {BKM}{final}%
}

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

\bookmark@open

```
\def\bookmark@open{%
  \ifBKM@open\ltx@one\else\ltx@zero\fi
}

\DeclareStringOption[\maxdimen]{openlevel}
```

\BKM@openlevel

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

%\DeclareStringOption[\c@tocdepth]{depth}
\ltx@IfUndefined{Hy@bookmarksdepth}{%
  \def\BKM@depth{\c@tocdepth}%
}{%
  \let\BKM@depth\Hy@bookmarksdepth
}
\define@key{BKM}{depth}[]{%
  \edef\BKM@param{#1}%
  \ifx\BKM@param\@empty
    \def\BKM@depth{\c@tocdepth}%
  \else
    \ltx@IfUndefined{toclevel@\BKM@param}{%
      \@onelevel@sanitize\BKM@param
      \edef\BKM@temp{\expandafter\@car\BKM@param\@nil}%
      \ifcase 0\expandafter\ifx\BKM@temp-1\fi
            \expandafter\ifnum\expandafter`\BKM@temp>47 %
              \expandafter\ifnum\expandafter`\BKM@temp<58 %
                1%
              \fi
            \fi
            \relax
        \PackageWarning{bookmark}{%
          Unknown document division name (\BKM@param)\MessageBreak
          for option 'depth'%
        }%
      \else
```

```
      \BKM@SetDepthOrLevel\BKM@depth\BKM@param
    \fi
  }{%
    \BKM@SetDepthOrLevel\BKM@depth{%
      \csname toclevel@\BKM@param\endcsname
    }%
  }%
 \fi
}
```

\bookmark@depth

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

\BKM@SetDepthOrLevel

```
\def\BKM@SetDepthOrLevel#1#2{%
 \begingroup
  \setbox\z@=\hbox{%
   \count@=#2\relax
   \expandafter
  }%
 \expandafter\endgroup
 \expandafter\def\expandafter#1\expandafter{\the\count@}%
}

\DeclareStringOption[\BKM@currentlevel]{level}[\BKM@currentlevel]
\define@key{BKM}{level}{%
 \edef\BKM@param{#1}%
 \ifx\BKM@param\BKM@MacroCurrentLevel
  \let\BKM@level\BKM@param
 \else
  \ltx@IfUndefined{toclevel@\BKM@param}{%
   \@onelevel@sanitize\BKM@param
   \edef\BKM@temp{\expandafter\@car\BKM@param\@nil}%
   \ifcase 0\expandafter\ifx\BKM@temp-1\fi
         \expandafter\ifnum\expandafter`\BKM@temp>47 %
           \expandafter\ifnum\expandafter`\BKM@temp<58 %
             1%
           \fi
         \fi
         \relax
     \PackageWarning{bookmark}{%
       Unknown document division name (\BKM@param)\MessageBreak
       for option 'level'%
     }%
   \else
     \BKM@SetDepthOrLevel\BKM@level\BKM@param
   \fi
  }{%
   \BKM@SetDepthOrLevel\BKM@level{%
     \csname toclevel@\BKM@param\endcsname
   }%
  }%
 \fi
}
```

\BKM@MacroCurrentLevel

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

\DeclareBoolOption{keeplevel}
\DeclareBoolOption{startatroot}
```

\BKM@startatrootfalse

```
\def\BKM@startatrootfalse{%
  \global\let\ifBKM@startatroot\iffalse
}
```

\BKM@startatroottrue

```
\def\BKM@startatroottrue{%
  \global\let\ifBKM@startatroot\iftrue
}
\define@key{BKM}{rellevel}{%
  \BKM@CalcExpr\BKM@level{#1}+\BKM@currentlevel
}
```

\bookmark@level

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

\BKM@currentlevel

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

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

```
\DeclareBoolOption[%
  \ifHy@bookmarksnumbered true\else false\fi
]{numbered}
\g@addto@macro\BKM@numberedtrue{%
  \let\ifHy@bookmarksnumbered\iftrue
}
\g@addto@macro\BKM@numberedfalse{%
  \let\ifHy@bookmarksnumbered\iffalse
}
\g@addto@macro\Hy@bookmarksnumberedtrue{%
  \let\ifBKM@numbered\iftrue
}
\g@addto@macro\Hy@bookmarksnumberedfalse{%
  \let\ifBKM@numbered\iffalse
}
```

\bookmark@numbered

```
\def\bookmark@numbered{%
  \ifBKM@numbered\ltx@one\else\ltx@zero\fi
}
```

Redefinitions hyperref's options

\BKM@PatchHyperrefOption

```
\def\BKM@PatchHyperrefOption#1{%
  \expandafter\BKM@@PatchHyperrefOption\csname KV@Hyp@#1\endcsname%
}
```

\BKM@@PatchHyperrefOption

```
\def\BKM@@PatchHyperrefOption#1{%
  \expandafter\BKM@@@PatchHyperrefOption#1{##1}\BKM@nil#1%
}
```

\BKM@@@PatchHyperrefOption

```
\def\BKM@@@PatchHyperrefOption#1\BKM@nil#2#3{%
  \def#2##1{%
    #1%
    \bookmarksetup{#3={##1}}%
  }%
}
\BKM@PatchHyperrefOption{bookmarksopen}{open}
\BKM@PatchHyperrefOption{bookmarksopenlevel}{openlevel}
\BKM@PatchHyperrefOption{bookmarksdepth}{depth}
```

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

```
\bitsetReset{BKM@FontStyle}%
\define@key{BKM}{italic}[true]{%
  \expandafter\ifx\csname if#1\endcsname\iftrue
    \bitsetSet{BKM@FontStyle}{0}%
  \else
    \bitsetClear{BKM@FontStyle}{0}%
  \fi
}%
\define@key{BKM}{bold}[true]{%
  \expandafter\ifx\csname if#1\endcsname\iftrue
    \bitsetSet{BKM@FontStyle}{1}%
  \else
    \bitsetClear{BKM@FontStyle}{1}%
  \fi
}%
```

\bookmark@italic

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

\bookmark@bold

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

\BKM@PrintStyle

```
\def\BKM@PrintStyle{%
  \bitsetGetDec{BKM@FontStyle}%
}%
```

Options for color.

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

\BKM@color

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

\bookmark@color

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

3.1.3 Action options

```
\def\BKM@temp#1{%
  \DeclareStringOption{#1}%
  \expandafter\edef\csname bookmark@#1\endcsname{%
    \expandafter\noexpand\csname BKM@#1\endcsname
  }%
}
```

\bookmark@dest

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

\bookmark@named

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

\bookmark@uri

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

\bookmark@gotor

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

\bookmark@rawaction

```
\BKM@temp{rawaction}

\define@key{BKM}{page}{%
  \def\BKM@page{#1}%
  \ifx\BKM@page\@empty
  \else
    \edef\BKM@page{\number\BKM@page}%
    \ifnum\BKM@page>\z@
    \else
      \PackageError{bookmark}{Page must be positive}\@ehc
      \def\BKM@page{1}%
    \fi
  \fi
}
```

\BKM@page

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

\bookmark@page

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

\define@key{BKM}{view}{%
  \BKM@CheckView{#1}%
}
```

\BKM@view

```
\let\BKM@view\@empty
```

\bookmark@view

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

BKM@CheckView

```
\def\BKM@CheckView#1{%
  \BKM@CheckViewType#1 \@nil
}
```

\BKM@CheckViewType

```
\def\BKM@CheckViewType#1 #2\@nil{%
  \def\BKM@type{#1}%
  \@onelevel@sanitize\BKM@type
  \BKM@TestViewType{Fit}{}%
  \BKM@TestViewType{FitB}{}%
  \BKM@TestViewType{FitH}{%
    \BKM@CheckParam#2 \@nil{top}%
  }%
  \BKM@TestViewType{FitBH}{%
    \BKM@CheckParam#2 \@nil{top}%
  }%
  \BKM@TestViewType{FitV}{%
    \BKM@CheckParam#2 \@nil{bottom}%
  }%
  \BKM@TestViewType{FitBV}{%
    \BKM@CheckParam#2 \@nil{bottom}%
  }%
  \BKM@TestViewType{FitR}{%
    \BKM@CheckRect{#2}{ }%
  }%
  \BKM@TestViewType{XYZ}{%
```

```
    \BKM@CheckXYZ{#2}{ }%
  }%
  \@car{%
    \PackageError{bookmark}{%
      Unknown view type `\BKM@type',\MessageBreak
      using `FitH' instead%
    }\@ehc
    \def\BKM@view{FitH}%
  }%
  \@nil
}
```

\BKM@TestViewType

```
\def\BKM@TestViewType#1{%
  \def\BKM@temp{#1}%
  \@onelevel@sanitize\BKM@temp
  \ifx\BKM@type\BKM@temp
    \let\BKM@view\BKM@temp
    \expandafter\@car
  \else
    \expandafter\@gobble
  \fi
}
```

BKM@CheckParam

```
\def\BKM@CheckParam#1 #2\@nil#3{%
  \def\BKM@param{#1}%
  \ifx\BKM@param\@empty
    \PackageWarning{bookmark}{%
      Missing parameter (#3) for `\BKM@type',\MessageBreak
      using 0%
    }%
    \def\BKM@param{0}%
  \else
    \BKM@CalcParam
  \fi
  \edef\BKM@view{\BKM@view\space\BKM@param}%
}
```

BKM@CheckRect

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

\BKM@@CheckRect

```
\def\BKM@@CheckRect#1 #2 #3 #4 #5\@nil{%
  \def\BKM@temp{0}%
  \def\BKM@param{#1}%
  \ifx\BKM@param\@empty
    \def\BKM@param{0}%
    \def\BKM@temp{1}%
  \else
    \BKM@CalcParam
  \fi
  \edef\BKM@view{\BKM@view\space\BKM@param}%
  \def\BKM@param{#2}%
  \ifx\BKM@param\@empty
    \def\BKM@param{0}%
    \def\BKM@temp{1}%
  \else
    \BKM@CalcParam
  \fi
```

```
  \edef\BKM@view{\BKM@view\space\BKM@param}%
  \def\BKM@param{#3}%
  \ifx\BKM@param\@empty
    \def\BKM@param{0}%
    \def\BKM@temp{1}%
  \else
    \BKM@CalcParam
  \fi
  \edef\BKM@view{\BKM@view\space\BKM@param}%
  \def\BKM@param{#4}%
  \ifx\BKM@param\@empty
    \def\BKM@param{0}%
    \def\BKM@temp{1}%
  \else
    \BKM@CalcParam
  \fi
  \edef\BKM@view{\BKM@view\space\BKM@param}%
  \ifnum\BKM@temp>\z@
    \PackageWarning{bookmark}{Missing parameters for `\BKM@type'}%
  \fi
}
```

\BKM@CheckXYZ

```
\def\BKM@CheckXYZ#1#2{%
  \BKM@@CheckXYZ#1#2#2#2\@nil
}
```

\BKM@@CheckXYZ

```
\def\BKM@@CheckXYZ#1 #2 #3 #4\@nil{%
  \def\BKM@param{#1}%
  \let\BKM@temp\BKM@param
  \@onelevel@sanitize\BKM@temp
  \ifx\BKM@param\@empty
    \let\BKM@param\BKM@null
  \else
    \ifx\BKM@temp\BKM@null
    \else
      \BKM@CalcParam
    \fi
  \fi
  \edef\BKM@view{\BKM@view\space\BKM@param}%
  \def\BKM@param{#2}%
  \let\BKM@temp\BKM@param
  \@onelevel@sanitize\BKM@temp
  \ifx\BKM@param\@empty
    \let\BKM@param\BKM@null
  \else
    \ifx\BKM@temp\BKM@null
    \else
      \BKM@CalcParam
    \fi
  \fi
  \edef\BKM@view{\BKM@view\space\BKM@param}%
  \def\BKM@param{#3}%
  \ifx\BKM@param\@empty
    \let\BKM@param\BKM@null
  \fi
  \edef\BKM@view{\BKM@view\space\BKM@param}%
}
```

\BKM@null

```
\def\BKM@null{null}
\@onelevel@sanitize\BKM@null
```

\BKM@CalcParam

```
\def\BKM@CalcParam{%
  \begingroup
  \let\calc\@firstofone
  \expandafter\BKM@@CalcParam\BKM@param\@empty\@empty\@nil
}
```

\BKM@@CalcParam

```
\def\BKM@@CalcParam#1#2#3\@nil{%
  \ifx\calc#1%
    \@ifundefined{calc@assign@dimen}{%
      \@ifundefined{dimexpr}{%
        \setlength{\dimen@}{#2}%
      }{%
        \setlength{\dimen@}{\dimexpr#2\relax}%
      }%
    }{%
      \setlength{\dimen@}{#2}%
    }%
    \dimen@.99626\dimen@
    \edef\BKM@param{\strip@pt\dimen@}%
    \expandafter\endgroup
    \expandafter\def\expandafter\BKM@param\expandafter{\BKM@param}%
  \else
    \endgroup
  \fi
}
```

3.1.4 Option atend

```
\DeclareBoolOption{atend}
\g@addto@macro\BKM@DisableOptions{%
  \DisableKeyvalOption[action=warning,package=bookmark]%
     {BKM}{atend}%
}
```

3.1.5 Option style

\bookmarkdefinestyle

```
\newcommand*{\bookmarkdefinestyle}[2]{%
  \@ifundefined{BKM@style@#1}{%
  }{%
    \PackageInfo{bookmark}{Redefining style '#1'}%
  }%
  \@namedef{BKM@style@#1}{#2}%
}

\define@key{BKM}{style}{%
  \BKM@StyleCall{#1}%
}
\newif\ifBKM@ok
```

\BKM@StyleCall

```
\def\BKM@StyleCall#1{%
  \@ifundefined{BKM@style@#1}{%
    \PackageError{bookmark}{%
      Undefined style '#1'%
    }\@ehc
  }{%
```

Check style stack.

```
    \BKM@oktrue
    \edef\BKM@StyleCurrent{#1}%
```

```
    \@onelevel@sanitize\BKM@StyleCurrent
    \let\BKM@StyleEntry\BKM@StyleEntryCheck
    \BKM@StyleStack
    \ifBKM@ok
      \expandafter\@firstofone
    \else
      \PackageError{bookmark}{%
        Ignoring recursive call of style '\BKM@StyleCurrent'%
      }\@ehc
      \expandafter\@gobble
    \fi
    {%
```

Push current style on stack.

```
      \let\BKM@StyleEntry\relax
      \edef\BKM@StyleStack{%
        \BKM@StyleEntry{\BKM@StyleCurrent}%
        \BKM@StyleStack
      }%
```

Call style.

```
      \expandafter\expandafter\expandafter\bookmarksetup
      \expandafter\expandafter\expandafter{%
        \csname BKM@style@\BKM@StyleCurrent\endcsname
      }%
```

Pop current style from stack.

```
      \BKM@StyleStackPop
    }%
  }%
}
```

\BKM@StyleStackPop

```
\def\BKM@StyleStackPop{%
  \let\BKM@StyleEntry\relax
  \edef\BKM@StyleStack{%
    \expandafter\@gobbletwo\BKM@StyleStack
  }%
}
```

\BKM@StyleEntryCheck

```
\def\BKM@StyleEntryCheck#1{%
  \def\BKM@temp{#1}%
  \ifx\BKM@temp\BKM@StyleCurrent
    \BKM@okfalse
  \fi
}
```

\BKM@StyleStack

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

3.1.6 Options for source file location

```
\DeclareStringOption{srcline}
\DeclareStringOption{srcfile}
```

3.1.7 Hook support

\BKM@hook

```
\def\BKM@hook{}

\define@key{BKM}{addtohook}{%
  \ltx@LocalAppendToMacro\BKM@hook{#1}%
}
```

bookmarkget

```
\newcommand*{\bookmarkget}[1]{%
  \romannumeral0%
  \ltx@ifundefined{bookmark@#1}{%
    \ltx@space
  }{%
    \expandafter\expandafter\expandafter\ltx@space
    \csname bookmark@#1\endcsname
  }%
}
```

3.1.8 Driver setup and loading

Driver detection.

\BKM@DefineDriverKey

```
\def\BKM@DefineDriverKey#1{%
  \define@key{BKM}{#1}[]{%
    \def\BKM@driver{#1}%
  }%
  \g@addto@macro\BKM@DisableOptions{%
    \DisableKeyvalOption[action=warning,package=bookmark]%
        {BKM}{#1}%
  }%
}
```

```
\BKM@DefineDriverKey{pdftex}
\BKM@DefineDriverKey{dvips}
\BKM@DefineDriverKey{dvipsone}
\BKM@DefineDriverKey{textures}
\BKM@DefineDriverKey{dvipdfm}
\BKM@DefineDriverKey{dvipdfmx}
\BKM@DefineDriverKey{xetex}
\BKM@DefineDriverKey{vtex}
\define@key{BKM}{dvipdfmx-outline-open}[true]{%
  \expandafter\ifx\csname if#1\expandafter\endcsname
                \csname iftrue\endcsname
    \chardef\SpecialDvipdfmxOutlineOpen\@ne
  \else
    \chardef\SpecialDvipdfmxOutlineOpen\z@
  \fi
}
\g@addto@macro\BKM@DisableOptions{%
  \DisableKeyvalOption{BKM}{dvipdfmx-outline-open}%
}
```

\bookmark@driver

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

```
\InputIfFileExists{bookmark.cfg}{}{}
```

\BookmarkDriverDefault

```
\providecommand*{\BookmarkDriverDefault}{dvips}
```

\BKM@driver LuaTeX and pdfTeX share driver.

```
\ifpdf
  \def\BKM@driver{pdftex}%
  \ifx\pdfoutline\@undefined
    \ifx\pdfextension\@undefined\else
      \protected\def\pdfoutline{\pdfextension outline }
    \fi
  \fi
\else
```

```
  \ifxetex
    \def\BKM@driver{dvipdfm}%
  \else
    \ifvtex
      \def\BKM@driver{vtex}%
    \else
      \edef\BKM@driver{\BookmarkDriverDefault}%
    \fi
  \fi
\fi
```

Process options.

```
\ProcessKeyvalOptions*
\BKM@DisableOptions
```

Option draft

```
\ifBKM@draft
  \PackageWarningNoLine{bookmark}{Draft mode on}%
  \let\bookmarksetup\ltx@gobble
  \let\BookmarkAtEnd\ltx@gobble
  \let\bookmarkdefinestyle\ltx@gobbletwo
  \let\bookmarkget\ltx@gobble
  \let\pdfbookmark\ltx@undefined
  \newcommand*{\pdfbookmark}[3][]{}%
  \let\currentpdfbookmark\ltx@gobbletwo
  \let\subpdfbookmark\ltx@gobbletwo
  \let\belowpdfbookmark\ltx@gobbletwo
  \newcommand*{\bookmark}[2][]{}%
  \renewcommand*{\Hy@writebookmark}[5]{}%
  \let\ReadBookmarks\relax
  \let\BKM@DefGotoNameAction\ltx@gobbletwo % package 'hypdestopt'
  \expandafter\endinput
\fi
```

Driver validation and loading.

```
\newif\ifBKM@DvipdfmxOutlineOpen
\ltx@IfUndefined{SpecialDvipdfmxOutlineOpen}{%
  \ifxetex
    \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
    \else
      \chardef\SpecialDvipdfmxOutlineOpen\ltx@one
      \BKM@DvipdfmxOutlineOpentrue
    \fi
  \fi
}{%
  \ifnum\SpecialDvipdfmxOutlineOpen>\z@
    \BKM@DvipdfmxOutlineOpentrue
  \fi
}
\def\BKM@temp{dvipdfmx}%
\ifx\BKM@temp\BKM@driver
  \def\BKM@driver{dvipdfm}%
\fi
\def\BKM@temp{pdftex}%
\ifpdf
  \ifx\BKM@temp\BKM@driver
  \else
    \PackageWarningNoLine{bookmark}{%
      Wrong driver '\BKM@driver', using 'pdftex' instead%
    }%
```

```
    \let\BKM@driver\BKM@temp
  \fi
\else
  \ifx\BKM@temp\BKM@driver
    \PackageError{bookmark}{%
      Wrong driver, pdfTeX is not running in PDF mode.\MessageBreak
      Package loading is aborted%
    }\@ehc
    \expandafter\expandafter\expandafter\endinput
  \fi
  \def\BKM@temp{dvipdfm}%
  \ifxetex
    \ifx\BKM@temp\BKM@driver
    \else
      \PackageWarningNoLine{bookmark}{%
        Wrong driver '\BKM@driver',\MessageBreak
        using 'dvipdfm' for XeTeX instead%
      }%
      \let\BKM@driver\BKM@temp
    \fi
  \else
    \def\BKM@temp{vtex}%
    \ifvtex
      \ifx\BKM@temp\BKM@driver
      \else
        \PackageWarningNoLine{bookmark}{%
          Wrong driver '\BKM@driver',\MessageBreak
          using 'vtex' for VTeX instead%
        }%
        \let\BKM@driver\BKM@temp
      \fi
    \else
      \ifx\BKM@temp\BKM@driver
        \PackageError{bookmark}{%
          Wrong driver, VTeX is not running in PDF mode.\MessageBreak
          Package loading is aborted%
        }\@ehc
        \expandafter\expandafter\expandafter\endinput
      \fi
    \fi
  \fi
\fi
\InputIfFileExists{bkm-\BKM@driver.def}{}{%
  \PackageError{bookmark}{%
    Unsupported driver '\BKM@driver'.\MessageBreak
    Package loading is aborted%
  }\@ehc
  \endinput
}
```

3.1.9 Compatibility for **hyperref**

\pdfbookmark

```
\let\pdfbookmark\ltx@undefined
\newcommand*{\pdfbookmark}[3][0]{%
  \bookmark[level=#1,dest={#3.#1}]{#2}%
  \hyper@anchorstart{#3.#1}\hyper@anchorend
}
```

\currentpdfbookmark

```
\def\currentpdfbookmark{%
  \pdfbookmark[\BKM@currentlevel]%
```

```
}
```

\subpdfbookmark

```
\def\subpdfbookmark{%
  \BKM@CalcExpr\BKM@CalcResult\BKM@currentlevel+1%
  \expandafter\pdfbookmark\expandafter[\BKM@CalcResult]%
}
```

\belowpdfbookmark

```
\def\belowpdfbookmark#1#2{%
  \xdef\BKM@gtemp{\number\BKM@currentlevel}%
  \subpdfbookmark{#1}{#2}%
  \global\let\BKM@currentlevel\BKM@gtemp
}
```

Section number, text, label, level, file

\Hy@writebookmark

```
\def\Hy@writebookmark#1#2#3#4#5{%
  \ifnum#4>\BKM@depth\relax
  \else
    \def\BKM@type{#5}%
    \ifx\BKM@type\Hy@bookmarkstype
      \begingroup
        \ifBKM@numbered
          \let\numberline\Hy@numberline
          \let\booknumberline\Hy@numberline
          \let\partnumberline\Hy@numberline
          \let\chapternumberline\Hy@numberline
        \else
          \let\numberline\@gobble
          \let\booknumberline\@gobble
          \let\partnumberline\@gobble
          \let\chapternumberline\@gobble
        \fi
        \bookmark[level=#4,dest={#3}]{#2}%
      \endgroup
    \fi
  \fi
}
```

\ReadBookmarks

```
\let\ReadBookmarks\relax
```

⟨/package⟩

3.2 Driver for dvipdfm

```
⟨*dvipdfm⟩
\NeedsTeXFormat{LaTeX2e}
\ProvidesFile{bkm-dvipdfm.def}%
  [2016/05/17 v1.26 bookmark driver for dvipdfm (HO)]%
```

\BKM@id

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

\BKM@0

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

\ifBKM@sw

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

\bookmark

```
\newcommand*{\bookmark}[2][]{%
  \if@filesw
    \begingroup
      \def\bookmark@text{#2}%
      \BKM@setup{#1}%
      \edef\BKM@prev{\the\BKM@id}%
      \global\advance\BKM@id\@ne
      \BKM@swtrue
      \@whilesw\ifBKM@sw\fi{%
        \def\BKM@abslevel{1}%
        \ifnum\ifBKM@startatroot\z@\else\BKM@prev\fi=\z@
          \BKM@startatrootfalse
          \expandafter\xdef\csname BKM@\the\BKM@id\endcsname{%
            0{\BKM@level}\BKM@abslevel
          }%
          \BKM@swfalse
        \else
          \expandafter\expandafter\expandafter\BKM@getx
              \csname BKM@\BKM@prev\endcsname
          \ifnum\BKM@level>\BKM@x@level\relax
            \BKM@CalcExpr\BKM@abslevel\BKM@x@abslevel+1%
            \expandafter\xdef\csname BKM@\the\BKM@id\endcsname{%
              {\BKM@prev}{\BKM@level}\BKM@abslevel
            }%
            \BKM@swfalse
          \else
            \let\BKM@prev\BKM@x@parent
          \fi
        \fi
      }%
      \csname HyPsd@XeTeXBigCharstrue\endcsname
      \pdfstringdef\BKM@title{\bookmark@text}%
      \edef\BKM@FLAGS{\BKM@PrintStyle}%
      \let\BKM@action\@empty
      \ifx\BKM@gotor\@empty
        \ifx\BKM@dest\@empty
          \ifx\BKM@named\@empty
            \ifx\BKM@rawaction\@empty
              \ifx\BKM@uri\@empty
                \ifx\BKM@page\@empty
                  \PackageError{bookmark}{Missing action}\@ehc
                  \edef\BKM@action{/Dest[@page1/Fit]}%
                \else
                  \ifx\BKM@view\@empty
                    \def\BKM@view{Fit}%
                  \fi
                  \edef\BKM@action{/Dest[@page\BKM@page/\BKM@view]}%
                \fi
              \else
                \BKM@EscapeString\BKM@uri
                \edef\BKM@action{%
                  /A<<%
                    /S/URI%
                    /URI(\BKM@uri)%
                  >>%
                }%
              \fi
            \else
              \edef\BKM@action{/A<<\BKM@rawaction>>}%
            \fi
          \else
```

```
      \BKM@EscapeName\BKM@named
      \edef\BKM@action{%
       /A<</S/Named/N/\BKM@named>>%
      }%
    \fi
  \else
    \BKM@EscapeString\BKM@dest
    \edef\BKM@action{%
      /A<<%
       /S/GoTo%
       /D(\BKM@dest)%
      >>%
    }%
  \fi
\else
  \ifx\BKM@dest\@empty
    \ifx\BKM@page\@empty
      \def\BKM@page{0}%
    \else
      \BKM@CalcExpr\BKM@page\BKM@page-1%
    \fi
    \ifx\BKM@view\@empty
      \def\BKM@view{Fit}%
    \fi
    \edef\BKM@action{/D[\BKM@page/\BKM@view]}%
  \else
    \BKM@EscapeString\BKM@dest
    \edef\BKM@action{/D(\BKM@dest)}%
  \fi
  \BKM@EscapeString\BKM@gotor
  \edef\BKM@action{%
    /A<<%
      /S/GoToR%
      /F(\BKM@gotor)%
      \BKM@action
    >>%
  }%
\fi
\special{pdf:%
  out \ifBKM@DvipdfmxOutlineOpen
       [%
       \ifBKM@open
         \ifnum\BKM@level<%
            \expandafter\ltx@firstofone\expandafter
            {\number\BKM@openlevel} %
         \else
          -%
         \fi
       \else
         -%
       \fi
       ] %
      \fi
      \BKM@abslevel
  <<%
    /Title(\BKM@title)%
    \ifx\BKM@color\@empty
    \else
      /C[\BKM@color]%
    \fi
    \ifnum\BKM@FLAGS>\z@
      /F \BKM@FLAGS
```

```
        \fi
        \BKM@action
      >>%
    }%
  \endgroup
 \fi
}
```

\BKM@getx

```
\def\BKM@getx#1#2#3{%
 \def\BKM@x@parent{#1}%
 \def\BKM@x@level{#2}%
 \def\BKM@x@abslevel{#3}%
}
```

```
⟨/dvipdfm⟩
```

3.3 Driver for VTEX

```
⟨*vtex⟩
\NeedsTeXFormat{LaTeX2e}
\ProvidesFile{bkm-vtex.def}%
 [2016/05/17 v1.26 bookmark driver for VTeX (HO)]%
\ifvtexpdf
\else
 \PackageWarningNoLine{bookmark}{%
  The VTeX driver only supports PDF mode%
 }%
\fi
```

\BKM@id

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

\BKM@0

```
\@namedef{BKM@0}{00}
```

\ifBKM@sw

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

\bookmark

```
\newcommand*{\bookmark}[2][]{%
 \if@filesw
  \begingroup
   \def\bookmark@text{#2}%
   \BKM@setup{#1}%
   \edef\BKM@prev{\the\BKM@id}%
   \global\advance\BKM@id\@ne
   \BKM@swtrue
   \@whilesw\ifBKM@sw\fi{%
    \ifnum\ifBKM@startatroot\z@\else\BKM@prev\fi=\z@
     \BKM@startatrootfalse
     \def\BKM@parent{0}%
     \expandafter\xdef\csname BKM@\the\BKM@id\endcsname{%
      0{\BKM@level}%
     }%
     \BKM@swfalse
    \else
     \expandafter\expandafter\expandafter\BKM@getx
       \csname BKM@\BKM@prev\endcsname
     \ifnum\BKM@level>\BKM@x@level\relax
      \let\BKM@parent\BKM@prev
```

```
      \expandafter\xdef\csname BKM@\the\BKM@id\endcsname{%
        {\BKM@prev}{\BKM@level}%
      }%
      \BKM@swfalse
    \else
      \let\BKM@prev\BKM@x@parent
    \fi
  \fi
}%
\pdfstringdef\BKM@title{\bookmark@text}%
\BKM@vtex@title
\edef\BKM@FLAGS{\BKM@PrintStyle}%
\let\BKM@action\@empty
\ifx\BKM@gotor\@empty
  \ifx\BKM@dest\@empty
    \ifx\BKM@named\@empty
      \ifx\BKM@rawaction\@empty
        \ifx\BKM@uri\@empty
          \ifx\BKM@page\@empty
            \PackageError{bookmark}{Missing action}\@ehc
            \def\BKM@action{!1}%
          \else
            \edef\BKM@action{!\BKM@page}%
          \fi
        \else
          \BKM@EscapeString\BKM@uri
          \edef\BKM@action{%
            <u=%
              /S/URI%
              /URI(\BKM@uri)%
            >%
          }%
        \fi
      \else
        \edef\BKM@action{<u=\BKM@rawaction>}%
      \fi
    \else
      \BKM@EscapeName\BKM@named
      \edef\BKM@action{%
        <u=%
          /S/Named%
          /N/\BKM@named
        >%
      }%
    \fi
  \else
    \BKM@EscapeString\BKM@dest
    \edef\BKM@action{\BKM@dest}%
  \fi
\else
  \ifx\BKM@dest\@empty
    \ifx\BKM@page\@empty
      \def\BKM@page{1}%
    \fi
    \ifx\BKM@view\@empty
      \def\BKM@view{Fit}%
    \fi
    \edef\BKM@action{/D[\BKM@page/\BKM@view]}%
  \else
    \BKM@EscapeString\BKM@dest
    \edef\BKM@action{/D(\BKM@dest)}%
  \fi
```

```
      \BKM@EscapeString\BKM@gotor
      \edef\BKM@action{%
        <u=%
          /S/GoToR%
          /F(\BKM@gotor)%
          \BKM@action
        >>%
      }%
    \fi
    \ifx\BKM@color\@empty
      \let\BKM@RGBcolor\@empty
    \else
      \expandafter\BKM@toRGB\BKM@color\@nil
    \fi
    \special{%
      !outline \BKM@action;%
      p=\BKM@parent,%
      i=\number\BKM@id,%
      s=%
        \ifBKM@open
          \ifnum\BKM@level<\BKM@openlevel
            o%
          \else
            c%
          \fi
        \else
          c%
        \fi,%
      \ifx\BKM@RGBcolor\@empty
      \else
        c=\BKM@RGBcolor,%
      \fi
      \ifnum\BKM@FLAGS>\z@
        f=\BKM@FLAGS,%
      \fi
      t=\BKM@title
    }%
  \endgroup
 \fi
}
```

\BKM@getx

```
\def\BKM@getx#1#2{%
  \def\BKM@x@parent{#1}%
  \def\BKM@x@level{#2}%
}
```

\BKM@toRGB

```
\def\BKM@toRGB#1 #2 #3\@nil{%
  \let\BKM@RGBcolor\@empty
  \BKM@toRGBComponent{#1}%
  \BKM@toRGBComponent{#2}%
  \BKM@toRGBComponent{#3}%
}
```

\BKM@toRGBComponent

```
\def\BKM@toRGBComponent#1{%
  \dimen@=#1pt\relax
  \ifdim\dimen@>\z@
    \ifdim\dimen@<\p@
      \dimen@=255\dimen@
      \advance\dimen@ by 32768sp\relax
```

```
      \divide\dimen@ by 65536\relax
      \dimen@ii=\dimen@
      \divide\dimen@ii by 16\relax
      \edef\BKM@RGBcolor{%
        \BKM@RGBcolor
        \BKM@toHexDigit\dimen@ii
      }%
      \dimen@ii=16\dimen@ii
      \advance\dimen@-\dimen@ii
      \edef\BKM@RGBcolor{%
        \BKM@RGBcolor
        \BKM@toHexDigit\dimen@
      }%
    \else
      \edef\BKM@RGBcolor{\BKM@RGBcolor FF}%
    \fi
  \else
    \edef\BKM@RGBcolor{\BKM@RGBcolor00}%
  \fi
}
```

\BKM@toHexDigit

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

\begingroup
  \catcode`\|=0 %
  \catcode`\\=12 %
```

\BKM@vtex@title

```
  |gdef|BKM@vtex@title{%
    |@onelevel@sanitize|BKM@title
    |edef|BKM@title{|expandafter|BKM@vtex@leftparen|BKM@title\(|@nil}%
    |edef|BKM@title{|expandafter|BKM@vtex@rightparen|BKM@title\)|@nil}%
    |edef|BKM@title{|expandafter|BKM@vtex@zero|BKM@title\0|@nil}%
    |edef|BKM@title{|expandafter|BKM@vtex@one|BKM@title\1|@nil}%
    |edef|BKM@title{|expandafter|BKM@vtex@two|BKM@title\2|@nil}%
    |edef|BKM@title{|expandafter|BKM@vtex@three|BKM@title\3|@nil}%
  }%
```

\BKM@vtex@leftparen

```
  |gdef|BKM@vtex@leftparen#1\(#2|@nil{%
    #1%
    |ifx||#2||%
    |else
      (%
      |ltx@ReturnAfterFi{%
        |BKM@vtex@leftparen#2|@nil
      }%
    |fi
  }%
```

\BKM@vtex@rightparen

```
  |gdef|BKM@vtex@rightparen#1\)#2|@nil{%
    #1%
    |ifx||#2||%
    |else
      )%
```

```
    |ltx@ReturnAfterFi{%
      |BKM@vtex@rightparen#2|@nil
    }%
  |fi
}%
```

\BKM@vtex@zero

```
|gdef|BKM@vtex@zero#1\0#2|@nil{%
  #1%
  |ifx||#2||%
  |else
    |noexpand|hv@pdf@char0%
    |ltx@ReturnAfterFi{%
      |BKM@vtex@zero#2|@nil
    }%
  |fi
}%
```

\BKM@vtex@one

```
|gdef|BKM@vtex@one#1\1#2|@nil{%
  #1%
  |ifx||#2||%
  |else
    |noexpand|hv@pdf@char1%
    |ltx@ReturnAfterFi{%
      |BKM@vtex@one#2|@nil
    }%
  |fi
}%
```

\BKM@vtex@two

```
|gdef|BKM@vtex@two#1\2#2|@nil{%
  #1%
  |ifx||#2||%
  |else
    |noexpand|hv@pdf@char2%
    |ltx@ReturnAfterFi{%
      |BKM@vtex@two#2|@nil
    }%
  |fi
}%
```

\BKM@vtex@three

```
|gdef|BKM@vtex@three#1\3#2|@nil{%
  #1%
  |ifx||#2||%
  |else
    |noexpand|hv@pdf@char3%
    |ltx@ReturnAfterFi{%
      |BKM@vtex@three#2|@nil
    }%
  |fi
}%

|endgroup
⟨/vtex⟩
```

3.4 Driver for pdfTEX

```
⟨*pdftex⟩
\NeedsTeXFormat{LaTeX2e}
\ProvidesFile{bkm-pdftex.def}%
```

```
[2016/05/17 v1.26 bookmark driver for pdfTeX (HO)]%
```

\BKM@DO@entry

```
\def\BKM@DO@entry#1#2{%
  \begingroup
    \kvsetkeys{BKM@DO}{#1}%
    \def\BKM@DO@title{#2}%
    \ifx\BKM@DO@srcfile\@empty
    \else
      \BKM@UnescapeHex\BKM@DO@srcfile
    \fi
    \BKM@UnescapeHex\BKM@DO@title
    \expandafter\expandafter\expandafter\BKM@getx
      \csname BKM@\BKM@DO@id\endcsname\@empty\@empty
    \let\BKM@attr\@empty
    \ifx\BKM@DO@flags\@empty
    \else
      \edef\BKM@attr{\BKM@attr/F \BKM@DO@flags}%
    \fi
    \ifx\BKM@DO@color\@empty
    \else
      \edef\BKM@attr{\BKM@attr/C[\BKM@DO@color]}%
    \fi
    \ifx\BKM@attr\@empty
    \else
      \edef\BKM@attr{attr{\BKM@attr}}%
    \fi
    \let\BKM@action\@empty
    \ifx\BKM@DO@gotor\@empty
      \ifx\BKM@DO@dest\@empty
        \ifx\BKM@DO@named\@empty
          \ifx\BKM@DO@rawaction\@empty
            \ifx\BKM@DO@uri\@empty
              \ifx\BKM@DO@page\@empty
                \PackageError{bookmark}{%
                  Missing action\BKM@SourceLocation
                }\@ehc
                \edef\BKM@action{goto page1{/Fit}}%
              \else
                \ifx\BKM@DO@view\@empty
                  \def\BKM@DO@view{Fit}%
                \fi
               \edef\BKM@action{goto page\BKM@DO@page{/\BKM@DO@view}}%
              \fi
            \else
              \BKM@UnescapeHex\BKM@DO@uri
              \BKM@EscapeString\BKM@DO@uri
              \edef\BKM@action{user{<</S/URI/URI(\BKM@DO@uri)>>}}%
            \fi
          \else
            \BKM@UnescapeHex\BKM@DO@rawaction
            \edef\BKM@action{%
              user{%
                <<%
                  \BKM@DO@rawaction
                >>%
              }%
            }%
          \fi
        \else
          \BKM@EscapeName\BKM@DO@named
          \edef\BKM@action{%
            user{<</S/Named/N/\BKM@DO@named>>}%
```

```
      }%
    \fi
  \else
    \BKM@UnescapeHex\BKM@DO@dest
    \BKM@DefGotoNameAction\BKM@action\BKM@DO@dest
  \fi
 \else
  \ifx\BKM@DO@dest\@empty
   \ifx\BKM@DO@page\@empty
    \def\BKM@DO@page{0}%
   \else
    \BKM@CalcExpr\BKM@DO@page\BKM@DO@page-1%
   \fi
   \ifx\BKM@DO@view\@empty
    \def\BKM@DO@view{Fit}%
   \fi
   \edef\BKM@action{/D[\BKM@DO@page/\BKM@DO@view]}%
  \else
   \BKM@UnescapeHex\BKM@DO@dest
   \BKM@EscapeString\BKM@DO@dest
   \edef\BKM@action{/D(\BKM@DO@dest)}%
  \fi
  \BKM@UnescapeHex\BKM@DO@gotor
  \BKM@EscapeString\BKM@DO@gotor
  \edef\BKM@action{%
   user{%
    <<%
     /S/GoToR%
     /F(\BKM@DO@gotor)%
     \BKM@action
    >>%
   }%
  }%
 \fi
 \pdfoutline\BKM@attr\BKM@action
          count\ifBKM@DO@open\else-\fi\BKM@x@childs
          {\BKM@DO@title}%
\endgroup
}
```

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

```
\def\BKM@DefGotoNameAction#1#2{%
 \BKM@EscapeString\BKM@DO@dest
 \edef#1{goto name{#2}}%
}
```

```
⟨/pdftex⟩
```

```
⟨*pdftex j pdfmark⟩
```

\BKM@SourceLocation

```
\def\BKM@SourceLocation{%
 \ifx\BKM@DO@srcfile\@empty
  \ifx\BKM@DO@srcline\@empty
  \else
   .\MessageBreak
   Source: line \BKM@DO@srcline
  \fi
 \else
  \ifx\BKM@DO@srcline\@empty
   .\MessageBreak
   Source: file ‘\BKM@DO@srcfile’%
  \else
```

```
      .\MessageBreak
      Source: file '\BKM@DO@srcfile', line \BKM@DO@srcline
    \fi
  \fi
}
```

⟨/pdftex | pdfmark⟩

3.5 Drivers with pdfmark specials

3.5.1 Driver dvips

⟨*dvips⟩

```
\NeedsTeXFormat{LaTeX2e}
\ProvidesFile{bkm-dvips.def}%
  [2016/05/17 v1.26 bookmark driver for dvips (HO)]%
```

\BKM@PSHeaderFile

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

⟨/dvips⟩

3.5.2 Driver dvipsone

⟨*dvipsone⟩

```
\NeedsTeXFormat{LaTeX2e}
\ProvidesFile{bkm-dvipsone.def}%
  [2016/05/17 v1.26 bookmark driver for dvipsone (HO)]%
```

\BKM@PSHeaderFile

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

⟨/dvipsone⟩

3.5.3 Driver textures

⟨*textures⟩

```
\NeedsTeXFormat{LaTeX2e}
\ProvidesFile{bkm-textures.def}%
  [2016/05/17 v1.26 bookmark driver for textures (HO)]%
```

\BKM@PSHeaderFile

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

⟨/textures⟩

3.5.4 Common part

⟨*pdfmark⟩

\BKM@filename

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

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

```
\RequirePackage{atveryend}[2009/12/07]
\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.

```
\def\BKM@pdfmark@out{%
  \if@filesw
    \newwrite\BKM@file
    \immediate\openout\BKM@file=\BKM@filename\relax
    \BKM@write{\@percentchar!}%
    \BKM@write{/pdfmark where{pop}}%
    \BKM@write{%
      {%
        /globaldict where{pop globaldict}{userdict}ifelse%
        /pdfmark/cleartomark load put%
      }%
    }%
    \BKM@write{ifelse}%
  \else
    \let\BKM@write\@gobble
    \let\BKM@DO@entry\@gobbletwo
  \fi
}
```

\BKM@write

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

\BKM@DO@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.

```
\def\BKM@DO@entry#1#2{%
  \begingroup
    \kvsetkeys{BKM@DO}{#1}%
    \ifx\BKM@DO@srcfile\@empty
    \else
      \BKM@UnescapeHex\BKM@DO@srcfile
    \fi
    \def\BKM@DO@title{#2}%
    \BKM@UnescapeHex\BKM@DO@title
    \expandafter\expandafter\expandafter\BKM@getx
       \csname BKM@\BKM@DO@id\endcsname\@empty\@empty
    \let\BKM@attr\@empty
    \ifx\BKM@DO@flags\@empty
    \else
      \edef\BKM@attr{\BKM@attr/F \BKM@DO@flags}%
    \fi
    \ifx\BKM@DO@color\@empty
    \else
      \edef\BKM@attr{\BKM@attr/C[\BKM@DO@color]}%
    \fi
    \let\BKM@action\@empty
    \ifx\BKM@DO@gotor\@empty
      \ifx\BKM@DO@dest\@empty
        \ifx\BKM@DO@named\@empty
          \ifx\BKM@DO@rawaction\@empty
            \ifx\BKM@DO@uri\@empty
              \ifx\BKM@DO@page\@empty
                \PackageError{bookmark}{%
                  Missing action\BKM@SourceLocation
                }\@ehc
                \edef\BKM@action{%
                  /Action/GoTo%
                  /Page 1%
```

```
            /View[/Fit]%
          }%
        \else
          \ifx\BKM@DO@view\@empty
            \def\BKM@DO@view{Fit}%
          \fi
          \edef\BKM@action{%
            /Action/GoTo%
            /Page \BKM@DO@page
            /View[/\BKM@DO@view]%
          }%
        \fi
      \else
        \BKM@UnescapeHex\BKM@DO@uri
        \BKM@EscapeString\BKM@DO@uri
        \edef\BKM@action{%
          /Action<<%
            /Subtype/URI%
            /URI(\BKM@DO@uri)%
          >>%
        }%
      \fi
    \else
      \BKM@UnescapeHex\BKM@DO@rawaction
      \edef\BKM@action{%
        /Action<<%
          \BKM@DO@rawaction
        >>%
      }%
    \fi
  \else
    \BKM@EscapeName\BKM@DO@named
    \edef\BKM@action{%
      /Action<<%
        /Subtype/Named%
        /N/\BKM@DO@named
      >>%
    }%
  \fi
\else
  \BKM@UnescapeHex\BKM@DO@dest
  \BKM@EscapeString\BKM@DO@dest
  \edef\BKM@action{%
    /Action/GoTo%
    /Dest(\BKM@DO@dest)cvn%
  }%
\fi
\else
  \ifx\BKM@DO@dest\@empty
    \ifx\BKM@DO@page\@empty
      \def\BKM@DO@page{1}%
    \fi
    \ifx\BKM@DO@view\@empty
      \def\BKM@DO@view{Fit}%
    \fi
    \edef\BKM@action{%
      /Page \BKM@DO@page
      /View[/\BKM@DO@view]%
    }%
  \else
    \BKM@UnescapeHex\BKM@DO@dest
    \BKM@EscapeString\BKM@DO@dest
```

```
      \edef\BKM@action{%
        /Dest(\BKM@DO@dest)cvn%
      }%
    \fi
    \BKM@UnescapeHex\BKM@DO@gotor
    \BKM@EscapeString\BKM@DO@gotor
    \edef\BKM@action{%
      /Action/GoToR%
      /File(\BKM@DO@gotor)%
      \BKM@action
    }%
  \fi
  \BKM@write{[}%
  \BKM@write{/Title(\BKM@DO@title)}%
  \ifnum\BKM@x@childs>\z@
    \BKM@write{/Count \ifBKM@DO@open\else-\fi\BKM@x@childs}%
  \fi
  \ifx\BKM@attr\@empty
  \else
    \BKM@write{\BKM@attr}%
  \fi
  \BKM@write{\BKM@action}%
  \BKM@write{/OUT pdfmark}%
 \endgroup
}
```

⟨/pdfmark⟩

3.6 Common part for **pdftex** and **pdfmark**

⟨*pdftex | pdfmark⟩

3.6.1 Write auxiliary file

```
\RequirePackage{auxhook}
\AddLineBeginMainAux{%
  \string\providecommand\string\BKM@entry[2]{}%
}
```

\BKM@id

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

\BKM@0

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

\ifBKM@sw

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

\bookmark

```
\newcommand*{\bookmark}[2][]{%
  \if@filesw
    \begingroup
      \BKM@InitSourceLocation
      \def\bookmark@text{#2}%
      \BKM@setup{#1}%
      \ifx\BKM@srcfile\@empty
      \else
        \BKM@EscapeHex\BKM@srcfile
      \fi
      \edef\BKM@prev{\the\BKM@id}%
      \global\advance\BKM@id\@ne
      \BKM@swtrue
```

```
    \@whilesw\ifBKM@sw\fi{%
      \ifnum\ifBKM@startatroot\z@\else\BKM@prev\fi=\z@
        \BKM@startatrootfalse
        \expandafter\xdef\csname BKM@\the\BKM@id\endcsname{%
          0{\BKM@level}0%
        }%
        \BKM@swfalse
      \else
        \expandafter\expandafter\expandafter\BKM@getx
            \csname BKM@\BKM@prev\endcsname
        \ifnum\BKM@level>\BKM@x@level\relax
          \expandafter\xdef\csname BKM@\the\BKM@id\endcsname{%
            {\BKM@prev}{\BKM@level}0%
          }%
          \ifnum\BKM@prev>\z@
            \BKM@CalcExpr\BKM@CalcResult\BKM@x@childs+1%
            \expandafter\xdef\csname BKM@\BKM@prev\endcsname{%
              {\BKM@x@parent}{\BKM@x@level}{\BKM@CalcResult}%
            }%
          \fi
          \BKM@swfalse
        \else
          \let\BKM@prev\BKM@x@parent
        \fi
      \fi
    }%
    \pdfstringdef\BKM@title{\bookmark@text}%
    \edef\BKM@FLAGS{\BKM@PrintStyle}%
    \csname BKM@HypDestOptHook\endcsname
    \BKM@EscapeHex\BKM@dest
    \BKM@EscapeHex\BKM@uri
    \BKM@EscapeHex\BKM@gotor
    \BKM@EscapeHex\BKM@rawaction
    \BKM@EscapeHex\BKM@title
    \immediate\write\@mainaux{%
      \string\BKM@entry{%
        id=\number\BKM@id
        \ifBKM@open
          \ifnum\BKM@level<\BKM@openlevel
            ,open%
          \fi
        \fi
        \BKM@auxentry{dest}%
        \BKM@auxentry{named}%
        \BKM@auxentry{uri}%
        \BKM@auxentry{gotor}%
        \BKM@auxentry{page}%
        \BKM@auxentry{view}%
        \BKM@auxentry{rawaction}%
        \BKM@auxentry{color}%
        \ifnum\BKM@FLAGS>\z@
          ,flags=\BKM@FLAGS
        \fi
        \BKM@auxentry{srcline}%
        \BKM@auxentry{srcfile}%
      }{\BKM@title}%
    }%
  \endgroup
\fi
}
```

\BKM@getx

```
\def\BKM@getx#1#2#3{%
```

```
  \def\BKM@x@parent{#1}%
  \def\BKM@x@level{#2}%
  \def\BKM@x@childs{#3}%
}
```

\BKM@auxentry

```
\def\BKM@auxentry#1{%
  \expandafter\ifx\csname BKM@#1\endcsname\@empty
  \else
    ,#1={\csname BKM@#1\endcsname}%
  \fi
}
```

\BKM@InitSourceLocation

```
\def\BKM@InitSourceLocation{%
  \edef\BKM@srcline{\the\inputlineno}%
  \BKM@LuaTeX@InitFile
  \ifx\BKM@srcfile\@empty
    \ltx@IfUndefined{currfilepath}{}{%
      \edef\BKM@srcfile{\currfilepath}%
    }%
  \fi
}
```

\BKM@LuaTeX@InitFile

```
\ifluatex
  \ifnum\luatexversion>36 %
    \def\BKM@LuaTeX@InitFile{%
      \begingroup
        \ltx@LocToksA={}%
      \edef\x{\endgroup
        \def\noexpand\BKM@srcfile{%
          \the\expandafter\ltx@LocToksA
          \directlua{%
            if status and status.filename then %
              tex.settoks('ltx@LocToksA', status.filename)%
            end%
          }%
        }%
      }\x
    }%
  \else
    \let\BKM@LuaTeX@InitFile\relax
  \fi
\else
  \let\BKM@LuaTeX@InitFile\relax
\fi
```

3.6.2 Read auxiliary data

```
\SetupKeyvalOptions{family=BKM@DO,prefix=BKM@DO@}
\DeclareStringOption[0]{id}
\DeclareBoolOption{open}
\DeclareStringOption{flags}
\DeclareStringOption{color}
\DeclareStringOption{dest}
\DeclareStringOption{named}
\DeclareStringOption{uri}
\DeclareStringOption{gotor}
\DeclareStringOption{page}
\DeclareStringOption{view}
\DeclareStringOption{rawaction}
```

```
\DeclareStringOption{srcline}
\DeclareStringOption{srcfile}
\AtBeginDocument{%
  \let\BKM@entry\BKM@DO@entry
}
⟨/pdftex | pdfmark⟩
```

3.7 Option atend

3.7.1 Hook

```
⟨*package⟩
\ifBKM@atend
\else
```

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

```
  \newcommand{\BookmarkAtEnd}[1]{%
    \PackageWarning{bookmark}{%
      Ignored, because option 'atend' is missing%
    }%
  }%

  \expandafter\endinput
\fi
```

\BookmarkAtEnd

```
\newcommand*{\BookmarkAtEnd}{%
  \g@addto@macro\BKM@EndHook
}

\let\BKM@EndHook\@empty
⟨/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.

```
⟨*pdftex | pdfmark⟩
\ifBKM@atend
  \AfterLastShipout{%
    \BKM@EndHook
  }%
\fi
⟨/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.

```
⟨*dvipdfm | vtex⟩
```

```
\ifBKM@atend
  \RequirePackage{atenddvi}%
  \AtEndDvi{\BKM@EndHook}%
\fi
⟨/dvipdfm | j | vtex⟩
```

4 Installation

4.1 Download

Package. This package is available on CTAN[1]:

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):

```
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-dvipsone.def       → tex/latex/oberdiek/bkm-dvipsone.def
bkm-textures.def       → tex/latex/oberdiek/bkm-textures.def
bkm-pdftex.def         → tex/latex/oberdiek/bkm-pdftex.def
bkm-vtex.def           → tex/latex/oberdiek/bkm-vtex.def
bookmark.pdf           → doc/latex/oberdiek/bookmark.pdf
bookmark-example.tex → doc/latex/oberdiek/bookmark-example.tex
bookmark.dtx           → source/latex/oberdiek/bookmark.dtx
```

[1] http://ctan.org/pkg/bookmark

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 (teTEX, mikTEX, ...) relies on file name databases, you must refresh these. For example, teTEX users run `texhash` or `mktexlsr`.

4.5 Some details for the interested

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 pdfLATEX:

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

5 Catalogue

The following XML file can be used as source for the TEX Catalogue. The elements caption and description are imported from the original XML file from the Catalogue. The name of the XML file in the Catalogue is bookmark.xml.

```
⟨*catalogue⟩
<?xml version='1.0' encoding='us-ascii'?>
<!DOCTYPE entry SYSTEM 'catalogue.dtd'>
<entry datestamp='$Date$' modifier='$Author$' id='bookmark'>
  <name>bookmark</name>
  <caption>A new bookmark (outline) organization for hyperref.</caption>
  <authorref id='auth:oberdiek'/>
  <copyright owner='Heiko Oberdiek' year='2007-2011'/>
  <license type='lppl1.3'/>
  <version number='1.26'/>
  <description>
    This package implements a new bookmark (outline) organization for
    package <xref refid='hyperref'>hyperref</xref>. 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
    <xref refid='hyperref'>hyperref</xref> uses two runs.
    <p/>
```

```
    The package is part of the <xref refid='oberdiek'>oberdiek</xref>
    bundle.
  </description>
  <documentation details='Package documentation'
      href='ctan:/macros/latex/contrib/oberdiek/bookmark.pdf'/>
  <ctan file='true' path='/macros/latex/contrib/oberdiek/bookmark.dtx'/>
  <miktex location='oberdiek'/>
  <texlive location='oberdiek'/>
  <install path='/macros/latex/contrib/oberdiek/oberdiek.tds.zip'/>
</entry>
⟨/catalogue⟩
```

6 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/

7 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 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-TEX removed.

[2007/04/09 v0.8]

- Option atend added.
- Option rgbcolor removed. rgbcolor=<r> <g> <b> can be replaced by color=[rgb]{<r>,<g>,<b>}.
- 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 $\geq$ 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).

[2011/05/13 v1.22]

- Change of version 2010/11/05 v1.18 reverted, because otherwise draftmode disables some .aux file entries.

[2011/09/19 v1.23]

- Some \renewcommands changed to \def to avoid trouble if the commands are not defined, because hyperref stopped early.

[2011/12/02 v1.24]

- Small optimization in \BKM@toHexDigit.

[2016/05/16 v1.25]

- Documentation updates.

[2016/05/17 v1.26]

- define \pdfbookmark to allow pdftex driver to be used with LuaTeX.

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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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