

Hypertext marks in \LaTeX

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1 Documentation overview for `hyperref`

The documentation for package `hyperref` consists of several files:

Manual The **USER MANUAL** (also available as HTML).

README The **README** file (also available as text file). Here information is collected that is not yet in the manual: new features, package compatibility, limitations, known problems, ...

ChangeLog This file records the version history (also available as text file).

Options This file provides a short option summary.

Bookmark talk, slides Slides for the talk “PDF information and navigation elements with `hyperref`, `pdfTeX` and `thumbpdf`” at Euro \TeX 1999.

Bookmark talk, paper The paper version of the talk.

Source code documentation:

`hyperref.dtx` This is the source code documentation for `hyperref` (this file).

`backref.dtx` “Back referencing from bibliographical citations”

`nameref.dtx` “Section name references in \LaTeX ”

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3 File hycheck.tex

Many commands of L^AT_EX or other packages cannot be overloaded, but have to be redefined by hyperref directly. If these commands change in newer versions, these changes are not noticed by hyperref. With this test file this situation can be checked. It defines the command `\checkcommand` that is more powerful than L^AT_EX's `\CheckCommand`, because it takes `\DeclareRobustCommand` and optional parameters better into account.

```
1 \langle *check\rangle
2 \documentclass{article}
3 \makeatletter
```

`\checklatex` Optional argument: release date of L^AT_EX.

```
4 \newcommand*{\checklatex}[1] [] {%
5   \typeout{}%
6   \typeout{* Format: 'LaTeX2e' #1}%
7   \typeout{\space\space Loaded: '\fmtname' \fmtversion}%
8 }%
```

`\checkpackage` The argument of `\checkpackage` is the package name without extension optionally followed by a release date.

```
9 \newcommand*{\checkpackage}[1] {%
10   \def\HyC@package{#1}%
11   \let\HyC@date\@empty
12   \@ifnextchar[\HyC@getDate\HyC@checkPackage
13 }
```

`\HyC@getDate` The release date is scanned.

```
14 \def\HyC@getDate[#1] {%
15   \def\HyC@date{#1}%
16   \HyC@checkPackage
17 }
```

`\HyC@checkPackage`

```
18 \def\HyC@checkPackage{%
19   \typeout{}%
20   \begingroup
21     \edef\x{\endgroup
22       \noexpand\RequirePackage{\HyC@package}%
23       \ifx\HyC@date\@empty\relax\else[\HyC@date]\fi%
24     }%
25   \x
26   \typeout{}%
27   \typeout{%
28     * Package '\HyC@package'%
29     \ifx\HyC@date\@empty
30       \else
31         \space\HyC@date
32       \fi
33   }%
34   \@ifundefined{ver@\HyC@package.sty}{%
35     }{%
36     \typeout{%
37       \space\space Loaded: '\HyC@package' %
38       \csname ver@\HyC@package.sty\endcsname
39     }%
40   }%
41 }
```

`\checkcommand` The macro `\checkcommand` parses the next tokens as a \LaTeX definition and compares this definition with the current meaning of that command.

```

42 \newcommand*{\checkcommand}[1]{%
43   \begingroup
44   \ifx\long#1\relax
45     \expandafter\HyC@checklong
46   \else
47     \def\HyC@defcmd{#1}%
48     \expandafter\let\expandafter\HyC@next
49       \csname HyC@\expandafter\@gobble\string#1\endcsname
50     \expandafter\HyC@checkcommand
51   \fi
52 }
```

`\HyC@checklong` The definition command `\def` or `\edef` is read.

```

53 \def\HyC@checklong#1{%
54   \def\HyC@defcmd{\long#1}%
55   \expandafter\let\expandafter\HyC@next
56     \csname HyC@\expandafter\@gobble\string#1\endcsname
57   \HyC@checkcommand
58 }
```

`\HyC@checkcommand` The optional star of \LaTeX 's definitions is parsed.

```

59 \def\HyC@checkcommand{%
60   \ifx\HyC@next\relax
61     \PackageError{hycheck}{%
62       Unknown command '\expandafter\strip@prefix\meaning\HyC@cmd'%
63     }\@ehd
64     \expandafter\endinput
65   \fi
66   \@ifstar{%
67     \def\HyC@star{*}%
68     \HyC@check
69   }{%
70     \let\HyC@star\@empty
71     \HyC@check
72   }%
73 }
```

`\HyC@check` The macro `\HyC@check` reads the definition command.

```

74 \def\HyC@check#1{%
75   \def\HyC@cmd{#1}%
76   \let\HyC@org@cmd#1%
77   \let#1\relax
78   \let\HyC@param\@empty
79   \HyC@Toks{}%
80   \let\HyC@org@optcmd\HyC@noValue
81   \let\HyC@org@robustcmd\HyC@noValue
82   \let\HyC@org@robustoptcmd\HyC@noValue
83   \HyC@next
84 }
```

`\HyC@noValue`

```

85 \def\HyC@noValue{NoValue}
```

`\HyC@newcommand` The code for `\newcommand`.

```

86 \def\HyC@newcommand{%
87   \let\HyC@@cmd\HyC@cmd
88   \ifnextchar[\HyC@nc@opt\HyC@nc@noopt
89 }

```

`\HyC@Toks` A register for storing the default value of an optional argument.

```

90 \newtoks\HyC@Toks

```

`\HyC@nc@noopt` This macro `\HyC@nc@noopt` is called, if the parser has reached the definition text.

```

91 \long\def\HyC@nc@noopt#1{%
92   \edef\x{%
93     \expandafter\noexpand\HyC@defcmd
94     \HyC@star
95     \expandafter\noexpand\HyC@cmd
96     \HyC@param\the\HyC@Toks
97   }%
98   \x{#1}%
99   \HyC@doCheck
100 }

```

`\HyC@nc@opt` This macro scans the first optional argument of a L^AT_EX definition (number of arguments).

```

101 \def\HyC@nc@opt[#1]{%
102   \def\HyC@param{[#1]}%
103   \ifnextchar[\HyC@nc@default\HyC@nc@noopt
104 }

```

`\HyC@nc@default` Macro `\HyC@nc@default` scans the default for an optional argument.

```

105 \def\HyC@nc@default[#1]{%
106   \HyC@Toks={[#1]}%
107   \edef\HyC@optcmd{%
108     \expandafter\noexpand
109     \csname\expandafter\string\HyC@@cmd\endcsname
110   }%
111   \expandafter\let\expandafter\HyC@org@optcmd\HyC@optcmd
112   \HyC@nc@noopt
113 }

```

`\HyC@DeclareRobustCommand` `\DeclareRobustCommand{\cmd}` makes the command `\cmd` robust, that then calls `\cmd_` with an space at the end of the command name, defined by `\newcommand`. Therefore the further parsing is done by `\HyC@nc@opt` or `\HyC@nc@noopt` of the `\HyC@newcommand` chain.

```

114 \def\HyC@DeclareRobustCommand{%
115   \edef\HyC@robustcmd{%
116     \expandafter\noexpand
117     \csname\expandafter\expandafter\expandafter\@gobble
118     \expandafter\string\HyC@cmd\space\endcsname
119   }%
120   \expandafter\let\expandafter\HyC@org@robustcmd\HyC@robustcmd
121   \expandafter\let\HyC@robustcmd\relax
122   \let\HyC@@cmd\HyC@robustcmd
123   \ifnextchar[\HyC@nc@opt\HyC@nc@noopt
124 }

```

`\HyC@def` The parameter text of `\def` or `\edef` is stored in the token register `\HyC@Toks`.

```

\HyC@edef
125 \def\HyC@def#1{%
126   \HyC@Toks={#1}%

```



```

127 \HyC@nc@noopt
128 }
129 \let\HyC@edef\HyC@def

```

`\HyC@doCheck` This command performs the checks and prints the result.

```

130 \def\HyC@doCheck{%
131 \typeout{* Checking '\HyC@string\HyC@cmd':}%
132 \HyC@checkItem{cmd}%
133 \HyC@checkItem{robustcmd}%
134 \HyC@checkItem{optcmd}%
135 \HyC@checkItem{robustoptcmd}%
136 \endgroup
137 }

```

`\HyC@checkItem` A single check.

```

138 \def\HyC@checkItem#1{%
139 \expandafter\ifx\csname HyC@org@#1\endcsname\HyC@noValue
140 \else
141 \expandafter\expandafter\expandafter\ifx
142 \csname HyC@#1\expandafter\endcsname
143 \csname HyC@org@#1\endcsname
144 \expandafter\HyC@checkOk\csname HyC@#1\endcsname
145 \else
146 \expandafter\HyC@checkFailed
147 \csname HyC@#1\expandafter\endcsname
148 \csname HyC@org@#1\endcsname
149 \fi
150 \fi
151 }

```

`\HyC@string` Some shorthands.

```

\HyC@meaning 152 \def\HyC@string#1{\expandafter\string#1}
153 \def\HyC@meaning#1{\expandafter\meaning#1}

```

`\HyC@checkOk` The result, if the check succeeds.

```

154 \def\HyC@checkOk#1{%
155 \typeout{\space\space'\HyC@string#1' ok.}%
156 }

```

`\HyC@checkFailed` The result, if the check fails.

```

157 \def\HyC@checkFailed#1#2{%
158 \typeout{\space\space'\HyC@string#1' failed.}%
159 \typeout{\space\space* original: \meaning#2}%
160 \typeout{\space\space* expected: \HyC@meaning#1}%
161 }

162 % *****
163 </check>
164 <*package>

```

4 Package options and setup

4.1 Save catcodes

There are many packages that change the standard catcodes.

First we save the original meaning of ‘ and = in the token register \toks@, because we need the two characters in the macros \Hy@SetCatcodes and \Hy@RestoreCatcodes.

```

165 \begingroup
166 \makeother\‘%
167 \makeother\=%
168 \edef\x{%
169   \edef\noexpand\x{%
170     \endgroup
171     \noexpand\toks@{%
172       \catcode 96=\noexpand\the\catcode'\noexpand\‘\relax
173       \catcode 61=\noexpand\the\catcode'\noexpand\=\relax
174     }%
175   }%
176   \noexpand\x
177 }%
178 \x
179 \makeother\‘
180 \makeother\=

```

\Hy@SetCatcodes

```

181 \def\Hy@SetCatcodes{%
182   \makeother\‘%
183   \makeother\=%
184   \catcode'\$=3 %
185   \catcode'\&=4 %
186   \catcode'\^=7 %
187   \catcode'\_ =8 %
188   \makeother\| %
189   \makeother\: %
190   \makeother\(%
191   \makeother\) %
192   \makeother\[ %
193   \makeother\] %
194   \makeother\/ %
195   \makeother\! %
196   \makeother\< %
197   \makeother\> %
198   \makeother\. %
199   \makeother\; %
200   \makeother\+ %
201   \makeother\- %
202   \makeother\" %
203   \makeother\' %
204 }

```

\Hy@RestoreCatcodes

```

205 \begingroup
206 \def\x#1{\catcode'\noexpand#1=\the\catcode'#1\relax}%
207 \xdef\Hy@RestoreCatcodes{%
208   \the\toks@
209   \x\$%
210   \x\&%
211   \x\^%
212   \x\_%
213   \x\| %
214   \x\: %
215   \x\(%

```

```

216 \x\)%
217 \x\[%
218 \x\]%
219 \x\/%
220 \x\!%
221 \x\<%
222 \x\>%
223 \x\.%
224 \x\;%
225 \x\+%
226 \x\-%
227 \x\"%
228 \x\'%
229 }%
230 \endgroup

```

```
231 \Hy@SetCatcodes
```

It needs the December 95 release of L^AT_EX, because it uses `\protected@write`, and it defines commands in options; and the page setup internal code changed at that point. It'll probably break with the later releases!

```

232 \RequirePackage{keyval}[1997/11/10]
233 \RequirePackage{hycolor}
234 \def\Hy@Warning#1{\PackageWarning{hyperref}{#1}}
235 \def\Hy@WarningNoLine#1{\PackageWarningNoLine{hyperref}{#1}}
236 \def\Hy@Info#1{\PackageInfo{hyperref}{#1}}

```

4.2 Compatibility with format dumps

`\AfterBeginDocument` For use with pre-compiled formats, created using the `ldump` package, there needs to be 2 hooks for adding material delayed until `\begin{document}`. These are called `\AfterBeginDocument` and `\AtBeginDocument`. If `ldump` is not loaded, then a single hook suffices for normal L^AT_EX processing.

The default definition of `\AfterBeginDocument` cannot be done by `\let` because of problems with `xypic`.

```

237 \@ifundefined{AfterBeginDocument}{%
238 \def\AfterBeginDocument{\AtBeginDocument}%
239 }{}%

```

4.3 Switches

```

240 \newif\ifHy@typexml
241 \newif\ifHy@activeanchor
242 \newif\ifHy@backref
243 \newif\ifHy@bookmarks
244 \newif\ifHy@bookmarksnumbered
245 \newif\ifHy@bookmarksopen
246 \newif\ifHy@breaklinks
247 \newif\ifHy@centerwindow
248 \newif\ifHy@CJKbookmarks
249 \newif\ifHy@colorlinks
250 \newif\ifHy@draft
251 \let\Hy@finaltrue\Hy@draftfalse
252 \let\Hy@finalfalse\Hy@drafttrue
253 \newif\ifHy@escapeform
254 \newif\ifHy@figures
255 \newif\ifHy@fitwindow

```

```

256 \newif\ifHy@frenchlinks
257 \newif\ifHy@hyperfootnotes
258 \newif\ifHy@hyperindex
259 \newif\ifHy@hypertextnames
260 \newif\ifHy@implicit
261 \newif\ifHy@linktocpage
262 \newif\ifHy@menubar
263 \newif\ifHy@naturalnames
264 \newif\ifHy@nesting
265 \newif\ifHy@newwindowset
266 \newif\ifHy@newwindow
267 \newif\ifHy@ocgcolorlinks
268 \newif\ifHy@pageanchor
269 \newif\ifHy@pagelabels
270 \newif\ifHy@pdfpagehidden
271 \newif\ifHy@pdfstring
272 \newif\ifHy@plainpages
273 \newif\ifHy@psize
274 \newif\ifHy@raiselinks
275 \newif\ifHy@seminarslides
276 \newif\ifHy@setpagesize
277 \newif\ifHy@texht
278 \newif\ifHy@toolbar
279 \newif\ifHy@unicode
280 \newif\ifHy@usetitle
281 \newif\ifHy@verbose
282 \newif\ifHy@windowui
283 \newif\ifHy@displaydoctitle
284 \newif\ifHy@pdfa

```

Defaults for the switches are now set.

```

285 \Hy@backreffalse
286 \Hy@bookmarksnumberedfalse
287 \Hy@bookmarksopenfalse
288 \Hy@bookmarkstrue
289 \Hy@breaklinksfalse
290 \Hy@centerwindowfalse
291 \Hy@CJKbookmarksfalse
292 \Hy@escapeformfalse
293 \Hy@figuresfalse
294 \Hy@fitwindowfalse
295 \Hy@hyperfootnotetrue
296 \Hy@hyperindextrue
297 \Hy@hypertextnametrue
298 \Hy@implicittrue
299 \Hy@linktocpagefalse
300 \Hy@menubartrue
301 \Hy@naturalnamesfalse
302 \Hy@nestingfalse
303 \Hy@newwindowsetfalse
304 \Hy@newwindowfalse
305 \Hy@pageanchortrue
306 \Hy@pagelabeltrue
307 \Hy@pdfpagehiddenfalse
308 \Hy@pdfstringfalse
309 \Hy@plainpagesfalse
310 \Hy@raiselinksfalse
311 \Hy@setpagesizetrue

```

```

312 \Hy@texhtfalse
313 \Hy@toolbartrue
314 \Hy@typexmlfalse
315 \Hy@unicodedefalse
316 \Hy@usetitlefalse
317 \Hy@verbosefalse
318 \Hy>windowuitrue
319 \Hy@displaydoctitlefalse
320 \Hy@pdfafalse

```

5 Common help macros

`\Hy@StepCount`

```

321 \def\Hy@StepCount#1{\advance#1 by 1 }%

```

`\Hy@GlobalStepCount`

```

322 \def\Hy@GlobalStepCount#1{\global\advance#1 by 1 }%

323 \newdimen\@linkdim
324 \let\Hy@driver\@empty
325 \let\MaybeStopEarly\relax
326 \newcount\Hy@linkcounter
327 \newcount\Hy@pagecounter
328 \Hy@linkcounter0
329 \Hy@pagecounter0

```

5.1 Macros for recursions

`\Hy@ReturnAfterElseFi` The commands `\Hy@ReturnAfterElseFi` and `\Hy@ReturnAfterFi` avoid a too deep
`\Hy@ReturnAfterFi` `\if`-nesting especially for recursive macros.

```

330 \long\def\Hy@ReturnAfterElseFi#1\else#2\fi{\fi#1}
331 \long\def\Hy@ReturnAfterFi#1\fi{\fi#1}

332 \let\Hy@ReturnEnd\@empty
333 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
334 \long\def\Hy@ReturnAfterElseFiFiEnd#1\else#2\Hy@ReturnEnd{\fi\fi#1}

```

5.2 Babel's protection of shorthand characters

`\Hy@safe@activetrue` Babel's switch setting commands cannot be used directly, because they can be undefined if
`\Hy@safe@activesfalse` babel is not loaded.

```

335 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
336 \def\Hy@safe@activesfalse{\csname @safe@activesfalse\endcsname}

```

5.3 Coordinate transformations

At some places numbers in pdf units are expected (eg: FitBH, ...). The following macros perform the transformation from TeX units (pt) to PDF units (bp).

`\hypercalscbp` The user macro `\hypercalscbp` can be used, for example, inside option values:

```
pdfstartview={FitBH \hypercalscbp{\paperheight-\topmargin-1in}}
```

- It cannot be used inside `\usepackage`, because LaTeX expands the options before package `hyperref` is loaded and `\hypercalscbp` is defined.

- With e-TeX extensions an expandable implementation is very easy; `\hypercalcbp` can be used everywhere and is expanded at use.
- Without e-TeX's features `\hypercalcbp` cannot be implemented expandable (practically) and have to be supported by `\hypercalcbpdef`. Limitations:
 - Works only in options that use `\hypercalcbpdef` (currently only `pdfstartview`).
 - For calculations package `calc` has to be loaded.
 - The expansion of the argument is done at definition time.

Example (T_EX):

```

\usepackage{calc}
\usepackage[...]{hyperref}
\hypersetup{
  pdfstartview={FitBH \hypercalcbp{\paperheight-\topmargin-1in
    -\headheight-\headsep}
}

\hypercalcbp
337 \begingroup\expandafter\expandafter\expandafter\endgroup
338 \expandafter\ifx\csname dimexpr\endcsname\relax
339   \def\hypercalcbpdef#1#2{%
340     \begingroup
341       \toks@{}%
342       \HyCal@scan#2\hypercalcbp\@nil
343       \expandafter\endgroup
344       \expandafter\def\expandafter#1\expandafter{\the\toks@}%
345   }%
346   \def\HyCal@scan#1\hypercalcbp#2\@nil{%
347     \toks@\expandafter{\the\toks@ #1}%
348     \ifx\#2\%
349       \else
350         \Hy@ReturnAfterFi{%
351           \HyCal@do#2\@nil
352         }%
353       \fi
354     }%
355     \def\HyCal@do#1#2\@nil{%
356       \@ifpackageloaded{calc}{}{%
357         \Hy@Warning{%
358           For calculations \string\hypercalcbp\space needs\MessageBreak
359           package calc or e-TeX%
360         }%
361       }%
362       \setlength{\dimen@}{#1}%
363       \setlength{\dimen@}{0.99626401\dimen@}%
364       \edef\x{%
365         \toks@{%
366           \the\toks@
367           \strip@pt\dimen@
368         }%
369       }\x
370       \HyCal@scan#2\@nil
371     }%
372   \else
373     \def\hypercalcbp#1{%

```

```

374 \strip@pt\dimexpr 0.99626401\dimexpr #1\relax\relax
375 }%
376 \def\hypercalcbpdef{\def}%
377 \fi

```

6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

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Naming convention: All internal commands that are only needed by `\pdfstringdef` are prefixed with `\HyPsd@`.

6.1 Description of PDF strings

The PDF specification defines several places to hold text strings (bookmark names, document information, text annotations, etc.). The PDF strings have following properties:

- They are surrounded by parentheses. The hexadecimal form is not supported.
- Like PostScript language strings they use the same escaping mechanism:

<code>\\</code>	the backslash itself
<code>\), \((</code>	unbalanced parentheses
<code>\n, \r, \t, \b, \f</code>	special white space escape sequences
<code>\ddd</code>	octal character code <i>ddd</i>
- Strings are stored either in `PDFDocEncoding`, which is a superset of `ISOLatin1` and is compatible with Unicode with character codes below 256, or in Unicode.

6.2 Definition of `\pdfstringdef`

The central macro for dealing with PDF strings is `\pdfstringdef`. It defines a command `#1` to be the result of the conversion from the string in `#2` to a legal `PDFDocEncoded` string. Currently the definition is global, but this can be changed in the future.

Important: In $\text{T}_{\text{E}}\text{X}$'s view PDF strings are written to a file and are expanded only in its mouth. Stomach commands that cannot be expanded further aren't executed, they are written verbatim. But the PDF reader that reads such a string isn't a $\text{T}_{\text{E}}\text{X}$ interpreter!

The macro `\pdfstringdef` consists of three main parts:

1. Preprocessing. Here the expansion is prepared. The encoding is set and many commands are redefined, so that they work appropriate.
2. Expansion. The $\text{T}_{\text{E}}\text{X}$ string is expanded the first time to get a PDF string.
3. Postprocessing. The result of the expansion is checked and converted to the final form.

`\pdfstringdef` `\pdfstringdef` works on the tokens in `#2` and converts them to a PDF string as far as possible:

- The result should obey the rules of the PDF specification for strings.
- The string can safely processed by $\text{T}_{\text{E}}\text{X}$, because the tokens have only catcodes 10 until 12.

The result is stored in the command token given in `#1`.

```
378 \def\pdfstringdef#1#2{%
```

Many redefinitions are needed, so all the work is done in a group.

```
379 \begingroup
```

6.2.1 Preprocessing

Octal escape sequences. To avoid problems with eight bit or non printable characters, the octal escape notation is supported. So most glyphs in the encoding definitions for PD1 and PU produce these octal escape sequences. All three octal digits have to be used:

- Wrong results are avoided, if digits follow that are not part of the octal sequence.
- Macros rely on the fact that the octal sequences always consist of three digits (vtex driver, Unicode support).

The escape sequences start with a backslash. By `\string` it will be printed. Therefore it is ensured that the \TeX escape character indeed prints as a normal backslash. Eventually this line can be removed, because this is standard \LaTeX behaviour.

```
380 \escapechar'\%
```

From the view of \TeX a octal sequence consists of the command tokens `\0` until `\3` and two digits. For saving tokens `\0`, `\1`, `\2`, and `\3` are directly used without a preceding `\string` in the glyph definitions. This is done here locally by defining the `\0` until `\3` commands. So the user can use octal escape sequences directly, the disadvantage is that a previous definition of this short commands does not apply.

```
381 \edef\0{\string\0}%
382 \edef\1{\string\1}%
383 \edef\2{\string\2}%
384 \edef\3{\string\3}%
```

Setting font encoding. The unicode encoding uses `\8` and `\9` as marker for the higher byte. `\8` is an abbreviation for the higher bytes 0 until 7 that can be expressed by one digit. `\8` will be converted to `\00`. However `\9` only marks the next three digits as higher byte and will be removed later.

The encoding is set by `\enc@update` for optimizing reasons.

```
385 \ifHy@unicode
386 \edef\8{\string\8}%
387 \edef\9{\string\9}%
388 \fontencoding{PU}%
389 \HyPsd@UTFviii
390 \else
391 \fontencoding{PD1}%
392 \fi
393 \enc@update
```

Internal encoding commands. `\pdfstringdef` interpretes text strings which are not allowed to contain mathematical stuff. The text glyph commands will produce a warning, if called in math mode. But this warning disturbs while expanding. Therefore we check for math mode here, before `\@inmathwarn` will be disabled (see below).

```
394 \@inmathwarn\pdfstringdef
```

If a glyph is used, that isn't in the PD1/PU encoding there will be an infinite error loop, because the NFSS encoding stuff have to be expanded unprotected (`\edef`), so that the assignments of `\@changed@cmd` don't take place. To patch this behaviour I only found `\@inmathwarn` as a usable hook. While an `\edef` a warning message by `\@inmathwarn` or `\TextSymbolUnavailable` cannot be give out, so `\@inmathwarn` should be disabled. And with the help of it the assignments in `\@changed@cmd` can easily be caught (see below).

```
395 \let\@inmathwarn\HyPsd@inmathwarn
```


Unknown composite characters are built with `\add@accent`, so it is redefined to provide a warning.

```
396 \let\add@accent\HyPsd@add@accent
```

Commands that don't use NFSS directly. There are several commands that prints characters in the printable ASCII area that don't obey the NFSS, so they have to be redefined here.

```
397 \let\{\textbraceleft
398 \let\}\textbraceright
399 \let\\\textbackslash
400 \let\#\textnumbersign
401 \let\$\textdollar
402 \let\%\textpercent
403 \let\&\textampersand
404 % \let\~\textasciitilde
405 \let\_ \textunderscore
406 \let\P\textparagraph
407 \let\ldots\textellipsis
408 \let\dots\textellipsis
```

Newline `\newline` or `\\` do not work in bookmarks, in text annotations they should expand to `\r`. In pdf strings `\\` stands for a backslash. Therefore the commands are disabled now. The user can redefine them for a result what he want:

backslash: `\pdfstringdefDisableCommands{\let\\\textbackslash}`

new line: `\pdfstringdefDisableCommands{\let\\\textCR}`

disabled: `\pdfstringdefDisableCommands{\let\\\empty}`

At any case, however, the optional argument or the star cannot be scanned in a 100% sure manner.

```
409 \def\{\pdfstringdefWarn\\}%
410 \def\newline{\pdfstringdefWarn\newline}%
```

Logos. Because the box shifting used in the \TeX logo does not work while writing to a file, the standard \TeX logos are redefined.

```
411 \def\TeX{\TeX}%
412 \def\LaTeX{La\TeX}%
413 \def\LaTeXe{LaTeX2e}%
414 \def\eTeX{e-\TeX}%
415 \def\SliTeX{Sli\TeX}%
416 \def\MF{Metafont}%
417 \def\MP{Metapost}%
```

Standard font commands. Because font changes do not work, the standard font switching commands are disabled.

```
418 \let\emph\@firstofone
419 \let\textnormal\@firstofone
420 \let\textrm\@firstofone
421 \let\textsf\@firstofone
422 \let\texttt\@firstofone
423 \let\textbf\@firstofone
424 \let\textmd\@firstofone
425 \let\textit\@firstofone
```

```

426 \let\textsc\@firstofone
427 \let\textsl\@firstofone
428 \let\textup\@firstofone
429 \let\normalfont\@empty
430 \let\rmfamily\@empty
431 \let\sffamily\@empty
432 \let\ttfamily\@empty
433 \let\bfseries\@empty
434 \let\mdseries\@empty
435 \let\itshape\@empty
436 \let\scshape\@empty
437 \let\slshape\@empty
438 \let\upshape\@empty
439 \let\em\@empty
440 \let\rm\@empty
441 \let\Huge\@empty
442 \let\LARGE\@empty
443 \let\Large\@empty
444 \let\footnotesize\@empty
445 \let\huge\@empty
446 \let\large\@empty
447 \let\normalsize\@empty
448 \let\scriptsize\@empty
449 \let\small\@empty
450 \let\tiny\@empty
451 \let\mathversion\@gobble

```

Package color.

```

452 \def\textcolor##1##{\@secondoftwo}%

```

Package babel. Whereever “naturalnames” is used, disable \textlatin (from Babel 3.6k). Thanks to Felix Neubauer (Email: Felix.Neubauer@gmx.net).

```

453 \let\textlatin\@firstofone
454 \@ifundefined{language@group}{-}{%
455   \csname HyPsd@babel@\language@group\endcsname
456 }%
457 \HyPsd@GreekPatch

458 \let\@safe@activetrue\relax
459 \let\@safe@activesfalse\relax

```

Disable \cyr, used in russianb.ldf.

```

460 \let\cyr\relax

```

Redefine \es@roman, used in spanish.ldf.

```

461 \let\es@roman\@Roman

```

Package german.

```

462 \let\glqq\textglqq
463 \let\grqq\textgrqq
464 \let\glq\textglq
465 \let\grq\textgrq
466 \let\flqq\textflqq
467 \let\frqq\textfrqq
468 \let\flq\textflq
469 \let\frq\textfrq

```

Package french. The support is deferred, because it needs `\GenericError` to be disabled (see below).

Package FrenchPro. This package uses:

```

\if@mid@expandable{not fully expandable code}{fully expandable code}
470 \let\if@mid@expandable\@firstoftwo

```

AMS classes.

```

471 \HyPsd@AMSclassfix

```

Redefinition of `\hspace` `\hspace` don't work in bookmarks, the following fix tries to set a space if the argument is a positive length.

```

472 \let\hspace\HyPsd@hspace

```

Commands of referencing and indexing systems. Some \LaTeX commands that are legal in `\section` commands have to be disabled here.

```

473 \let\label\@gobble
474 \let\index\@gobble
475 \let\glossary\@gobble
476 \let\href\@secondoftwo
477 \let\mkboth\@gobbletwo

```

The `\ref` and `\pageref` is much more complicate because of their star form.

```

478 \let\ref\HyPsd@ref
479 \let\pageref\HyPsd@pageref
480 \let\nameref\HyPsd@nameref
481 \let\autoref\HyPsd@autoref

```

Miscellaneous commands.

```

482 \let\leavevmode\@empty
483 \let\mbox\@empty

```

`\halign` causes error messages because of the template character `#`.

```

484 \def\halign{\pdfstringdefWarn\halign\@gobble}%

```

Patch for cjk bookmarks.

```

485 \ifHy@CJKbookmarks
486 \HyPsd@CJKhook
487 \fi

```

User hook. The switch `\Hy@pdfstring` is turned on. So user commands can detect that they are processed not to be typesetted within \TeX 's stomach, but to be expanded by the mouth to give a PDF string. At this place before interpreting the string in #2 additional redefinitions can be added by the hook `\pdfstringdefPreHook`.

The position in the middle of the redefinitions is a compromise: The user should be able to provide his own (perhaps better) redefinitions, but some commands should have their original meaning, because they can be used in the hook (`\bgroup`, or `\@protected@testopt`, and `\@ifnextchar` for `\renewcommand`).

```

488 \Hy@pdfstringtrue
489 \pdfstringdefPreHook

```

Spaces. For checking the token of the string, spaces must be masked, because they cannot be caught by undelimited arguments.

```

490 \HyPsd@LetUnexpandableSpace\space
491 \HyPsd@LetUnexpandableSpace\ %
492 \HyPsd@LetUnexpandableSpace~%
493 \HyPsd@LetUnexpandableSpace\nobreakspace

```

Package xspace.

```

494 \@ifundefined{xspace}{%
495 \let\xspace\HyPsd@ITALCORR
496 }{%
497 \let\xspace\HyPsd@XSPACE
498 }%
499 \let\/\HyPsd@ITALCORR
500 \let\bgroup\/%
501 \let\egroup\/%

```

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

```

502 \let\discretionary\@gobbletwo
    \@ifstar is defined in LATEX as follows:

```

```

\def\@ifstar#1{\@ifnextchar *{\@firstoftwo{#1}}

```

\@ifnextchar doesn't work, because it uses stomach commands like \let and \futurelet. But it doesn't break. Whereas \@firstoftwo{#1}} gives an error message because \@firstoftwo misses its second argument.

A mimicry of \@ifnextchar only with expandible commands would be very extensive and the result would be only an approximation. So here a cheaper solution follows in order to get rid of the error message at least:

```

503 \let\@ifnextchar\HyPsd@ifnextchar
504 \let\@ifnextchar\HyPsd@new@ifnextchar
505 \let\@protected@testopt\HyPsd@protected@testopt

```

6.2.2 Expansion

There are several possibilities to expand tokens within L^AT_EX:

\protected@edef: The weakest form isn't usable, because it does not expand the font encoding commands. They are made robust and protect themselves.

\csname: First the string is expanded within a \csname and \endcsname. Then the command name is converted to characters with catcode 12 by \string and the first escape character removed by \@gobble. This method has the great *advantage* that stomach tokens that aren't allowed in PDF strings are detected by T_EX and reported as errors in order to force the user to write correct things. So he get no wrong results by forgetting the proofreading of his text. But the *disadvantage* is that old wrong code cannot processed without errors. Mainly the error message is very cryptic and for the normal user hard to understand. T_EX provides no way to catch the error caused by \csname or allows to support the user with a descriptive error message. Therefore the experienced user had to enable this behaviour by an option exactdef in previous versions less or equal 6.50.

\edef This version uses this standard form for expansion. It is stronger than L^AT_EX's \protected@edef. So the font encoding mechanism works and the glyph commands are converted to the correct tokens for PDF strings with the definitions of

the PDF1 encoding. Because the protecting mechanism of \LaTeX doesn't work within an `\edef`, there are situations thinkable where code can break. For example, assignments and definitions aren't performed and so undefined command errors or argument parsing errors can occur. But this is only a compatibility problem with old texts. Now there are possibilities to write code that gives correct PDF strings (see `\texorpdfstring`). In the most cases unexpandable commands and tokens (math shift, grouping characters) remains. They don't cause an error like with `\csname`. However a PDF reader isn't \TeX , so these tokens are viewed verbatim. So this version detects them now, and removes them with an descriptive warning for the user. As additional features xspace support is possible and grouping characters can be used without problems, because they are removed silently.

Generic messages. While expanding via `\xdef` the `\Generic...` messages don't work and causes problems (error messages, invalid .out file). So they are disabled while expanding and removed silently, because a user warning would be too expensive (memory and runtime, `\pdfstringdef` is slow enough).

```
506 \begingroup
507 \let\GenericError\@gobblefour
508 \let\GenericWarning\@gobbletwo
509 \let\GenericInfo\@gobbletwo
```

Package french. This fix only works, if `\GenericError` is disabled.

```
510 \ifx\nofrenchguillemets\@undefined
511 \else
512 \nofrenchguillemets
513 \fi
```

Definition commands and expansion. Redefining the defining commands (see sec. 6.5.10). The original meaning of `\xdef` is saved in `\Hy@temp`.

```
514 \let\Hy@temp\xdef
515 \let\def\HyPsd@DefCommand
516 \let\gdef\HyPsd@DefCommand
517 \let\edef\HyPsd@DefCommand
518 \let\xdef\HyPsd@DefCommand
519 \let\futurelet\HyPsd@LetCommand
520 \let\let\HyPsd@LetCommand
521 \Hy@temp#1{#2}%
522 \endgroup
```

6.2.3 Postprocessing

If the string is empty time can be saved by omitting the postprocessing process.

```
523 \ifx#1\@empty
524 \else
```

Protecting spaces and removing grouping characters. In order to check the tokens we must separate them. This will be done with \TeX 's argument parsing. With this method we must the following item takes into account, that makes makes things a litte more complicate:

- \TeX does not accept a space as an undelimited argument, it cancels space tokens while looking for an undelimited argument. Therefore we must protect the spaces now.

- An argument can be a single token or a group of many tokens. And within curly braces tokens aren't find by \TeX 's argument scanning process. Third curly braces as grouping characters cannot be expanded further, so they don't vanish by the string expansion above. So these characters with catcode 1 and 2 are removed in the following and replaced by an marker for the xspace support.
- \TeX silently removes the outmost pair of braces of an argument. To prevent this on unwanted places, in the following the character | is appended to the string to make an outer brace to an inner one.

First the top level spaces are protected by replacing. Then the string is scanned to detect token groups. Each token group will now be space protected and again scanned for another token groups.

```

525     \HyPsd@ProtectSpaces#1%
526     \let\HyPsd@String\@empty
527     \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
528     \global\let#1\HyPsd@String

```

Check tokens. After removing the spaces and the grouping characters the string now should only consists of the following tokens/catcodes:

- 0 command names with start with an escape character.
- 3 math shift
- 4 alignment tabs
- 6 parameter, but this is unlikely.
- 7 superscript
- 8 subscript
- 11 letter
- 12 other
- 13 commands that are active characters.

After $\backslash\text{HyPsd@CheckCatcodes}$ the command $\backslash\text{HyPsd@RemoveMask}$ is reused to remove the group protection character |. This character is needed to ensure that the string at least consists of one token if $\backslash\text{HyPsd@CheckCatcodes}$ is called.

Because of internal local assignments and tabulars group braces are used.

```

529     \let\HyPsd@SPACEOPTI\relax
530     {%
531         \let\HyPsd@String\@empty
532         \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
533         \global\let#1\HyPsd@String
534     }%
535     \expandafter\HyPsd@RemoveMask\expandafter
536     |\expandafter\@empty#1\HyPsd@End#1%

```

$\backslash\text{HyPsd@CheckCatcodes}$ should no have removed the tokens with catcode 3, 4, 7, and 8. Because a parameter token (6) would cause to many errors before, there should now be only tokens with catcodes 11 or 12. So I think there is no need for a safety step like:

```
\xdef#1{\expandafter\strip@prefix\meaning#1}%
```

Looking for wrong glyphs. The case that glyphs aren't defined in the PD1 encoding is caught above in such a way, that the glyph name and a marker is inserted into the string. Now we can safely scan the string for this marker and provide a descriptive warning.

```

537     \expandafter\HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
538     \let\HyPsd@String\@empty
539     \expandafter\HyPsd@GlyphProcess#1\relax\@empty
540     \global\let#1\HyPsd@String

```

Backslash. The double backslash disturbs parsing octal sequences, for example in an string like `abc\\051` the sequence `\051` is detected although the second `\` belongs to the first backslash.

```
541      \HyPsd@StringSubst{\}\{\textbackslash}\#1%
```

Spaces. All spaces have already the form `\040`. The last postprocessing step will be an optimizing of the spaces, so we already introduce already the necessary command `\HyPsd@SPACEOPTI`. But first it is defined to be `\relax` in order to prevent a too early expansion by an `\edef`. Secondly a `\relax` serves as a marker for a token that is detected by `\xspace`.

The code of `frenchb.1df` can produce an additional space before `\guillemotright`, because `\lastskip` and `\unskip` do not work. Therefore it is removed here.

```
542      \ifHy@unicode
543        \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
544        \HyPsd@SPACEOPTI#1%
545        \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
546        \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
547        {\HyPsd@SPACEOPTI\80\273}\#1%
548      \else
549        \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
550        \expandafter\HyPsd@Subst\expandafter{%
551          \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
552          \string\273}\{\HyPsd@SPACEOPTI\273}\#1%
553      \fi
```

Right parenthesis. Also `\xspace` detects a right parenthesis. For the `\xspace` support and the following parenthesis check the different parenthesis notations `)`, `\)`, and `\051` are converted to one type `\)` and before `\HyPsd@empty` with the meaning of `\relax` is introduced for `\xspace`. By redefining to `\@empty` `\HyPsd@empty` can easily removed later.

```
554      \ifHy@unicode
555        \HyPsd@StringSubst{\}){\80\051}\#1%
556        \HyPsd@Subst){\80\051}\#1%
557        \let\HyPsd@empty\relax
558        \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
559        {\HyPsd@empty\80\051}\#1%
560      \else
561        \HyPsd@StringSubst{\}){\051}\#1%
562        \HyPsd@Subst){\051}\#1%
563        \let\HyPsd@empty\relax
564        \HyPsd@StringSubst{\051}\{\HyPsd@empty\string\})}\#1%
565      \fi
```

Support for package `xspace`. `\xspace` looks for the next token and decides if it expands to a space or not. Following tokens prevent its transformation to a space: Beginning and end of group, handled above by replacing by an italic correction, several punctuation marks, a closing parentheses, and several spaces.

Without package `xspace` there are tokens with catcode 11 and 12, `\HyPsd@empty` and `\HyPsd@SPACEOPTI`. With package `xspace` marker for the italic correction `\/` and `\xspace` come with. In the package `xspace` case the two markers are replaced by commands and an `\edef` performs the `\xspace` processing.

In the opposite of the original `\xspace` `\HyPsd@xspace` uses an argument instead of a `\futurelet`, so we have to provide such an argument, if `\HyPsd@xspace` comes last.

Because `\HyPsd@Subst` with several equal tokens (`--`) needs a safe last token, in both cases the string gets an additional `\HyPsd@empty`.

```

566     \expandafter\HyPsd@Subst\expandafter{\}\HyPsd@empty#1%
567     \@ifundefined{xspace}{%
568     }{%
569     \let\HyPsd@xspace\relax
570     \expandafter\HyPsd@Subst\expandafter
571     {\HyPsd@XSPACE}\HyPsd@xspace#1%
572     \let\HyPsd@xspace\HyPsd@doxspace
573     }%
574     \xdef#1{#1\HyPsd@empty}%

```

Ligatures. \TeX forms ligatures in its stomach, but the PDF strings are treated only by \TeX 's mouth. The `PDFDocEncoding` contains some ligatures, but the current version 3 of the `AcrobatReader` lacks the `fi` and `fl` glyphs, and the Linux version lacks the `emdash` and `endash` glyphs. So the necessary code is provided here, but currently disabled, hoping that version 4 of the `AcrobatReader` is better. To break the ligatures the user can use an empty group, because it leads to an insertion of an `\HyPsd@empty`. If this ligature code will be enabled some day, then the italic correction should also break the ligatures. Currently this occurs only, if package `xspace` is loaded.

```

575 %     \HyPsd@Subst{---}\textemdash#1%
576 %     \HyPsd@Subst{--}\textendash#1%
577 %     \HyPsd@Subst{fi}\textfi#1%
578 %     \HyPsd@Subst{fl}\textfl#1%
579     \HyPsd@Subst{!'}\textexclamdown#1%
580     \HyPsd@Subst{?'}\textquestiondown#1%

```

With the next `\edef` we get rid of the token `\HyPsd@empty`.

```

581     \let\HyPsd@empty\@empty

```

Left parentheses. Left parentheses are now converted to safe forms to avoid problems with unmatched ones (`\(` with `PDFDocEncoding`, the octal sequence with Unicode).

An optimization is possible. Matched parentheses can be replaced by a `()` pair. But this code is removed to save \TeX memory and time.

```

582     \ifHy@unicode
583     \HyPsd@StringSubst{\textparenleft#1%
584     \HyPsd@Subst(\textparenleft#1%
585     \else
586     \HyPsd@StringSubst({\0050}#1%
587     \HyPsd@Subst({\0050}#1%
588     \HyPsd@StringSubst{\0050}{\string\()}#1%
589     \fi

```

Optimizing spaces. Spaces are often used, but they have a very long form `\040`. They are converted back to real spaces, but not all, so that no space follows after another. In the bookmark case several spaces are written to the `.out` file, but if the entries are read back, several spaces are merged to a single one.

With Unicode the spaces are replaced by their octal sequences.

```

590     \ifHy@unicode
591     \edef\HyPsd@SPACEOPTI{\80\040}%
592     \else
593     \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
594     \fi
595     \xdef#1{#1\@empty}%
596     \fi

```


Converting to Unicode. At last the eight bit letters have to be converted to Unicode, the masks \8 and \9 are removed and the Unicode marker is added.

```
597 \endgroup
598 \begingroup
599 \ifHy@unicode
600 \HyPsd@ConvertToUnicode#1%
```

Try conversion back to PDFDocEncoding.

```
601 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
602 \@ifundefined{StringEncodingConvertTest}{%
603 }{%
604 \EdefUnescapeString\HyPsd@temp#1%
605 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
606 {utf16be}{pdfdoc}{%
607 \EdefEscapeString\HyPsd@temp\HyPsd@temp
608 \global\let#1\HyPsd@temp
609 \Hy@unicodedefalse
610 }{}%
611 }%
612 \fi
613 \fi
```

User hook. The hook \pdfstringdefPostHook can be used for the purpose to post-process the string further.

```
614 \pdfstringdefPostHook#1%
615 \endgroup
616 }
```

\Hy@pdfstringdef

```
617 \def\Hy@pdfstringdef#1#2{%
618 \pdfstringdef\Hy@gtemp{#2}%
619 \let#1\Hy@gtemp
620 }
```

6.3 Encodings

6.3.1 PD1 encoding

The PD1 encoding implements the PDFDocEncoding for use with L^AT_EX 2_ε's NFSS. Because the informational strings are not set by T_EX's typesetting mechanism but for interpreting by the PDF reader, the glyphs of the PD1 encoding are implemented to be safely written to a file (PDF output file, .out file).

The PD1 encoding can be specified as an option of the 'fontenc' package or loaded here. It does not matter what font family is selected, as T_EX does not process it anyway. So use CM.

```
621 \@ifundefined{T@PD1}{\input{pd1enc.def}}{}
622 \DeclareFontFamily{PD1}{pdf}{}
623 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
624 \DeclareFontSubstitution{PD1}{pdf}{m}{n}
```

6.3.2 PU encoding

The PU encoding implements the Unicode encoding for use with L^AT_EX's NFSS. Because of large memory requirements the encoding file for Unicode support is only loaded, if option unicode is specified as package option.

`\HyPsd@InitUnicode` Because the file `puenc.def` takes a lot of memory, the loading is defined in the macro `\HyPsd@InitUnicode` called by the package option `unicode`.

```

625 \def\HyPsd@InitUnicode{%
626   \@ifundefined{T@PU}{\input{puenc.def}}{}%
627   \DeclareFontFamily{PU}{pdf}{}%
628   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
629   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
630   \let\HyPsd@InitUnicode\relax
631 }

```

6.4 Additional user commands

6.4.1 `\texorpdfstring`

`\texorpdfstring` While expanding the string in `\pdfstringdef` the switch `\ifHy@pdfstring` is set. This is used by the full expandible macro `\texorpdfstring`. It expects two arguments, the first contains the string that will be set and processed by T_EX's stomach, the second contains the replacement for PDF strings.

```

632 \newcommand*{\texorpdfstring}{%
633   \ifHy@pdfstring
634     \expandafter\@secondoftwo
635   \else
636     \expandafter\@firstoftwo
637   \fi
638 }

```

6.4.2 Hooks for `\pdfstringdef`

`\pdfstringdefPreHook` Default definition of the hooks for `\pdfstringdef`. The construct `\@ifundefined` with `\pdfstringdefPostHook` `\let` is a little bit faster than `\providecommand`.

```

639 \@ifundefined{pdfstringdefPreHook}{%
640   \let\pdfstringdefPreHook\@empty
641 }{}
642 \@ifundefined{pdfstringdefPostHook}{%
643   \let\pdfstringdefPostHook\@gobble
644 }{}

```

`\pdfstringdefDisableCommands` In `\pdfstringdefPreHook` the user can add code that is executed before the string, that have to be converted by `\pdfstringdef`, is expanded. So replacements for problematic macros can be given. The code in `\pdfstringdefPreHook` should not be replaced perhaps by an `\renewcommand`, because a previous meaning gets lost.

Macro `\pdfstringdefDisableCommands` avoids this, because it reuses the old meaning of the hook and appends the new code to `\pdfstringdefPreHook`, e.g.:

```

\pdfstringdefDisableCommands{%
  \let~\textasciitilde
  \def\url{\pdfstringdefWarn\url}%
  \let\textcolor\@gobble
}%

```

In the argument of `\pdfstringdefDisableCommands` the character `@` can be used in command names. So it is easy to use useful L^AT_EX commands like `\@gobble` or `\@firstofone`.

```

645 \def\pdfstringdefDisableCommands{%
646   \begingroup
647     \makeatletter

```

```

648 \HyPsd@DisableCommands
649 }

```

\HyPsd@DisableCommands

```

650 \long\def\HyPsd@DisableCommands#1{%
651   \toks0=\expandafter{\pdfstringdefPreHook}%
652   \toks1={#1}%
653   \xdef\pdfstringdefPreHook{\the\toks0 \the\toks1}%
654 \endgroup
655 }

```

\pdfstringdefWarn The purpose of \pdfstringdefWarn is to produce a warning message, so the user can see, that something can go wrong with the conversion to PDF strings.

The prefix \<- is added to the token. \noexpand protects the probably undefined one during the first expansion step. Then \HyPsd@CheckCatcodes can detect the not allowed token, \HyPsd@CatcodeWarning prints a warning message, after \HyPsd@RemovePrefix has removed the prefix.

\pdfstringdefWarn is intended for document authors or package writers, examples for use can be seen in the definition of \HyPsd@ifnextchar or \HyPsd@protected@testopt.

```

656 \def\pdfstringdefWarn#1{%
657   \expandafter\noexpand\csname<- \string#1\endcsname
658 }

```

6.5 Help macros for expansion

6.5.1 Babel languages

```

659 \newif\ifHy@next

```

Nothing to do for english.

```

660 \@ifundefined{danish@sh@"@sel}{-}{-}%
661 \def\HyPsd@babel@danish{%
662   \declare@shorthand{danish}{-}{-}%
663   \declare@shorthand{danish}{-}{-}%
664 }%
665 }
666 \@ifundefined{dutch@sh@"@sel}{-}{-}%
667 \def\HyPsd@babel@dutch{%
668   \declare@shorthand{dutch}{-}{-}%
669   \declare@shorthand{dutch}{-}{-}%
670 }%
671 }
672 \@ifundefined{finnish@sh@"@sel}{-}{-}%
673 \def\HyPsd@babel@finnish{%
674   \declare@shorthand{finnish}{-}{-}%
675 }%
676 }
677 \@ifundefined{french@sh@:@sel}{-}{-}%
678 \def\HyPsd@babel@frenchb{%
679   \def\guill@spacing{ }%
680 }%
681 }
682 \@ifundefined{german@sh@"@sel}{-}{-}%
683 \def\HyPsd@babel@german{%
684   \declare@shorthand{german}{f}{f}%
685   \declare@shorthand{german}{-}{-}%
686   \declare@shorthand{german}{-}{-}%

```

```

687 }%
688 }
689 \@ifundefined{macedonian@sh@"@sel}{-}{%
690   \def\HyPsd@babel@macedonian{%
691     \declare@shorthand{macedonian}{"}{-}%
692     \declare@shorthand{macedonian}{"}{-}%
693   }%
694 }
695 \@ifundefined{ngerman@sh@"@sel}{-}{%
696   \def\HyPsd@babel@ngerman{%
697     \declare@shorthand{ngerman}{"}{-}%
698     \declare@shorthand{ngerman}{"}{-}%
699   }%
700 }
701 \@ifundefined{portuges@sh@"@sel}{-}{%
702   \def\HyPsd@babel@portuges{%
703     \declare@shorthand{portuges}{"}{-}%
704   }%
705 }
706 \@ifundefined{russian@sh@"@sel}{-}{%
707   \def\HyPsd@babel@russian{%
708     \declare@shorthand{russian}{"}{-}%
709     \declare@shorthand{russian}{"}{-}%
710   }%
711 }
712 \@ifundefined{slovene@sh@"@sel}{-}{%
713   \def\HyPsd@babel@slovene{%
714     \declare@shorthand{slovene}{"}{-}%
715   }%
716 }

```

Nested quoting environments are not supported (<<, >>).

```

717 \@ifundefined{spanish@sh@>@sel}{-}{%
718   \def\HyPsd@babel@spanish{%
719     \declare@shorthand{spanish}{<<}{\guillemotleft}%
720     \declare@shorthand{spanish}{>>}{\guillemotright}%
721     \declare@shorthand{spanish}{=}{-}%
722     \declare@shorthand{spanish}{"}{-}%
723     \declare@shorthand{spanish}{!}{\textexclamdown}%
724     \declare@shorthand{spanish}{?}{\textquestiondown}%
725   }%
726 }
727 \@ifundefined{swedish@sh@"@sel}{-}{%
728   \def\HyPsd@babel@swedish{%
729     \declare@shorthand{swedish}{"}{-}%
730     \declare@shorthand{swedish}{"}{-}%
731   }%
732 }
733 \@ifundefined{ukrainian@sh@"@sel}{-}{%
734   \def\HyPsd@babel@ukrainian{%
735     \declare@shorthand{ukrainian}{"}{-}%
736     \declare@shorthand{ukrainian}{"}{-}%
737   }%
738 }
739 \@ifundefined{usorbian@sh@"@sel}{-}{%
740   \def\HyPsd@babel@usorbian{%
741     \declare@shorthand{usorbian}{f}{f}%
742     \declare@shorthand{usorbian}{"}{-}%

```

```

743 }%
744 }
745 \@ifundefined{greek@sh@\string~@sel}{%
746   \let\HyPsd@GreekPatch\@empty
747 }{%
748   \def\HyPsd@GreekPatch{%
749     \let\greeknumeral\HyPsd@greeknumeral
750     \let\Greeknatural\HyPsd@Greeknatural
751   }%
752 }
753 \def\HyPsd@greeknumeral#1{%
754   \HyPsd@GreekNum\@firstoftwo{#1}%
755 }
756 \def\HyPsd@Greeknatural#1{%
757   \HyPsd@GreekNum\@secondoftwo{#1}%
758 }
759 \def\HyPsd@GreekNum#1#2{%
760   \ifHy@unicode
761     \ifnum#2<\@ne
762       \@arabic{#2}%
763     \else
764       \ifnum#2<1000000 %
765         \HyPsd@@GreekNum#1{#2}%
766       \else
767         \@arabic{#2}%
768       \fi
769     \fi
770   \else
771     \@arabic{#2}%
772   \fi
773 }
774 \def\HyPsd@@GreekNum#1#2{%
775   \ifnum#2<\@m
776     \ifnum#2<10 %
777       \expandafter\HyPsd@GreekNumI
778       \expandafter\@gobble\expandafter#1\number#2%
779     \else
780       \ifnum#2<100 %
781         \expandafter\HyPsd@GreekNumII
782         \expandafter\@gobble\expandafter#1\number#2%
783       \else
784         \expandafter\HyPsd@GreekNumIII
785         \expandafter\@gobble\expandafter#1\number#2%
786       \fi
787     \fi
788     \ifnum#2>\z@
789       \textnumeralsigngreek
790     \fi
791   \else
792     \ifnum#2<\@M
793       \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
794     \else
795       \ifnum#2<100000 %
796         \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
797       \else
798         \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
799       \fi

```

```

800     \fi
801   \fi
802 }
803 \def\HyPsd@GreeNumI#1#2#3{%
804   #1{%
805     \ifnum#3>\z@
806       \textnumeralsignlowergreek
807     \fi
808   }%
809   \expandafter#2%
810   \ifcase#3 %
811     {}{}%
812     \or\textalpha\textAlpha
813     \or\textbeta\textBeta
814     \or\textgamma\textGamma
815     \or\textdelta\textDelta
816     \or\textepsilon\textEpsilon
817     \or\textstigmagreek\textStigmagreek
818     \or\textzeta\textZeta
819     \or\texteta\textEta
820     \or\texttheta\textTheta
821     \else
822       {}{}%
823     \fi
824 }
825 \def\HyPsd@GreeNumII#1#2#3#4{%
826   #1{%
827     \ifnum#3>\z@
828       \textnumeralsignlowergreek
829     \fi
830   }%
831   \expandafter#2%
832   \ifcase#3 %
833     {}{}%
834     \or\textiota\textIota
835     \or\textkappa\textKappa
836     \or\textlambda\textLambda
837     \or\textmu\textMu
838     \or\textnu\textNu
839     \or\textxi\textXi
840     \or\textomicron\textOmicron
841     \or\textpi\textPi
842     \or\textkoppagreek\textKoppagreek
843     \else
844       {}{}%
845     \fi
846   \HyPsd@GreeNumI#1#2#4%
847 }
848 \def\HyPsd@GreeNumIII#1#2#3#4#5{%
849   #1{%
850     \ifnum#3>\z@
851       \textnumeralsignlowergreek
852     \fi
853   }%
854   \expandafter#2%
855   \ifcase#3 %
856     {}{}%

```

```

857 \or\textrho\textRho
858 \or\textsigma\textSigma
859 \or\texttau\textTau
860 \or\textupsilon\textUpsilon
861 \or\textphi\textPhi
862 \or\textchi\textChi
863 \or\textpsi\textPsi
864 \or\textomega\textOmega
865 \or\textsampgreek\textSampgreek
866 \else
867   {}{}%
868 \fi
869 \HyPsd@GreekNumII#1#2#4#5%
870 }
871 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
872   \HyPsd@GreekNumI\@firstofone#1#2%
873   \HyPsd@@GreekNum#1{#3#4#5}%
874 }
875 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
876   \HyPsd@GreekNumII\@firstofone#1#2#3%
877   \HyPsd@@GreekNum#1{#4#5#6}%
878 }
879 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
880   \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
881   \HyPsd@@GreekNum#1{#5#6#7}%
882 }

```

6.5.2 CJK bookmarks

`\HyPsd@CJKhook` Some internal commands of package `cjk` are redefined to avoid error messages. For a rudimental support of CJK bookmarks the active characters are redefined so that they print themselves.

After preprocessing of Big5 encoded data the following string for a double-byte character is emitted:

```
^^7f<arg1>^^7f<arg2>^^7f
```

`<arg1>` is the first byte in the range (always $> 0x80$); `<arg2>` is the second byte in decimal notation ($\geq 0x40$).

```

883 \begingroup
884   \catcode"7F=\active
885   \toks@{%
886     \let\CJK@ignorespaces\empty
887     \def\CJK@char#1{\@gobbletwo}%
888     \let\CJK@charx\@gobblefour
889     \let\CJK@punctchar\@gobblefour
890     \def\CJK@punctcharx#1{\@gobblefour}%
891     \catcode"7F=\active
892     \def^^7f#1^^7f#2^^7f{%
893       \string #1\HyPsd@DecimalToOctal{#2}%
894     }%
895     % ... ?
896     \ifHy@unicode
897       \def\Hy@cjkpu{\80}%
898     \else
899       \let\Hy@cjkpu\@empty
900     \fi
901     \HyPsd@CJKActiveChars

```

```

902 }%
903 \count@=127 %
904 \@whilenum\count@<255 \do{%
905   \advance\count@ by 1 %
906   \lccode'\~=\count@
907   \lowercase{%
908     \toks@\expandafter{\the\toks@ ~}%
909   }%
910 }%
911 \toks@\expandafter{\the\toks@ !}%
912 \xdef\HyPsd@CJKhook{\the\toks@}%
913 \endgroup

```

`\HyPsd@CJKActiveChars` The macro `\HyPsd@CJKActiveChars` is only defined to limit the memory consumption of `\HyPsd@CJKhook`.

```

914 \def\HyPsd@CJKActiveChars#1{%
915   \ifx#1!%
916     \let\HyPsd@CJKActiveChars\relax
917   \else
918     \edef#1{\noexpand\Hy@cjkpu\string#1}%
919   \fi
920   \HyPsd@CJKActiveChars
921 }

```

`\HyPsd@DecimalToOctal` A character, given by the decimal number is converted to a PDF character.

```

922 \def\HyPsd@DecimalToOctal#1{%
923   \ifcase #1 %
924     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
925     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
926     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
927     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
928     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
929     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
930     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
931     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
932     \or @\or A\or B\or C\or D\or E\or F\or G%
933     \or H\or I\or J\or K\or L\or M\or N\or O%
934     \or P\or Q\or R\or S\or T\or U\or V\or W%
935     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
936     \or \140\or a\or b\or c\or d\or e\or f\or g%
937     \or h\or i\or j\or k\or l\or m\or n\or o%
938     \or p\or q\or r\or s\or t\or u\or v\or w%
939     \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
940     \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
941     \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
942     \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
943     \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
944     \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
945     \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
946     \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
947     \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
948     \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
949     \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
950     \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
951     \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
952     \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
953     \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%

```



```

954 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
955 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
956 \fi
957 }

```

6.5.3 \@inmathwarn-Patch

`\HyPsd@inmathwarn` The patch of `\@inmathwarn` is needed to get rid of the infinite error loop with glyphs of other encodings (see the explanation above). Potentially the patch is dangerous, if the code in `ltoutenc.dtx` changes. Checked with $\text{\LaTeX} 2_{\epsilon}$ versions [1998/06/01] and [1998/12/01]. I expect that versions below [1995/12/01] don't work.

To understand the patch easier, the original code of `\@current@cmd` and `\@changed@cmd` follows ($\text{\LaTeX} 2_{\epsilon}$ release [1998/12/01]). In the normal case `\pdfstringdef` is executed in a context where `\protect` has the meaning of `\@typesetprotect` (`=\relax`).

```

\def\@current@cmd#1{%
  \ifx\protect\@typeset@protect
    \@inmathwarn#1%
  \else
    \noexpand#1\expandafter\@gobble
  \fi}
\def\@changed@cmd#1#2{%
  \ifx\protect\@typeset@protect
    \@inmathwarn#1%
    \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
      \expandafter\ifx\csname ?\string#1\endcsname\relax
        \expandafter\def\csname ?\string#1\endcsname{%
          \TextSymbolUnavailable#1%
        }%
      \fi
      \global\expandafter\let
        \csname\cf@encoding\string#1\expandafter\endcsname
        \csname ?\string#1\endcsname
    \fi
    \csname\cf@encoding\string#1%
      \expandafter\endcsname
  \else
    \noexpand#1%
  \fi}
\gdef\TextSymbolUnavailable#1{%
  \@latex@error{%
    Command \protect#1 unavailable in encoding \cf@encoding%
  }\@eha}
\def\@inmathwarn#1{%
  \ifmmode
    \@latex@warning{Command \protect#1 invalid in math mode}%
  \fi}

958 \def\HyPsd@inmathwarn#1#2{%
959   \ifx#2\expandafter
960     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
961       \HyPsd@GLYPHERR
962       \expandafter\@gobble\string#1%
963     >%
964     \expandafter\expandafter\expandafter\HyPsd@EndWithElse
965   \else
966     \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
967   \fi

```

```

968 \else
969 \expandafter#2%
970 \fi
971 }
972 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
973 \def\HyPsd@EndWithElse#1\else{\else}

```

6.5.4 \add@accent-Patch

Unknown composite characters are built with \add@accent, so it is redefined to provide a warning.

\HyPsd@add@accent

```

974 \def\HyPsd@add@accent#1#2{%
975 \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
976 #2%
977 }%

```

6.5.5 Unexpandable spaces

\HyPsd@LetUnexpandableSpace In \HyPsd@@ProtectSpaces the space tokens are replaced by not expandable commands, that work like spaces:

- So they can caught by undelimited arguments.
- And they work in number, dimen, and skip assignments.

These properties are used in \HyPsd@CheckCatcodes.

```

978 \def\HyPsd@LetUnexpandableSpace#1{%
979 \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
980 }

```

\HyPsd@UnexpandableSpace \HyPsd@UnexpandableSpace is used in \HyPsd@@ProtectSpaces. In \HyPsd@@ProtectSpaces the space tokens are replaced by unexpandable commands \HyPsd@UnexpandableSpace, but that have the effect of spaces.

```

981 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

6.5.6 Marker for commands

\HyPsd@XSPACE Some commands and informations cannot be utilized before the string expansion and the checking process. Command names are filtered out, so we need another way to transport the information: An unusual # with catcode 12 marks the beginning of the extra information.

```

982 \edef\HyPsd@XSPACE{\string#\string X}
983 \edef\HyPsd@ITALCORR{\string#\string I}
984 \edef\HyPsd@GLYPHERR{\string#\string G}

```

6.5.7 \hspace fix

\HyPsd@hspace

```

985 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}

```

\HyPsd@@hspace \HyPsd@@hspace checks whether \hspace is called in its star form.

```

986 \def\HyPsd@@hspace#1*#2\END{%
987 \ifx\#2\%
988 \HyPsd@hspacetest{#1}%

```

```

989 \else
990   \expandafter\HyPsd@hspacetest
991 \fi
992 }

```

`\HyPsd@hspacetest` `\HyPsd@hyspacetest` replaces the `\hspace` by a space, if the length is greater than zero.

```

993 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}

```

6.5.8 Fix for AMS classes

```

994 \@ifundefined{tocsection}{%
995   \let\HyPsd@AMSclassfix\relax
996 }{%
997   \def\HyPsd@AMSclassfix{%
998     \let\tocpart\HyPsd@tocsection
999     \let\tocchapter\HyPsd@tocsection
1000    \let\tocappendix\HyPsd@tocsection
1001    \let\tocsection\HyPsd@tocsection
1002    \let\tocsubsection\HyPsd@tocsection
1003    \let\tocsubsubsection\HyPsd@tocsection
1004    \let\tocparagraph\HyPsd@tocsection
1005   }%
1006   \def\HyPsd@tocsection#1#2#3{%
1007     \if @#2@\else\if @#1@\else#1 \fi#2. \fi
1008     #3%
1009   }%
1010 }

```

6.5.9 Reference commands

`\HyPsd@ref` Macro `\HyPsd@ref` calls the macro `\HyPsd@@ref` for star checking. The same methods like in `\HyPsd@hspace` is used.

```

1011 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%

```

`\HyPsd@@ref` Macro `\HyPsd@@ref` checks if a star is present.

```

1012 \def\HyPsd@@ref#1*#2\END{%
1013   \ifx\\#2\\%
1014     \HyPsd@@@ref{#1}%
1015   \else
1016     \expandafter\HyPsd@@@ref
1017   \fi
1018 }%

```

`\HyPsd@@@ref` `\HyPsd@@@ref` does the work and extracts the first argument.

```

1019 \def\HyPsd@@@ref#1{%
1020   \expandafter\ifx\csname r@#1\endcsname\relax
1021     ??%
1022   \else
1023     \expandafter\expandafter\expandafter
1024     \@car\csname r@#1\endcsname\@nil
1025   \fi
1026 }

```

`\HyPsd@pageref` Macro `\HyPsd@pageref` calls the macro `\HyPsd@@pageref` for star checking. The same methods like in `\HyPsd@hspace` is used.

```

1027 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}

```

`\HyPsd@@pageref` Macro `\HyPsd@@pageref` checks if a star is present.

```

1028 \def\HyPsd@@pageref#1*#2\END{%
1029   \ifx\#2\%
1030     \HyPsd@@pageref{#1}%
1031   \else
1032     \expandafter\HyPsd@@pageref
1033   \fi
1034 }

```

`\HyPsd@@@pageref` `\HyPsd@@@pageref` does the work and extracts the second argument.

```

1035 \def\HyPsd@@@pageref#1{%
1036   \expandafter\ifx\csname r@#1\endcsname\relax
1037     ??%
1038   \else
1039     \expandafter\expandafter\expandafter\expandafter
1040     \expandafter\expandafter\expandafter\@car
1041     \expandafter\expandafter\expandafter\@gobble
1042     \csname r@#1\endcsname{}\@nil
1043   \fi
1044 }

```

`\HyPsd@nameref` Macro `\HyPsd@nameref` calls the macro `\HyPsd@@nameref` for star checking. The same methods like in `\HyPsd@hspace` is used.

```

1045 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}

```

`\HyPsd@@nameref` Macro `\HyPsd@@nameref` checks if a star is present.

```

1046 \def\HyPsd@@nameref#1*#2\END{%
1047   \ifx\#2\%
1048     \HyPsd@@nameref{#1}%
1049   \else
1050     \expandafter\HyPsd@@nameref
1051   \fi
1052 }

```

`\HyPsd@@@nameref` `\HyPsd@@@nameref` does the work and extracts the third argument.

```

1053 \def\HyPsd@@@nameref#1{%
1054   \expandafter\ifx\csname r@#1\endcsname\relax
1055     ??%
1056   \else
1057     \expandafter\expandafter\expandafter\expandafter
1058     \expandafter\expandafter\expandafter\@car
1059     \expandafter\expandafter\expandafter\@gobbletwo
1060     \csname r@#1\endcsname{}\@nil
1061   \fi
1062 }

```

`\HyPsd@autoref` Macro `\HyPsd@autoref` calls the macro `\HyPsd@@autoref` for star checking. The same methods like in `\HyPsd@hspace` is used.

```

1063 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

`\HyPsd@@autoref` Macro `\HyPsd@@autoref` checks if a star is present.

```

1064 \def\HyPsd@@autoref#1*#2\END{%
1065   \ifx\#2\%
1066     \HyPsd@@autoref{#1}%
1067   \else
1068     \expandafter\HyPsd@@autoref

```

```

1069 \fi
1070 }

```

`\HyPsd@@@autoref` `\HyPsd@@@autoref` does the work and extracts the second argument.

```

1071 \def\HyPsd@@@autoref#1{%
1072   \expandafter\ifx\csname r@#1\endcsname\relax
1073     ??%
1074   \else
1075     \expandafter\expandafter\expandafter\HyPsd@autorefname
1076       \csname r@#1\endcsname{}{}{}{}@nil
1077     \expandafter\expandafter\expandafter
1078       \@car\csname r@#1\endcsname@nil
1079   \fi
1080 }

```

`\HyPsd@autorefname` At least a basic definition for getting the `\autoref` name.

```

1081 \def\HyPsd@autorefname#1#2#3#4#5@nil{%
1082   \ifx\#4\%
1083   \else
1084     \HyPsd@@@autorefname#4.@nil
1085   \fi
1086 }

```

`\HyPsd@@@autorefname`

```

1087 \def\HyPsd@@@autorefname#1.#2@nil{%
1088   \@ifundefined{#1autorefname}{%
1089     \@ifundefined{#1name}{%
1090       }{%
1091         \csname#1name\endcsname\space
1092       }%
1093   }{%
1094     \csname#1autorefname\endcsname\space
1095   }%
1096 }

```

6.5.10 Redefining the defining commands

Definitions aren't allowed, because they aren't executed in an only expanding context. So the command to be defined isn't defined and can perhaps be undefined. This would cause TeX to stop with an error message. With a deep trick it is possible to define commands in such a context: `\csname` does the job, it defines the command to be `\relax`, if it has no meaning.

Active characters cannot be defined with this trick. It is possible to define all undefined active characters (perhaps that they have the meaning of `\relax`). To avoid side effects this should be done in `\pdfstringdef` shortly before the `\xdef` job. But checking and defining all possible active characters of the full range (0 until 255) would take a while. `\pdfstringdef` is slow enough, so this isn't done.

`\HyPsd@DefCommand` and `\HyPsd@LetCommand` expands to the commands `\<def>-command` and `\<let>-command` with the meaning of `\def` and `\let`. So it is detected by `\HyPsd@CheckCatcodes` and the command name `\<def>-command` or `\<let>-command` should indicate a forbidden definition command.

The command to be defined is converted to a string and back to a command name with the help of `\csname`. If the command is already defined, `\noexpand` prevents a further expansion, even though the command would expand to legal stuff. If the command doesn't have the meaning of `\relax`, `\HyPsd@CheckCatcodes` will produce a warning. (The

command itself can be legal, but the warning is legitimate because of the position after a defining command.)

The difference between `\HyPsd@DefCommand` and `\HyPsd@LetCommand` is that the first one also cancels this arguments, the parameter and definition text. The right side of the `\let` commands cannot be canceled with an undelimited parameter because of a possible space token after `\futurelet`.

To avoid unmached `\if...` tokens, the cases `\let\if...\iftrue` and `\let\if...\iffalse` are checked and ignored.

```

\HyPsd@DefCommand
\HyPsd@LetCommand 1097 \begingroup
1098   \def\x#1#2{%
1099     \endgroup
1100     \let#1\def
1101     \def\HyPsd@DefCommand##1##2##{%
1102       #1%
1103       \expandafter\noexpand
1104       \csname\expandafter\@gobble\string##1\@empty\endcsname
1105       \@gobble
1106     }%
1107     \let#2\let
1108     \def\HyPsd@@LetCommand##1{%
1109       \expandafter\ifx\csname##1\expandafter\endcsname
1110         \csname iftrue\endcsname
1111         \pdfstringdefWarn\let
1112         \expandafter\@gobble
1113       \else
1114         \expandafter\ifx\csname##1\expandafter\endcsname
1115           \csname iffalse\endcsname
1116           \pdfstringdefWarn\let
1117           \expandafter\expandafter\expandafter\@gobble
1118         \else
1119           #2%
1120           \expandafter\noexpand
1121           \csname##1\expandafter\expandafter\expandafter\endcsname
1122         \fi
1123       \fi
1124     }%
1125   }%
1126   \expandafter\x\csname <def>-command\expandafter\endcsname
1127     \csname <let>-command\endcsname
1128   \def\HyPsd@LetCommand#1{%
1129     \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1130     \expandafter\expandafter\expandafter{%
1131       \expandafter\@gobble\string#1\@empty
1132     }%
1133   }

```

6.5.11 \ifnextchar

`\HyPsd@ifnextchar` In `\pdfstringdef \@ifnextchar` is disabled via a `\let` command to save time. First a warning message is given, then the three arguments are canceled. `\@ifnextchar` cannot work in a correct manner, because it uses `\futurelet`, but this is a stomach feature, that doesn't work in an expanding context.

```

1134 \def\HyPsd@ifnextchar{%
1135   \pdfstringdefWarn\@ifnextchar

```

```

1136 \expandafter\@gobbletwo\@gobble
1137 }

```

`\HyPsd@new@ifnextchar` Package `amsgen.sty` redefines `\@ifstar` using `\new@ifnextchar` instead of `\@ifnextchar`. See bug report [latex/3662](https://tex.stackexchange.com/questions/3662).

```

1138 \def\HyPsd@new@ifnextchar{%
1139   \pdfstringdefWarn\new@ifnextchar
1140   \expandafter\@gobbletwo\@gobble
1141 }

```

6.5.12 \@protected@testopt@ifnextchar

`\HyPsd@protected@testopt` Macros with optional arguments doesn't work properly, because they call `\@ifnextchar` to detect the optional argument (see the explanation of `\HyPsd@ifnextchar`). But a warning, that `\@ifnextchar` doesn't work, doesn't help the user very much. Therefore `\@protected@testopt` is also disabled, because its first argument is the problematic macro with the optional argument and it is called before `\@ifnextchar`.

```

1142 \def\HyPsd@protected@testopt#1{%
1143   \pdfstringdefWarn#1%
1144   \@gobbletwo
1145 }

```

6.6 Help macros for postprocessing

6.6.1 Generic warning.

`\HyPsd@Warning` For several reasons `\space` is masked and does not have its normal meaning. But it is used in warning messages, so it is redefined locally:

```

1146 \def\HyPsd@Warning#1{%
1147   \begingroup
1148   \def\space{ }%
1149   \Hy@Warning{#1}%
1150   \endgroup
1151 }

```

6.6.2 Protecting spaces

```

1152 \RequirePackage{etexcmds}[2007/09/09]
1153 \ifetex@unexpanded
1154   \expandafter\@secondoftwo
1155 \else
1156   \expandafter\@firstoftwo
1157 \fi
1158 {%

```

`\HyPsd@ProtectSpaces` `\HyPsd@ProtectSpaces` calls with the expanded string `\HyPsd@@ProtectSpacesFi`. The expanded string is protected by `|` at the beginning and end of the expanded string. Because of this there can be no group at the beginning or end of the string and grouping characters are not removed by the call of `\HyPsd@@ProtectSpacesFi`.

```

1159   \def\HyPsd@ProtectSpaces#1{%
1160     \iftrue
1161       \expandafter\HyPsd@@ProtectSpacesFi
1162       \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1163     \fi
1164   }%

```

`\HyPsd@@ProtectSpacesFi` The string can contain command tokens, so it is better to use an `\def` instead of an `\edef`.

```

1165 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1166   \fi
1167   \ifx\scrollmode#2\scrollmode
1168     \HyPsd@RemoveMask#1\HyPsd@End#3%
1169   \else
1170     \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1171     \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1172   \fi
1173 }%
```

Remove mask.

`\HyPsd@RemoveMask` `\HyPsd@RemoveMask` removes the protecting `|`. It is used by `\HyPsd@@ProtectSpacesFi` and by the code in `\pdfstringdef` that removes the grouping characters.

```

1174 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1175   \toks@\expandafter{#1}%
1176   \xdef#2{\the\toks@}%
1177 }%

1178 }{%
1179 \let\HyPsd@fi\fi
1180 \def\HyPsd@ProtectSpaces#1{%
1181   \xdef#1{%
1182     \iftrue
1183       \expandafter\HyPsd@@ProtectSpacesFi
1184       \expandafter|\expandafter\@empty#1| %
1185     \HyPsd@fi
1186   }%
1187   \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1188 }%
1189 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1190   \fi
1191   \etex@unexpanded{#1}%
1192   \ifx\scrollmode#2\scrollmode
1193   \else
1194     \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1195   \HyPsd@fi
1196 }%
1197 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1198   \xdef#2{\etex@unexpanded\expandafter{#1}}%
1199 }%
1200 }
```

6.6.3 Remove grouping braces

`\HyPsd@RemoveBraces` `#1` contains the expanded string, the result will be locally written in command `\HyPsd@String`.

```

1201 \def\HyPsd@RemoveBraces#1{%
1202   \ifx\scrollmode#1\scrollmode
1203   \else
1204     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1205   \fi
1206 }
```

`\HyPsd@@RemoveBraces` `\HyPsd@@RemoveBraces` is called with the expanded string, the end marked by `\HyPsd@End`, the expanded string again, but enclosed in braces and the string command. The first expanded string is scanned by the parameter text `#1#2`. By a comparison with the original

form in #3 we can decide whether #1 is a single token or a group. To avoid the case that #2 is a group, the string is extended by a | before.

While removing the grouping braces an italic correction marker is inserted for supporting package xspace and letting ligatures broken.

Because the string is already expanded, the \if commands should disappeared. So we can move some parts out of the argument of \Hy@ReturnAfterFi.

```

1207 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1208   \fi
1209   \def\Hy@temp@A{#1#2}%
1210   \def\Hy@temp@B{#3}%
1211   \ifx\Hy@temp@A\Hy@temp@B
1212     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1213       \HyPsd@String#1%
1214     }%
1215     \ifx\scrollmode#2\scrollmode
1216     \else
1217       \Hy@ReturnAfterFiFiEnd{%
1218         \HyPsd@RemoveBraces{#2}%
1219       }%
1220     \fi
1221   \else
1222     \def\Hy@temp@A{#1}%
1223     \HyPsd@AppendItalcorr\HyPsd@String
1224     \ifx\Hy@temp@A\@empty
1225       \Hy@ReturnAfterElseFiFiEnd{%
1226         \HyPsd@RemoveBraces{#2}%
1227       }%
1228     \else
1229       \HyPsd@ProtectSpaces\Hy@temp@A
1230       \HyPsd@AppendItalcorr\Hy@temp@A
1231       \Hy@ReturnAfterFiFiEnd{%
1232         \expandafter\HyPsd@RemoveBraces\expandafter
1233           {\Hy@temp@A#2}%
1234       }%
1235     \fi
1236   \fi
1237   \Hy@ReturnEnd
1238 }

```

\HyPsd@AppendItalcorr The string can contain commands yet, so it is better to use \def instead of a shorter \HyPsd@@AppendItalcorr \edef. The two help macros limit the count of \expandafter.

```

1239 \def\HyPsd@AppendItalcorr#1{%
1240   \expandafter\HyPsd@@AppendItalcorr\expandafter{/}#1%
1241 }
1242 \def\HyPsd@@AppendItalcorr#1#2{%
1243   \expandafter\def\expandafter#2\expandafter{#2#1}%
1244 }

```

6.6.4 Catcode check

Check catcodes.

\HyPsd@CheckCatcodes Because \ifcat expands its arguments, this is prevented by \noexpand. In case of command tokens and active characters \ifcat now sees a \relax. After protecting spaces and removing braces #1 should be a single token, no group of several tokens, nor an empty group. (So the \expandafter\relax between \ifcat and \noexpand is only for safety and it should be possible to remove it.)

`\protect` and `\relax` should be removed silently. But it is too dangerous and breaks some code giving them the meaning of `\@empty`. So commands with the meaning of `\protect` are removed here. (`\protect` should have the meaning of `\@typeset@protect` that is equal to `\relax`).

```

1245 \def\HyPsd@CheckCatcodes#1#2\HyPsd@end{%
1246   \global\let\HyPsd@Rest\relax
1247   \ifcat\relax\noexpand#1\relax
1248     \ifx#1\protect
1249       \else
1250         \ifx#1\penalty
1251           \setbox\z@=\hbox{%
1252             \afterassignment\HyPsd@AfterCountRemove
1253             \count@=#2\HyPsd@end
1254           }%
1255         \else
1256           \ifx#1\kern
1257             \setbox\z@=\hbox{%
1258               \afterassignment\HyPsd@AfterDimenRemove
1259               \dimen@=#2\HyPsd@end
1260             }%
1261           \else
1262             \ifx#1\hskip
1263               \setbox\z@=\hbox{%
1264                 \afterassignment\HyPsd@AfterSkipRemove
1265                 \skip@=#2\HyPsd@end
1266               }%
1267             \else
1268               \HyPsd@CatcodeWarning{#1}%
1269             \fi
1270           \fi
1271         \fi
1272       \fi
1273     \else
1274       \ifcat#1A% letter
1275         \expandafter\def\expandafter\HyPsd@String\expandafter{%
1276           \HyPsd@String#1%
1277         }%
1278       \else
1279         \ifcat#1 % SPACE
1280           \expandafter\def\expandafter\HyPsd@String\expandafter{%
1281             \HyPsd@String\HyPsd@SPACEOPTI
1282           }%
1283         \else
1284           \ifcat$#1%
1285             \HyPsd@CatcodeWarning{math shift}%
1286           \else
1287             \ifcat&#1%
1288               \HyPsd@CatcodeWarning{alignment tab}%
1289             \else
1290               \ifcat^#1%
1291                 \HyPsd@CatcodeWarning{superscript}%
1292               \else
1293                 \ifcat_#1%
1294                   \HyPsd@CatcodeWarning{subscript}%
1295                 \else
1296                   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1297                     \HyPsd@String#1%

```

```

1298             }%
1299         \fi
1300     \fi
1301 \fi
1302 \fi
1303 \fi
1304 \fi
1305 \fi
1306 \ifx\HyPsd@Rest\relax
1307     \ifx\scrollmode#2\scrollmode
1308     \else
1309         \Hy@ReturnAfterFiFiEnd{%
1310             \HyPsd@CheckCatcodes#2\HyPsd@End
1311         }%
1312     \fi
1313 \else
1314     \ifx\HyPsd@Rest\@empty
1315     \else
1316         \Hy@ReturnAfterFiFiEnd{%
1317             \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1318         }%
1319     \fi
1320 \fi
1321 \Hy@ReturnEnd
1322 }

```

Remove counts, dimens, skips.

`\HyPsd@AfterCountRemove` Counts like `\penalty` are removed silently.

```

1323 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1324     \gdef\HyPsd@Rest{#1}%
1325 }

```

`\HyPsd@AfterDimenRemove` If the value of the dimen (`\kern`) is zero, it can be removed silently. All other values are difficult to interpret. Negative values do not work in bookmarks. Should positive values be removed or should they be replaced by space(s)? The following code replaces positive values greater than `1ex` with a space and removes them else.

```

1326 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1327     \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@ \fi > 1ex %
1328     \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1329     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1330 \else
1331     \ifdim\dimen@=\z@
1332     \else
1333         \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1334     \fi
1335     \gdef\HyPsd@Rest{#1}%
1336 \fi
1337 }

```

`\HyPsd@AfterSkipRemove` The glue part of skips do not work in PDF strings and are ignored. Skips (`\hskip`), that are not zero, have the same interpreting problems like dimens (see above).

```

1338 \def\HyPsd@AfterSkipRemove#1\HyPsd@End{%
1339     \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@ \fi > 1ex %
1340     \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1341     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%

```

```

1342 \else
1343   \ifdim\skip@=\z@
1344   \else
1345     \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1346   \fi
1347   \gdef\HyPsd@Rest{#1}%
1348 \fi
1349 }

```

Catcode warnings.

\HyPsd@CatcodeWarning \HyPsd@CatcodeWarning produces a warning for the user.

```

1350 \def\HyPsd@CatcodeWarning#1{%
1351   \HyPsd@Warning{%
1352     Token not allowed in a PDF string (%
1353     \ifHy@unicode
1354       Unicode%
1355     \else
1356       PDFDocEncoding%
1357     \fi
1358     ),%
1359     \MessageBreak removing ‘\HyPsd@RemoveCmdPrefix#1’%
1360   }%
1361 }
1362 \begingroup
1363   \catcode‘\|=0 %
1364   \catcode‘\|=12 %
1365   \gdef\HyPsd@RemoveCmdPrefix#1{%
1366     \expandafter\HyPsd@@RemoveCmdPrefix
1367       \string#1|@empty\<>-|@empty|@empty
1368   }%
1369   \gdef\HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
1370 \endgroup

```

\HyPsd@RemoveSpaceWarning

```

1371 \def\HyPsd@RemoveSpaceWarning#1{%
1372   \HyPsd@Warning{%
1373     Token not allowed in a PDFDocEncoded string:%
1374     \MessageBreak #1\MessageBreak
1375     removed%
1376   }%
1377 }

```

\HyPsd@ReplaceSpaceWarning

```

1378 \def\HyPsd@ReplaceSpaceWarning#1{%
1379   \HyPsd@Warning{%
1380     Token not allowed in a PDFDocEncoded string:%
1381     \MessageBreak #1\MessageBreak
1382     replaced by space%
1383   }%
1384 }

```

6.6.5 Check for wrong glyphs

A wrong glyph is marked with \relax, the glyph name follows, delimited by >. \@empty ends the string.

```

1385 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1386   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1387     \HyPsd@String#1%
1388   }%
1389   \ifx\#2\%
1390   \else
1391     \Hy@ReturnAfterFi{%
1392       \HyPsd@GlyphProcessWarning#2\@empty
1393     }%
1394   \fi
1395 }
1396 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1397   \HyPsd@Warning{%
1398     Glyph not defined in %
1399     P\ifHy@unicode U\else D\fi\space encoding,\MessageBreak
1400     removing '@backslashchar#1'%
1401   }%
1402   \HyPsd@GlyphProcess#2\@empty
1403 }

```

Spaces.

`\HyPsd@spaceopti` In the string the spaces are represented by `\HyPsd@spaceopti` tokens. Within an `\edef` it prints itself as a simple space and looks for its next argument. If another space follows, so it replaces the next `\HyPsd@spaceopti` by an protected space `\040`.

```

1404 \def\HyPsd@spaceopti#1{ % first space
1405   \ifx\HyPsd@spaceopti#1%
1406     \040%
1407   \else
1408     #1%
1409   \fi
1410 }%

```

6.6.6 Replacing tokens

`\HyPsd@Subst` To save tokens `\HyPsd@StringSubst` is an wrapper for the command `\HyPsd@Subst` that does all the work: In string stored in command #3 it replaces the tokens #1 with #2.

- #1 Exact the tokens that should be replaced.
- #2 The replacement (don't need to be expanded).
- #3 Command with the string.

```

1411 \def\HyPsd@Subst#1#2#3{%
1412   \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
1413     \fi
1414     ##1%
1415     \ifx\scrollmode##2\scrollmode
1416     \else
1417       #2%
1418     \HyPsd@@ReplaceFi##2\END
1419   \fi
1420 }%
1421 \xdef#3{%
1422   \iftrue
1423     \expandafter\HyPsd@@ReplaceFi#3#1\END
1424   \fi
1425 }%
1426 }

```

`\HyPsd@StringSubst` To save tokens in `\pdfstringdef \HyPsd@StringSubst` is a wrapper, that expands argument #1 before calling `\HyPsd@Subst`.

```
1427 \def\HyPsd@StringSubst#1{%
1428   \expandafter\HyPsd@Subst\expandafter{\string#1}%
1429 }
```

6.6.7 Support for package `xspace`

`\HyPsd@doxspace` `\xspace` does not work, because it uses a `\futurelet` that cannot be executed in \TeX 's mouth. So this implementation uses an argument to examine the next token. In a previous version I reused `\@xspace`, but this version is shorter and easier to understand.

```
1430 \def\HyPsd@doxspace#1{%
1431   \ifx#1\relax\else
1432     \ifx#1.\else
1433       \ifx#1:\else
1434         \ifx#1,\else
1435           \ifx#1;\else
1436             \ifx#1!\else
1437               \ifx#1?\else
1438                 \ifx#1/\else
1439                   \ifx#1-\else
1440                     \ifx#1'\else
1441                       \HyPsd@SPACEOPTI
1442                     \fi
1443                   \fi
1444                 \fi
1445               \fi
1446             \fi
1447           \fi
1448         \fi
1449       \fi
1450     \fi
1451   \fi
1452   #1%
1453 }
```

6.6.8 Converting to Unicode

Eight bit characters are converted to the sixteen bit ones, `\8` is replaced by `\00`, and `\9` is removed. The result should be a valid Unicode PDF string without the Unicode marker at the beginning.

```
1454 \begingroup
1455   \catcode'\|=0 %
1456   \catcode'\|=12 %
```

`\HyPsd@ConvertToUnicode`

```
1457 |gdef|HyPsd@ConvertToUnicode#1{%
1458   |xdef#1{%
1459     |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1460   }%
1461   |ifx#1|@empty
1462   |else
1463     |xdef#1{%
1464       \376\377%
1465       #1%
1466     }%
```

```

1467     |fi
1468 }%

\HyPsd@DoConvert
1469 |gdef|HyPsd@DoConvert#1{%
1470     |ifx#1|@empty
1471     |else
1472         |Hy@ReturnAfterFi{%
1473             |ifx#1\%%
1474             \%%
1475             |expandafter|HyPsd@DoEscape
1476             |else
1477                 \000#1%
1478                 |expandafter|HyPsd@DoConvert
1479             |fi
1480         }%
1481     |fi
1482 }%

```

\HyPsd@DoEscape

```

1483 |gdef|HyPsd@DoEscape#1{%
1484     |ifx#19%
1485     |expandafter|HyPsd@GetTwoBytes
1486     |else
1487         |Hy@ReturnAfterFi{%
1488             |ifx#18%
1489             00%
1490             |expandafter|HyPsd@GetTwoBytes
1491             |else
1492                 #1%
1493                 |expandafter|HyPsd@GetOneByte
1494             |fi
1495         }%
1496     |fi
1497 }%

```

\HyPsd@GetTwoBytes

```

1498 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
1499     #1\#2#3#4%
1500     |HyPsd@DoConvert
1501 }%

```

\HyPsd@GetOneByte

```

1502 |gdef|HyPsd@GetOneByte#1#2{%
1503     #1#2%
1504     |HyPsd@DoConvert
1505 }%
1506 |endgroup

```

\HyPsd@@GetNextTwoTokens \TeX does only allow nine parameters, so we need another macro to get more arguments.

```

1507 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1508     \xdef#4{#4#1#2}%
1509     \HyPsd@@ConvertToUnicode#3\END#4%
1510 }

```

6.6.9 Support for UTF-8 input encoding

After `\usepackage[utf8]{inputenc}` there are macros that expect the UTF-8 octets as arguments. Therefore we can calculate the PDF octal sequences directly. Because the PDF format is limited to UCS-2, conversion macros are needed for UTF-8 sequences with two and three octets only.

This calculation must be done in an expandable context, so we use `eTeX` here for performance reasons. Unhappily the results of divisions are rounded. Thus a circumvention via `\dimexpr` is used, e.g.:

```

\numexpr 123/4\relax is replaced by
\number\dimexpr.25\dimexpr 123sp\relax\relax

1511 \begingroup\expandafter\expandafter\expandafter\endgroup
1512 \expandafter\ifx\csname numexpr\endcsname\relax
1513   \let\HyPsd@UTFviii\relax
1514 \else
1515   \begingroup
1516     \lccode'\~='^f4\relax
1517   \lowercase{\endgroup
1518     \def\HyPsd@UTFviii{%
1519       \let\UTFviii@two@octets\HyPsd@UTFviii@two
1520       \let\UTFviii@three@octets\HyPsd@UTFviii@three
1521       \let\UTFviii@four@octets\HyPsd@UTFviii@four
1522       \ifx~\HyPsd@UTFviii@ccxliv@undef
1523         \let~\HyPsd@UTFviii@ccxliv@def
1524       \fi
1525       \let\unichar\HyPsd@unichar
1526     }%
1527   }%
1528   \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
1529   \edef\HyPsd@UTFviii@ccxliv@def{%
1530     \noexpand\UTFviii@four@octets\string ^f4%
1531   }%

```

The two octet form of UTF-8 110aaabb (A) and 10cccd (B) must be converted into octal numbers 00a and bcd. The result is `\8a\bcd` (with a, b, c, d as octal numbers). The conversion equations.

$$a := A/4 - 48 \quad (1)$$

$$b := A - 4 * (A/4) \quad (2)$$

$$c := B/8 - 8 * ((8 * (B/8))/8) \quad (3)$$

$$d := B - 8 * (B/8) \quad (4)$$

$$(5)$$

```

1532 \def\HyPsd@UTFviii@two#1#2{%
1533   \expandafter\HyPsd@UTFviii@two
1534   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|%
1535   \number'#1\expandafter|%
1536   \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter|%
1537   \number'#2 \@nil
1538 }%
1539 \def\HyPsd@UTFviii@two#1|#2|#3|#4\@nil{%
1540   \expandafter\8%
1541   \number\dimexpr #1-48\expandafter\relax
1542   \csname\number\dimexpr #2-4*#1\relax\expandafter\endcsname
1543   \number\dimexpr #3-8*%

```



```

1544 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
1545 \number\numexpr #4-8*#3\relax
1546 }%

```

Three octet form: 1110aabb (A), 10bccdd (B), and 10eeefff (C). The result is \9abc\def (with a, ..., f as octal numbers). The conversion equations:

$$a := A/4 - 56 \quad (6)$$

$$b := 2 * (A - 4 * (A/4)) + ((B - 128 < 32)?0 : 1) \quad (7)$$

$$c := B/4 - 32 - ((B - 128 < 32)?0 : 8) \quad (8)$$

$$d := B - 4 * (B/4) \quad (9)$$

$$e := C/8 - 16 \quad (10)$$

$$f := C - 8 * (C/8) \quad (11)$$

$$(12)$$

```

1547 \def\HyPsd@UTFviii@three#1#2#3{%
1548 \expandafter\HyPsd@UTFviii@three
1549 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|
1550 \number'#1\expandafter|
1551 \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter|
1552 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter|
1553 \number'#2\expandafter|
1554 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter|
1555 \number'#3 \@nil
1556 }%
1557 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
1558 \expandafter\9
1559 \number\numexpr #1-56\expandafter\relax
1560 \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
1561 \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
1562 \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
1563 \number\numexpr #6-16\expandafter\relax
1564 \number\numexpr #7-8*#6\relax
1565 }%

```

Surrogates: 4 octets in UTF-8, a surrogate pair in UTF-16. High surrogate range: U+D800–U+DBFF, low surrogate range: U+DC00–U+DFFF.

```

UTF-8:  11110uuu    10uuzzzz    10yyyyyy    10xxxxxx
www = uuuu - 1
UTF-16: 110110ww    wwzzzzyy    110111yy    yyxxxxxx
octal:  011 011 0ww  0ww zzz zyy  011 011 1yy  0yy xxx xxx

```

```

1566 \def\HyPsd@UTFviii@four#1#2{%
1567 \expandafter\HyPsd@UTFviii@four\number
1568 \numexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
1569 \expandafter|\number
1570 \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp|
1571 }%
1572 \def\HyPsd@UTFviii@four#1|#2|#3{%
1573 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
1574 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1575 \ifodd#2 %
1576 \number\numexpr(#2-1)/2\relax
1577 \else
1578 \number\numexpr#2/2\relax
1579 \fi

```

```

1580 \number\numexpr\ifodd#2 4+\fi
1581 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
1582 \933%
1583 \expandafter\HyPsd@@UTFviii@four\number
1584 \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp|%
1585 }%
1586 \def\HyPsd@@UTFviii@four#1|#2{%
1587 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
1588 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1589 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
1590 \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
1591 }%

```

Input encoding utf8x of package ucs uses macro \unichar. Values greater than "FFFF are not supported.

```

1592 \def\HyPsd@unichar#1{%
1593 \ifHy@unicode
1594 \ifnum#1>"10FFFF %
1595 \HyPsd@UnicodeReplacementCharacter % illegal
1596 \else
1597 \ifnum#1>"FFFF %

```

High-surrogate code point. ("D800 = 55296, \p@ = 1pt = 65536sp)

```

1598 \expandafter\HyPsd@unichar\expandafter{%
1599 \number\numexpr 55296+%
1600 \dimexpr.0009765625\dimexpr\number#1sp-\p@
1601 \relax\relax\relax
1602 }%

```

Low-surrogate code point. ("DC00 = 56320, "DC00 - 65536 = -9216)

```

1603 \expandafter\HyPsd@unichar\expandafter{%
1604 \number\numexpr#1-9216%
1605 -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
1606 \relax\relax\relax
1607 }%
1608 \else
1609 \ifnum#1>"7FF %
1610 \9%
1611 \expandafter\HyPsd@unichar@first@byte\expandafter{%
1612 \number
1613 \dimexpr.00390625\dimexpr\number#1sp\relax\relax
1614 }%
1615 \else
1616 \8%
1617 \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
1618 \fi
1619 \expandafter\HyPsd@unichar@second@byte\expandafter{%
1620 \number
1621 \numexpr#1-256*\number
1622 \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
1623 }%
1624 \fi
1625 \fi
1626 \else
1627 .% unsupported (Unicode -> PDF Doc Encoding)
1628 \fi
1629 }%
1630 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%

```

```

1631 \def\HyPsd@unichar@first@byte#1{%
1632   \number\dimexpr.015625\dimexpr#1sp\relax\relax
1633   \expandafter\HyPsd@unichar@octtwo\expandafter{%
1634     \number
1635     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1636     \relax\relax\relax
1637   }%
1638 }%
1639 \def\HyPsd@unichar@second@byte#1{%
1640   \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
1641   \expandafter\HyPsd@unichar@octtwo\expandafter{%
1642     \number
1643     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
1644     \relax\relax\relax
1645   }%
1646 }%
1647 \def\HyPsd@unichar@octtwo#1{%
1648   \number\dimexpr.125\dimexpr#1sp\relax\relax
1649   \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
1650   \relax\relax\relax
1651 }%
1652 \fi

```

7 Support of other packages

7.1 Class memoir

```

1653 \@ifclassloaded{memoir}{%
1654   \AtEndOfPackage{\RequirePackage{memhfixc}}%
1655 }{}

```

7.2 Package subfigure

Added fix for version 2.1. Here \sub@label is defined.

```

1656 \@ifpackageloaded{subfigure}{%
1657   \@ifundefined{sub@label}{%
1658     \Hy@hypertextnamesfalse
1659   }{%
1660     \renewcommand*{\sub@label}[1]{%
1661       \@bsphack
1662       \subfig@oldlabel{#1}%
1663       \if@filesw
1664         \begingroup
1665           \edef\@currentlabstr{%
1666             \expandafter\strip@prefix\meaning\@currentlabelname
1667           }%
1668           \protected@write\@auxout{}{%
1669             \string\newlabel{sub@#1}{%
1670               {\@nameuse{\@thesub\@capttype}}%
1671               {\thepage}%
1672             }%
1673             \expandafter\strip@period\@currentlabstr
1674             \relax.\relax\@@@%
1675           }%
1676           {\@currentHref}%
1677           {}%
1678         }%

```

```

1679         }%
1680     \endgroup
1681 \fi
1682 \@esphack
1683 }%
1684 \@ifpackagelater{subfigure}{2002/03/26}{\%
1685     \providecommand*{\toclevel@subfigure}{1}%
1686     \providecommand*{\toclevel@subtable}{1}%
1687 }%
1688 }%
1689 }{}

```

7.3 Package xr and xr-hyper

The beta version of xr that supports \XR@addURL is called `xr-hyper`. Therefore we test for the macro itself and not for the package name:

```

1690 \@ifundefined{XR@addURL}{%
1691 }{}

```

If reading external aux files check whether they have a non zero fourth field in `\newlabel` and if so, add the URL as the fifth field.

```

1692 \def\xR@addURL#1{\XR@dURL#1{}{}{}{}\\}%
1693 \def\xR@dURL#1#2#3#4#5\{%
1694     {#1}-{#2}%
1695     \if!#4!%
1696     \else
1697         {#3}-{#4}{\XR@URL}%
1698     \fi
1699 }%
1700 }

1701 \def\Hy@true{true}
1702 \def\Hy@false{false}

```

Providing dummy definitions.

```

1703 \let\literalps@out@gobble
1704 \newcommand\pdfbookmark[3][]{\%
1705 \def\Acrobatmenu#1#2{\leavevmode#2}
1706 \def\Hy@writebookmark#1#2#3#4#5{}%

```

8 Help macros for links

Anchors get created on the baseline of where they occur. If an XYZ PDF view is set, this means that the link places the top of the screen *on the baseline* of the target. If this is an equation, for instance, it means that you cannot see anything. Some links, of course, are created at the start of environments, and so it works. To allow for this, anchors are raised, where possible, by some small amount. This defaults to `\baselineskip`, but users can set it to something else in two ways (thanks to Heiko Oberdiek for suggesting this):

1. Redefine `\HyperRaiseLinkDefault` to be eg the height of a `\strut`
2. Redefine `\HyperRaiseLinkHook` to do something complicated; it must give a value to `\HyperRaiseLinkLength`, which is what actually gets used

```

1707 \let\HyperRaiseLinkHook\@empty
1708 \def\HyperRaiseLinkDefault{\baselineskip}

```

\HyperRaiseLinkHook allows the user to reassign \HyperRaiseLinkLength.

```

1709 \def\Hy@raisedlink#1{%
1710   \ifvmode
1711     #1%
1712   \else
1713     \penalty\@M
1714     \smash{%
1715       \begingroup
1716         \let\HyperRaiseLinkLength\@tempdima
1717         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
1718         \HyperRaiseLinkHook
1719       \expandafter\endgroup
1720     \expandafter\raise\the\HyperRaiseLinkLength\hbox{#1}%
1721   }%
1722 \fi
1723 }
```

\Hy@SaveLastskip Inserting a \special command to set a destination destroys the \lastskip value.

```

\Hy@RestoreLastskip
1724 \def\Hy@SaveLastskip{%
1725   \let\Hy@RestoreLastskip\relax
1726   \ifvmode
1727     \ifdim\lastskip=\z@
1728       \let\Hy@RestoreLastskip\nobreak
1729     \else
1730       \begingroup
1731         \skip@=-\lastskip
1732         \edef\x{%
1733           \endgroup
1734           \def\noexpand\Hy@RestoreLastskip{%
1735             \noexpand\ifvmode
1736               \noexpand\nobreak
1737               \vskip\the\skip@
1738               \vskip\the\lastskip\relax
1739             \noexpand\fi
1740           }%
1741         }%
1742       \x
1743     \fi
1744   \else
1745     \ifhmode
1746       \ifdim\lastskip=\z@
1747         \let\Hy@RestoreLastskip\nobreak
1748       \else
1749         \begingroup
1750           \skip@=-\lastskip
1751           \edef\x{%
1752             \endgroup
1753             \def\noexpand\Hy@RestoreLastskip{%
1754               \noexpand\ifhmode
1755                 \noexpand\nobreak
1756                 \hskip\the\skip@
1757                 \hskip\the\lastskip\relax
1758               \noexpand\fi
1759             }%
1760           }%
1761         \x
1762       \fi
1763     \fi
1764   }
```

```

1763     \fi
1764   \fi
1765 }%

```

9 Options

9.1 Help macros

\Hy@boolkey

```

1766 \def\Hy@boolkey{\@dblarg\Hy@@boolkey}
1767 \def\Hy@@boolkey[#1]#2#3{%
1768   \lowercase{\def\Hy@tempa{#3}}%
1769   \ifx\Hy@tempa\@empty
1770     \let\Hy@tempa\Hy@true
1771   \fi
1772   \ifx\Hy@tempa\Hy@true
1773   \else
1774     \ifx\Hy@tempa\Hy@false
1775     \else
1776       \let\Hy@tempa\relax
1777     \fi
1778   \fi
1779   \ifx\Hy@tempa\relax
1780     \Hy@WarnOptionValue{#3}{#1}{‘true’ or ‘false’}%
1781   \else
1782     \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
1783     \csname Hy@#2\Hy@tempa\endcsname
1784   \fi
1785 }

```

\Hy@WarnOptionValue

```

1786 \def\Hy@WarnOptionValue#1#2#3{%
1787   \Hy@Warning{%
1788     Unexpected value ‘#1’\MessageBreak
1789     of option ‘#2’ instead of\MessageBreak
1790     #3%
1791   }%
1792 }

```

\Hy@DisableOption

```

1793 \def\Hy@DisableOption#1{%
1794   \@ifundefined{KV@Hyp@#1@default}{%
1795     \define@key{Hyp}{#1}%
1796   }{%
1797     \define@key{Hyp}{#1}[]%
1798   }%
1799   {\Hy@WarnOptionDisabled{#1}}%
1800 }

```

\Hy@WarnOptionDisabled

```

1801 \def\Hy@WarnOptionDisabled#1{%
1802   \Hy@Warning{%
1803     Option ‘#1’ has already been used,\MessageBreak
1804     setting the option has no effect%
1805   }%
1806 }

```

`\Hy@CheckOptionValue` Some options take a string value out of a limited set of values. Macro `\Hy@CheckOptionValue` checks whether the given value #1 for option #2 is a member of the value list #3.

```

1807 \def\Hy@CheckOptionValue#1#2#3{%
1808   \begingroup
1809     \edef\x{#1}%
1810     \@onelevel@sanitize\x
1811     \let\y=y%
1812     \def\do##1##2{%
1813       \def\z{##1}%
1814       \@onelevel@sanitize\z
1815       \ifx\x\z
1816         \let\y=n%
1817         \let\do\@gobbletwo
1818       \fi
1819     }%
1820     #3%
1821     \ifx\y y%
1822       \def\do##1##2{%
1823         * '##1'%
1824         \ifx\\##2\\else\space(##2)\fi
1825         \MessageBreak
1826       }%
1827       \Hy@Warning{%
1828         Values of option '#2':\MessageBreak
1829         #3%
1830         * An empty value disables the option.\MessageBreak
1831         Unknown value '\x'%
1832       }%
1833     \fi
1834   \endgroup
1835 }

```

`\Hy@DefNameKey` #1: option name
 #2: \do list with known values, first argument of \do is value, second argument is a comment.

```

1836 \def\Hy@DefNameKey#1{%
1837   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
1838 }

```

`\Hy@@DefNameKey` #1: macro for value storage
 #2: option name
 #3: \do list with known values.

```

1839 \def\Hy@@DefNameKey#1#2#3{%
1840   \define@key{Hyp}{#2}{%
1841     \edef#1{##1}%
1842     \ifx#1\@empty
1843       \else
1844         \Hy@CheckOptionValue{##1}{#2}{#3}%
1845       \fi
1846     }%
1847   \let#1\@empty
1848 }

```

`\Hy@UseNameKey`

```

1849 \def\Hy@UseNameKey#1#2{%
1850   \ifx#2\@empty

```

```

1851 \else
1852     /#1/#2%
1853 \fi
1854 }

```

9.2 Defining the options

```

1855 \define@key{Hyp}{implicit}[true]{%
1856   \Hy@boolkey{implicit}{#1}%
1857 }
1858 \define@key{Hyp}{draft}[true]{%
1859   \Hy@boolkey{draft}{#1}%
1860 }
1861 \define@key{Hyp}{final}[true]{%
1862   \Hy@boolkey{final}{#1}%
1863 }
1864 \let\KV@Hyp@nolinks\KV@Hyp@draft
1865 \define@key{Hyp}{a4paper}[true]{%
1866   \def\special@paper{210mm,297mm}%
1867   \def\Hy@pageheight{842}%
1868 }
1869 \define@key{Hyp}{a5paper}[true]{%
1870   \def\special@paper{148mm,210mm}%
1871   \def\Hy@pageheight{595}%
1872 }
1873 \define@key{Hyp}{b5paper}[true]{%
1874   \def\special@paper{176mm,250mm}%
1875   \def\Hy@pageheight{709}%
1876 }
1877 \define@key{Hyp}{letterpaper}[true]{%
1878   \def\special@paper{8.5in,11in}%
1879   \def\Hy@pageheight{792}%
1880 }
1881 \define@key{Hyp}{legalpaper}[true]{%
1882   \def\special@paper{8.5in,14in}%
1883   \def\Hy@pageheight{1008}%
1884 }
1885 \define@key{Hyp}{executivepaper}[true]{%
1886   \def\special@paper{7.25in,10.5in}%
1887   \def\Hy@pageheight{720}%
1888 }
1889 \define@key{Hyp}{setpagesize}[true]{%
1890   \Hy@boolkey{setpagesize}{#1}%
1891 }
1892 \define@key{Hyp}{debug}[true]{%
1893   \Hy@boolkey[debug]{verbose}{#1}%
1894 }
1895 \define@key{Hyp}{linktocpage}[true]{%
1896   \Hy@boolkey{linktocpage}{#1}%
1897   \ifHy@linktocpage
1898     \let\Hy@linktoc\Hy@linktoc@page
1899   \else
1900     \let\Hy@linktoc\Hy@linktoc@section
1901   \fi
1902 }
1903 \chardef\Hy@linktoc@none=0 %
1904 \chardef\Hy@linktoc@section=1 %

```



```

1905 \chardef\Hy@linktoc@page=2 %
1906 \chardef\Hy@linktoc@all=3 %
1907 \ifHy@linktocpage
1908   \let\Hy@linktoc\Hy@linktoc@page
1909 \else
1910   \let\Hy@linktoc\Hy@linktoc@section
1911 \fi
1912 \define@key{Hyp}{linktoc}{%
1913   \@ifundefined{Hy@linktoc@#1}{%
1914     \Hy@Warning{%
1915       Unexpected value ‘#1’ of\MessageBreak
1916       option ‘linktoc’ instead of ‘none’,\MessageBreak
1917       ‘section’, ‘page’ or ‘all’%
1918     }%
1919   }{%
1920     \expandafter\let\expandafter\Hy@linktoc
1921     \csname Hy@linktoc@#1\endcsname
1922   }%
1923 }
1924 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
1925 \def\XR@ext{dvi}
1926 \define@key{Hyp}{verbose}[true]{%
1927   \Hy@boolkey{verbose}{#1}%
1928 }
1929 \define@key{Hyp}{typexml}[true]{%
1930   \Hy@boolkey{typexml}{#1}%
1931 }

```

If we are going to PDF via HyperTeX \special commands, the dvips (-z option) processor does not know the *height* of a link, as it works solely on the position of the closing \special. If we use this option, the \special is raised up by the right amount, to fool the dvi processor.

```

1932 \define@key{Hyp}{raiselinks}[true]{%
1933   \Hy@boolkey{raiselinks}{#1}%
1934 }

```

Most PDF-creating drivers do not allow links to be broken

```

1935 \define@key{Hyp}{breaklinks}[true]{%
1936   \Hy@boolkey{breaklinks}{#1}%
1937 }

```

Determines whether an automatic anchor is put on each page

```

1938 \define@key{Hyp}{pageanchor}[true]{%
1939   \Hy@boolkey{pageanchor}{#1}%
1940 }

```

Are the page links done as plain arabic numbers, or do they follow the formatting of the package? The latter loses if you put in typesetting like \textbf or the like.

```

1941 \define@key{Hyp}{plainpages}[true]{%
1942   \Hy@boolkey{plainpages}{#1}%
1943 }

```

Are the names for anchors made as per the HyperTeX system, or do they simply use what L^AT_EX provides?

```

1944 \define@key{Hyp}{naturalnames}[true]{%
1945   \Hy@boolkey{naturalnames}{#1}%
1946 }

```

Completely ignore the names as per the HyperTeX system, and use unique counters.

```

1947 \define@key{Hyp}{hypertexnames}[true]{%
1948   \Hy@boolkey{hypertexnames}{#1}%

```

1949 }

Currently, dvips doesn't allow anchors nested within targets, so this option tries to stop that happening. Other processors may be able to cope.

```

1950 \define@key{Hyp}{nesting}[true]{%
1951   \Hy@boolkey{nesting}{#1}%
1952 }

1953 \define@key{Hyp}{unicode}[true]{%
1954   \Hy@boolkey{unicode}{#1}%
1955   \ifHy@unicode
1956     \def\HyPsd@pdfencoding{unicode}%
1957   \else
1958     \def\HyPsd@pdfencoding{pdfdoc}%
1959   \fi
1960   \HyPsd@LoadUnicode
1961 }

1962 \def\HyPsd@LoadUnicode{%
1963   \@ifundefined{T@PU}{\input{puenc.def}}{}%
1964   \DeclareFontFamily{PU}{pdf}{}%
1965   \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
1966   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
1967   \global\let\HyPsd@LoadUnicode\relax
1968 }

1969 \AtBeginDocument{%
1970   \ifx\HyPsd@LoadUnicode\relax
1971   \else
1972     \def\HyPsd@LoadUnicode{%
1973       \PackageError{hyperref}{%
1974         Unicode support for bookmarks is not available.\MessageBreak
1975         Activate unicode support by using one of the options\MessageBreak
1976         'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
1977         in the preamble%
1978       } \@ehc
1979       \global\let\HyPsd@LoadUnicode\relax
1980       \global\Hy@unicodedefalse
1981       \global\let\Hy@unicodetrue\Hy@unicodedefalse
1982     }%
1983   \fi
1984 }

1985 \define@key{Hyp}{pdfencoding}{%
1986   \edef\HyPsd@temp{#1}%
1987   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
1988     \let\HyPsd@pdfencoding\HyPsd@temp
1989     \Hy@unicodedefalse
1990   \else
1991     \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
1992       \z@
1993     \else
1994       \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
1995         \z@
1996       \else
1997         \@ne
1998       \fi
1999     \fi
2000     \let\HyPsd@pdfencoding\HyPsd@temp
2001     \hypersetup{unicode}%
2002     \ifHy@unicode
2003       \def\HyPsd@pdfencoding{#1}%

```

```

2004         \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2005             \HyPsd@LoadStringEnc
2006         \fi
2007     \else
2008         \Hy@Warning{Cannot switch to unicode bookmarks}%
2009         \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2010     \fi
2011 \else
2012     \@onelevel@sanitize\HyPsd@temp
2013     \Hy@Warning{%
2014         Values of option 'pdfencoding':\MessageBreak
2015         'pdfdoc', 'unicode', 'auto'.\MessageBreak
2016         Ignoring unknown value '\HyPsd@temp'%
2017     }%
2018 \fi
2019 \fi
2020 }
2021 \def\HyPsd@pdfencoding@auto{auto}
2022 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2023 \def\HyPsd@pdfencoding@unicode{unicode}
2024 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2025 \def\HyPsd@LoadStringEnc{%
2026     \RequirePackage{stringenc}[2007/06/14]%
2027     \let\HyPsd@LoadStringEnc\relax
2028 }
2029 \AtBeginDocument{%
2030     \@ifpackageloaded{stringenc}{%
2031         \let\HyPsd@LoadStringEnc\relax
2032     }{%
2033         \def\HyPsd@LoadStringEnc{%
2034             \Hy@WarningNoLine{%
2035                 Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
2036                 in the preamble or load the package there%
2037             }%
2038         }%
2039     }%
2040 }
2041 \newif\ifHy@setpdfversion
2042 \define@key{Hyp}{pdfversion}{%
2043     \@ifundefined{Hy@pdfversion@#1}{%
2044         \PackageWarning{hyperref}{%
2045             Unsupported PDF version '#1'.\MessageBreak
2046             Valid values: 1.2 until 1.7%
2047         }%
2048     }{%
2049         \Hy@setpdfversiontrue
2050         \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2051     }%
2052 }
2053 \@namedef{Hy@pdfversion@1.2}{2}%
2054 \@namedef{Hy@pdfversion@1.3}{3}%
2055 \@namedef{Hy@pdfversion@1.4}{4}%
2056 \@namedef{Hy@pdfversion@1.5}{5}%
2057 \@namedef{Hy@pdfversion@1.6}{6}%
2058 \@namedef{Hy@pdfversion@1.7}{7}%
2059 \def\Hy@pdfversion{2}

```

10 Options for different drivers

```

2060 \define@key{Hyp}{hyperref}[true]{}
2061 \define@key{Hyp}{tex4ht}[true]{}%
2062 \def\XR@ext{html}%
2063 \Hy@texhttrue
2064 \def\Hy@raisedlink{}%
2065 \setkeys{Hyp}{colorlinks=true}%
2066 \def\BeforeTeXIVht{\usepackage{color}}%
2067 \def\Hy@driver{htex4ht}%
2068 \def\MaybeStopEarly{%
2069   \typeout{Hyperref stopped early}%
2070   \AfterBeginDocument{%
2071     \PDF@FinishDoc
2072     \gdef\PDF@FinishDoc{}%
2073   }%
2074   \endinput
2075 }%
2076 }
2077 \define@key{Hyp}{pdftex}[true]{}%
2078 \def\Hy@driver{hpdftex}%
2079 \def\XR@ext{pdf}%
2080 \PassOptionsToPackage{pdftex}{color}%
2081 \Hy@breaklinkstrue
2082 }
2083 \define@key{Hyp}{dvipdf}[true]{}%
2084 \Hy@WarningNoLine{%
2085   Option 'dvipdf' is deprecated.\MessageBreak
2086   See the user manual for available driver options%
2087 }%
2088 }
2089 \define@key{Hyp}{nativepdf}[true]{}%
2090 \def\Hy@driver{hdvips}%
2091 \def\Hy@raisedlink{}%
2092 \def\XR@ext{pdf}%
2093 }
2094 \define@key{Hyp}{dvipdfm}[true]{}%
2095 \def\Hy@driver{hdvipdfm}%
2096 \def\XR@ext{pdf}%
2097 \Hy@breaklinkstrue
2098 }
2099 \define@key{Hyp}{dvipdfmx}[true]{}%
2100 \def\Hy@driver{hdvipdfm}%
2101 \def\XR@ext{pdf}%
2102 \Hy@breaklinkstrue
2103 }
2104 \define@key{Hyp}{dvipdfmx-outline-open}[true]{}%
2105 \expandafter\ifx\csname if#1\expandafter\endcsname
2106   \csname iftrue\endcsname
2107   \chardef\SpecialDvipdfmxOutlineOpen\@ne
2108 \else
2109   \chardef\SpecialDvipdfmxOutlineOpen\z@
2110 \fi
2111 }
2112 \define@key{Hyp}{xetex}[true]{}%
2113 \def\Hy@driver{hdvipdfm}%
2114 \def\XR@ext{pdf}%

```

```

2115 \Hy@breaklinkstrue
2116 }
2117 \define@key{Hyp}{pdfmark}[true]{%
2118 \def\Hy@driver{hdvips}%
2119 \def\Hy@raisedlink{}%
2120 \def\XR@ext{pdf}%
2121 }
2122 \define@key{Hyp}{dvips}[true]{%
2123 \def\Hy@driver{hdvips}%
2124 \def\Hy@raisedlink{}%
2125 \def\XR@ext{pdf}%
2126 }
2127 \define@key{Hyp}{hypertex}[true]{%
2128 \def\Hy@driver{hypertex}%
2129 }
2130 \let\Hy@MaybeStopNow\relax
2131 \define@key{Hyp}{vtex}[true]{%
2132 \begingroup\expandafter\expandafter\expandafter\endgroup
2133 \expandafter\ifx\csname OpMode\endcsname\relax
2134 \latex@error{Non-VTeX processor}{}%
2135 \global\let\Hy@MaybeStopNow\endinput
2136 \endinput
2137 \else
2138 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2139 \def\XR@ext{pdf}%
2140 \def\Hy@driver{hvtex}%
2141 \else
2142 \ifnum\OpMode=10\relax
2143 \def\XR@ext{htm}%
2144 \def\Hy@driver{hvtexhtm}%
2145 \def\MaybeStopEarly{%
2146 \typeout{Hyperref stopped early}%
2147 \AfterBeginDocument{%
2148 \PDF@FinishDoc
2149 \gdef\PDF@FinishDoc{}%
2150 }%
2151 \endinput
2152 }%
2153 \else
2154 \latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2155 \global\let\Hy@MaybeStopNow\endinput
2156 \endinput
2157 \fi
2158 \fi
2159 \fi
2160 }
2161 \define@key{Hyp}{vtexpdfmark}[true]{%
2162 \begingroup\expandafter\expandafter\expandafter\endgroup
2163 \expandafter\ifx\csname OpMode\endcsname\relax
2164 \latex@error{Non-VTeX processor}{}%
2165 \let\Hy@MaybeStopNow\endinput
2166 \endinput
2167 \else
2168 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2169 \def\XR@ext{pdf}%
2170 \def\Hy@driver{hvtexmrk}%
2171 \def\Hy@raisedlink{}%

```

```

2172 \else
2173 \latex@error{Mode (\the\OpMode) has no hyperref driver}{}%
2174 \let\Hy@MaybeStopNow\endinput
2175 \endinput
2176 \fi
2177 \fi
2178 }
2179 \define@key{Hyp}{dviwindo}[true]{%
2180 \def\Hy@driver{hdvwind}%
2181 \setkeys{Hyp}{colorlinks}%
2182 \PassOptionsToPackage{dviwindo}{color}%
2183 }
2184 \define@key{Hyp}{dvipsone}[true]{%
2185 \def\XR@ext{pdf}%
2186 \def\Hy@driver{hdvipson}%
2187 \def\Hy@raisedlink{}%
2188 }
2189 \define@key{Hyp}{textures}[true]{%
2190 \def\XR@ext{pdf}%
2191 \def\Hy@driver{htexture}%
2192 }
2193 \define@key{Hyp}{latex2html}[true]{%
2194 \AtBeginDocument{\@@latextohtmlX}%
2195 }

```

No more special treatment for ps2pdf. Let it sink or swim.

```

2196 \define@key{Hyp}{ps2pdf}[true]{%
2197 \def\Hy@driver{hdvips}%
2198 \def\Hy@raisedlink{}%
2199 \providecommand*\@pdfborder{0 0 1}%
2200 }

```

11 Options to add extra features

Make included figures (assuming they use the standard graphics package) be hypertext links. Off by default. Needs more work.

```

2201 \define@key{Hyp}{hyperfigures}[true]{%
2202 \Hy@boolkey[hyperfigures]{figures}{#1}%
2203 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

2204 \define@key{Hyp}{hyperfootnotes}[true]{%
2205 \Hy@boolkey{hyperfootnotes}{#1}%
2206 }

```

Set up back-referencing to be hyper links, by page, slide or section number,

```

2207 \def\back@none{none}
2208 \def\back@section{section}
2209 \def\back@page{page}
2210 \def\back@slide{slide}
2211 \define@key{Hyp}{backref}[section]{%
2212 \lowercase{\def\Hy@tempa{#1}}%
2213 \ifx\Hy@tempa\@empty
2214 \let\Hy@tempa\back@section
2215 \fi
2216 \ifx\Hy@tempa\Hy@false
2217 \let\Hy@tempa\back@none
2218 \fi

```

```

2219 \ifx\Hy@tempa\back@slide
2220   \let\Hy@tempa\back@section
2221 \fi
2222 \ifx\Hy@tempa\back@page
2223   \PassOptionsToPackage{hyperpageref}{backref}%
2224   \Hy@backreftrue
2225 \else
2226   \ifx\Hy@tempa\back@section
2227     \PassOptionsToPackage{hyperref}{backref}%
2228     \Hy@backreftrue
2229   \else
2230     \ifx\Hy@tempa\back@none
2231       \Hy@backreffalse
2232     \else
2233       \Hy@WarnOptionValue{#1}{backref}{%
2234         'section', 'slide', 'page', 'none', \MessageBreak
2235         or 'false'}%
2236     \fi
2237   \fi
2238 \fi
2239 }
2240 \define@key{Hyp}{pagebackref}[true]{%
2241   \lowercase{\def\Hy@tempa{#1}}%
2242   \ifx\Hy@tempa\@empty
2243     \let\Hy@tempa\Hy@true
2244   \fi
2245   \ifx\Hy@tempa\Hy@true
2246     \PassOptionsToPackage{hyperpageref}{backref}%
2247     \Hy@backreftrue
2248   \else
2249     \ifx\Hy@tempa\Hy@false
2250       \Hy@backreffalse
2251     \else
2252       \Hy@WarnOptionValue{#1}{pagebackref}{'true' or 'false'}%
2253     \fi
2254   \fi
2255 }

```

Make index entries be links back to the relevant pages. By default this is turned on, but may be stopped.

```

2256 \define@key{Hyp}{hyperindex}[true]{%
2257   \Hy@boolkey{hyperindex}{#1}%
2258 }

```

Configuration of encap char.

```

2259 \define@key{Hyp}{encap}[\|]{%
2260   \def\HyInd@EncapChar{#1}%
2261 }

```

12 Language options

The `\autoref` feature depends on the language.

```

2262 \def\HyLang@afrikaans{%
2263   \def\equationautorefname{Vergelyking}%
2264   \def\footnoteautorefname{Voetnota}%
2265   \def\itemautorefname{Item}%
2266   \def\figureautorefname{Figuur}%

```

```

2267 \def\tableautorefname{Tabel}%
2268 \def\partautorefname{Deel}%
2269 \def\appendixautorefname{Bylae}%
2270 \def\chapterautorefname{Hoofstuk}%
2271 \def\sectionautorefname{Afdeling}%
2272 \def\subsectionautorefname{Subafdeling}%
2273 \def\subsubsectionautorefname{Subsubafdeling}%
2274 \def\paragraphautorefname{Paragraaf}%
2275 \def\subparagraphautorefname{Subparagraaf}%
2276 \def\FancyVerbLineautorefname{Lyn}%
2277 \def\theoremautorefname{Teorema}%
2278 \def\pageautorefname{Bladysy}%
2279 }
2280 \def\HyLang@english{%
2281 \def\equationautorefname{Equation}%
2282 \def\footnoteautorefname{footnote}%
2283 \def\itemautorefname{item}%
2284 \def\figureautorefname{Figure}%
2285 \def\tableautorefname{Table}%
2286 \def\partautorefname{Part}%
2287 \def\appendixautorefname{Appendix}%
2288 \def\chapterautorefname{chapter}%
2289 \def\sectionautorefname{section}%
2290 \def\subsectionautorefname{subsection}%
2291 \def\subsubsectionautorefname{subsubsection}%
2292 \def\paragraphautorefname{paragraph}%
2293 \def\subparagraphautorefname{subparagraph}%
2294 \def\FancyVerbLineautorefname{line}%
2295 \def\theoremautorefname{Theorem}%
2296 \def\pageautorefname{page}%
2297 }
2298 \def\HyLang@french{%
2299 \def\equationautorefname{\`Equation}%
2300 \def\footnoteautorefname{note}%
2301 \def\itemautorefname{item}%
2302 \def\figureautorefname{Figure}%
2303 \def\tableautorefname{Tableau}%
2304 \def\partautorefname{Partie}%
2305 \def\appendixautorefname{Appendice}%
2306 \def\chapterautorefname{chapitre}%
2307 \def\sectionautorefname{section}%
2308 \def\subsectionautorefname{sous-section}%
2309 \def\subsubsectionautorefname{sous-sous-section}%
2310 \def\paragraphautorefname{paragraphe}%
2311 \def\subparagraphautorefname{sous-paragraphe}%
2312 \def\FancyVerbLineautorefname{ligne}%
2313 \def\theoremautorefname{Th\'eor\'eme}%
2314 \def\pageautorefname{page}%
2315 }
2316 \def\HyLang@german{%
2317 \def\equationautorefname{Gleichung}%
2318 \def\footnoteautorefname{Fu\ss note}%
2319 \def\itemautorefname{Punkt}%
2320 \def\figureautorefname{Abbildung}%
2321 \def\tableautorefname{Tabelle}%
2322 \def\partautorefname{Teil}%
2323 \def\appendixautorefname{Anhang}%

```



```

2324 \def\chapterautorefname{Kapitel}%
2325 \def\sectionautorefname{Abschnitt}%
2326 \def\subsectionautorefname{Unterabschnitt}%
2327 \def\subsubsectionautorefname{Unterunterabschnitt}%
2328 \def\paragraphautorefname{Absatz}%
2329 \def\subparagraphautorefname{Unterabsatz}%
2330 \def\FancyVerbLineautorefname{Zeile}%
2331 \def\theoremautorefname{Theorem}%
2332 \def\pageautorefname{Seite}%
2333 }
2334 \def\HyLang@italian{%
2335 \def\equationautorefname{Equazione}%
2336 \def\footnoteautorefname{nota}%
2337 \def\itemautorefname{punto}%
2338 \def\figureautorefname{Figura}%
2339 \def\tableautorefname{Tabella}%
2340 \def\partautorefname{Parte}%
2341 \def\appendixautorefname{Appendice}%
2342 \def\chapterautorefname{Capitolo}%
2343 \def\sectionautorefname{sezione}%
2344 \def\subsectionautorefname{sottosezione}%
2345 \def\subsubsectionautorefname{sottosottosezione}%
2346 \def\paragraphautorefname{paragrafo}%
2347 \def\subparagraphautorefname{sottoparagrafo}%
2348 \def\FancyVerbLineautorefname{linea}%
2349 \def\theoremautorefname{Teorema}%
2350 \def\pageautorefname{Pag.\@}%
2351 }
2352 \def\HyLang@magyar{%
2353 \def\equationautorefname{Egyenlet}%
2354 \def\footnoteautorefname{l\'abjegyzet}%
2355 \def\itemautorefname{Elem}%
2356 \def\figureautorefname{\'Abra}%
2357 \def\tableautorefname{T\'abl\'azat}%
2358 \def\partautorefname{R\'esz}%
2359 \def\appendixautorefname{F\'uggel\'ek}%
2360 \def\chapterautorefname{fejezet}%
2361 \def\sectionautorefname{szakasz}%
2362 \def\subsectionautorefname{alszakasz}%
2363 \def\subsubsectionautorefname{alalszakasz}%
2364 \def\paragraphautorefname{bekezd\'es}%
2365 \def\subparagraphautorefname{albekezd\'es}%
2366 \def\FancyVerbLineautorefname{sor}%
2367 \def\theoremautorefname{T\'étel}%
2368 \def\pageautorefname{oldal}%
2369 }
2370 \def\HyLang@portuges{%
2371 \def\equationautorefname{Equa\c c\~ao}%
2372 \def\footnoteautorefname{Nota de rodap\'e}%
2373 \def\itemautorefname{Item}%
2374 \def\figureautorefname{Figura}%
2375 \def\tableautorefname{Tabela}%
2376 \def\partautorefname{Parte}%
2377 \def\appendixautorefname{Ap\^endice}%
2378 \def\chapterautorefname{Cap\'itulo}%
2379 \def\sectionautorefname{Se\c c\~ao}%
2380 \def\subsectionautorefname{Subse\c c\~ao}%

```


Names of the part, chapter, section(s) have stable (standard) abbreviation forms. No problem in the middle of sentence.

```
2406 \def\partautorefname{\cyr\cyrch.}%
2407 \def\chapterautorefname{\cyr\cyrg\cyr1.}%
2408 \def\sectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
```

Name of the appendix can use this abbreviation, but it is not standard for books, i.e., not for “the good face of the book”. Commented variant has common form for both nominative and accusative but changes in other forms, like “of \autoref{auto}” etc.

```
2409 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyr1.}%
2410 % \def\appendixautorefname{%
2411 % \cyr\cyrp\cyrr\cyri\cyr1\cyro\cyrrzh\cyre\cyrn\cyri\cyre
2412 % }%
```

The sectioning command have stable (almost standard) and common abbreviation form for all levels (the meaning of these references visible from the section number). No problem.

```
2413 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
2414 \def\subsubsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
```

The names of references to paragraphs also have stable (almost standard) and common abbreviation form for all levels (the meaning of these references is visible from the section number). No problem in the middle of sentence.

```
2415 \def\paragraphautorefname{\cyr\cyrp.}%
2416 \def\subparagraphautorefname{\cyr\cyrp.}%
```

Commented variant can be used in books but since it has common form for both nominative and accusative but it changes in other forms, like “of \autoref{auto}” etc.

```
2417 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
2418 % \def\subparagraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
```

The name of verbatim line. Here could be a standard of the abbreviation (used very rare). But the author preprint publications (which have not any editor or corrector) can use this abbreviation for the page reference. So the meaning of the line reference can be read as reference to the page.

```
2419 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

Commented names of the “verbatim line”: have different forms, also the nominative and accusative.

```
2420 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
2421 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

The alternative, ve-e-e-ery professional abbreviation, was used in typography markup for typesetters.

```
2422 % \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyrk.}%
```

The names of theorem: if we want have “the good face of the book”, so the theorem reference must have the full name (like equation reference). But ...

```
2423 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

Commented forms of the “theorem”: have different forms, also the nominative and accusative.

```
2424 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
2425 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

Name of the page stable (standard) abbreviation form. No problem.

```
2426 \def\pageautorefname{\cyr\cyrs.}%
2427 }
```

```

2428 \def\HyLang@spanish{%
2429   \def\equationautorefname{Ecuaci\'}on}%
2430   \def\footnoteautorefname{Nota a pie de p\'}agina}%
2431   \def\itemautorefname{Elemento}%
2432   \def\figureautorefname{Figura}%
2433   \def\tableautorefname{Tabla}%
2434   \def\partautorefname{Parte}%
2435   \def\appendixautorefname{Ap\'}endice}%
2436   \def\chapterautorefname{Cap\'}itulo}%
2437   \def\sectionautorefname{Secci\'}on}%
2438   \def\subsectionautorefname{Subsecci\'}on}%
2439   \def\subsubsectionautorefname{Subsubsecci\'}on}%
2440   \def\paragraphautorefname{P\'}arrafo}%
2441   \def\subparagraphautorefname{Subp\'}arrafo}%
2442   \def\FancyVerbLineautorefname{L\'}inea}%
2443   \def\theoremautorefname{Teorema}%
2444   \def\pageautorefname{P\'}agina}%
2445 }
2446 \def\HyLang@vietnamese{%
2447   \def\equationautorefname{Ph\'}uhorn{\'}\ohorn{\'}ng tr\'}inh}%
2448   \def\footnoteautorefname{Ch\'}u th\'}ich}%
2449   \def\itemautorefname{m\'}d{u}{c}%
2450   \def\figureautorefname{H\'}inh}%
2451   \def\tableautorefname{B\'}h{a}{ng}%
2452   \def\partautorefname{Ph\'}\acircumflex{n}%
2453   \def\appendixautorefname{Ph\'}d{u} l\'}d{u}{c}%
2454   \def\chapterautorefname{ch\'}uhorn{\'}\ohorn{\'}ng}%
2455   \def\sectionautorefname{m\'}d{u}{c}%
2456   \def\subsectionautorefname{m\'}d{u}{c}%
2457   \def\subsubsectionautorefname{m\'}d{u}{c}%
2458   \def\paragraphautorefname{d\'}j{\'}o{d}{a}{n}%
2459   \def\subparagraphautorefname{d\'}j{\'}o{d}{a}{n}%
2460   \def\FancyVerbLineautorefname{d\'}ong}%
2461   \def\theoremautorefname{D\'}J{\'}d{i}{nh l\'}y}%
2462   \def\pageautorefname{Trang}%
2463 }

```

Instead of package babel's definition of \addto the implementation of package varioref is used. Additionally argument #1 is checked for \relax.

```

2464 \def\HyLang@addto#1#2{%
2465   #2%
2466   \@temptokena{#2}%
2467   \ifx#1\relax
2468     \let#1\@empty
2469   \fi
2470   \ifx#1\undefined
2471     \edef#1{\the\@temptokena}%
2472   \else
2473     \toks@\expandafter{#1}%
2474     \edef#1{\the\toks@\the\@temptokena}%
2475   \fi
2476   \@temptokena{}\toks@\@temptokena
2477 }
2478 \def\HyLang@DeclareLang#1#2#3{%
2479   \begingroup
2480     \edef\x##1##2{%
2481       \noexpand\ifx##2\relax

```

```

2482 \errmessage{No definitions for language #2' found!}%
2483 \noexpand\fi
2484 \endgroup
2485 \noexpand\define@key{Hyp}{#1}[]{}%
2486 \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
2487 #3%
2488 }%
2489 }%
2490 \expandafter\x\csname extras#1\expandafter\endcsname
2491 \csname HyLang@#2\endcsname
2492 }
2493 \HyLang@DeclareLang{english}{english}{}
2494 \HyLang@DeclareLang{UKenglish}{english}{}
2495 \HyLang@DeclareLang{british}{english}{}
2496 \HyLang@DeclareLang{USenglish}{english}{}
2497 \HyLang@DeclareLang{american}{english}{}
2498 \HyLang@DeclareLang{german}{german}{}
2499 \HyLang@DeclareLang{austrian}{german}{}
2500 \HyLang@DeclareLang{ngerman}{german}{}
2501 \HyLang@DeclareLang{naustrian}{german}{}
2502 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
2503 \HyLang@DeclareLang{brazil}{portuges}{}
2504 \HyLang@DeclareLang{brazilian}{portuges}{}
2505 \HyLang@DeclareLang{portuguese}{portuges}{}
2506 \HyLang@DeclareLang{spanish}{spanish}{}
2507 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
2508 \HyLang@DeclareLang{french}{french}{}
2509 \HyLang@DeclareLang{frenchb}{french}{}
2510 \HyLang@DeclareLang{francais}{french}{}
2511 \HyLang@DeclareLang{acadian}{french}{}
2512 \HyLang@DeclareLang{canadien}{french}{}
2513 \HyLang@DeclareLang{italian}{italian}{}
2514 \HyLang@DeclareLang{magyar}{magyar}{}
2515 \HyLang@DeclareLang{hungarian}{magyar}{}

```

More work is needed in case of options vietnamese and vietnam.

```

2516 \define@key{Hyp}{vietnamese}[]{}%
2517 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
2518 \AtEndOfPackage{%
2519 \ifundefined{T@PU}{}{}%
2520 \input{pvnenc.def}%
2521 }%
2522 }%
2523 }
2524 \define@key{Hyp}{vietnam}[]{}%
2525 \HyLang@addto\extravietnam\HyLang@vietnamese
2526 \AtEndOfPackage{%
2527 \ifundefined{T@PU}{}{}%
2528 \input{pvnenc.def}%
2529 }%
2530 }%
2531 }

```

Similar for option arabic that just loads the additions to PU encoding for Arabi.

```

2532 \define@key{Hyp}{arabic}[]{}%
2533 \AtEndOfPackage{%
2534 \ifundefined{T@PU}{}{}%
2535 \input{puarenc.def}%

```

```

2536 }%
2537 }%
2538 }

```

13 Options to change appearance of links

Colouring links at the \LaTeX level is useful for debugging, perhaps.

```

2539 \define@key{Hyp}{colorlinks}[true]{%
2540   \Hy@boolkey{colorlinks}{#1}%
2541   \ifHy@colorlinks
2542     \def\@pdfborder{0 0 0}%
2543     \let\@pdfborderstyle\@empty
2544   \fi
2545 }
2546 \define@key{Hyp}{ocgcolorlinks}[true]{%
2547   \Hy@boolkey{ocgcolorlinks}{#1}%
2548 }
2549 \AtBeginDocument{%
2550   \begingroup
2551     \ifundefined{OBJ@OCG@view}{%
2552       \ifHy@ocgcolorlinks
2553         \Hy@Warning{%
2554           Driver does not support ‘ocgcolorlinks’,\MessageBreak
2555           using ‘colorlinks’ instead%
2556         }%
2557       \fi
2558     }{}%
2559   \endgroup
2560 }
2561 \define@key{Hyp}{frenchlinks}[true]{%
2562   \Hy@boolkey{frenchlinks}{#1}%
2563 }

```

14 Bookmarking

```

2564 \define@key{Hyp}{bookmarks}[true]{%
2565   \Hy@boolkey{bookmarks}{#1}%
2566 }
2567 \define@key{Hyp}{bookmarksopen}[true]{%
2568   \Hy@boolkey{bookmarksopen}{#1}%
2569 }

```

The depth of the outlines is controlled by option `bookmarksdepth`. The option acts globally and distinguishes three cases:

- `bookmarksdepth`: Without value `hyperref` uses counter `tocdepth` (compatible behaviour and default).
- `bookmarksdepth=<number>`: the depth is set to `<number>`.
- `bookmarksdepth=<name>`: The `<name>` must not start with a number or minus sign. It is a document division name (part, chapter, section, ...). Internally the value of macro `\toclevel@<name>` is used.

```

2570 \let\Hy@bookmarksdepth\c@tocdepth
2571 \define@key{Hyp}{bookmarksdepth}[]{}%

```

```

2572 \begingroup
2573   \edef\x{#1}%
2574   \ifx\x\empty
2575     \global\let\Hy@bookmarksdepth\c@tocdepth
2576   \else
2577     \ifundefined{toclevel@x}{%
2578       \onelevel@sanitize\x
2579       \edef\y{\expandafter\@car\x\@nil}%
2580       \ifcase 0\expandafter\ifx\y-1\fi
2581         \expandafter\ifnum\expandafter'\y>47 %
2582           \expandafter\ifnum\expandafter'\y<58 1\fi\fi\relax
2583       \Hy@Warning{Unknown document division name (\x)}%
2584     \else
2585       \setbox\z@=\hbox{%
2586         \count@=\x
2587         \xdef\Hy@bookmarksdepth{\the\count@}%
2588       }%
2589     \fi
2590   }{%
2591     \setbox\z@=\hbox{%
2592       \count@=\csname toclevel@x\endcsname
2593       \xdef\Hy@bookmarksdepth{\the\count@}%
2594     }%
2595   }%
2596 \fi
2597 \endgroup
2598 }

```

‘bookmarksopenlevel’ to specify the open level. From Heiko Oberdiek.

```

2599 \define@key{Hyp}{bookmarksopenlevel}{%
2600   \def\@bookmarksopenlevel{#1}%
2601 }
2602 \def\@bookmarksopenlevel{\maxdimen}
2603 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
2604 \define@key{Hyp}{bookmarkstype}{%
2605   \def\Hy@bookmarkstype{#1}%
2606 }
2607 \def\Hy@bookmarkstype{toc}

```

Richard Curnow [richard@curnow.demon.co.uk] suggested this functionality. It adds section numbers etc to bookmarks.

```

2608 \define@key{Hyp}{bookmarksnumbered}[true]{%
2609   \Hy@boolkey{bookmarksnumbered}{#1}%
2610 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

2611 \define@key{Hyp}{CJKbookmarks}[true]{%
2612   \Hy@boolkey{CJKbookmarks}{#1}%
2613 }
2614 \def\Hy@temp#1{%
2615   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
2616 }
2617 \def\Hy@@temp#1#2#3{%
2618   \define@key{Hyp}{#2color}{%
2619     \HyColor@HyperrefColor{##1}#1%
2620   }%
2621   \def#1{#3}%
2622 }

```

```

2623 \Hy@temp{link}{red}
2624 \Hy@temp{anchor}{black}
2625 \Hy@temp{cite}{green}
2626 \Hy@temp{file}{cyan}
2627 \Hy@temp{url}{magenta}
2628 \Hy@temp{menu}{red}
2629 \Hy@temp{run}{\@filecolor}
2630 \define@key{Hyp}{pagecolor}{%
2631   \Hy@WarningPageColor
2632 }
2633 \def\Hy@WarningPageColor{%
2634   \Hy@WarningNoLine{Option 'pagecolor' is not available anymore}%
2635   \global\let\Hy@WarningPageColor\relax
2636 }

2637 \def\hyperbaseurl#1{\def\@baseurl{#1}}
2638 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
2639 \let\@baseurl\empty
2640 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
2641 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
2642 \hyperlinkfileprefix{file:}

```

15 PDF-specific options

`\@pdfpagetransition` The value of option `pdfpagetransition` is stored in `\@pdfpagetransition`. Its initial value is set to `\relax` in order to be able to differentiate between a not used option and an option with an empty value.

```

2643 \let\@pdfpagetransition\relax
2644 \define@key{Hyp}{pdfpagetransition}{\def\@pdfpagetransition{#1}}

```

`\@pdfpageduration` The value of option `pdfpageduration` is stored in `\@pdfpageduration`. Its initial value is set to `\relax` in order to be able to differentiate between a not used option and an option with an empty value.

```

2645 \let\@pdfpageduration\relax
2646 \define@key{Hyp}{pdfpageduration}{\def\@pdfpageduration{#1}}

```

The entry for the `/Hid` key in the page object is only necessary, if it is used and set to true for at least one time. If it is always false, then the `/Hid` key is not written to the pdf page object in order not to enlarge the pdf file.

```

2647 \newif\ifHy@useHidKey
2648 \Hy@useHidKeyfalse
2649 \define@key{Hyp}{pdfpagehidden}[true]{%
2650   \Hy@boolkey{pdfpagehidden}{#1}%
2651   \ifHy@pdfpagehidden
2652     \global\Hy@useHidKeytrue
2653   \fi
2654 }

```

The value of the `bordercolor` options are not processed by the color package. Therefore the value consists of space separated rgb numbers in the range 0 until 1.

Package `xcolor` provides `\XC@bordercolor` since version 1.1. If the two spaces in the color specification are missing, then the value is processed as color specification from package `xcolor` by using `\XC@bordercolor` (since `xcolor` 2004/05/09 v1.11, versions 2005/03/24 v2.02 until 2006/11/28 v2.10 do not work because of a bug that is fixed in 2007/01/21 v2.11).

```

2655 \def\Hy@ColorList{cite,file,link,menu,run,url}

```



```

2656 \@for\Hy@temp:=\Hy@ColorList\do{%
2657   \edef\Hy@temp{%
2658     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
2659       \noexpand\HyColor@HyperrefBorderColor
2660       {##1}%
2661       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
2662       {hyperref}%
2663       {\Hy@temp bordercolor}%
2664     }%
2665   }%
2666   \Hy@temp
2667 }
2668 \define@key{Hyp}{pagebordercolor}{%
2669   \Hy@WarningPageBorderColor
2670 }
2671 \def\Hy@WarningPageBorderColor{%
2672   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
2673   \global\let\Hy@WarningPageBorderColor\relax
2674 }

2675 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
2676 \Hy@DefNameKey{pdfhighlight}{%
2677   \do{/I}{Invert}%
2678   \do{/N}{None}%
2679   \do{/O}{Outline}%
2680   \do{/P}{Push}%
2681 }
2682 \define@key{Hyp}{pdfborder}{\def\@pdfborder{#1}}
2683 \define@key{Hyp}{pdfborderstyle}{\def\@pdfborderstyle{#1}}
2684 \def\Hy@setpdfborder{%
2685   \ifx\@pdfborder\@empty
2686     \else
2687       /Border[\@pdfborder]%
2688     \fi
2689     \ifx\@pdfborderstyle\@empty
2690       \else
2691         /BS<<\@pdfborderstyle>>%
2692       \fi
2693 }
2694 \Hy@DefNameKey{pdfpagemode}{%
2695   \do{UseNone}{}%
2696   \do{UseOutlines}{}%
2697   \do{UseThumbs}{}%
2698   \do{FullScreen}{}%
2699   \do{UseOC}{PDF 1.5}%
2700   \do{UseAttachments}{PDF 1.6}%
2701 }
2702 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
2703   \do{UseNone}{}%
2704   \do{UseOutlines}{}%
2705   \do{UseThumbs}{}%
2706   \do{FullScreen}{}%
2707   \do{UseOC}{PDF 1.5}%
2708   \do{UseAttachments}{PDF 1.6}%
2709 }
2710 \Hy@DefNameKey{pdfdirection}{%
2711   \do{L2R}{Left to right}%
2712   \do{R2L}{Right to left}%

```

```

2713 }
2714 \Hy@DefNameKey{pdfviewarea}{%
2715   \do{MediaBox}{}%
2716   \do{CropBox}{}%
2717   \do{BleedBox}{}%
2718   \do{TrimBox}{}%
2719   \do{ArtBox}{}%
2720 }
2721 \Hy@DefNameKey{pdfviewclip}{%
2722   \do{MediaBox}{}%
2723   \do{CropBox}{}%
2724   \do{BleedBox}{}%
2725   \do{TrimBox}{}%
2726   \do{ArtBox}{}%
2727 }
2728 \Hy@DefNameKey{pdfprintarea}{%
2729   \do{MediaBox}{}%
2730   \do{CropBox}{}%
2731   \do{BleedBox}{}%
2732   \do{TrimBox}{}%
2733   \do{ArtBox}{}%
2734 }
2735 \Hy@DefNameKey{pdfprintclip}{%
2736   \do{MediaBox}{}%
2737   \do{CropBox}{}%
2738   \do{BleedBox}{}%
2739   \do{TrimBox}{}%
2740   \do{ArtBox}{}%
2741 }
2742 \Hy@DefNameKey{pdfprintscaling}{%
2743   \do{AppDefault}{}%
2744   \do{None}{}%
2745 }
2746 \Hy@DefNameKey{pdfduplex}{%
2747   \do{Simplex}{}%
2748   \do{DuplexFlipShortEdge}{}%
2749   \do{DuplexFlipLongEdge}{}%
2750 }
2751 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
2752   \do{true}{}%
2753   \do{false}{}%
2754 }
2755 \define@key{Hyp}{pdfprintpagerange}{%
2756   \def\@pdfprintpagerange{#1}%
2757 }
2758 \Hy@DefNameKey{pdfnumcopies}{%
2759   \do{2}{two copies}%
2760   \do{3}{three copies}%
2761   \do{4}{four copies}%
2762   \do{5}{five copies}%
2763 }
2764 \define@key{Hyp}{pdfusetitle}[true]{%
2765   \Hy@boolkey[pdfusetitle]{usetitle}{#1}%
2766 }
2767 \define@key{Hyp}{pdftitle}{\pdfstringdef\@pdftitle{#1}}
2768 \define@key{Hyp}{pdfauthor}{\pdfstringdef\@pdfauthor{#1}}
2769 \define@key{Hyp}{pdfproducer}{\pdfstringdef\@pdfproducer{#1}}

```

```

2770 \define@key{Hyp}{pdfcreator}{\pdfstringdef\pdfcreator{#1}}
2771 \define@key{Hyp}{pdfcreationdate}{%
2772   \begingroup
2773     \Hy@unicodedefalse
2774     \pdfstringdef\pdfcreationdate{#1}%
2775   \endgroup
2776 }
2777 \define@key{Hyp}{pdfmoddate}{%
2778   \begingroup
2779     \Hy@unicodedefalse
2780     \pdfstringdef\pdfmoddate{#1}%
2781   \endgroup
2782 }
2783 \define@key{Hyp}{pdfsubject}{\pdfstringdef\pdfsubject{#1}}
2784 \define@key{Hyp}{pdfkeywords}{\pdfstringdef\pdfkeywords{#1}}
2785 \define@key{Hyp}{pdfview}{\calculatepdfview#1 \\\}
2786 \define@key{Hyp}{pdflinkmargin}{\setpdflinkmargin{#1}}
2787 \let\setpdflinkmargin\@gobble
2788 \def\calculatepdfview#1 #2\{%
2789   \def\@pdfview{#1}%
2790   \ifx\#2\%
2791     \def\@pdfviewparams{ -32768}%
2792   \else
2793     \def\@pdfviewparams{ #2}%
2794   \fi
2795 }
2796 \begingroup\expandafter\expandafter\expandafter\endgroup
2797 \expandafter\ifx\csname numexpr\endcsname\relax
2798   \def\Hy@number#1{%
2799     \expandafter\@firstofone\expandafter{\number#1}%
2800   }%
2801 \else
2802   \def\Hy@number#1{%
2803     \the\numexpr#1\relax
2804   }%
2805 \fi
2806 \define@key{Hyp}{pdfstartpage}{%
2807   \ifx\#1\%
2808     \def\@pdfstartpage{}%
2809   \else
2810     \edef\@pdfstartpage{\Hy@number{#1}}%
2811   \fi
2812 }%
2813 \define@key{Hyp}{pdfstartview}{%
2814   \ifx\#1\%
2815     \def\@pdfstartview{}%
2816   \else
2817     \hypercalcbpdef\pdfstartview{ /#1 }%
2818   \fi
2819 }
2820 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
2821 \define@key{Hyp}{pdftoolbar}[true]{%
2822   \Hy@boolkey[pdftoolbar]{toolbar}{#1}%
2823 }
2824 \define@key{Hyp}{pdfmenubar}[true]{%
2825   \Hy@boolkey[pdfmenubar]{menubar}{#1}%
2826 }

```

```

2827 \define@key{Hyp}{pdfwindowui}[true]{%
2828   \Hy@boolkey[pdfwindowui]{windowui}{#1}%
2829 }
2830 \define@key{Hyp}{pdffitwindow}[true]{%
2831   \Hy@boolkey[pdffitwindow]{fitwindow}{#1}%
2832 }
2833 \define@key{Hyp}{pdfcenterwindow}[true]{%
2834   \Hy@boolkey[pdfcenterwindow]{centerwindow}{#1}%
2835 }
2836 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
2837   \Hy@boolkey[pdfdisplaydoctitle]{displaydoctitle}{#1}%
2838 }
2839 \define@key{Hyp}{pdfa}[true]{%
2840   \Hy@boolkey[pdfa]{#1}%
2841 }
2842 \define@key{Hyp}{pdfnewwindow}[true]{%
2843   \def\Hy@temp{#1}%
2844   \ifx\Hy@temp\empty
2845     \Hy@newwindowsetfalse
2846   \else
2847     \Hy@newwindowsettrue
2848     \Hy@boolkey[pdfnewwindow]{newwindow}{#1}%
2849   \fi
2850 }
2851 \def\Hy@SetNewWindow{%
2852   \ifHy@newwindowset
2853     /NewWindow %
2854     \ifHy@newwindow true\else false\fi
2855   \fi
2856 }
2857 \Hy@DefNameKey{pdfpagelayout}{%
2858   \do{SinglePage}{}%
2859   \do{OneColumn}{}%
2860   \do{TwoColumnLeft}{}%
2861   \do{TwoColumnRight}{}%
2862   \do{TwoPageLeft}{PDF 1.5}%
2863   \do{TwoPageRight}{PDF 1.5}%
2864 }
2865 \define@key{Hyp}{pdflang}{%
2866   \def\@pdflang{#1}%
2867 }
2868 \define@key{Hyp}{pdfpagelabels}[true]{%
2869   \Hy@boolkey[pdfpagelabels]{pagelabels}{#1}%
2870 }
2871 \define@key{Hyp}{pdfescapeform}[true]{%
2872   \Hy@boolkey[pdfescapeform]{escapeform}{#1}%
2873 }

```

Default values:

```

2874 \def\@linkbordercolor{1 0 0}
2875 \def\@urlbordercolor{0 1 1}
2876 \def\@menubordercolor{1 0 0}
2877 \def\@filebordercolor{0 .5 .5}
2878 \def\@runbordercolor{0 .7 .7}
2879 \def\@citebordercolor{0 1 0}
2880 \def\@pdfhighlight{/I}
2881 \def\@pdftitle{}
2882 \def\@pdfauthor{}

```

```

2883 \let\@pdfproducer\relax
2884 \def\@pdfcreator{LaTeX with hyperref package}
2885 \def\@pdfcreationdate{}
2886 \def\@pdfmoddate{}
2887 \def\@pdfsubject{}
2888 \def\@pdfkeywords{}
2889 \def\@pdfpagescrop{}
2890 \def\@pdfstartview{ /Fit }
2891 \def\@pdfstartpage{1}
2892 \def\@pdfprintpagerange{}
2893 \def\@pdflang{}
2894 \let\PDF@SetupDoc\@empty
2895 \let\PDF@FinishDoc\@empty
2896 \let\phantomsection\@empty
2897 \let\special@paper\@empty
2898 \@ifundefined{stockwidth}{%
2899   \ifdim\paperwidth>\z@
2900     \ifdim\paperheight>\z@
2901       \edef\special@paper{\the\paperwidth,\the\paperheight}%
2902     \fi
2903   \fi
2904 }{%
2905   \ifdim\stockwidth>\z@
2906     \ifdim\stockheight>\z@
2907       \edef\special@paper{\the\stockwidth,\the\stockheight}%
2908     \fi
2909   \fi
2910 }
2911 \begingroup
2912 \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
2913 \dimen@=\x\relax
2914 \ifdim\dimen@>\z@
2915   \else
2916     \dimen@=11in\relax
2917     \Hy@WarningNoLine{%
2918       Height of page (\expandafter\string\x) %
2919       is invalid (\the\x),\MessageBreak
2920       using 11in%
2921     }%
2922   \fi
2923   \dimen@=0.99626401\dimen@
2924   \xdef\Hy@pageheight{\strip@pt\dimen@}%
2925 \endgroup
2926 \def\HyInd@EncapChar{\|}
2927 \def\hypersetup{\setkeys{Hyp}}

```

Allow the user to use \ExecuteOptions in the cfg file even though this package does not use the normal option mechanism. Use \hyper@normalise as a scratch macro, since it is going to be defined in a couple of lines anyway.

```

2928 \let\hyper@normalise\ExecuteOptions
2929 \let\ExecuteOptions\hypersetup
2930 \Hy@RestoreCatcodes
2931 \InputIfFileExists{hyperref.cfg}{-}{-}
2932 \Hy@SetCatcodes
2933 \let\ExecuteOptions\hyper@normalise
2934 \Hy@MaybeStopNow

```

To add flexibility, we will not use the ordinary processing of package options, but put them through the *keyval* package. This section was written by David Carlisle.

Package *kvoptions* is used for processing options that are given as key value pairs. The package provides `\ProcessKeyvalOptions`, formerly known as `\ProcessOptionsWithKV`.

```
2935 \RequirePackage{kvoptions}[2006/08/17]
```

Add option `tex4ht` if package `tex4ht` is loaded.

```
2936 \@ifpackageloaded{tex4ht}{%
2937   \@ifpackagewith{hyperref}{tex4ht}{}{%
2938     \PassOptionsToPackage{tex4ht}{hyperref}%
2939   }%
2940 }{}

2941 \let\ReadBookmarks\relax
2942 \ProcessKeyvalOptions{Hyp}
```

After processing options.

```
2943 \AtBeginDocument{%
2944   \ifHy@draft
2945     \let\hyper@@anchor\@gobble
2946     \gdef\hyper@link#1#2#3{#3}%
2947     \let\hyper@anchorstart\@gobble
2948     \let\hyper@anchorend\@empty
2949     \let\hyper@linkstart\@gobbletwo
2950     \let\hyper@linkend\@empty
2951     \def\hyper@linkurl#1#2{#1}%
2952     \def\hyper@linkfile#1#2#3{#1}%
2953     \def\hyper@link@{#1}#2#3{#1}%
2954     \def\Acrobatmenu#1#2{\leavevmode#2}%
2955     \let\PDF@SetupDoc\@empty
2956     \let\PDF@FinishDoc\@empty
2957     \let\@fifthoffive\@secondoftwo
2958     \let\@secondoffive\@secondoftwo
2959     \let\ReadBookmarks\relax
2960     \let\WriteBookmarks\relax
2961     \Hy@WarningNoLine{ draft mode on}%
2962   \fi
2963   \Hy@DisableOption{draft}%
2964   \Hy@DisableOption{nolinks}%
2965   \Hy@DisableOption{final}%
2966 }
```

15.1 PDF/A

```
2967 \Hy@DisableOption{pdfa}

2968 \ifHy@pdfa
2969   \setkeys{Hyp}{pdfversion=1.4}%
2970   \def\Hy@Acrobatmenu#1#2{%
2971     \leavevmode
2972     \begingroup
2973       \edef\x{#1}%
2974       \@onelevel@sanitize\x
2975       \ifx\x\Hy@NextPage
2976         \let\y=Y%
2977       \else
2978         \ifx\x\Hy@PrevPage
2979           \let\y=Y%
```

```

2980         \else
2981         \ifx\x\Hy@FirstPage
2982         \let\y=Y%
2983         \else
2984         \ifx\x\Hy@LastPage
2985         \let\y=Y%
2986         \else
2987         \let\y=N%
2988         \fi
2989         \fi
2990     \fi
2991 \fi
2992 \expandafter\endgroup
2993 \ifx\y Y%
2994 \else
2995     \PackageError{hyperref}{%
2996     PDF/A: Named action ‘#1’ is not permitted%
2997     }\@ehc
2998     {#2}%
2999     \expandafter\@gobble
3000 \fi
3001 }%
3002 \def\Hy@temp#1{%
3003     \expandafter\def\csname Hy@#1\endcsname{#1}%
3004     \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
3005 }%
3006 \Hy@temp{NextPage}%
3007 \Hy@temp{PrevPage}%
3008 \Hy@temp{FirstPage}%
3009 \Hy@temp{LastPage}%
3010 \else
3011     \def\Hy@Acrobatmenu#1#2{\leavevmode}%
3012 \fi

```

15.2 Patch for babel’s \texttilde

Babel does not define \texttilde in NFSS2 manner, so the NFSS2 definitions of PD1 or PU encoding is not compatible. To fix this, \texttilde is defined in babel manner.

```

3013 \Hy@nextfalse
3014 \@ifundefined{spanish@sh@"@sel}{\Hy@nexttrue}
3015 \@ifundefined{galician@sh@"@sel}{\Hy@nexttrue}
3016 \@ifundefined{estonian@sh@"@sel}{\Hy@nexttrue}
3017 \ifHy@next
3018     \let\texttilde\~%
3019 \fi

```

15.3 Patch for babel 3.8j

Babel 2008/03/16 v3.8j adds a patch to disable shorthands for bookmarks. That reduces warnings, but the bookmarks are ugly. Therefore the following patch tries to undo this.

```

3020 \@ifpackageloaded{babel}{%
3021     \@ifpackagelater{babel}{2008/03/16}{%
3022         \def\Hy@PatchLanguageShorthands#1{%
3023             \begingroup
3024             \edef\x{#1}%
3025             \@onelevel@sanitize\x
3026             \def\y{system}%

```

```

3027     \@onelevel@sanitize\y
3028     \expandafter\endgroup
3029     \ifx\x\y
3030     \else
3031         \HyOrg@languageshorthands{#1}%
3032     \fi
3033 }%
3034 \AtBeginDocument{%
3035     \begingroup
3036     \toks0=\expandafter{\pdfstringdefPreHook}%
3037     \xdef\pdfstringdefPreHook{%
3038         \let\noexpand\HyOrg@languageshorthands
3039             \noexpand\languageshorthands
3040         \let\noexpand\languageshorthands
3041             \noexpand\Hy@PatchLanguageShorthands
3042         \the\toks0 %
3043         \let\noexpand\languageshorthands
3044             \noexpand\HyOrg@languageshorthands
3045     }%
3046     \endgroup
3047 }%
3048 }{}%
3049 }{}

3050 \ifHy@figures
3051   \Hy@Info{Hyper figures ON}%
3052 \else
3053   \Hy@Info{Hyper figures OFF}%
3054 \fi
3055 \ifHy@nesting
3056   \Hy@Info{Link nesting ON}%
3057 \else
3058   \Hy@Info{Link nesting OFF}%
3059 \fi
3060 \ifHy@hyperindex
3061   \Hy@Info{Hyper index ON}%
3062 \else
3063   \Hy@Info{Hyper index OFF}%
3064 \fi
3065 \ifHy@plainpages
3066   \Hy@Info{Plain pages ON}%
3067 \else
3068   \Hy@Info{Plain pages OFF}%
3069 \fi
3070 \ifHy@backref
3071   \Hy@Info{Backreferencing ON}%
3072 \else
3073   \Hy@Info{Backreferencing OFF}%
3074 \fi
3075 \ifHy@typexml
3076   \AtEndOfPackage{%
3077     \RequirePackage{color}%
3078     \RequirePackage{nameref}%
3079   }%
3080 \fi
3081 \Hy@DisableOption{typexml}
3082 \ifHy@implicit
3083   \typeout{Implicit mode ON; LaTeX internals redefined}%

```



```

3084 \else
3085   \typeout{Implicit mode OFF; no redefinition of LaTeX internals}%
3086   \def\MaybeStopEarly{%
3087     \typeout{Hyperref stopped early}%
3088     \AfterBeginDocument{%
3089       \PDF@FinishDoc
3090       \gdef\PDF@FinishDoc{}}%
3091   }%
3092   \endinput
3093 }%
3094 \AtBeginDocument{%
3095   \let\autoref\ref
3096   \let\autopageref\pageref
3097   \ifx\@pdfpagemode\@empty
3098     \gdef\@pdfpagemode{UseNone}%
3099   \fi
3100   \global\Hy@backreffalse
3101 }%
3102 \AtEndOfPackage{%
3103   \global\let\ReadBookmarks\relax
3104   \global\let\WriteBookmarks\relax
3105 }%
3106 \fi
3107 \Hy@DisableOption{implicit}

```

15.3.1 Driver loading

```

3108 \AtEndOfPackage{%
3109   \@ifpackageloaded{tex4ht}{%
3110     \def\Hy@driver{htex4ht}%
3111     \Hy@texhttrue
3112   }{%
3113     \ifx\Hy@driver\@empty
3114       \providecommand*{\Hy@defaultdriver}{hypertex}%
3115       \begingroup\expandafter\expandafter\expandafter\endgroup
3116       \expandafter\ifx\csname pdfoutput\endcsname\relax
3117         \begingroup\expandafter\expandafter\expandafter\endgroup
3118         \expandafter\ifx\csname OpMode\endcsname\relax
3119           \begingroup\expandafter\expandafter\expandafter\endgroup
3120           \expandafter\ifx\csname XeTeXversion\endcsname\relax
3121             \let\Hy@driver\Hy@defaultdriver
3122           \else
3123             \def\Hy@driver{hdvipdfm}%
3124           \fi
3125         \else
3126           \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
3127             \def\Hy@driver{hvtex}%
3128             \def\XR@ext{pdf}%
3129           \else
3130             \ifnum\OpMode=10\relax
3131               \def\XR@ext{htm}%
3132               \def\Hy@driver{hvtexhtm}%
3133             \def\MaybeStopEarly{%
3134               \typeout{Hyperref stopped early}%
3135               \AfterBeginDocument{%
3136                 \PDF@FinishDoc
3137                 \gdef\PDF@FinishDoc{}}%

```

```

3138         }%
3139         \endinput
3140     }%
3141     \else
3142         \let\Hy@driver\Hy@defaultdriver
3143     \fi
3144 \fi
3145 \fi
3146 \else
3147     \ifnum\pdfoutput<1 %
3148         \let\Hy@driver\Hy@defaultdriver
3149     \else
3150         \def\Hy@driver{hpdfTeX}%
3151         \def\XR@ext{pdf}%
3152         \PassOptionsToPackage{pdfTeX}{color}%
3153         \Hy@breaklinkstrue
3154     \fi
3155 \fi
3156 \ifx\Hy@driver\Hy@defaultdriver
3157     \def\Hy@temp{hdvips}%
3158     \ifx\Hy@temp\Hy@driver
3159         \def\Hy@raisedlink{}%
3160         \def\XR@ext{pdf}%
3161     \fi
3162     \def\Hy@temp{hdvipdfm}%
3163     \ifx\Hy@temp\Hy@driver
3164         \def\XR@ext{pdf}%
3165         \Hy@breaklinkstrue
3166     \fi
3167     \def\Hy@temp{hdviwind}%
3168     \ifx\Hy@temp\Hy@driver
3169         \setkeys{Hyp}{colorlinks}%
3170         \PassOptionsToPackage{dviwindo}{color}%
3171     \fi
3172     \def\Hy@temp{hdvipson}%
3173     \ifx\Hy@temp\Hy@driver
3174         \def\XR@ext{pdf}%
3175         \def\Hy@raisedlink{}%
3176     \fi
3177     \def\Hy@temp{textures}%
3178     \ifx\Hy@temp\Hy@driver
3179         \def\XR@ext{pdf}%
3180     \fi
3181 \fi
3182 \typeout{*hyperref using default driver \Hy@driver*}%
3183 \else
3184     \typeout{*hyperref using driver \Hy@driver*}%
3185 \fi
3186 \input{\Hy@driver.def}%
3187 \let\@unprocessedoptions\relax
3188 \Hy@RestoreCatcodes
3189 }
3190 \newif\ifHy@DvipdfmxOutlineOpen
3191 \begingroup\expandafter\expandafter\expandafter\endgroup
3192 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
3193 \else
3194     \ifnum\SpecialDvipdfmxOutlineOpen>\z@

```

```

3195 \Hy@DvipdfmxOutlineOpen true
3196 \fi
3197 \fi
3198 \Hy@DisableOption{tex4ht}
3199 \Hy@DisableOption{pdftex}
3200 \Hy@DisableOption{dvipdf}
3201 \Hy@DisableOption{nativepdf}
3202 \Hy@DisableOption{dvipdfm}
3203 \Hy@DisableOption{dvipdfmx}
3204 \Hy@DisableOption{dvipdfmx-outline-open}
3205 \Hy@DisableOption{pdfmark}
3206 \Hy@DisableOption{dvips}
3207 \Hy@DisableOption{hypertex}
3208 \Hy@DisableOption{vtex}
3209 \Hy@DisableOption{vtexpdfmark}
3210 \Hy@DisableOption{dviwindo}
3211 \Hy@DisableOption{dvipsone}
3212 \Hy@DisableOption{textures}
3213 \Hy@DisableOption{latex2html}
3214 \Hy@DisableOption{ps2pdf}
3215 \Hy@DisableOption{xetex}
3216 \AtEndOfPackage{%
3217 \Hy@DisableOption{pdfversion}%
3218 }

```

15.3.2 Bookmarks

```

3219 \def\WriteBookmarks{0}
3220 \def\@bookmarkopenstatus#1{%
3221 \ifHy@bookmarksopen

```

The purpose of the `\@firstofone-number-space-construct` is that no `\relax` will be inserted by \TeX before the `\else`:

```

3222 \ifnum#1<\expandafter\@firstofone\expandafter
3223 \{number\@bookmarkopenlevel\} % explicit space
3224 \else
3225 -%
3226 \fi
3227 \else
3228 -%
3229 \fi
3230 }
3231 \ifHy@bookmarks
3232 \Hy@Info{Bookmarks ON}%
3233 \ifx\@pdfpagemode\@empty
3234 \def\@pdfpagemode{UseOutlines}%
3235 \fi
3236 \else
3237 \def\@bookmarkopenstatus#1{%
3238 \Hy@Info{Bookmarks OFF}%
3239 \AtEndOfPackage{%
3240 \global\let\ReadBookmarks\relax
3241 \global\let\WriteBookmarks\relax
3242 }%
3243 \ifx\@pdfpagemode\@empty
3244 \def\@pdfpagemode{UseNone}%
3245 \fi
3246 \fi
3247 \Hy@DisableOption{bookmarks}

```

\HyColor@UseColor expects a macro as argument. It contains the color specification.

```

3248 \AtBeginDocument{%
3249   \ifHy@ocgcolorlinks
3250     \setkeys{Hyp}{colorlinks}%
3251     \ifHy@pdfa
3252       \Hy@Warning{%
3253         PDF/A: Optional Content Groups are prohibited,\MessageBreak
3254         using 'colorlinks' instead of 'ocgcolorlinks'%
3255       }%
3256     \Hy@ocgcolorlinksfalse
3257   \fi
3258 \fi
3259 \ifHy@ocgcolorlinks
3260 \else
3261   \Hy@DisableOption{ocgcolorlinks}%
3262 \fi
3263 \ifHy@colorlinks
3264   \ifHy@typexml
3265   \else
3266     \RequirePackage{color}%
3267   \fi
3268   \def\Hy@colorlink#1{%
3269     \begingroup
3270     \HyColor@UseColor#1%
3271   }%
3272   \def\Hy@endcolorlink{\endgroup}%
3273   \Hy@Info{Link coloring ON}%
3274 \else
3275   \ifHy@frenchlinks
3276     \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
3277     \def\Hy@endcolorlink{\endgroup}%
3278     \Hy@Info{French linking ON}%
3279   \else
3280     \def\Hy@colorlink#1{\begingroup}%
3281     \def\Hy@endcolorlink{\endgroup}%
3282     \Hy@Info{Link coloring OFF}%
3283   \fi
3284 \fi
3285 \Hy@DisableOption{colorlinks}%
3286 \Hy@DisableOption{frenchlinks}%
3287 \ifHy@texht
3288   \long\def\@firstoffive#1#2#3#4#5{#1}%
3289   \long\def\@secondoffive#1#2#3#4#5{#2}%
3290   \long\def\@thirdoffive#1#2#3#4#5{#3}%
3291   \long\def\@fourthoffive#1#2#3#4#5{#4}%
3292   \long\def\@fifthoffive#1#2#3#4#5{#5}%
3293   \providecommand*\@safe@activestruer{}%
3294   \providecommand*\@safe@activesfalse{}%
3295   \def\T@ref#1{%
3296     \Hy@safe@activestruer
3297     \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
3298     \Hy@safe@activesfalse
3299   }%
3300   \def\T@pageref#1{%
3301     \Hy@safe@activestruer

```

```

3302     \expandafter\setref\csname r@#1\endcsname\@secondoffive{#1}%
3303     \Hy@safe@activesfalse
3304   }%
3305 \else
3306   \ifHy@typexml\else\RequirePackage{nameref}\fi
3307 \fi
3308 \DeclareRobustCommand\ref{\@ifstar\@refstar\T@ref}%
3309 \DeclareRobustCommand\pageref{%
3310   \@ifstar\@pagerefstar\T@pageref
3311 }%
3312 }
3313 \AfterBeginDocument{%
3314   \ifHy@texht
3315   \else
3316     \ReadBookmarks
3317   \fi
3318 }
3319 \ifHy@backref
3320   \RequirePackage{backref}%
3321 \else
3322   \let\Hy@backout\@gobble
3323 \fi
3324 \Hy@DisableOption{backref}
3325 \Hy@DisableOption{pagebackref}
3326 \Hy@activeanchorfalse

```

16 User hypertext macros

We need to normalise all user commands taking a URL argument; Within the argument the following special definitions apply: \#, \%, ~ produce #, %, ~ respectively. for consistency ~ produces ~ as well. At the *top level only* ie not within the argument of another command, you can use # and % unescaped, to produce themselves. even if, say, # is entered as # it will be converted to \# so it does not die if written to an aux file etc. \# will write as # locally while making \specials.

```

3327 \begingroup
3328   \endlinechar=-1 %
3329   \catcode'\^^A=14 %
3330   \catcode'\^^M\active
3331   \catcode'\%\active
3332   \catcode'\#\active
3333   \catcode'\_\active
3334   \catcode'\$\active
3335   \gdef\hyper@normalise{^^A
3336     \begingroup
3337     \catcode'\^^M\active
3338     \def^^M{ }^^A
3339     \catcode'\%\active
3340     \let%\@percentchar
3341     \let\%\@percentchar
3342     \catcode'\#\active
3343     \def#{\hyper@hash}^^A
3344     \def\#{\hyper@hash}^^A
3345     \@makeother\&^^A
3346     \edef\textunderscore{\string_}^^A
3347     \let\_ \textunderscore
3348     \catcode'\_\active

```

```

3349 \let_\textunderscore
3350 \let~\hyper@tilde
3351 \let\~\hyper@tilde
3352 \let\textasciitilde\hyper@tilde
3353 \let\\\@backslashchar
3354 \edef$\string$^^A
3355 \Hy@safe@activetrue
3356 \hyper@n@rmalise
3357 }^^A
3358 \catcode'\# =6 ^^A
3359 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
3360 \gdef\hyper@n@rmalise#1#2{^^A
3361 \def\Hy@tempa{#2}^^A
3362 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
3363 \Hy@ReturnAfterElseFi{^^A
3364 \hyper@@normalise{#1}^^A
3365 }^^A
3366 \else
3367 \Hy@ReturnAfterFi{^^A
3368 \hyper@@normalise{#1}{#2}^^A
3369 }^^A
3370 \fi
3371 }^^A
3372 \gdef\hyper@@normalise#1#2{^^A
3373 \edef\Hy@tempa{^^A
3374 \endgroup
3375 \noexpand#1{\Hy@RemovePercentCr#2%\^^M\@nil}^^A
3376 }^^A
3377 \Hy@tempa
3378 }^^A
3379 \gdef\Hy@RemovePercentCr#1%\^^M#2\@nil{^^A
3380 #1^^A
3381 \ifx\limits#2\limits
3382 \else
3383 \Hy@ReturnAfterFi{^^A
3384 \Hy@RemovePercentCr #2\@nil
3385 }^^A
3386 \fi
3387 }^^A
3388 \endgroup
3389 \providecommand*\hyper@chars{%
3390 \let#\hyper@hash
3391 \let%\@percentchar
3392 \Hy@safe@activetrue
3393 }

3394 \def\hyperlink#1#2{%
3395 \hyper@@link{#1}{#2}%
3396 }

3397 \DeclareRobustCommand*\href{%
3398 \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
3399 }
3400 \def\Hy@href#1{%
3401 \hyper@normalise\href@
3402 }
3403 \begingroup
3404 \catcode'\$ =6 %
3405 \catcode'\# =12 %

```

```

3406 \gdef\href@${1}\expandafter\href@split$1##\}%
3407 \gdef\href@split$1#$2#$3\{\%
3408 \hyper@@link{$1}{$2}%
3409 }%
3410 \endgroup

```

Load package `url.sty` and save the meaning of the original `\url` in `\nolinkurl`.

```

3411 \RequirePackage{url}
3412 \let\HyOrg@url\url
3413 \def\Hurl{\begingroup \Url}
3414 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
3415 \def\nolinkurl@#1{\Hurl{#1}}
3416 \DeclareRobustCommand*\url{\hyper@normalise\url@}
3417 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
3418 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
3419 \providecommand\hyper@image[2]{#2}
3420 \def\hypertarget#1#2{\%
3421 \ifHy@nesting
3422 \hyper@@anchor{#1}{#2}%
3423 \else
3424 \hyper@@anchor{#1}{\relax}#2%
3425 \fi
3426 }

```

`\hyperref` is more complicated, as it includes the concept of a category of link, used to make the name. This is not really used in this package. `\hyperdef` sets up an anchor in the same way. They each have three parameters of category, linkname, and marked text, and `\hyperref` also has a first parameter of URL. If there is an optional first parameter to `\hyperdef`, it is the name of a \LaTeX label which can be used in a short form of `\hyperref` later, to avoid remembering the name and category.

```

3427 \DeclareRobustCommand*\hyperref{\%
3428 \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
3429 }
3430 \def\Hy@babelnormalise#1[#2]{\%
3431 \begingroup
3432 \Hy@safe@activestrue
3433 \edef\Hy@tempa{\%
3434 \endgroup
3435 \noexpand#1[#2]}%
3436 }%
3437 \Hy@tempa
3438 }
3439 \def\@hyperref{\hyper@normalise\@hyperref}
3440 \def\@hyperref#1#2#3{\%
3441 \edef\ref@one{\ifx\\#2\\\else#2.\fi#3}%
3442 \expandafter\tryhyper@link\ref@one\\{#1}%
3443 }
3444 \def\tryhyper@link#1\\#2{\%
3445 \hyper@@link{#2}{#1}%
3446 }
3447 \def\hyperdef{\@ifnextchar[{\label@hyperdef}\@hyperdef}}
3448 \def\@hyperdef#1#2#3{\%, category, name, text
3449 \ifHy@nesting
3450 \hyper@@anchor{#1.#2}{#3}%
3451 \else
3452 \hyper@@anchor{#1.#2}{\relax}#3%

```

```

3453 \fi
3454 }

```

We also have a need to give a L^AT_EX *label* to a hyper reference, to ease the pain of referring to it later.

```

3455 \def\label@hyperref[#1]{%
3456   \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
3457 }%
3458 \def\label@@hyperref#1#2#3{%
3459   \ifx#1\relax
3460     \protect\G@refundefinedtrue
3461     \@latex@warning{%
3462       Hyper reference ‘#2’ on page \thepage \space undefined%
3463     }%
3464     \hyper@@link{}{??}{#3}%
3465   \else
3466     \hyper@@link{\expandafter\@fifthoffive#1}%
3467     {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
3468   \fi
3469 }
3470 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
3471                               % anchor text
3472   \@bsphack
3473   \if@filesw
3474     \protected@write\@auxout{%
3475       {\string\newlabel{#1}{#2}{#3}{#4}}%
3476   \fi
3477   \@esphack
3478   \ifHy@nesting
3479     \hyper@@anchor{#2.#3}{#4}%
3480   \else
3481     \hyper@@anchor{#2.#3}{\relax}#4%
3482   \fi
3483 }

```

17 Underlying basic hypertext macros

Links have an optional type, a filename (possibly a URL), an internal name, and some marked text. (Caution: the internal name may contain babel shorthand characters.) If the second parameter is empty, its an internal link, otherwise we need to open another file or a URL. A link start has a type, and a URL.

```

3484 \def\hyper@@link{\let\Hy@reserved@a\relax
3485   \@ifnextchar[{\hyper@link@}{\hyper@link@[link]}}%
3486 }
3487 \def\hyper@link@[#1]#2#3#4{%
3488   \begingroup
3489     \protected@edef\Hy@tempa{#2}%
3490     \Hy@safe@activestruer
3491     \edef\x{#3}%
3492     \ifx\Hy@tempa\@empty
3493       \toks0{\hyper@link{#1}}%
3494     \else
3495       \toks0{\expandafter\hyper@readexternallink#2\{#1}}%
3496     \fi
3497     \toks2{%
3498       \Hy@safe@activesfalse

```



```

3499      #4%
3500    }%
3501    \edef\Hy@tempa{\the\toks2}%
3502    \edef\x{\endgroup
3503      \ifx\Hy@tempa\@empty
3504        \noexpand\Hy@Warning{Suppressing empty link}%
3505      \else
3506        \the\toks0 {\x}{\the\toks2}%%
3507      \fi
3508    }%
3509    \x
3510 }

```

The problem here is that the first (URL) parameter may be a local file: reference (in which case some browsers treat it differently) or a genuine URL, in which case we'll have to activate a real Web browser. Note that a simple name is also a URL, as that is interpreted as a relative file name. We have to worry about # signs in a local file as well.

```

3511 \def\hyper@readexternallink#1\#2#3#4{%

```

Parameters are:

1. The URL or file name
2. The type
3. The internal name
4. The link string

We need to get the 1st parameter properly expanded, so we delimit the arguments rather than passing it inside a group.

```

3512 \expandafter\@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
3513 }

```

Now (potentially), we are passed: 1) The link type 2) The internal name, 3) the link string, 4) the URL type (http, mailto, file etc), 5) the URL details 6) anything after a real : in the URL 7) the whole URL again

```

3514 \def\@pdftempwordfile{file}%
3515 \def\@pdftempwordrun{run}%
3516 \def\@hyper@readexternallink#1#2#3#4:#5:#6\#7{%

```

If there are no colons at all (#6 is blank), its a local file; if the URL type (#4) is blank, its probably a Mac filename, so treat it like a file: URL. The only flaw is if its a relative Mac path, with several colon-separated elements — then we lose. Such names must be prefixed with an explicit dvi:

```

3517 \ifx\#6\%
3518   \expandafter\@hyper@linkfile file:#7\{#3}{#2}%
3519 \else
3520   \ifx\#4\%
3521     \expandafter\@hyper@linkfile file:#7\{#3}{#2}%
3522   \else

```

If the URL type is 'file', pass it for local opening

```

3523   \def\@pdftempa{#4}%
3524   \ifx\@pdftempa\@pdftempwordfile
3525     \expandafter\@hyper@linkfile#7\{#3}{#2}%
3526   \else

```

if it starts 'run:', its to launch an application.

```

3527      \ifx\@pdftempa\@pdftempwordrun
3528      \ifHy@pdfa
3529      \PackageError{hyperref}{%
3530        PDF/A: Launch action is prohibited%
3531      }\@ehc
3532      \begingroup
3533      \leavevmode
3534      #2%
3535      \endgroup
3536    \else
3537      \expandafter\@hyper@launch#7\{#3}{#2}%
3538    \fi
3539  \else

```

otherwise its a URL

```

3540      \hyper@linkurl{#3}{#7\ifx\#2\\\else\hyper@hash#2\fi}%
3541    \fi
3542  \fi
3543 \fi
3544 \fi
3545 }

```

By default, turn run: into file:

```

3546 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
3547   \hyper@linkurl{#2}{%
3548     \Hy@linkfileprefix
3549     #1%
3550     \ifx\#3\\%
3551     \else
3552       \hyper@hash
3553       #3%
3554     \fi
3555   }%
3556 }

```

D P Story ;story@uakron.edu; pointed out that relative paths starting .. fell over. Switched to using \filename@parse to solve this.

```

3557 \def\@hyper@linkfile file:#1\#2#3{%
3558   %file url,link string, name
3559   \filename@parse{#1}%
3560   \ifx\filename@ext\relax
3561     \edef\filename@ext{\XR@ext}%
3562   \fi
3563   \def\use@file{\filename@area\filename@base.\filename@ext}%
3564   \ifx\filename@ext\XR@ext
3565     \hyper@linkfile{#2}{\use@file}{#3}%
3566   \else
3567     \ifx\@baseurl\@empty
3568       \hyper@linkurl{#2}{%
3569         \Hy@linkfileprefix\use@file\ifx\#3\\\else\hyper@hash#3\fi
3570       }%
3571     \else
3572       \hyper@linkurl{#2}{\use@file\ifx\#3\\\else\hyper@hash#3\fi}%
3573     \fi
3574   \fi
3575 }

```

Anchors have a name, and marked text. We have to be careful with the marked text, as if we break off part of something to put a `\special` around it, all hell breaks loose. Therefore, we check the category code of the first token, and only proceed if its safe. Tanmoy sorted this out.

A curious case arises if the original parameter was in braces. That means that #2 comes here a multiple letters, and the `noexpand` just looks at the first one, putting the rest in the output. Yuck.

```

3576 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
3577 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
3578   \ifx\#1\%
3579     #2\Hy@WarningNoLine{empty link? #1: #2#3}%
3580   \else
3581     \def\anchor@spot{#2#3}%
3582     \let\put@me@back\@empty
3583     \ifx\relax#2\relax
3584       \else
3585         \ifHy@nesting
3586         \else
3587           \ifcat a\noexpand#2\relax
3588           \else
3589             \ifcat O\noexpand#2 \relax
3590             \else
3591 %               \typeout{Anchor start is not alphanumeric %
3592 %                 on input line\the\inputlineno%
3593 %               }%
3594               \let\anchor@spot\@empty
3595               \def\put@me@back{#2#3}%
3596             \fi
3597           \fi
3598         \fi
3599       \fi
3600       \ifHy@activeanchor
3601         \anchor@spot
3602       \else
3603         \hyper@anchor{#1}%
3604       \fi
3605       \expandafter\put@me@back
3606     \fi
3607     \let\anchor@spot\@empty
3608 }

```

18 Compatibility with the *AT_EX2html* package

Map our macro names on to Nikos', so that documents prepared for that system will work without change.

Note, however, that the whole complicated structure for segmenting documents is not supported; it is assumed that the user will load `html.sty` first, and then `hyperref.sty`, so that the definitions in `html.sty` take effect, and are then overridden in a few circumstances by this package.

```

3609 \let\htmladding\hyperimage
3610 \def\htmladdnormallink#1#2{\href{#2}{#1}}
3611 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
3612 \def\htmlref#1#2{% anchor text, label
3613   \label@hyperref[{#2}]{#1}%
3614 }

```

This is really too much. The \LaTeX html package defines its own `\hyperref` command, with a different syntax. Was this always here? Its weird, anyway. We interpret it in the ‘printed’ way, since we are about fidelity to the page.

```

3615 \def\@@latextohtmlX{%
3616   \let\hhyperref\hyperref
3617   \def\hyperref##1##2##3##4{% anchor text for HTML
3618                               % text to print before label in print
3619                               % label
3620                               % post-label text in print
3621     ##2\ref{##4}##3%
3622   }%
3623 }
```

19 Forms creation

Allow for creation of PDF or HTML forms. The effects here are limited somewhat by the need to support both output formats, so it may not be as clever as something which only wants to make PDF forms.

I (Sebastian) could not have started this without the encouragement of T V Raman.

19.1 Field flags

The field flags are organized in a bit set.

```

3624 \RequirePackage{bitset}
```

Each flag has a option name, an `\if` switch, and a bit position. The default is always ‘false’, the flag is clear. This is also the default of the switch created by `\newif`.

The names of the flags in the PDF specification (1.7) are used as lowercase option names.

```

\HyField@NewFlag #1: type: F annot flags, Ff field flags
#2: PDF name
#3: PDF position
3625 \def\HyField@NewFlag#1#2{%
3626   \lowercase{\HyField@NewOption{#2}}%
3627   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3628 }
```

```

\HyField@NewFlagOnly
3629 \def\HyField@NewFlagOnly#1#2{%
3630   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
3631 }
```

```

\HyField@NewOption #1: option name
3632 \def\HyField@NewOption#1{%
3633   \expandafter\newif\csname ifFld@#1\endcsname
3634   \define@key{Field}{#1}[true]{%
3635     \lowercase{\Field@boolkey{##1}}{#1}%
3636   }%
3637 }
```

```

\HyField@NewBitsetFlag Package ‘bitset’ uses zero based positions, the PDF specification starts with one.
#1: option
#2: PDF name
```

#3: type: F annot flags, Ff field flags

#4: PDF position

```
3638 \def\HyField@NewBitsetFlag#1#2#3#4{%
3639   \begingroup
3640     \count@=#4\relax
3641     \advance\count@\m@ne
3642     \def\x##1{%
3643       \endgroup
3644       \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
3645       \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
3646         \expandafter\edef\csname HyField@#3@##1\endcsname{%
3647           (\number#4) #2%
3648         }%
3649       \else
3650         \expandafter\edef\csname HyField@#3@##1\endcsname{%
3651           \csname HyField@#3@##1\endcsname
3652           /#2%
3653         }%
3654       \fi
3655     }%
3656   \expandafter\x\expandafter{\the\count@}%
3657 }
```

\HyField@UseFlag The bit set is HyField@#1

```
3658 \def\HyField@UseFlag#1#2{%
3659   \lowercase{\HyField@@UseFlag{#2}}{#1}%
3660 }
```

\HyField@@UseFlag

```
3661 \def\HyField@@UseFlag#1#2{%
3662   \bitsetSetValue{HyField@#2}{%
3663     \csname HyField@#2@#1\endcsname
3664   }{%
3665     \csname ifFld@#1\endcsname 1\else 0\fi
3666   }%
3667 }
```

\HyField@SetFlag The bit set is HyField@#1

```
3668 \def\HyField@SetFlag#1#2{%
3669   \lowercase{\HyField@@SetFlag{#2}}{#1}%
3670 }
```

\HyField@@SetFlag

```
3671 \def\HyField@@SetFlag#1#2{%
3672   \bitsetSetValue{HyField@#2}{%
3673     \csname HyField@#2@#1\endcsname
3674   }{1}%
3675 }
```

\HyField@PrintFlags

```
3676 \def\HyField@PrintFlags#1#2{%
3677   \ifHy@verbose
3678     \begingroup
3679     \let\Hy@temp\@empty
3680     \let\MessageBreak\relax
3681     \expandafter\@for\expandafter\x\expandafter:\expandafter=
```

```

3682     \bitsetGetSetBitList{HyField@#1}\do{%
3683     \edef\Hy@temp{%
3684     \Hy@temp
3685     \csname HyField@#1@\x\endcsname\MessageBreak
3686     }%
3687     }%
3688     \edef\x{\endgroup
3689     \noexpand\Hy@Info{%
3690     Field flags: %
3691     \expandafter\ifx\@car#1\@nil S\else/\fi
3692     #1 %
3693     \bitsetGetDec{HyField@#1} %
3694     (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
3695     \Hy@temp
3696     for #2%
3697     }%
3698     }\x
3699     \fi
3700 }

```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

3701 \HyField@NewFlag{Ff}{ReadOnly}{1}
3702 \HyField@NewFlag{Ff}{Required}{2}
3703 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

3704 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
3705 \HyField@NewFlag{Ff}{Radio}{16}
3706 \HyField@NewFlag{Ff}{Pushbutton}{17}
3707 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

3708 \HyField@NewFlag{Ff}{Multiline}{13}
3709 \HyField@NewFlag{Ff}{Password}{14}
3710 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
3711 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
3712 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
3713 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
3714 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

3715 \HyField@NewFlag{Ff}{Combo}{18}
3716 \HyField@NewFlag{Ff}{Edit}{19}
3717 \HyField@NewFlag{Ff}{Sort}{20}
3718 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
3719 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
3720 \HyField@NewFlag{Ff}{CommitOnSelChange}{27}% PDF 1.5

```

Signature fields are not supported.

Until 6.76i hyperref uses field option ‘combo’ to set three flags ‘Combo’, ‘Edit’, and ‘Sort’. Option ‘popdown’ sets flag ‘Combo’ only.

```

3721 \newif\ifFld@popdown
3722 \define@key{Field}{popdown}[true]{%
3723   \lowercase{\Field@boolkey{#1}}{popdown}%
3724 }

```

Annotation flags. The form objects are widget annotations. There are two flags for readonly settings, the one in the annotation flags is ignored, instead the other in the field flags is used.

Flag Print is not much useful, because hyperref do not use the appearance entry of the annotations for most fields.

```

3725 \HyField@NewFlag{F}{Invisible}{1}
3726 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
3727 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
3728 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
3729 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
3730 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
3731 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
3732 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
3733 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

3734 \ifHy@pdfa
3735   \def\HyField@PDFAFIWarning#1#2{%
3736     \Hy@Warning{%
3737       PDF/A: Annotation flag ‘#1’ must\MessageBreak
3738       be set to ‘#2’%
3739     }%
3740   }%
3741   \Fld@invisiblefalse
3742   \def\Fld@invisibletrue{%
3743     \HyField@PDFAFIWarning{invisible}{false}%
3744   }%
3745   \Fld@hiddenfalse
3746   \def\Fld@hiddentrue{%
3747     \HyField@PDFAFIWarning{hidden}{false}%
3748   }%
3749   \Fld@printtrue
3750   \def\Fld@printfalse{%
3751     \HyField@PDFAFIWarning{print}{true}%
3752   }%
3753   \Fld@nozoomtrue
3754   \def\Fld@nozoomfalse{%
3755     \HyField@PDFAFIWarning{nozoom}{true}%
3756   }%
3757   \Fld@norotatetrue
3758   \def\Fld@norotatefalse{%
3759     \HyField@PDFAFIWarning{norotate}{true}%
3760   }%
3761   \Fld@noviewfalse
3762   \def\Fld@noviewtrue{%
3763     \HyField@PDFAFIWarning{noview}{false}%
3764   }%
3765 \fi

```

Submit flags. Flag 1 Include/Exclude is not supported, use option noexport instead.

```

3766 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
3767 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
3768 \HyField@NewFlag{Submit}{GetMethod}{4}
3769 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
3770 \HyField@NewFlagOnly{Submit}{XFDF}{6}
3771 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
3772 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
3773 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
3774 \HyField@NewFlag{Submit}{CanonicalFormat}{10}

```

```

3775 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
3776 \HyField@NewFlag{Submit}{ExclFKey}{12}
3777 \HyField@NewFlag{Submit}{EmbedForm}{14}

3778 \define@key{Field}{export}{%
3779   \lowercase{\def\Hy@temp{#1}}%
3780   \@ifundefined{Fld@export@Hy@temp}{%
3781     \@onelevel@sanitize\Hy@temp
3782     \PackageError{hyperref}{%
3783       Unknown export format '\Hy@temp'.\MessageBreak
3784       Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
3785     }\@ehc
3786   }{%
3787     \let\Fld@export\Hy@temp
3788   }%
3789 }

3790 \def\Fld@export{fdf}
3791 \@namedef{Fld@export@fdf}{0}%
3792 \@namedef{Fld@export@html}{1}%
3793 \@namedef{Fld@export@xfdf}{2}%
3794 \@namedef{Fld@export@pdf}{3}%

```

19.1.2 Set submit flags

\HyField@FlagsSubmit

```

3795 \def\HyField@FlagsSubmit{%
3796   \bitsetReset{HyField@Submit}%
3797   \ifcase\@nameuse{Fld@export@Fld@export} %
3798     % FDF
3799     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3800     \HyField@UseFlag{Submit}{SubmitCoordinates}%
3801     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
3802     \HyField@UseFlag{Submit}{IncludeAnnotations}%
3803     \HyField@UseFlag{Submit}{CanonicalFormat}%
3804     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
3805     \HyField@UseFlag{Submit}{ExclFKey}%
3806     \HyField@UseFlag{Submit}{EmbedForm}%
3807   \or % HTML
3808     \HyField@SetFlag{Submit}{ExportFormat}%
3809     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3810     \HyField@UseFlag{Submit}{GetMethod}%
3811     \HyField@UseFlag{Submit}{SubmitCoordinates}%
3812     \HyField@UseFlag{Submit}{CanonicalFormat}%
3813   \or % XFDF
3814     \HyField@SetFlag{Submit}{XFDF}%
3815     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
3816     \HyField@UseFlag{Submit}{SubmitCoordinates}%
3817     \HyField@UseFlag{Submit}{CanonicalFormat}%
3818   \or % PDF
3819     \HyField@SetFlag{Submit}{SubmitPDF}%
3820     \HyField@UseFlag{Submit}{GetMethod}%
3821   \fi
3822   \HyField@PrintFlags{Submit}{submit button field}%
3823   \bitsetIsEmpty{HyField@Submit}{%
3824     \def\Fld@submitflags{%
3825     }{%
3826       \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
3827     }%

```


3828 }

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```
3829 \def\HyField@FlagsAnnot#1{%
3830   \bitsetReset{HyField@F}%
3831   \HyField@UseFlag{F}{Invisible}%
3832   \HyField@UseFlag{F}{Hidden}%
3833   \HyField@UseFlag{F}{Print}%
3834   \HyField@UseFlag{F}{NoZoom}%
3835   \HyField@UseFlag{F}{NoRotate}%
3836   \HyField@UseFlag{F}{NoView}%
3837   \HyField@UseFlag{F}{Locked}%
3838   \HyField@UseFlag{F}{ToggleNoView}%
3839   \HyField@UseFlag{F}{LockedContents}%
3840   \HyField@PrintFlags{F}{#1}%
3841   \bitsetIsEmpty{HyField@F}{%
3842     \def\Fld@annotflags{%
3843     }{%
3844       \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
3845     }%
3846 }
```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```
3847 \def\HyField@FlagsPushButton{%
3848   \HyField@FlagsAnnot{push button field}%
3849   \bitsetReset{HyField@Ff}%
3850   \HyField@UseFlag{Ff}{ReadOnly}%
3851   \HyField@UseFlag{Ff}{Required}%
3852   \HyField@UseFlag{Ff}{NoExport}%
3853   \HyField@SetFlag{Ff}{Pushbutton}%
3854   \HyField@PrintFlags{Ff}{push button field}%
3855   \bitsetIsEmpty{HyField@Ff}{%
3856     \def\Fld@flags{%
3857     }{%
3858       \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
3859     }%
3860 }
```

19.1.5 Check box field

\HyField@FlagsCheckBox

```
3861 \def\HyField@FlagsCheckBox{%
3862   \HyField@FlagsAnnot{check box field}%
3863   \bitsetReset{HyField@Ff}%
3864   \HyField@UseFlag{Ff}{ReadOnly}%
3865   \HyField@UseFlag{Ff}{Required}%
3866   \HyField@UseFlag{Ff}{NoExport}%
3867   \HyField@PrintFlags{Ff}{check box field}%
3868   \bitsetIsEmpty{HyField@Ff}{%
3869     \def\Fld@flags{%
3870     }{%
3871       \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%

```

```

3872 }%
3873 }

```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```

3874 \def\HyField@FlagsRadioButton{%
3875   \HyField@FlagsAnnot{radio button field}%
3876   \bitsetReset{HyField@Ff}%
3877   \HyField@UseFlag{Ff}{ReadOnly}%
3878   \HyField@UseFlag{Ff}{Required}%
3879   \HyField@UseFlag{Ff}{NoExport}%
3880   \HyField@UseFlag{Ff}{NoToggleToOff}%
3881   \HyField@SetFlag{Ff}{Radio}%
3882   \HyField@UseFlag{Ff}{RadiosInUnison}%
3883   \HyField@PrintFlags{Ff}{radio button field}%
3884   \bitsetIsEmpty{HyField@Ff}{%
3885     \def\Fld@flags{%
3886     }{%
3887     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
3888   }%
3889 }

```

19.1.7 Text fields

\HyField@FlagsText

```

3890 \def\HyField@FlagsText{%
3891   \HyField@FlagsAnnot{text field}%
3892   \bitsetReset{HyField@Ff}%
3893   \HyField@UseFlag{Ff}{ReadOnly}%
3894   \HyField@UseFlag{Ff}{Required}%
3895   \HyField@UseFlag{Ff}{NoExport}%
3896   \HyField@UseFlag{Ff}{Multiline}%
3897   \HyField@UseFlag{Ff}{Password}%
3898   \HyField@UseFlag{Ff}{FileSelect}%
3899   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
3900   \HyField@UseFlag{Ff}{DoNotScroll}%
3901   \ifFld@comb
3902     \ifcase0\ifFld@multiline
3903       \else\ifFld@password
3904       \else\ifFld@fileselect
3905       \else 1\fi\fi\fi\relax
3906     \PackageError{hyperref}{%
3907       Field option ‘comb’ cannot used together with\MessageBreak
3908       ‘multiline’, ‘password’, or ‘fileselect’%
3909     }\@ehc
3910   \else
3911     \HyField@UseFlag{Ff}{Comb}%
3912   \fi
3913 \fi
3914 \HyField@UseFlag{Ff}{RichText}%
3915 \HyField@PrintFlags{Ff}{text field}%
3916 \bitsetIsEmpty{HyField@Ff}{%
3917   \def\Fld@flags{%
3918   }{%
3919     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%

```

```

3920 }%
3921 }

```

19.1.8 Choice fields

\HyField@FlagsChoice

```

3922 \def\HyField@FlagsChoice{%
3923   \HyField@FlagsAnnot{choice field}%
3924   \bitsetReset{HyField@Ff}%
3925   \HyField@UseFlag{Ff}{ReadOnly}%
3926   \HyField@UseFlag{Ff}{Required}%
3927   \HyField@UseFlag{Ff}{NoExport}%
3928   \HyField@UseFlag{Ff}{Combo}%
3929   \ifFld@combo
3930     \HyField@UseFlag{Ff}{Edit}%
3931   \fi
3932   \HyField@UseFlag{Ff}{Sort}%
3933   \HyField@UseFlag{Ff}{MultiSelect}%
3934   \ifFld@combo
3935     \ifFld@edit
3936       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
3937     \fi
3938   \fi
3939   \HyField@UseFlag{Ff}{CommitOnSelChange}%
3940   \HyField@PrintFlags{Ff}{choice field}%
3941   \bitsetIsEmpty{HyField@Ff}{%
3942     \def\Fld@flags{%
3943     }{%
3944     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}}%
3945   }%
3946 }

```

19.2 Choice field

3947 \RequirePackage{kvsetkeys}[2007/09/29]

\HyField@PDFChoices #1: list of choices in key value syntax, key = exported name, value = displayed text.

Input: \Fld@default, \Fld@value, \ifFld@multiselect

Result: \Fld@choices with entries: /Opt, /DV, /V, /I.

```

3948 \def\HyField@PDFChoices#1{%
3949   \begingroup
3950   \gdef\Fld@choices{%
3951     \def\HyTmp@optlist{%
3952       \let\HyTmp@optitem\relax
3953       \count@=0 %
3954       \kv@parse{#1}{%
3955         \Hy@pdfstringdef\kv@key\kv@key
3956         \ifx\kv@value\relax
3957           \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
3958             \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
3959           \else
3960             \xdef\Fld@choices{\Fld@choices(\kv@key)}%
3961           \fi
3962         \else
3963           \Hy@pdfstringdef\kv@value\kv@value
3964           \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@value)]}%
3965         \fi

```

```

3966 \edef\HyTmp@optlist{%
3967   \HyTmp@optlist
3968   \HyTmp@optitem{\the\count@}{\kv@key}0%
3969 }%
3970 \advance\count@ by 1 %
3971 \@gobbletwo
3972 }%
3973 \xdef\Fld@choices{/Opt[\Fld@choices]}%
3974 \ifFld@multiselect
3975   \HyField@@PDFChoices{DV}\Fld@default
3976   \HyField@@PDFChoices{V}\Fld@value
3977 \else
3978   \ifx\Fld@default\relax
3979   \else
3980     \pdfstringdef\Hy@gtemp\Fld@default
3981     \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
3982   \fi
3983   \ifx\Fld@value\relax
3984   \else
3985     \pdfstringdef\Hy@gtemp\Fld@value
3986     \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
3987   \fi
3988 \fi
3989 \endgroup
3990 }

```

\HyField@@PDFChoices

```

3991 \def\HyField@@PDFChoices#1#2{%
3992   \ifx#2\relax
3993   \else
3994     \count@=0 %
3995     \def\HyTmp@optitem##1##2##3{%
3996       \def\HyTmp@key{##2}%
3997       \ifx\HyTmp@key\Hy@gtemp
3998         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
3999           \HyTmp@optlist
4000           \HyTmp@optitem{##1}-{##2}1%
4001         }%
4002         \let\HyTmp@found=Y%
4003       \else
4004         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
4005           \HyTmp@optlist
4006           \HyTmp@optitem{##1}-{##2}##3%
4007         }%
4008       \fi
4009     }%
4010     \expandafter\comma@parse\expandafter{#2}{%
4011       \pdfstringdef\Hy@gtemp\comma@entry
4012       \let\HyTmp@found=N %
4013       \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
4014       \HyTmp@optlist
4015       \ifx\HyTmp@found Y%
4016         \advance\count@ by 1 %
4017       \else
4018         \@onelevel@sanitize\comma@entry
4019         \PackageWarning{hyperref}{%
4020           \string\ChoiceBox: Ignoring value '\comma@entry',%

```

```

4021         \MessageBreak
4022         it cannot be found in the choices%
4023     }%
4024     \fi
4025     \@gobble
4026 }%
4027 \def\HyTmp@optitem##1##2##3{%
4028     \ifnum##3=1 %
4029         (##2)%
4030     \fi
4031 }%
4032 \ifcase\count@
4033 \or
4034     \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
4035 \else
4036     \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
4037     \ifx#1V%
4038         \def\HyTmp@optitem##1##2##3{%
4039             \ifnum##3=1 %
4040                 \@firstofone{ ##1}%
4041             \fi
4042         }%
4043         \edef\HyTmp@optlist{\HyTmp@optlist}%
4044         \xdef\Fld@choices{%
4045             \Fld@choices
4046             /I[\expandafter\@firstofone\HyTmp@optlist]}%
4047     }%
4048     \fi
4049 \fi
4050 \fi
4051 }

```

19.3 Forms

\HyField@SetKeys

```

4052 \def\HyField@SetKeys{%
4053     \setkeys{Field}%
4054 }

4055 \newif\ifFld@checked
4056 \newif\ifFld@disabled
4057 \Fld@checkedfalse
4058 \Fld@disabledfalse
4059 \newcount\Fld@menulength
4060 \newdimen\Fld@Width
4061 \newdimen\Fld@charsize
4062 \Fld@charsize=10\p@
4063 \def\Fld@maxlen{0}
4064 \def\Fld@align{0}
4065 \def\Fld@color{0 0 0 rg}
4066 \def\Fld@bcolor{1 1 1}
4067 \def\Fld@bordercolor{1 0 0}
4068 \def\Fld@bordersep{1\p@}
4069 \def\Fld@borderwidth{1}
4070 \def\Fld@borderstyle{S}
4071 \def\Fld@cbsymbol{4}
4072 \def\Fld@rotation{0}

```

```

4073 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
4074 \def\endForm{\@endForm}
4075 \newif\ifForm@html
4076 \Form@htmlfalse
4077 \def\Form@boolkey#1#2{%
4078   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4079 }
4080 \define@key{Form}{action}{%
4081   \hyper@normalise\Hy@DefFormAction{#1}%
4082 }
4083 \def\Hy@DefFormAction{\def\Form@action}
4084 \def\enc@html{html}
4085 \define@key{Form}{encoding}{%
4086   \def\Hy@tempa{#1}%
4087   \ifx\Hy@tempa\enc@html
4088     \Form@htmltrue
4089     \def\Fld@export{html}%
4090   \else
4091     \typeout{hyperref: form 'encoding' key set to #1 %
4092       -- unknown type%
4093   }%
4094   \Form@htmlfalse
4095 \fi
4096 }
4097 \define@key{Form}{method}{%
4098   \lowercase{\def\Hy@temp{#1}}%
4099   \@ifundefined{Form@method@\Hy@temp}{%
4100     \@onelevel@sanitize\Hy@temp
4101     \PackageError{hyperref}{%
4102       Unknown method '\Hy@temp'.\MessageBreak
4103       Known values are 'post' and 'get'%
4104     }\@ehc
4105   }{%
4106     \let\Form@method\Hy@temp
4107     \ifcase\@nameuse{Form@method@\Hy@temp} %
4108       \Fld@getmethodfalse
4109     \else
4110       \Fld@getmethodtrue
4111     \fi
4112   }%
4113 }
4114 \def\Form@method{}
4115 \@namedef{Form@method@post}{0}
4116 \@namedef{Form@method@get}{1}
4117 \def\Field@boolkey#1#2{%
4118   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
4119 }
4120 \newtoks\Field@toks
4121 \Field@toks={ }%
4122 \def\Field@addtoks#1#2{%
4123   \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
4124   \@processme
4125 }
4126 \def\Fld@checkequals#1=#2=#3\\{%
4127   \def\@currDisplay{#1}%
4128   \ifx\#2\\%
4129     \def\@currValue{#1}%

```

```

4130 \else
4131     \def\@currValue{#2}%
4132 \fi
4133 }
4134 \define@key{Field}{loc}{%
4135     \def\Fld@loc{#1}%
4136 }
4137 \define@key{Field}{checked}[true]{%
4138     \lowercase{\Field@boolkey{#1}}{checked}%
4139 }
4140 \define@key{Field}{disabled}[true]{%
4141     \lowercase{\Field@boolkey{#1}}{disabled}%
4142 }
4143 \define@key{Field}{accesskey}{%
4144     \Field@addtoks{accesskey}{#1}%
4145 }
4146 \define@key{Field}{tabkey}{%
4147     \Field@addtoks{tabkey}{#1}%
4148 }
4149 \define@key{Field}{name}{%
4150     \def\Fld@name{#1}%
4151 }
4152 \define@key{Field}{width}{%
4153     \def\Fld@width{#1}%
4154     \Field@Width#1\setbox0=\hbox{m}%
4155 }
4156 \define@key{Field}{maxlen}{%
4157     \def\Fld@maxlen{#1}%
4158 }
4159 \define@key{Field}{menulength}{%
4160     \Fld@menulength=#1\relax
4161 }
4162 \define@key{Field}{height}{%
4163     \def\Fld@height{#1}%
4164 }
4165 \define@key{Field}{charsize}{%
4166     \Fld@charsize#1%
4167 }
4168 \define@key{Field}{borderwidth}{%
4169     \def\Fld@borderwidth{#1}%
4170 }
4171 \define@key{Field}{borderstyle}{%
4172     \def\Fld@borderstyle{#1}%
4173 }
4174 \define@key{Field}{bordersep}{%
4175     \def\Fld@bordersep{#1}%
4176 }
4177 \define@key{Field}{default}{%
4178     \def\Fld@default{#1}%
4179 }
4180 \define@key{Field}{align}{%
4181     \def\Fld@align{#1}%
4182 }
4183 \define@key{Field}{value}{%
4184     \def\Fld@value{#1}%
4185 }
4186 \define@key{Field}{checkboxsymbol}{%

```

```

4187 \def\Fld@cbsymbol{#1}%
4188 }

4189 \define@key{Field}{rotation}{%
4190 \def\Fld@rotation{#1}%
4191 }

4192 \define@key{Field}{backgroundcolor}{%
4193 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
4194 }
4195 \define@key{Field}{bordercolor}{%
4196 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
4197 }
4198 \define@key{Field}{color}{%
4199 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
4200 }

4201 \def\Fld@format@code{}
4202 \def\Fld@validate@code{}
4203 \def\Fld@calculate@code{}
4204 \def\Fld@keystroke@code{}
4205 \def\Fld@onfocus@code{}
4206 \def\Fld@onblur@code{}
4207 \def\Fld@onmousedown@code{}
4208 \def\Fld@onmouseup@code{}
4209 \def\Fld@onenter@code{}
4210 \def\Fld@onexit@code{}
4211 \def\Hy@temp#1{%
4212 \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
4213 }
4214 \def\Hy@@temp#1#2{%
4215 \ifHy@pdfa
4216 \define@key{Field}{#2}{%
4217 \PackageError{hyperref}{%
4218 PDF/A: Additional action ‘#2’ is prohibited%
4219 }\@ehc
4220 }%
4221 \else
4222 \define@key{Field}{#2}{%
4223 \def#1{##1}%
4224 }%
4225 \fi
4226 }
4227 \Hy@temp{keystroke}
4228 \Hy@temp{format}
4229 \Hy@temp{validate}
4230 \Hy@temp{calculate}
4231 \Hy@temp{onfocus}
4232 \Hy@temp{onblur}
4233 \Hy@temp{onenter}
4234 \Hy@temp{onexit}
4235 \def\Hy@temp#1{%
4236 \define@key{Field}{#1}{%
4237 \Fld@addtoks{#1}{##1}%
4238 }%
4239 }
4240 \Hy@temp{onselect}
4241 \Hy@temp{onchange}
4242 \Hy@temp{ondblclick}

```



```

4243 \Hy@temp{onmousedown}
4244 \Hy@temp{onmouseup}
4245 \Hy@temp{onmouseover}
4246 \Hy@temp{onmousemove}
4247 \Hy@temp{onmouseout}
4248 \Hy@temp{onkeypress}
4249 \Hy@temp{onkeydown}
4250 \Hy@temp{onkeyup}
4251 \ifHy@pdfa
4252   \define@key{Field}{onclick}{%
4253     \PackageError{hyperref}{%
4254       PDF/A: Action ‘#2’ is prohibited%
4255     }\@ehc
4256   }%
4257 \else
4258   \define@key{Field}{onclick}{%
4259     \def\Fld@onclick{#1}%
4260     \Field@addtoks{onclick}{#1}%
4261   }%
4262 \fi

4263 \DeclareRobustCommand\TextField{%
4264   \@ifnextchar[{\@TextField}{\@TextField[]}%
4265 }
4266 \DeclareRobustCommand\ChoiceMenu{%
4267   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
4268 }
4269 \DeclareRobustCommand\CheckBox{%
4270   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
4271 }
4272 \DeclareRobustCommand\PushButton{%
4273   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
4274 }
4275 \DeclareRobustCommand\Gauge{%
4276   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
4277 }
4278 \DeclareRobustCommand\Submit{%
4279   \@ifnextchar[{\@Submit}{\@Submit[]}%
4280 }
4281 \DeclareRobustCommand\Reset{%
4282   \@ifnextchar[{\@Reset}{\@Reset[]}%
4283 }
4284 \def\LayoutTextField#1#2{% label, field
4285   #1 #2%
4286 }
4287 \def\LayoutChoiceField#1#2{% label, field
4288   #1 #2%
4289 }
4290 \def\LayoutCheckField#1#2{% label, field
4291   #1 #2%
4292 }
4293 \def\LayoutPushButtonField#1{% button
4294   #1%
4295 }
4296 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4297 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4298 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
4299 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}

```

```

4300 \def\MakeButtonField#1{%
4301   \sbox0{%
4302     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
4303   }%
4304   \@tempdima\ht0 %
4305   \advance\@tempdima by \Fld@borderwidth bp %
4306   \advance\@tempdima by \Fld@borderwidth bp %
4307   \ht0\@tempdima
4308   \@tempdima\dp0 %
4309   \advance\@tempdima by \Fld@borderwidth bp %
4310   \advance\@tempdima by \Fld@borderwidth bp %
4311   \dp0\@tempdima
4312   \box0\relax
4313 }
4314 \def\DefaultHeightofSubmit{14pt}
4315 \def\DefaultWidthofSubmit{2cm}
4316 \def\DefaultHeightofReset{14pt}
4317 \def\DefaultWidthofReset{2cm}
4318 \def\DefaultHeightofCheckBox{\baselineskip}
4319 \def\DefaultWidthofCheckBox{\baselineskip}
4320 \def\DefaultHeightofChoiceMenu{\baselineskip}
4321 \def\DefaultWidthofChoiceMenu{\baselineskip}
4322 \def\DefaultHeightofText{\baselineskip}
4323 \def\DefaultHeightofTextMultiline{4\baselineskip}
4324 \def\DefaultWidthofText{3cm}
4325 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
4326 \def\DefaultOptionsofReset{print,name=Reset,noexport}
4327 \def\DefaultOptionsofPushButton{print}
4328 \def\DefaultOptionsofCheckBox{print}
4329 \def\DefaultOptionsofText{print}

Default options for the types of \ChoiceMenu.
4330 \def\DefaultOptionsofListBox{print}
4331 \def\DefaultOptionsofComboBox{print,edit,sort}
4332 \def\DefaultOptionsofPopdownBox{print}
4333 \def\DefaultOptionsofRadio{print,notoggletooft}

```

20 Setup

```

4334 \ifHy@figures
4335   \Hy@Info{Hyper figures ON}%
4336 \else
4337   \Hy@Info{Hyper figures OFF}%
4338 \fi
4339 \ifHy@nesting
4340   \Hy@Info{Link nesting ON}%
4341 \else
4342   \Hy@Info{Link nesting OFF}%
4343 \fi
4344 \ifHy@hyperindex
4345   \Hy@Info{Hyper index ON}%
4346 \else
4347   \Hy@Info{Hyper index OFF}%
4348 \fi
4349 \ifHy@backref
4350   \Hy@Info{backreferencing ON}%
4351 \else

```

```

4352 \Hy@Info{backreferencing OFF}%
4353 \fi
4354 \ifHy@colorlinks
4355 \Hy@Info{Link coloring ON}%
4356 \else
4357 \Hy@Info{Link coloring OFF}%
4358 \fi
4359 \ifHy@ocgcolorlinks
4360 \Hy@Info{Link coloring with OCG ON}%
4361 \else
4362 \Hy@Info{Link coloring with OCG OFF}%
4363 \fi
4364 \ifHy@pdfa
4365 \Hy@Info{PDF/A mode ON}%
4366 \else
4367 \Hy@Info{PDF/A mode OFF}%
4368 \fi

```

21 Low-level utility macros

We need unrestricted access to the #, ~ and " characters, so make them nice macros.

```

4369 \edef\hyper@hash{\string#}
4370 \edef\hyper@tilde{\string~}
4371 \edef\hyper@quote{\string"}
4372 \let\@currentHref\@empty
4373 \let\Hy@footnote@currentHref\@empty

```

We give the start of document a special label; this is used in backreferencing-by-section, to allow for cites before any sectioning commands. Set up PDF info.

```

4374 \AfterBeginDocument{%
4375 \Hy@pdfstringtrue
4376 \PDF@SetupDoc
4377 \let\PDF@SetupDoc\@empty
4378 \Hy@DisableOption{pdfpagescrop}%
4379 \Hy@DisableOption{pdfpagemode}%
4380 \Hy@DisableOption{pdfnonfullscreenpagemode}%
4381 \Hy@DisableOption{pdfdirection}%
4382 \Hy@DisableOption{pdfviewarea}%
4383 \Hy@DisableOption{pdfviewclip}%
4384 \Hy@DisableOption{pdfprintarea}%
4385 \Hy@DisableOption{pdfprintclip}%
4386 \Hy@DisableOption{pdfprintscaling}%
4387 \Hy@DisableOption{pdfduplex}%
4388 \Hy@DisableOption{pdfpicktraybypdfsize}%
4389 \Hy@DisableOption{pdfprintpagerange}%
4390 \Hy@DisableOption{pdfnumcopies}%
4391 \Hy@DisableOption{pdfstartview}%
4392 \Hy@DisableOption{pdfstartpage}%
4393 \Hy@DisableOption{pdftoolbar}%
4394 \Hy@DisableOption{pdfmenubar}%
4395 \Hy@DisableOption{pdfwindowui}%
4396 \Hy@DisableOption{pdfwindow}%
4397 \Hy@DisableOption{pdfcenterwindow}%
4398 \Hy@DisableOption{pdfdisplaydoctitle}%
4399 \Hy@DisableOption{pdfpagelayout}%
4400 \Hy@DisableOption{pdflang}%
4401 \Hy@DisableOption{baseurl}%

```

```

4402 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
4403 \Hy@pdfstringfalse
4404 }

```

22 Localized nullifying of package

Sometimes we just don't want the wretched package interfering with us. Define an environment we can put in manually, or include in a style file, which stops the hypertext functions doing anything. This is used, for instance, in the Elsevier classes, to stop `hyperref` playing havoc in the front matter.

```

4405 \def\NoHyper{%
4406   \def\hyper@link@{##1}##2##3##4{##4}%
4407   \def\hyper@@anchor##1{%
4408     \global\let\hyper@livelink\hyper@link
4409     \gdef\hyper@link##1##2##3{##3}%
4410     \def\hyper@anchorstart##1{%
4411       \let\hyper@anchorend\@empty
4412       \def\hyper@linkstart##1##2{%
4413         \let\hyper@linkend\@empty
4414         \def\hyper@linkurl##1##2{##1}%
4415         \def\hyper@linkfile##1##2##3{##1}%
4416         \def\hyper@link@{##1}##2##3{%
4417           \let\Hy@backout\@gobble
4418         }
4419       \def\stop@hyper{%
4420         \def\hyper@link@{##1}##2##3##4{##4}%
4421         \let\Hy@backout\@gobble
4422         \def\hyper@@anchor##1{%
4423           \def\hyper@link##1##2##3{##3}%
4424           \def\hyper@anchorstart##1{%
4425             \let\hyper@anchorend\@empty
4426             \def\hyper@linkstart##1##2{%
4427               \let\hyper@linkend\@empty
4428               \def\hyper@linkurl##1##2{##1}%
4429               \def\hyper@linkfile##1##2##3{##1}%
4430               \def\hyper@link@{##1}##2##3{%
4431                 }
4432             \def\endNoHyper{%
4433               \global\let\hyper@link\hyper@livelink
4434             }
4435           }

```

23 Package `nohyperref`

This package is introduced by Sebastian Rahtz.

Package `nohyperref` is a dummy package that defines some low level and some top-level commands. It is done for `jadetex`, which calls `hyperref` low-level commands, but it would also be useful with people using normal `hyperref`, who really do not want the package loaded at all.

Some low-level commands:

```

4436 \nohyperref
4437 \let\hyper@@anchor\@gobble
4438 \def\hyper@link##1##2##3{##3}%
4439 \let\hyper@anchorstart\@gobble

```

```

4440 \let\hyper@anchorend\@empty
4441 \let\hyper@linkstart\@gobbletwo
4442 \let\hyper@linkend\@empty
4443 \def\hyper@linkurl#1#2{#1}%
4444 \def\hyper@linkfile#1#2#3{#1}%
4445 \def\hyper@link@[#1]#2#3{#1}%
4446 \let\PDF@SetupDoc\@empty
4447 \let\PDF@FinishDoc\@empty

```

Some top-level commands:

```

4448 \def\Acrobatmenu#1#2{\leavevmode#2}
4449 \let\pdfstringdefDisableCommands\@gobbletwo
4450 \let\texorpdfstring\@firstoftwo
4451 \let\pdfbookmark\@undefined
4452 \newcommand\pdfbookmark[3][]{ }
4453 \let\phantomsection\@empty
4454 \let\hypersetup\@gobble
4455 \let\hyperbaseurl\@gobble
4456 \let\href\@gobble
4457 \let\hyperdef\@gobbletwo
4458 \let\hyperlink\@gobble
4459 \let\hypertarget\@gobble
4460 \def\hyperref{%
4461   \ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
4462 }
4463 \long\def\@gobbleopt[#1]{ }
4464 \let\hyperpage\@empty
4465 \</nohyperref>

```

24 The Mangling Of Aux and Toc Files

Some extra tests so that the hyperref package may be removed or added to a document without having to remove .aux and .toc files (this section is by David Carlisle) All the code is delayed to `\begin{document}`

```

4466 \*package
4467 \AfterBeginDocument{%

```

First the code to deal with removing the hyperref package from a document.

Write some stuff into the aux file so if the next run is done without hyperref, then `\contentsline` and `\newlabel` are defined to cope with the extra arguments.

```

4468   \if@filesw
4469     \ifHy@typexml
4470       \immediate\closeout\@mainaux
4471       \immediate\openout\@mainaux\jobname.aux\relax
4472       \immediate\write\@auxout{<relaxxml>\relax}%
4473     \fi
4474     \immediate\write\@auxout{%
4475       \string\ifx\string\hyper@anchor\string\@undefined^^J%
4476       \global\let\string\oldcontentsline\string\contentsline^^J%
4477       \gdef\string\contentsline%
4478         \string#1\string#2\string#3\string#4{%
4479         \string\oldcontentsline%
4480         {\string#1}{\string#2}{\string#3}}^^J%
4481       \global\let\string\oldnewlabel\string\newlabel^^J%
4482       \gdef\string\newlabel\string#1\string#2{%
4483         \string\newlabelxx{\string#1}\string#2}^^J%

```

```

4484 \gdef\string\newlabelxx%
4485 \string#1\string#2\string#3\string#4\string#5\string#6{%
4486 \string\oldnewlabel{\string#1}{\string#2}{\string#3}}^^J%

```

But the new aux file will be read again at the end, with the normal definitions expected, so better put things back as they were.

```

4487 \string\AtEndDocument{%
4488 \let\string\contentsline\string\oldcontentsline^^J%
4489 \let\string\newlabel\string\oldnewlabel}^^J%

```

If the document is being run with hyperref put this definition into the aux file, so we can spot it on the next run.

```

4490 \string\else^^J%
4491 \global\let\string\hyper@last\relax^^J%
4492 \string\fi^^J%
4493 }%
4494 \fi

```

Now the code to deal with adding the hyperref package to a document with aux and toc written the standard way.

If hyperref was used last time, do nothing. If it was not used, or an old version of hyperref was used, don't use that TOC at all but generate a warning. Not ideal, but better than failing with pre-5.0 hyperref TOCs.

```

4495 \ifx\hyper@last\@undefined
4496 \def\@starttoc#1{%
4497 \begingroup
4498 \makeatletter
4499 \IfFileExists{\jobname.#1}{%
4500 \Hy@WarningNoLine{%
4501 old #1 file detected, not used; run LaTeX again%
4502 }%
4503 }{}%
4504 \if@filesw
4505 \expandafter\newwrite\csname tf@#1\endcsname
4506 \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
4507 \fi
4508 \@nobreakfalse
4509 \endgroup
4510 }%
4511 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
4512 \fi
4513 }

```

25 Title strings

If options pdftitle and pdfauthor are not used, these informations for the pdf information dictionary can be extracted by the nd

```

4514 \ifHy@usetitle
4515 \let\HyOrg@title\title
4516 \let\HyOrg@author\author
4517 \def\title{\@ifnextchar[{\Hy@scanopttitle}{\Hy@scantitle}}%
4518 \def\Hy@scanopttitle[#1]{%
4519 \gdef\Hy@title{#1}%
4520 \HyOrg@title[{#1}]%
4521 }%
4522 \def\Hy@scantitle#1{%

```

```

4523 \gdef\Hy@title{#1}%
4524 \HyOrg@title{#1}%
4525 }%
4526 \def\author{\@ifnextchar[{\Hy@scanoptauthor}{\Hy@scanauthor}}%
4527 \def\Hy@scanoptauthor[#1]{%
4528 \gdef\Hy@author{#1}%
4529 \HyOrg@author[{#1}]%
4530 }%
4531 \def\Hy@scanauthor#1{%
4532 \gdef\Hy@author{#1}%
4533 \HyOrg@author{#1}%
4534 }%

```

The case, that or re given before hyperref is loaded, is much more complicate, because LaTeX initializes the macros title and author with LaTeX error and warning messages.

```

4535 \begingroup
4536 \def\process@me#1\@nil#2{%
4537 \expandafter\let\expandafter\x\csname @#2\endcsname
4538 \edef\y{\expandafter\strip@prefix\meaning\x}%
4539 \def\c##1#1##2\@nil{%
4540 \ifx\\##1\\%
4541 \else
4542 \expandafter\gdef\csname Hy#2\expandafter\endcsname
4543 \expandafter{x}%
4544 \fi
4545 }%
4546 \expandafter\c\y\relax#1\@nil
4547 }%
4548 \expandafter\process@me\string\@latex@\@nil{title}%
4549 \expandafter\process@me\string\@latex@\@nil{author}%
4550 \endgroup
4551 \fi
4552 \Hy@DisableOption{pdfusetitle}

```

Macro \Hy@UseMaketitleInfos is used in the driver files, before the information entries are used.

The newline macro \newline or \\ is much more complicate. In the title a good replacement can be a space, but can be already a space after \\ in the title string. So this space is removed by scanning for the next non-empty argument.

In the macro \author the newline can perhaps separate the different authors, so the newline expands here to a comma with space.

The possible arguments such as space or the optional argument after the newline macros are not detected.

```

4553 \def\Hy@UseMaketitleString#1{%
4554 \@ifundefined{Hy@#1}{-}{%
4555 \begingroup
4556 \let\Hy@saved@hook\pdfstringdefPreHook
4557 \pdfstringdefDisableCommands{%
4558 \expandafter\let\expandafter\\ \csname Hy@newline@#1\endcsname
4559 \let\newline\\%
4560 }%
4561 \expandafter\ifx\csname @pdf#1\endcsname\@empty
4562 \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
4563 \csname Hy@#1\endcsname\@empty
4564 }%
4565 \fi
4566 \global\let\pdfstringdefPreHook\Hy@saved@hook

```

```

4567 \endgroup
4568 }%
4569 }
4570 \def\Hy@newline@title#1{ #1}
4571 \def\Hy@newline@author#1{, #1}
4572 \def\Hy@UseMaketitleInfos{%
4573 \Hy@UseMaketitleString{title}%
4574 \Hy@UseMaketitleString{author}%
4575 }

```

26 Page numbers

This stuff is done by Heiko Oberdiek.

27 Every page

```

4576 \RequirePackage{atbegshi}[2007/09/09]
4577 \def\Hy@EveryPageHook{}
4578 \def\Hy@EveryPageBoxHook{}
4579 \def\Hy@FirstPageHook{}
4580 \AtBeginShipout{%
4581 \Hy@EveryPageHook
4582 \ifx\Hy@EveryPageBoxHook\@empty
4583 \else
4584 \setbox\AtBeginShipoutBox=\vbox{%
4585 \offinterlineskip
4586 \Hy@EveryPageBoxHook
4587 \box\AtBeginShipoutBox
4588 }%
4589 \fi
4590 }
4591 \AtBeginShipoutFirst{%
4592 \Hy@FirstPageHook
4593 }
4594 \g@addto@macro\Hy@FirstPageHook{%
4595 \PDF@FinishDoc
4596 \gdef\PDF@FinishDoc{}}%
4597 }

```

27.1 PDF /PageLabels

Internal macros of this module are marked with \HyPL@.

```

4598 \ifHy@pagelabels
4599 \begingroup\expandafter\expandafter\expandafter\endgroup
4600 \expandafter\ifx\csname thepage\endcsname\relax
4601 \Hy@pagelabelsfalse
4602 \Hy@WarningNoLine{%
4603 Option 'pdfpagelabels' is turned off\MessageBreak
4604 because \string\thepage\space is undefined%
4605 }%
4606 \csname fi\endcsname
4607 \csname iffalse\expandafter\endcsname
4608 \fi

```

\thispdfpagelabel The command \thispdfpagelabel allows to label a special page without the redefinition of \thepage for the page.


```

4609 \def\thispdfpagelabel#1{%
4610     \gdef\HyPL@thisLabel{#1}%
4611 }%
4612 \global\let\HyPL@thisLabel\relax

```

`\HyPL@Labels` The page labels are collected in `\HyPL@Labels` and set at the end of the document.

```

4613 \def\HyPL@Labels{%

```

`\Hy@abspage` We have to know the the absolute page number and introduce a new counter for that.

```

4614 \newcount\Hy@abspage
4615 \Hy@abspage=0 %

```

For comparisons with the values of the previous page, some variables are needed:

```

4616 \def\HyPL@LastType{init}%
4617 \def\HyPL@LastNumber{0}%
4618 \def\HyPL@LastPrefix{}%

```

Definitions for the PDF names of the L^AT_EX pendants.

```

4619 \def\HyPL@arabic{D}%
4620 \def\HyPL@Roman{R}%
4621 \def\HyPL@roman{r}%
4622 \def\HyPL@Alph{A}%
4623 \def\HyPL@alph{a}%

```

`\HyPL@EveryPage` If a page is shipout and the page number is known, `\HyPL@EveryPage` has to be called. It stores the current page label.

```

4624 \def\HyPL@EveryPage{%
4625     \begingroup
4626     \ifx\HyPL@thisLabel\relax
4627         \let\HyPL@page\thepage
4628     \else
4629         \let\HyPL@page\HyPL@thisLabel
4630         \global\let\HyPL@thisLabel\relax
4631     \fi
4632     \let\HyPL@Type\relax
4633     \ifnum\the\c@page>0 %
4634         \expandafter\HyPL@CheckThePage\HyPL@page\@nil
4635     \fi
4636     \let\Hy@temp Y%
4637     \ifx\HyPL@Type\HyPL@LastType
4638     \else
4639         \let\Hy@temp N%
4640     \fi
4641     \ifx\HyPL@Type\relax
4642         \pdfstringdef\HyPL@Prefix{\HyPL@page}%
4643     \else
4644         \pdfstringdef\HyPL@Prefix\HyPL@Prefix
4645     \fi
4646     \ifx\HyPL@Prefix\HyPL@LastPrefix
4647     \else
4648         \let\Hy@temp N%
4649     \fi
4650     \if Y\Hy@temp
4651         \advance\c@page by -1 %
4652         \ifnum\HyPL@LastNumber=\the\c@page\relax
4653     \else
4654         \let\Hy@temp N%

```

```

4655     \fi
4656     \Hy@StepCount\c@page
4657   \fi
4658   \if N\Hy@temp
4659     \ifx\HyPL@Type\relax
4660       \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
4661     \else
4662       \HyPL@StorePageLabel{%
4663         \ifx\HyPL@Prefix\@empty
4664         \else
4665           /P(\HyPL@Prefix)%
4666         \fi
4667       /S/\csname HyPL\HyPL@Type\endcsname
4668       \ifnum\the\c@page=1 %
4669       \else
4670         \space/St \the\c@page
4671       \fi
4672     }%
4673   \fi
4674   \fi
4675   \xdef\HyPL@LastNumber{\the\c@page}%
4676   \global\let\HyPL@LastType\HyPL@Type
4677   \global\let\HyPL@LastPrefix\HyPL@Prefix
4678 \endgroup
4679 \Hy@GlobalStepCount\Hy@abspage
4680 }%

```

`\HyPL@CheckThePage` Macro `\HyPL@CheckThePage` calls `\HyPL@@CheckThePage` that does the job.

```

4681 \def\HyPL@CheckThePage#1\@nil{%
4682   \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
4683 }%

```

`\HyPL@@CheckThePage` The first check is, is `\thepage` is defined such as in L^AT_EX, e. g.: `\csname @arabic\endcsname\c@page`. In the current implemenation the check fails, if there is another `\csname` before.

The second check tries to detect `\arabic{page}` at the end of the definition text of `\thepage`.

```

4684 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
4685   \def\Hy@tempa{#4}%
4686   \def\Hy@tempb{\csname\endcsname\c@page}%
4687   \ifx\Hy@tempa\Hy@tempb
4688     \expandafter\ifx\csname HyPL#3\endcsname\relax
4689     \else
4690       \def\HyPL@Type{#3}%
4691       \def\HyPL@Prefix{#2}%
4692     \fi
4693   \else
4694     \begingroup
4695     \let\Hy@next\endgroup
4696     \let\HyPL@found\@undefined
4697     \def\arabic{\HyPL@Format{arabic}}%
4698     \def\Roman{\HyPL@Format{Roman}}%
4699     \def\roman{\HyPL@Format{roman}}%
4700     \def\Alph{\HyPL@Format{Alph}}%
4701     \def\alph{\HyPL@Format{alph}}%
4702     \protected@edef\Hy@temp{#1}%
4703     \ifx\HyPL@found\relax
4704       \toks@\expandafter{\Hy@temp}%

```

```

4705         \edef\Hy@next{\endgroup
4706         \noexpand\HyPL@@@CheckThePage\the\toks@
4707         \noexpand\HyPL@found\relax\noexpand\@nil
4708     }%
4709     \fi
4710     \Hy@next
4711 \fi
4712 }%

```

\HyPL@Format The help macro `\HyPL@Format` is executed while a `\protected@edef` in the second check method of `\HyPL@@@CheckPage`. The first occurrences of, for example, `\arabic{page}` is marked by `\HyPL@found` that is also defined by `\csname`.

```

4713 \def\HyPL@Format#1#2{%
4714     \ifx\HyPL@found\undefined
4715         \expandafter\ifx\csname c@#2\endcsname\c@page
4716         \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
4717     \else
4718         \expandafter\noexpand\csname#1\endcsname{#2}%
4719     \fi
4720 \else
4721     \expandafter\noexpand\csname#1\endcsname{#2}%
4722 \fi
4723 }%

```

\HyPL@@@CheckThePage If the second check method is successful, `\HyPL@@@CheckThePage` scans the result of `\HyPL@Format` and stores the found values.

```

4724 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
4725     \def\Hy@tempa{#3}%
4726     \def\Hy@tempb{\HyPL@found\relax}%
4727     \ifx\Hy@tempa\Hy@tempb
4728         \def\HyPL@Type{#2}%
4729         \def\HyPL@Prefix{#1}%
4730     \fi
4731 }%

```

\HyPL@StorePageLabel Dummy for drivers that does not support `/PageLabel`.

```

4732 \providecommand*\HyPL@StorePageLabel}[1]{}%

```

\HyPL@Useless The `/PageLabels` entry does not make sense, if the absolute page numbers and the page labels are the same. Then `\HyPL@Labels` has the meaning of `\HyPL@Useless`.

```

4733 \def\HyPL@Useless{0<</S/D>>}%
4734 \@onelevel@sanitize\HyPL@Useless

```

\HyPL@SetPageLabels The page labels are written to the PDF catalogue. The command `\Hy@PutCatalog` is defined in the driver files.

```

4735 \def\HyPL@SetPageLabels{%
4736     \@onelevel@sanitize\HyPL@Labels
4737     \ifx\HyPL@Labels\@empty
4738     \else
4739         \ifx\HyPL@Labels\HyPL@Useless
4740         \else
4741             \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
4742         \fi
4743     \fi
4744 }%

```

```

4745 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
4746 \fi

```

Option ‘pdfpagelabels’ has been used and is now disabled.

```

4747 \Hy@DisableOption{pdfpagelabels}
4748 \</package>

```

27.1.1 pdfTeX and VTeX

Because of pdfTeX’s \pdfcatalog command the /PageLabels entry can set at end of document in the first run.

\Hy@PutCatalog

```

4749 <pdfTeX>\let\Hy@PutCatalog\pdfcatalog

```

The code for VTeX is more complicate, because it does not allow the direct access to the /Catalog object. The command scans its argument and looks for a /PageLabels entry.

VTeX 6.59g is the first version, that implements \special{!pdfpagelabels...}. For this version \VTeXversion reports 660.

```

4750 <*vTeX>
4751 \edef\Hy@VTeXversion{%
4752   \ifx\VTeXversion\@undefined
4753     \z@
4754   \else
4755     \ifx\VTeXversion\relax
4756       \z@
4757     \else
4758       \VTeXversion
4759     \fi
4760   \fi
4761 }
4762 \begingroup
4763   \ifnum\Hy@VTeXversion<660 %
4764     \gdef\Hy@PutCatalog#1{%
4765       \Hy@WarningNoLine{%
4766         VTeX 6.59g or above required for pdfpagelabels%
4767       }%
4768     }%
4769   \else
4770     \gdef\Hy@PutCatalog#1{%
4771       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
4772     }%
4773     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
4774       \ifx\#2\%
4775         \else
4776           \immediate\special{!pdfpagelabels #2}%
4777         \fi
4778       }%
4779     \fi
4780 \endgroup
4781 </vTeX>

4782 <*pdfTeX | vTeX>

```

\HyPL@StorePageLabel This macro adds the entry #1 to \HyPL@Labels.

```

4783 \ifHy@pagelabels
4784   \def\HyPL@StorePageLabel#1{%

```

```

4785 \toks@expandafter{\HyPL@Labels}%
4786 \xdef\HyPL@Labels{%
4787 \the\toks@
4788 \the\Hy@abspage<<#1>>%
4789 }%
4790 }%

```

At the end of the document, \clearpage tries to make sure, that no further pages will follow. Then the PDF catalog entry for \PageLabels is set.

```

4791 \@ifclassloaded{revtex4}{%
4792 \g@addto@macro\clear@document{\HyPL@SetPageLabels}%
4793 }{%
4794 \AtEndDocument{\clearpage\HyPL@SetPageLabels}%
4795 }%
4796 \fi
4797 </pdfTeX | vtex>

```

27.1.2 pdfmarkbase, dvipdfm

```

4798 <*pdfmarkbase>
4799 \begingroup
4800 \toks@expandafter{\Hy@FirstPageHook}%
4801 \xdef\Hy@FirstPageHook{%
4802 \noexpand\headerps@out{%
4803 systemdict /pdfmark known%
4804 {%
4805 userdict /?pdfmark systemdict /exec get put%
4806 }{%
4807 userdict /?pdfmark systemdict /pop get put %
4808 userdict /pdfmark systemdict /cleartomark get put%
4809 }%
4810 ifelse%
4811 }%
4812 \the\toks@
4813 }%
4814 \endgroup
4815 </pdfmarkbase>

```

\Hy@PutCatalog

```

4816 <dvipdfm>\def\Hy@PutCatalog#1{\@pdfm@mark{docview << #1 >>}}
4817 <*pdfmarkbase>
4818 \def\Hy@PutCatalog#1{%
4819 \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
4820 }
4821 </pdfmarkbase>
4822 <*pdfmarkbase | dvipdfm>
4823 \ifHy@pagelabels

```

\HyPL@StorePageLabel This macro writes a string to the .aux file.

```

4824 \def\HyPL@StorePageLabel#1{%
4825 \if@filesw
4826 \begingroup
4827 \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
4828 \immediate\write\@mainaux{%
4829 \string\HyPL@Entry{\Hy@tempa}%
4830 }%

```

```

4831     \endgroup
4832     \fi
4833 }%

```

Write a dummy definition of `\HyPL@Entry` for the case, that the next run is done without hyperref. A marker for the rerun warning is set and the `/PageLabels` is written.

```

4834 \AfterBeginDocument{%
4835     \if@filesw
4836         \immediate\write\@mainaux{%
4837             \string\providecommand\string*\string\HyPL@Entry[1]{}%
4838         }%
4839     \fi
4840     \ifx\HyPL@Labels\@empty
4841         \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
4842     \else
4843         \HyPL@SetPageLabels
4844     \fi
4845     \let\HyPL@Entry\@gobble
4846 }%

```

`\HyPL@Entry`

```

4847 \def\HyPL@Entry#1{%
4848     \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
4849         \HyPL@Labels
4850         #1%
4851     }%
4852 }%

4853 \fi
4854 </pdfmarkbase | dvipdfm>

4855 <*package>

4856 \MaybeStopEarly

```

28 Automated L^AT_EX hypertext cross-references

Anything which can be referenced advances some counter; we overload this to put in a hypertext starting point (with no visible anchor), and make a note of that for later use in `\label`. This will fail badly if `\theH<name>` does not expand to a sensible reference. This means that classes or package which introduce new elements need to define an equivalent `\theH<name>` for every `\the<name>`. We do make a trap to make `\theH<name>` be the same as `\arabic{<name>}`, if `\theH<name>` is not defined, but this is not necessarily a good idea. Alternatively, the ‘naturalnames’ option uses whatever L^AT_EX provides, which may be useable. But then it's up to you to make sure these are legal PDF and HTML names. The ‘hypertextnames=false’ option just makes up arbitrary names.

All the shenanigans is to make sure section numbers etc are always arabic, separated by dots. Who knows how people will set up `\@currentlabel`? If they put spaces in, or brackets (quite legal) then the hypertext processors will get upset.

But this is flaky, and open to abuse. Styles like subeqn will mess it up, for starters. Appendices are an issue, too. We just hope to cover most situations. We can at least cope with the standard sectioning structure, allowing for `\part` and `\chapter`.

Start with a fallback for equations

```

4857 \def\Hy@CounterExists#1{%
4858     \begingroup\expandafter\expandafter\expandafter\endgroup
4859     \expandafter\ifx\csname c@#1\endcsname\relax

```

```

4860 \expandafter\@gobble
4861 \else
4862 \begingroup\expandafter\expandafter\expandafter\endgroup
4863 \expandafter\ifx\csname the#1\endcsname\relax
4864 \expandafter\expandafter\expandafter\@gobble
4865 \else
4866 \expandafter\expandafter\expandafter\@firstofone
4867 \fi
4868 \fi
4869 }
4870 \Hy@CounterExists{section}{%
4871 \newcommand\theHequation{\theHsection.\arabic{equation}}%
4872 }
4873 \Hy@CounterExists{part}{%
4874 \newcommand\theHpart{\arabic{part}}%
4875 }
4876 \@ifundefined{thechapter}{%
4877 \newcommand\theHsection {\arabic{section}}%
4878 \newcommand\theHfigure {\arabic{figure}}%
4879 \newcommand\theHtable {\arabic{table}}%
4880 }{%
4881 \newcommand\theHchapter {\arabic{chapter}}%
4882 \newcommand\theHfigure {\theHchapter.\arabic{figure}}%
4883 \newcommand\theHtable {\theHchapter.\arabic{table}}%
4884 \newcommand\theHsection {\theHchapter.\arabic{section}}%
4885 }
4886 \newcommand\theHsubsection {\theHsection.\arabic{subsection}}
4887 \newcommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
4888 \newcommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
4889 \newcommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
4890 \newcommand\theHtheorem {\theHsection.\arabic{theorem}}
4891 \newcommand\theHthm {\theHsection.\arabic{thm}}

```

Thanks to Greta Meyer (gbd@pop.cwru.edu) for making me realize that enumeration starts at 0 for every list! But `\item` occurs inside `\trivlist`, so check if its a real `\item` before incrementing counters.

```

4892 \let\H@item\item
4893 \newcounter{Item}
4894 \def\theHItem{\arabic{Item}}
4895 \def\item{%
4896 \@hyper@itemfalse
4897 \if@nmbrlist\@hyper@itemtrue\fi
4898 \H@item
4899 }
4900 \newcommand\theHenumi {\theHItem}
4901 \newcommand\theHenumii {\theHItem}
4902 \newcommand\theHenumiii {\theHItem}
4903 \newcommand\theHenumiv {\theHItem}
4904 \newcommand\theHHfootnote {\arabic{Hfootnote}}
4905 \newcommand\theHmpfootnote{\arabic{mpfootnote}}
4906 \let\theHHmpfootnote\theHHfootnote

```

Tanmoy asked for this default handling of undefined `\theH<name>` situations. It really isn't clear what would be ideal, whether to turn off hyperizing of unknown elements, to pick up the textual definition of the counter, or to default it to something like `\arabic{name}`. We take the latter course, slightly worriedly.

```

4907 \let\H@refstepcounter\refstepcounter

```

```

4908 \edef\name@of@eq{equation}%
4909 \edef\name@of@slide{slide}%

```

We do not want the handler for `\refstepcounter` to cut in during the processing of `\item` (we handle that separately), so we provide a bypass conditional.

```

4910 \newif\if@hyper@item
4911 \newif\if@skiphyperref
4912 \@hyper@itemfalse
4913 \@skiphyperreffalse
4914 \def\refstepcounter#1{%
4915   \ifHy@pdfstring
4916   \else
4917     \H@refstepcounter{#1}%
4918     \edef\This@name{#1}%
4919     \ifx\This@name\name@of@slide
4920     \else
4921       \if@skiphyperref
4922       \else
4923         \if@hyper@item
4924         \stepcounter{Item}%
4925         \hyper@refstepcounter{Item}%
4926         \@hyper@itemfalse
4927       \else
4928         \hyper@refstepcounter{#1}%
4929       \fi
4930     \fi
4931   \fi
4932 \fi
4933 }

```

AMST_{EX} processes all equations twice; we want to make sure that the hyper stuff is not executed twice, so we use the AMS `\ifmeasuring@`, initialized if AMS math is not used.

```

4934 \@ifpackageloaded{amsmath}{-}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

4935 \def\hyper@refstepcounter#1{%
4936   \edef\This@name{#1}%
4937   \ifx\This@name\name@of@eq
4938     \@ifundefined{theHequation}{%
4939       \make@stripped@name{\theequation}%
4940       \let\theHequation\newname
4941     }{%
4942     \fi
4943     \@ifundefined{theH#1}{%
4944       \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
4945     }{%
4946     \hyper@makecurrent{#1}%
4947     \ifmeasuring@
4948     \else
4949       \Hy@raisedlink{%
4950         \hyper@anchorstart{\@currentHref}\hyper@anchorend
4951       }%
4952     \fi
4953 }

```

After `\appendix` “chapter” (or “section” for classes without chapter) should be replaced by “appendix” to get `\autoref` work. Macro `\Hy@chapapp` contains the current

valid name like \@chapapp, which cannot be used, because this string depends on the current language.

The “french” package defines counter \thechapter by \newcounterchapter, if \@ifundefinedchapter.

```

4954 \begingroup\expandafter\expandafter\expandafter\endgroup
4955 \expandafter\ifx\csname chapter\endcsname\relax
4956   \def\Hy@chapterstring{section}%
4957 \else
4958   \def\Hy@chapterstring{chapter}%
4959 \fi
4960 \def\Hy@appendixstring{appendix}
4961 \def\Hy@chapapp{\Hy@chapterstring}
4962 \let\HyOrg@appendix\appendix
4963 \def\appendix{%
4964   \@ifundefined{chapter}%
4965     {\gdef\theHsection{\Alph{section}}}%
4966     {\gdef\theHchapter{\Alph{chapter}}}%
4967   \xdef\Hy@chapapp{\Hy@appendixstring}%
4968   \HyOrg@appendix
4969 }
```

\hyper@makecurrent Because of Babel mucking around, nullify \textlatin when making names. And \@number because of babel’s lrbabel.def.

```

4970 \def\hyper@makecurrent#1{%
4971   \begingroup
4972     \edef\Hy@param{#1}%
4973     \ifx\Hy@param\Hy@chapterstring
4974       \let\Hy@param\Hy@chapapp
4975     \fi
4976     \ifHy@hypertextnames
4977       \let\@number\@firstofone
4978       \@ifundefined{latin@Alph}{-}{%
4979         \ifx\@Alph\greek@Alph
4980           \def\@Alph{Alph\@arabic}%
4981         \fi
4982       }%
4983       \ifx\@Alph\@Alph@bul
4984         \def\@Alph{Alph\@arabic}%
4985       \fi
4986       \ifx\@alph\@alph@bul
4987         \def\@alph{alph\@arabic}%
4988       \fi
4989       \ifHy@naturalnames
4990         \let\textlatin\@firstofone
4991         \xdef\@currentHlabel{\csname the#1\endcsname}%
4992       \else
4993         \xdef\@currentHlabel{\csname theH#1\endcsname}%
4994       \fi
4995       \xdef\@currentHref{%
4996         \Hy@param.\expandafter\strip@prefix\meaning\@currentHlabel
4997       }%
4998     \else
4999       \Hy@GlobalStepCount\Hy@linkcounter
5000       \xdef\@currentHref{\Hy@param.the\Hy@linkcounter}%
5001     \fi
5002   \endgroup
5003 }
```

```

5004 \@ifpackageloaded{fancyvrb}{%
5005   \def\FV@StepLineNo{%
5006     \FV@SetLineNo
5007     \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
5008     \FV@StepLineNo
5009   }%
5010 }{}

```

29 Package lastpage support

Package lastpage directly writes the `\newlabel` command to the aux file. Because package hyperref requires additional arguments, the internal command `\lastpage@putlabel` is redefined. The patch is deferred by `\AtBeginDocument`, because it is possible that package lastpage is loaded after package hyperref. The same algorithm (options hypertextnames and plainpages) is used to get the page anchor name as in `\Hy@EveryPageAnchor` (see sec. 38). The link will not work if option pageanchor is set to false.

```

\lastpage@putlabel
5011 \AtBeginDocument{%
5012   \@ifclassloaded{revtex4}{%
5013     \@namedef{ver@lastpage.sty}{1994/06/25}%
5014   }{}%
5015   \@ifpackageloaded{lastpage}{%
5016     \ifHy@pageanchor
5017     \else
5018       \Hy@WarningNoLine{%
5019         The \string\pageref{LastPage} link doesn't work\MessageBreak
5020         with disabled option 'pageanchor'%
5021       }%
5022     \fi
5023     \def\lastpage@putlabel{%
5024       \addtocounter{page}{-1}%
5025       \if@filesw
5026         \begingroup
5027           \let\@number\@firstofone
5028           \ifHy@pageanchor
5029             \ifHy@hypertextnames
5030               \ifHy@plainpages
5031                 \def\Hy@temp{\arabic{page}}%
5032               \else
5033                 \Hy@unicodedefalse
5034                 \pdfstringdef\Hy@temp{\thepage}%
5035               \fi
5036             \else
5037               \def\Hy@temp{\the\Hy@pagecounter}%
5038             \fi
5039           \fi
5040           \immediate\write\@auxout{%
5041             \string\newlabel
5042             {LastPage}{\the\thepage}{\thepage}{\thepage}%
5043             \ifHy@pageanchor page.\Hy@temp\fi}{}}%
5044           }%
5045         \endgroup
5046       \fi
5047       \addtocounter{page}{1}%
5048     }%

```

```

5049 \@ifclassloaded{revtex4}{%
5050 \begingroup
5051 \toks@{\expandafter{\lastpage@putlabel}}%
5052 \edef\x{\endgroup
5053 \def\noexpand\lastpage@putlabel{%
5054 \noexpand\stepcounter{page}%
5055 \the\toks@
5056 \noexpand\addtocounter{page}\noexpand\m@ne
5057 }%
5058 }%
5059 \x
5060 }{}%
5061 }{}%
5062 }
5063 </package>
5064 <*check>
5065 \checkpackage{lastpage}[1994/06/25]
5066 \checkcommand\def\lastpage@putlabel{%
5067 \addtocounter{page}{-1}%
5068 \immediate\write\@auxout{%
5069 \string\newlabel{LastPage}{\the\thepage}}%
5070 }%
5071 \addtocounter{page}{1}%
5072 }
5073 </check>
5074 <*package>

```

30 Package ifthen support

Since version 6.75a this is done in package nameref.

For compatibility `\hypergetref` and `\hypergetpageref` are still provided. But they do not generate warnings, if the reference is undefined.

```

5075 \def\hypergetref#1{\getrefbykeydefault{#1}{}{??}}
5076 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}{0}}

```

31 Package titlesec and titletoc support

This code is contributed by Javier Bezos (Email: jbezos@arrakis.es).

Package titlesec support:

```

5077 \@ifpackageloaded{titlesec}{%
5078 \def\ttl@Hy@steplink#1{%
5079 \Hy@GlobalStepCount\Hy@linkcounter
5080 \xdef\@currentHref{#1*.\the\Hy@linkcounter}%
5081 \def\ttl@Hy@saveanchor{%
5082 \Hy@raisedlink{%
5083 \hyper@anchorstart{\@currentHref}\hyper@anchorend
5084 }%
5085 }%
5086 }%
5087 \def\ttl@Hy@refstepcounter#1{%
5088 \let\ttl@b\Hy@raisedlink
5089 \def\Hy@raisedlink##1{%
5090 \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
5091 }%

```

```

5092 \refstepcounter{#1}%
5093 \let\Hy@raisedlink\ttl@b
5094 }%
5095 }{}

Package titletoc support:

5096 \@ifpackageloaded{titletoc}{%
5097 \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
5098 }{}

```

32 Package varioref support

Package nameref uses five arguments for the ref system. Fix provided by Felix Neubauer (felix.neubauer@gmx.net).

```

5099 \def\Hy@varioref@undefined{???}{??}{-}{-}{-}
5100 \@ifpackageloaded{varioref}{%
5101 \def\vref@pagenum#1#2{%
5102 \ifundefined{r@#2}{%
5103 \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
5104 }{}%
5105 \edef#1{\getpagerefnumber{#2}}%
5106 }%
5107 }{}

```

33 Package longtable support

Sometimes the anchor of the longtable goes to the previous page. Thus the following patch separates the anchor setting and counter incrementation by hyperref's \refstepcounter and the anchor setting is moved after \vskip\LTpre.

Patch of \LT@array: replace \refstepcounter by the original \H@refstepcounter without anchor generation

```

5108 \@ifpackageloaded{longtable}{%
5109 \beginingroup
5110 \def\y{\LT@array}%
5111 \@ifundefined{scr@LT@array}{-}{\def\y{\scr@LT@array}}%
5112 \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
5113 \expandafter\endgroup
5114 \expandafter\def\y[#1]##2{%
5115 \H@refstepcounter{#1}%
5116 \hyper@makecurrent{table}%
5117 \let\Hy@LT@currentHlabel\@currentHlabel
5118 \let\Hy@LT@currentHref\@currentHref
5119 #2\@sharp####4%
5120 }%
5121 }%
5122 \expandafter\expandafter\expandafter\x\y[#1]{#2}\@nil

```

Patch of \LT@start: add anchor before first line after \vskip\LTpre

```

5123 \beginingroup
5124 \def\x#1\ifvoid\LT@firsthead\copy#2\@nil{%
5125 \endgroup
5126 \def\LT@start{%
5127 #1%
5128 \let\@currentHlabel\Hy@LT@currentHlabel
5129 \let\@currentHref\Hy@LT@currentHref

```

```

5130      \Hy@raisedlink{%
5131        \hyper@anchorstart{\@currentHref}\hyper@anchorend
5132      }%
5133      \ifvoid\LT@firsthead\copy
5134      #2%
5135    }%
5136  }%
5137  \expandafter\x\LT@start\@nil
5138 }{}

```

34 Equations

We want to make the whole equation a target anchor. Overload equation, temporarily reverting to original `\refstepcounter`. If, however, it is in AMS math, we do not do anything, as the tag mechanism is used there (see section 41). The exception is that we move the equation incrementation inside the math environment to avoid specials outside and a wrong vertical spacing of equation environments.

```

5139 \let\new@refstepcounter\refstepcounter
5140 \let\H@equation\equation
5141 \let\H@endequation\endequation
5142 \ifpackageloaded{amsmath}{%
5143   \long\def\Hy@temp{%
5144     \incr@eqnum
5145     \mathdisplay@push
5146     \st@rredfalse \global\@eqnswtrue
5147     \mathdisplay{equation}%
5148   }%
5149   \ifx\Hy@temp\equation
5150     \expandafter\ifx\csname if@fleqn\expandafter\endcsname
5151       \csname iftrue\endcsname
5152   \else
5153     \long\def\equation{%
5154       \mathdisplay@push
5155       \st@rredfalse \global\@eqnswtrue
5156       \mathdisplay{equation}%
5157       \incr@eqnum
5158     }%
5159   \fi
5160 \fi
5161 }{%
5162 \def\equation{%
5163   \let\refstepcounter\H@refstepcounter
5164   \H@equation
5165   \@ifundefined{theHequation}{%
5166     \make@stripped@name{\theequation}%
5167     \let\theHequation\newname
5168   }{}%
5169   \hyper@makecurrent{equation}%
5170   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
5171   \let\refstepcounter\new@refstepcounter
5172 }%
5173 \def\endequation{\Hy@raisedlink{\hyper@anchorend}\H@endequation}%
5174 }

```

My goodness, why can't L^AT_EX be consistent? Why is `\eqnarray` set up differently from other objects?

People (you know who you are, Thomas Beuth) sometimes make an eqnarray where *all* the lines end with \notag, so there is no suitable anchor at all. In this case, pass by on the other side.

```

5175 \newif\if@eqnstar
5176 \@eqnstarfalse
5177 \let\H@eqnarray\eqnarray
5178 \let\H@endeqnarray\endeqnarray
5179 \def\eqnarray{%
5180   \let\Hy@reserved@a\relax
5181   \def\@currentHref{}%
5182   \H@eqnarray
5183   \if@eqnstar
5184   \else
5185     \ifx\\ \@currentHref\\%
5186     \else
5187       \ifundefined{theHequation}{%
5188         \make@stripped@name{\theequation}%
5189         \let\theHequation\newname
5190       }{}%
5191       \hyper@makecurrent{equation}%
5192       \hyper@anchorstart{\@currentHref}{ }\hyper@anchorend
5193     \fi
5194   \fi
5195 }
5196 \def\endeqnarray{%
5197   \H@endeqnarray
5198 }

```

This is quite heavy-handed, but it works for now. If its an eqnarray* we need to disable the hyperref actions. There may well be a cleaner way to trap this. Bill Moss found this.

```

5199 \@namedef{eqnarray*}{%
5200   \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
5201 }
5202 \@namedef{endeqnarray*}{%
5203   \nonumber\endeqnarray\@eqnstarfalse
5204 }

```

Then again, we have the *subeqnarray* package. Tanmoy provided some code for this:

```

5205 \@ifundefined{subeqnarray}{}{%
5206   \let\H@subeqnarray\subeqnarray
5207   \let\H@endsubeqnarray\endsubeqnarray
5208   \def\subeqnarray{%
5209     \let\Hy@reserved@a\relax
5210     \H@subeqnarray
5211     \@ifundefined{theHequation}{%
5212       \make@stripped@name{\theequation}%
5213       \let\theHequation\newname
5214     }{}%
5215     \hyper@makecurrent{equation}%
5216     \hyper@anchorstart{\@currentHref}{ }\hyper@anchorend
5217   }%
5218   \def\endsubeqnarray{%
5219     \H@endsubeqnarray
5220   }%
5221   \newcommand\theHsubequation{\theHequation\alph{subequation}}%
5222 }

```

The aim of this macro is to produce a sanitized version of its argument, to make it a safe label.

```

5223 \def\make@stripped@name#1{%
5224   \begingroup
5225     \escapechar\m@ne
5226     \global\let\newname\@empty
5227     \protected@edef\Hy@tempa{#1}%
5228     \edef\@tempb{%
5229       \noexpand\@tfor\noexpand\Hy@tempa:=%
5230       \expandafter\strip@prefix\meaning\Hy@tempa
5231     }%
5232     \@tempb\do{%
5233       \if\Hy@tempa\else
5234       \if}\Hy@tempa\else
5235       \xdef\newname{\newname\Hy@tempa}%
5236       \fi
5237     }%
5238   }%
5239 \endgroup
5240 }

```

Support for amsmath's subequations:

```

5241 \begingroup\expandafter\expandafter\expandafter\endgroup
5242 \expandafter\ifx\csname subequations\endcsname\relax
5243 \else
5244   \let\HyOrg@subequations\subequations
5245   \def\subequations{%
5246     \stepcounter{equation}%
5247     \protected@edef\theHparentequation{%
5248       \@ifundefined{theHequation}\theequation\theHequation
5249     }%
5250     \addtocounter{equation}{-1}%
5251     \HyOrg@subequations
5252     \def\theHequation{\theHparentequation\alph{equation}}%
5253     \ignorespaces
5254   }%
5255 \fi

```

35 Footnotes

The footnote mark is a hypertext link, and the text is a target. We separately number the footnotes sequentially through the text, separately from whatever labels the text assigns. Too hard to keep track of markers otherwise. If the raw forms `\footnotemark` and `\footnotetext` are used, force them to use un-hyper original.

Tabularx causes footnote problems, disable the linking if that is loaded.

```

5256 \@ifpackageloaded{tabularx}{\Hy@hyperfootnotesfalse}{}
5257 \ifHy@hyperfootnotes
5258   \newcounter{Hfootnote}%
5259   \let\H@@footnotetext\@footnotetext
5260   \let\H@@footnotemark\@footnotemark
5261   \def\@xfootnotenext[#1]{%
5262     \begingroup
5263       \csname c@\mpfn\endcsname #1\relax
5264       \unrestored@protected\xdef\@thefnmark{\thempfn}%
5265     \endgroup
5266     \ifx\@footnotetext\@mpfootnotetext

```

```

5267     \expandafter\H@@mpfootnotetext
5268     \else
5269     \expandafter\H@@footnotetext
5270     \fi
5271 }%
5272 \def\@xfootnotemark[#1]{%
5273     \begingroup
5274     \c@footnote #1\relax
5275     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5276     \endgroup
5277     \H@@footnotemark
5278 }%
5279 \let\H@@mpfootnotetext\@mpfootnotetext
5280 \long\def\@mpfootnotetext#1{%
5281     \H@@mpfootnotetext{%
5282         \ifHy@nesting
5283             \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
5284         \else
5285             \Hy@raisedlink{%
5286                 \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5287             }#1%
5288         \fi
5289     }%
5290 }%
5291 \long\def\@footnotetext#1{%
5292     \H@@footnotetext{%
5293         \ifHy@nesting
5294             \hyper@@anchor{\Hy@footnote@currentHref}{#1}%
5295         \else
5296             \Hy@raisedlink{%
5297                 \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5298             }%
5299             \let\@currentHlabel\Hy@footnote@currentHlabel
5300             \let\@currentHref\Hy@footnote@currentHref
5301             \let\@currentlabelname\@empty
5302             #1%
5303         \fi
5304     }%
5305 }%

```

Redefine \@footnotemark, borrowing its code (at the cost of getting out of sync with latex.ltx), to take advantage of its white space and hyphenation fudges. If we just overload it, we can get variant documents (the word before the footnote is treated differently). Thanks to David Carlisle and Brian Ripley for confusing and helping me on this.

```

5306 \def\@footnotemark{%
5307     \leavevmode
5308     \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
5309     \stepcounter{Hfootnote}%
5310     \global\let\Hy@saved@currentHlabel\@currentHlabel
5311     \global\let\Hy@saved@currentHref\@currentHref
5312     \hyper@makecurrent{Hfootnote}%
5313     \global\let\Hy@footnote@currentHlabel\@currentHlabel
5314     \global\let\Hy@footnote@currentHref\@currentHref
5315     \global\let\@currentHlabel\Hy@saved@currentHlabel
5316     \global\let\@currentHref\Hy@saved@currentHref
5317     \hyper@linkstart{link}{\Hy@footnote@currentHref}%
5318     \@makefnmark
5319     \hyper@linkend

```



```

5320 \ifhmode\spacefactor\@x@sf\fi
5321 \relax
5322 }%

```

Support for footnotes in p columns of longtable. Here \footnote commands are splitted into \footnotemark and a call of \footnotetext with the optional argument, that is not supported by hyperref. The result is a link by \footnotemark without valid anchor

```

5323 \@ifpackageloaded{longtable}{%
5324 \CheckCommand*{\LT@p@ftntext}[1]{%
5325 \edef\@tempa{%
5326 \the\LT@p@ftn
5327 \noexpand\footnotetext[\the\c@footnote]%
5328 }%
5329 \global\LT@p@ftn\expandafter{\@tempa{#1}}%
5330 }%
5331 \long\def\LT@p@ftntext#1{%
5332 \edef\@tempa{%
5333 \the\LT@p@ftn
5334 \begingroup
5335 \noexpand\c@footnote=\the\c@footnote\relax
5336 \noexpand\protected@xdef
5337 \noexpand\@thefnmark{\noexpand\thempfn}%
5338 \noexpand\protected@xdef\noexpand\@thefnmark{%
5339 \noexpand\thempfn
5340 }%
5341 \expandafter\expandafter\expandafter\noexpand
5342 \expandafter\expandafter\expandafter\Hy@LT@footnotetext
5343 \expandafter\expandafter\expandafter{%
5344 \expandafter\Hy@footnote@currentHref\expandafter
5345 }\expandafter{\Hy@footnote@currentHlabel}%
5346 }%
5347 \global\LT@p@ftn\expandafter{%
5348 \@tempa{#1}%
5349 \endgroup
5350 }%
5351 }%
5352 \long\def\Hy@LT@footnotetext#1#2#3{%
5353 \H@@footnotetext{%
5354 \ifHy@nesting
5355 \hyper@@anchor{#1}{#3}%
5356 \else
5357 \Hy@raisedlink{%
5358 \hyper@@anchor{#1}{\relax}%
5359 }%
5360 \def\@currentHlabel{#2}%
5361 \def\@currentHref{#1}%
5362 \let\@currentlabelname\@empty
5363 #3%
5364 \fi
5365 }%
5366 }%
5367 }{}%

```

Footnotes for fancyvrb (Fix by Manuel Pégourié-Gonnard).

```

5368 \@ifpackageloaded{fancyvrb}{%
5369 \def\V@@footnotetext{%
5370 \insert\footins\bgroup

```

```

5371 \csname reset@font\endcsname
5372 \footnotesize
5373 \interlinepenalty\interfootnotelinepenalty
5374 \splittopskip\footnotesep
5375 \splitmaxdepth\dp\strutbox
5376 \floatingpenalty \@MM
5377 \hsize\columnwidth
5378 \@parboxrestore
5379 \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
5380 \@makefnintext{}%
5381 \rule{\z@}{\footnotesep}%
5382 \bgroup
5383 \aftergroup\V@@@footnotetext
5384 \Hy@raisedlink{%
5385   \hyper@@anchor{\Hy@footnote@currentHref}{\relax}%
5386 }%
5387 \let\@currentHlabel\Hy@footnote@currentHlabel
5388 \let\@currentHref\Hy@footnote@currentHref
5389 \let\@currentlabelname\@empty
5390 \ignorespaces
5391 }%
5392 }{}%

```

But the special footnotes in `\maketitle` are much too hard to deal with properly. Let them revert to plain behaviour. The koma classes add an optional argument.

```

5393 \let\HyOrg@maketitle\maketitle
5394 \def\maketitle{%
5395   \let\Hy@saved@footnotemark\@footnotemark
5396   \let\Hy@saved@footnotetext\@footnotetext
5397   \let\@footnotemark\H@@footnotemark
5398   \let\@footnotetext\H@@footnotetext
5399   \@ifnextchar[\Hy@maketitle@optarg{% ]
5400   \HyOrg@maketitle
5401   \Hy@maketitle@end
5402 }%
5403 }%
5404 \def\Hy@maketitle@optarg[#1]{%
5405   \HyOrg@maketitle[#{#1}]%
5406   \Hy@maketitle@end
5407 }%
5408 \def\Hy@maketitle@end{%
5409   \ifx\@footnotemark\H@@footnotemark
5410     \let\@footnotemark\Hy@saved@footnotemark
5411   \fi
5412   \ifx\@footnotetext\H@@footnotetext
5413     \let\@footnotetext\Hy@saved@footnotetext
5414   \fi
5415 }%

```

`\realfootnote` Does anyone remember the function and purpose of `\realfootnote`?

```

5416 \def\realfootnote{%
5417   \@ifnextchar[\@xfootnote{%
5418     \stepcounter{\@mpfn}%
5419     \protected@xdef\@thefnmark{\thempfn}%
5420     \H@@footnotemark\H@@footnotetext
5421   }%
5422 }%

```

```

5423 \fi
5424 \Hy@DisableOption{hyperfootnotes}

5425 \</package>
5426 \<*check>
5427 \checklatex
5428 \checkcommand\def\xfootnotenext[#1]{%
5429   \begingroup
5430     \csname c@\mpfn\endcsname #1\relax
5431     \unrestored@protected@xdef\@thefnmark{\thempfn}%
5432   \endgroup
5433   \@footnotetext
5434 }
5435 \checkcommand\def\xfootnotemark[#1]{%
5436   \begingroup
5437     \c@footnote #1\relax
5438     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
5439   \endgroup
5440   \@footnotemark
5441 }
5442 \checkcommand\def\@footnotemark{%
5443   \leavevmode
5444   \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
5445   \@makefnmark
5446   \ifhmode\spacefactor\x@sf\fi
5447   \relax
5448 }
5449 \</check>
5450 \<*package>

```

36 Float captions

Make the float caption the hypertext anchor; curiously enough, we can't just copy the definition of `\@caption`. Its all to do with expansion. It screws up. Sigh.

```

5451 \def\caption{%
5452   \ifx\@captype\@undefined
5453     \latex@error{\noexpand\caption outside float}\@ehd
5454     \expandafter\@gobble
5455   \else
5456     \H@refstepcounter\@captype
5457     \let\Hy@tempa\@caption
5458     \ifundefined{float@caption}{%
5459       }{%
5460         \expandafter\ifx\csname @float@c@\@captype\endcsname
5461           \float@caption
5462         \let\Hy@tempa\Hy@float@caption
5463       \fi
5464     }%
5465     \expandafter\@firstofone
5466   \fi
5467   {\@dblarg{\Hy@tempa\@captype}}}%
5468 }
5469 \long\def\caption#1[#2]#3{%
5470   \expandafter\ifx\csname if@capstart\expandafter\endcsname
5471     \csname iftrue\endcsname
5472     \global\let\@currentHref\hc@currentHref

```

```

5473 \else
5474   \hyper@makecurrent{\@capytype}%
5475 \fi
5476 \def\@currentlabelname{#2}%
5477 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
5478   \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
5479 }%
5480 \begingroup
5481   \@parboxrestore
5482   \if@minipage
5483     \setminipage
5484   \fi
5485   \normalsize
5486   \expandafter\ifx\csname if@capstart\expandafter\endcsname
5487     \csname iftrue\endcsname
5488     \global\@capstartfalse
5489     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
5490   \else
5491     \@makecaption{\csname fnum@#1\endcsname}{%
5492       \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

5493   \ifHy@nesting
5494     \hyper@@anchor{\@currentHref}{#3}%
5495   \else
5496     \Hy@raisedlink{\hyper@@anchor{\@currentHref}{\relax}}#3%
5497   \fi
5498 }%
5499 \fi
5500 \par
5501 \endgroup
5502 }

```

Compatibility with float.sty: anchor setting at the top of the float, if the float is controlled by float.sty. Several \caption commands inside one float are not supported.

```

5503 \let\Hy@float@caption\@caption
5504 \@ifpackageloaded{float}{%
5505   \def\Hy@float@caption{%
5506     \ifx\Hy@float@currentHref\@undefined
5507       \hyper@makecurrent{\@capytype}%
5508       \global\let\Hy@float@currentHref\@currentHref
5509     \else
5510       \let\@currentHref\Hy@float@currentHref
5511     \fi
5512     \float@caption
5513   }%
5514   \let\HyOrg@float@makebox\float@makebox
5515   \renewcommand{\float@makebox}[1]{%
5516     \HyOrg@float@makebox{%
5517       #1\relax
5518       \ifx\Hy@float@currentHref\@undefined
5519       \else
5520         \hyper@@anchor{\Hy@float@currentHref}{\relax}%
5521         \global\let\Hy@float@currentHref\@undefined
5522       \fi
5523     }%
5524   }%
5525 }{}

```

```

5526 </package>
5527 <*check>
5528 \checklatex[1999/06/01 - 2000/06/01]
5529 \checkcommand\def\caption{%
5530   \ifx\@capttype\@undefined
5531     \latexerror{\noexpand\caption outside float}\@ehd
5532     \expandafter\@gobble
5533   \else
5534     \refstepcounter\@capttype
5535     \expandafter\@firstofone
5536   \fi
5537   {\@dblarg{\@caption\@capttype}}}%
5538 }
5539 \checkcommand\long\def\@caption#1[#2]#3{%
5540   \par
5541   \addcontentsline{\csname ext@#1\endcsname}{#1}%
5542     {\protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}}%
5543   \begingroup
5544     \@parboxrestore
5545     \if@minipage
5546       \setminipage
5547     \fi
5548     \normalsize
5549     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
5550   \endgroup
5551 }
5552 </check>
5553 <*package>

```

37 Bibliographic references

This is not very robust, since many styles redefine these things. The package used to redefine `\@citex` and the like; then we tried adding the `hyperref` call explicitly into the `.aux` file. Now we redefine `\bibcite`; this still breaks some citation packages so we have to work around them. But this remains extremely dangerous. Any or all of *achemso* and *drftcite* may break.

However, lets make an attempt to get *natbib* right, because thats a powerful, important package. Patrick Daly (daly@linmpi.mpg.de) has provided hooks for us, so all we need to do is activate them.

```

5554 \def\hyper@natlinkstart#1{%
5555   \Hy@backout{#1}%
5556   \hyper@linkstart{cite}{cite.#1}%
5557   \def\hyper@nat@current{#1}%
5558 }
5559 \def\hyper@natlinkend{%
5560   \hyper@linkend
5561 }
5562 \def\hyper@natlinkbreak#1#2{%
5563   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
5564 }
5565 \def\hyper@natanchorstart#1{%
5566   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
5567 }
5568 \def\hyper@natanchorend{\hyper@anchorend}

```

Do not play games if we have *natbib* support. Macro `extra@binfo` added for *chapterbib*

support. Chapterbib also wants \@extra@binfo in the hyper-link, but since the link tag is not expanded immediately, we use \@extra@b@citeb, so cites in a chapter will link to the bibliography in that chapter.

```

5569 \ifundefined{NAT@parse}{%
5570   \providecommand*\@extra@binfo{}%
5571   \providecommand*\@extra@b@citeb{}%
5572   \def\bibcite#1#2{%
5573     \newl@bel{b}{#1\@extra@binfo}{%
5574       \hyper@@link[cite]{}{cite.#1\@extra@b@citeb}{#2}%
5575     }%
5576   }%
5577   \gdef\@extra@binfo{}%

```

Package babel redefines \bibcite with macro \bbl@cite@choice. It needs to be overwritten to avoid the warning “Label(s) may have changed.”.

```

5578 \let\Hy@bibcite\bibcite
5579 \begingroup
5580   \ifundefined{bbl@cite@choice}{}{%
5581     \g@addto@macro\bbl@cite@choice{%
5582       \let\bibcite\Hy@bibcite
5583     }%
5584   }%
5585 \endgroup

```

\@BIBLABEL is working around a ‘feature’ of RevTeX.

```

5586 \providecommand*\@BIBLABEL{\@biblabel}%
5587 \def\@lbibitem[#1]#2{%
5588   \@skiphyperreftrue
5589   \H@item[%
5590     \ifx\Hy@raisedlink\@empty
5591       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
5592       \@BIBLABEL{#1}%
5593       \hyper@anchorend
5594     \else
5595       \Hy@raisedlink{%
5596         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
5597       }%
5598       \@BIBLABEL{#1}%
5599     \fi
5600     \hfill
5601   ]%
5602   \@skiphyperreffalse
5603   \if@filesw
5604     \begingroup
5605       \let\protect\noexpand
5606       \immediate\write\@auxout{%
5607         \string\bibcite{#2}{#1}%
5608       }%
5609     \endgroup
5610   \fi
5611   \ignorespaces
5612 }%

```

Since \bibitem is doing its own labelling, call the raw version of \item, to avoid extra spurious labels

```

5613 \def\@bibitem#1{%
5614   \@skiphyperreftrue\H@item\@skiphyperreffalse
5615   \Hy@raisedlink{%

```

```

5616     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
5617   }%
5618   \if@filesw
5619     \begingroup
5620       \let\protect\noexpand
5621       \immediate\write\@auxout{%
5622         \string\bibcite{#1}{\the\value{\@listctr}}}%
5623     }%
5624   \endgroup
5625   \fi
5626   \ignorespaces
5627 }%
5628 }{}

5629 </package>
5630 <*check>
5631 \checklatex
5632 \checkcommand\def\@lbibitem[#1]#2{%
5633   \item[\@biblabel{#1}\hfill]%
5634   \if@filesw
5635     {%
5636       \let\protect\noexpand
5637       \immediate\write\@auxout{%
5638         \string\bibcite{#2}{#1}%
5639       }%
5640     }%
5641   \fi
5642   \ignorespaces
5643 }
5644 \checkcommand\def\@bibitem#1{%
5645   \item
5646   \if@filesw
5647     \immediate\write\@auxout{%
5648       \string\bibcite{#1}{\the\value{\@listctr}}}%
5649   }%
5650   \fi
5651   \ignorespaces
5652 }
5653 </check>
5654 <*package>

```

RevTeX (bless its little heart) takes over `\bibcite` and looks at the result to measure something. Make this a hypertext link and it goes ape. Therefore, make an anodyne result first, call its business, then go back to the real thing.

```

5655 \@ifclassloaded{revtex}{%
5656   \Hy@Info{*** compatibility with revtex **** }%
5657   \def\revtex@checking#1#2{%
5658     \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
5659     \expandafter\def\csname b@#1\endcsname{#2}%
5660     \@SetMaxRnhefLabel{#1}%
5661     \expandafter\let\csname b@#1\endcsname\T@temp
5662   }%

```

Tanmoy provided this replacement for CITEX. Lord knows what it does. For chapterbib added: `extra@b@citeb`

```

5663   \@ifundefined{CITE}{\def\CITE{\@cite}}{}%
5664   \providecommand*\@extra@b@citeb{}%
5665   \def\CITE[1]#2{%

```

```

5666 \let\@citea\@empty
5667 \leavevmode
5668 \unskip
5669 $\sim$
5670 \scriptstyle
5671 \@CITE{
5672   \@for\@citeb:=#2\do{
5673     \@citea
5674     \def\@citea{,\penalty\@m\ }%
5675     \edef\@citeb{\expandafter\@firstofone\@citeb}%
5676     \if@filesw
5677       \immediate\write\@auxout{\string\citation{\@citeb}}%
5678     \fi
5679     \@ifundefined{b@\@citeb\extra@b@citeb}{%
5680       \mbox{\reset@font\bfseries ?}%
5681       \G@refundefinedtrue
5682       \latex@warning{%
5683         Citation '\@citeb' on page \thepage \space undefined%
5684       }%
5685     }{
5686       {\csname b@\@citeb\extra@b@citeb\endcsname}%
5687     }%
5688   }%
5689 }{#1}%
5690 }$%
5691 }%

```

No, life is too short. I am not going to understand the Revtex \@collapse macro, I shall just restore the original behaviour of \citex; sigh. This is SO vile.

```

5692 \def\citex[#1]#2{
5693   \let\@citea\@empty
5694   \@cite{
5695     \@for\@citeb:=#2\do{
5696       \@citea
5697       \def\@citea{,\penalty\@m\ }%
5698       \edef\@citeb{\expandafter\@firstofone\@citeb}%
5699       \if@filesw
5700         \immediate\write\@auxout{\string\citation{\@citeb}}%
5701       \fi
5702       \@ifundefined{b@\@citeb\extra@b@citeb}{%
5703         \mbox{\reset@font\bfseries ?}%
5704         \G@refundefinedtrue
5705         \latex@warning{%
5706           Citation '\@citeb' on page \thepage \space undefined%
5707         }%
5708       }{
5709         \hbox{\csname b@\@citeb\extra@b@citeb\endcsname}%
5710       }%
5711     }%
5712   }{#1}%
5713 }%
5714 }{}

```

37.1 Package harvard

Override Peter Williams' Harvard package; we have to a) make each of the citation types into a link; b) make each citation write a backref entry, and c) kick off a backreference

section for each bibliography entry.

The redefinitions have to be deferred to `\begin{document}`, because if `harvard.sty` is loaded and `html.sty` is present and detects pdf \TeX , then `hyperref` is already loaded at the begin of `harvard.sty`, and the `\newcommand` macros causes error messages.

```

5715 \ifpackageloaded{harvard}{%
5716   \AtBeginDocument{%
5717     \Hy@Info{*** compatibility with harvard *** }%
5718     \Hy@raiselinksfalse
5719     \def\harvardcite#1#2#3#4{%
5720       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{cite.#1}{#2}}%
5721       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{cite.#1}{#3}}%
5722       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{cite.#1}{#4}}%
5723       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
5724     }%
5725     \def\HAR@citetoaux#1{%
5726       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
5727       \ifHy@backref
5728         \ifx\@empty\@currentlabel
5729           \else
5730             \@bsphack
5731             \if@filesw
5732               \protected@write\@auxout{}{%
5733                 \string\writefile{brf}{%
5734                   \string\backcite{#1}{%
5735                     {thepage}{\@currentlabel}{\@currentHref}%
5736                   }%
5737                 }%
5738               }%
5739             \fi
5740             \@esphack
5741           \fi
5742         \fi
5743       }%
5744       \def\harvarditem{%
5745         \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
5746       }%
5747       \def\@harvarditem[#1]#2#3#4#5\par{%
5748         \item[]%
5749         \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
5750         \if@filesw
5751           \begingroup
5752             \def\protect##1{\string ##1\space}%
5753             \ifthenelse{\equal{#1}{\null}}{%
5754               {\def\next{#4}{#2}{#3}}%
5755             }{\def\next{#4}{#2}{#1}{#3}}%
5756             \immediate\write\@auxout{\string\harvardcite\codeof\next}%
5757           \endgroup
5758         \fi
5759         \protect\hspace*{-\labelwidth}%
5760         \protect\hspace*{-\labelsep}%
5761         \ignorespaces
5762         #5%
5763         \ifHy@backref
5764           \newblock
5765           \backref{\csname br@#4\endcsname}%
5766         \fi
5767         \par

```

```
5768 }%
```

`\HAR@checkcitations` Package hyperref has added `\hyper@@link`, so the original test `\HAR@checkcitations` will fail every time and always will appear the “Changed labels” warning. So we have to redefine `\Har@checkcitations`:

```
5769 \long\def\HAR@checkcitations#1#2#3#4{%
5770   \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#2}}%
5771   \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
5772     \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%
5773     \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
5774       \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#4}}%
5775       \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
5776         \else
5777           \@tempswatrue
5778         \fi
5779       \else
5780         \@tempswatrue
5781       \fi
5782     \else
5783       \@tempswatrue
5784     \fi
5785   }%
5786 }%

5787 }{}
```

37.2 Package chicago

The links by `\citeN` and `\shortciteN` should include the closing parentheses.

```
5788 \ifpackageloaded{chicago}{%
```

`\citeN`

```
5789 \def\citeN{%
5790   \def\@citesep{--1000}%
5791   \def\@cite##1##2{##1}%
5792   \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
5793   \@citedata@opt
5794 }%
```

`\shortciteN`

```
5795 \def\shortciteN{%
5796   \def\@citesep{--1000}%
5797   \def\@cite##1##2{##1}%
5798   \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
5799   \@citedata@opt
5800 }%
```

`\@citedata@opt`

```
5801 \def\@citedata@opt{%
5802   \let\@cite@opt\@empty
5803   \@ifnextchar [{%
5804     \@tempswatrue
5805     \@citedatax@opt
5806   }{%
5807     \@tempswafalse
5808     \@citedatax[]%
```

```

5809     }%
5810 }%

\@citedatax@opt
5811 \def\@citedatax@opt[#1]{%
5812     \def\@cite@opt{, #1}%
5813     \@citedatax[#1]}%
5814 }%

5815 }{}

```

38 Page numbers

The last page should not contain a /Dur key, because there is no page after the last page. Therefore at the last page there should be a command `\hypersetup{pdfpageduration={}}`. This can be set with `\AtEndDocument`, but it can be too late, if the last page is already finished, or too early, if lots of float pages will follow. Therefore currently nothing is done by `hyperref`.

This where we supply a destination for each page.

```

5816 \def\Hy@EveryPageAnchor{%
5817     \Hy@DistillerDestFix
5818     \ifHy@pageanchor
5819         \ifHy@hypertextnames
5820             \ifHy@plainpages
5821                 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
5822             \else
5823                 \begingroup
5824                     \let\@number\@firstofone
5825                     \Hy@unicodedefalse
5826                     \pdfstringdef\@the@H@page{\thepage}%
5827                 \endgroup
5828                 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
5829             \fi
5830         \else
5831             \Hy@GlobalStepCount\Hy@pagecounter
5832             \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\Hy@pagecounter}}%
5833         \fi
5834     \vbox to 0pt{%
5835         \kern\voffset
5836         \kern\topmargin
5837         \kern-1bp\relax
5838         \hbox to 0pt{%
5839             \kern\hoffset
5840             \kern\ifodd\value{page}%
5841                 \oddsidemargin
5842             \else
5843                 \evensidemargin
5844             \fi
5845             \kern-1bp\relax
5846             \Hy@TempPageAnchor
5847         \hss
5848     }%
5849     \vss
5850 }%
5851 \fi
5852 }

```

```

5853 \g@addto@macro\Hy@EveryPageBoxHook{%
5854   \Hy@EveryPageAnchor
5855 }

```

39 Table of contents

TV Raman noticed that people who add arbitrary material into the TOC generate a bad or null link. We avoid that by checking if the current destination is empty. But if ‘the most recent destination’ is not what you expect, you will be in trouble.

```

5856 \begingroup\expandafter\expandafter\expandafter\endgroup
5857 \expandafter\ifx\csname chapter\endcsname\relax
5858   \def\toclevel@part{0}%
5859 \else
5860   \def\toclevel@part{-1}%
5861 \fi
5862 \def\toclevel@chapter{0}
5863 \def\toclevel@section{1}
5864 \def\toclevel@subsection{2}
5865 \def\toclevel@subsubsection{3}
5866 \def\toclevel@paragraph{4}
5867 \def\toclevel@subparagraph{5}
5868 \def\toclevel@figure{0}
5869 \def\toclevel@table{0}
5870 \@ifpackageloaded{listings}{%
5871   \providecommand*\theHlstlisting{\thelstlisting}%
5872   \providecommand*\toclevel@lstlisting{0}%
5873 }{}
5874 \@ifpackageloaded{listing}{%
5875   \providecommand*\theHlisting{\thelisting}%
5876   \providecommand*\toclevel@listing{0}%
5877 }{}
5878 \def\addcontentsline#1#2#3{% toc extension, type, tag
5879   \begingroup
5880     \let\label@gobble
5881     \let\textlatin@firstofone
5882     \ifx\@currentHref\@empty
5883       \Hy@Warning{%
5884         No destination for bookmark of \string\addcontentsline,%
5885         \MessageBreak destination is added%
5886       }%
5887       \phantomsection
5888     \fi
5889     \expandafter\ifx\csname toclevel@#2\endcsname\relax
5890       \begingroup
5891         \def\Hy@tempa{#1}%
5892         \ifx\Hy@tempa\Hy@bookmarkstype
5893           \Hy@WarningNoLine{%
5894             bookmark level for unknown #2 defaults to 0%
5895           }%
5896         \else
5897           \Hy@Info{bookmark level for unknown #2 defaults to 0}%
5898         \fi
5899       \endgroup
5900       \expandafter\gdef\csname toclevel@#2\endcsname{0}%
5901     \fi
5902     \edef\Hy@toclevel{\csname toclevel@#2\endcsname}%

```

```

5903 \Hy@writebookmark{\csname the#2\endcsname}%
5904 {#3}%
5905 {\@currentHref}%
5906 {\Hy@toclevel}%
5907 {#1}%
5908 \ifHy@verbose
5909 \def\Hy@tempa{#3}%
5910 \onelevel@sanitize\Hy@tempa
5911 \typeout{pdftex: bookmark at \the\inputlineno: %
5912 {\csname the#2\endcsname}%
5913 {\Hy@tempa}%
5914 {\@currentHref}%
5915 {\Hy@toclevel}%
5916 {#1}%
5917 }%
5918 \fi
5919 \addtocontents{#1}{%
5920 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
5921 }%
5922 \endgroup
5923 }
5924 \def\contentsline#1#2#3#4{%
5925 \ifx\#4\%
5926 \csname l@#1\endcsname{#2}{#3}%
5927 \else
5928 \ifcase\Hy@linktoc % none
5929 \csname l@#1\endcsname{#2}{#3}%
5930 \or % section
5931 \csname l@#1\endcsname{%
5932 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
5933 }{#3}%
5934 \or % page
5935 \csname l@#1\endcsname{#2}{%
5936 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
5937 }%
5938 \else % all
5939 \csname l@#1\endcsname{%
5940 \hyper@linkstart{link}{#4}{#2}\hyper@linkend
5941 }{%
5942 \hyper@linkstart{link}{#4}{#3}\hyper@linkend
5943 }%
5944 \fi
5945 \fi
5946 }
5947 \end{package}
5948 \end{*check}
5949 \checklatex
5950 \checkcommand\def\addcontentsline#1#2#3{%
5951 \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
5952 }
5953 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
5954 \end{check}
5955 \end{*package}

```

40 New counters

The whole theorem business makes up new counters on the fly; we are going to intercept this. Sigh. Do it at the level where new counters are defined.

```
5956 \let\H@definecounter\@definecounter
5957 \def\@definecounter#1{%
5958   \H@definecounter{#1}%
5959   \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
5960 }
```

But what if they have used the optional argument to e.g. `\newtheorem` to determine when the numbering is reset? OK, we'll trap that too.

```
5961 \let\H@newctr\@newctr
5962 \def\@newctr#1[#2]{%
5963   \H@newctr#1[#2]%
5964   \expandafter\def\csname theH#1\endcsname{%
5965     \csname the\@ifundefined{theH#2}{-}{H}#2\endcsname.\arabic{#1}%
5966   }%
5967 }
```

41 AMS \LaTeX compatibility

Oh, no, they don't use anything as simple as `\refstepcounter` in the AMS! We need to intercept some low-level operations of theirs. Damned if we are going to try and work out what they get up to. Just stick a label of 'AMS' on the front, and use the label *they* worked out. If that produces something invalid, I give up. They'll change all the code again anyway, I expect (SR).

Version 6.77p uses a patch by Ross Moore.

```
5968 \ifpackageloaded{amsmath}{%
5969   \def\Hy@make@anchor{%
5970     \Hy@GlobalStepCount\Hy@linkcounter
5971     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
5972     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
5973   }%
5974   \def\Hy@make@df@tag@@#1{%
5975     \gdef\df@tag{%
5976       \maketag@@@{\Hy@make@anchor#1}%
5977       \def\@currentlabel{#1}%
5978     }%
5979   }%
5980   \def\Hy@make@df@tag@@@#1{%
5981     \gdef\df@tag{%
5982       \tagform@{\Hy@make@anchor#1}%
5983       \toks@{\xp{\p@equation{#1}}}%
5984       \edef\@currentlabel{\the\toks@}%
5985     }%
5986   }%
5987   \let\HyOrg@make@df@tag@@\make@df@tag@@
5988   \let\HyOrg@make@df@tag@@@ \make@df@tag@@@
5989   \let\make@df@tag@@\Hy@make@df@tag@@
5990   \let\make@df@tag@@@ \Hy@make@df@tag@@@
5991 }{}
```

Only play with `\seteqlebal` if we are using `pdftex`. Other drivers cause problems; requested by Michael Downes (AMS).

```
5992 \ifpackagewith{hyperref}{pdftex}{%
```

```

5993 \let\H@seteqlabel\@seteqlabel
5994 \def\@seteqlabel#1{%
5995   \H@seteqlabel{#1}%
5996   \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
5997   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
5998 }%
5999 }{}

```

This code I simply cannot remember what I was trying to achieve. The final result seems to do nothing anyway.

```

\let\H@tagform@\tagform@
\def\tagform@#1{%
  \maketag@@@{\hyper@@anchor{\@currentHref}%
    {(\ignorespaces#1\unskip)}}%
}
\def\eqref#1{\textup{\H@tagform@\ref{#1}}}

```

41.1 \@addtoreset and \numberwithin patches

\@addtoreset puts a counter to the reset list of another counter. After a reset the counter starts again with perhaps already used values. Therefore the hyperref version of the counter print command \theHcounter is redefined in order to add the parent counter.

```

6000 \let\HyOrg@addtoreset\@addtoreset
6001 \def\@addtoreset#1#2{%
6002   \HyOrg@addtoreset{#1}{#2}%
6003   \expandafter\xdef\csname theH#1\endcsname{%
6004     \expandafter\noexpand
6005     \csname the\@ifundefined{theH#2}{}H#2\endcsname
6006     .\noexpand\the\noexpand\value{#1}%
6007   }%
6008 }

```

\numberwithin A appropriate definition of hyperref's companion counter (\theH...) is added for correct link names.

```

6009 </package>
6010 <*check>
6011 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
6012 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
6013   \@ifundefined{c#2}{\@nocounterr{#2}}{%
6014     \@ifundefined{c#3}{\@nocnterr{#3}}{%
6015       \@addtoreset{#2}{#3}%
6016       \@xp\xdef\csname the#2\endcsname{%
6017         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6018       }%
6019     }%
6020   }%
6021 }%
6022 </check>
6023 <*package>
6024 \@ifpackageloaded{amsmath}{%
6025   \@ifpackagelater{amsmath}{1999/12/14}{%
6026     \renewcommand*\numberwithin[3][\arabic]{%
6027       \@ifundefined{c#2}{\@nocounterr{#2}}{%
6028         \@ifundefined{c#3}{\@nocnterr{#3}}{%
6029           \HyOrg@addtoreset{#2}{#3}%
6030           \@xp\xdef\csname the#2\endcsname{%

```

```

6031         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
6032     }%
6033     \@xp\xdef\csname theH#2\endcsname{%
6034         \@xp\@nx
6035         \csname the\@ifundefined{theH#3}{H#3\endcsname
6036         .\@nx#1{#2}%
6037     }%
6038 }%
6039 }%
6040 }%
6041 }{%
6042     \Hy@WarningNoLine{%
6043         \string\numberwithin\space of package ‘amsmath’ %
6044         only fixed\MessageBreak
6045         for version 2000/06/06 v2.12 or newer%
6046     }%
6047 }%
6048 }{}

```

42 Included figures

Simply intercept the low level graphics package macro.

```

6049 \ifHy@figures
6050   \let\Hy@Gin@setfile\Gin@setfile
6051   \def\Gin@setfile#1#2#3{%
6052     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
6053   }%
6054 \fi
6055 \Hy@DisableOption{hyperfigures}

```

43 hyperindex entries

Internal command names are prefixed with \HyInd@.

Hyper-indexing works crudely, by forcing code onto the end of the index entry with the | feature; this puts a hyperlink around the printed page numbers. It will not proceed if the author has already used the | specifier for something like boldening entries. That would make Makeindex fail (cannot have two | specifiers). The solution is for the author to use generic coding, and put in the requisite \hyperpage in his/her own macros along with the boldness.

This section is poor stuff; it’s open to all sorts of abuse. Sensible large projects will design their own indexing macros any bypass this.

```

6056 \ifHy@hyperindex
6057   \def\HyInd@ParenLeft{(%}
6058   \def\HyInd@ParenRight{)%}
6059   \Hy@nextfalse
6060   \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
6061   \@ifpackageloaded{index}{\Hy@nexttrue}{}%
6062   \begingroup
6063     \lccode‘\|=\expandafter\HyInd@EncapChar\relax
6064     \lowercase{\endgroup
6065       \ifHy@next
6066         \let\HyInd@org@wrindex\@wrindex
6067         \def\@wrindex#1#2{\HyInd@wrindex{#1}#2||\}%
6068         \def\HyInd@wrindex#1#2|#3|#4\{\%

```



```

6069     \ifx\#3\%
6070         \HyInd@org@wrindex{#1}{#2|hyperpage}%
6071     \else
6072         \def\Hy@temp@A{#3}%
6073         \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6074             \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6075             \relax
6076         \HyInd@org@wrindex{#1}{#2|#3}%
6077     \else
6078         \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
6079     \fi
6080 \fi
6081 }%
6082 \else
6083     \def\@wrindex#1{\@wrindex#1||\}%
6084     \def\@wrindex#1|#2|#3\{\%
6085     \if@filesw
6086         \ifx\#2\%
6087             \protected@write\@indexfile{}\%
6088             \string\indexentry{#1|hyperpage}{\thepage}%
6089         }%
6090     \else
6091         \def\Hy@temp@A{#2}%
6092         \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
6093             \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
6094             \relax
6095             \protected@write\@indexfile{}\%
6096             \string\indexentry{#1|#2}{\thepage}%
6097         }%
6098     \else
6099         \protected@write\@indexfile{}\%
6100         \string\indexentry{#1|#2hyperpage}{\thepage}%
6101     }%
6102     \fi
6103 \fi
6104 \fi
6105 \endgroup
6106 \@esphack
6107 }%
6108 \fi
6109 }%
6110 \fi
6111 \Hy@DisableOption{hyperindex}
6112 \Hy@DisableOption{encap}

```

This again is quite flaky, but allow for the common situation of a page range separated by en-rule. We split this into two different hyperlinked pages.

```

6113 \def\hyperpage#1{\@hyperpage#1----\}
6114 \def\@hyperpage#1--#2--#3\{\%
6115     \ifx\#2\%
6116         \@commahyperpage{#1}%
6117     \else
6118         \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
6119     \fi
6120 }
6121 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
6122 \def\@commahyperpage#1, #2,#3\{\%
6123     \ifx\#2\%

```

```

6124 \HyInd@pagelink{#1}%
6125 \else
6126 \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
6127 \fi
6128 }

```

The argument of `\hyperpage` can be empty. And the line breaking algorithm of `Makeindex` can introduce spaces. So we have to remove them.

```

6129 \def\HyInd@pagelink#1{%
6130 \begingroup
6131 \toks@={}%
6132 \HyInd@removespaces#1 \@nil
6133 \endgroup
6134 }
6135 \def\HyInd@removespaces#1 #2\@nil{%
6136 \toks@=\expandafter{\the\toks@#1}%
6137 \ifx\#2\%
6138 \edef\x{\the\toks@}%
6139 \ifx\x\empty
6140 \else
6141 \hyperlink{page.\the\toks@}{\the\toks@}%
6142 \fi
6143 \else
6144 \Hy@ReturnAfterFi{%
6145 \HyInd@removespaces#2\@nil
6146 }%
6147 \fi
6148 }

```

44 Compatibility with foiltex

```

6149 \@ifclassloaded{foils}{%
6150 \providecommand*\ext@table{lot}%
6151 \providecommand*\ext@figure{lof}%
6152 }{}

```

45 Compatibility with seminar slide package

This requires `seminar.bg2`, version 1.6 or later. Contributions by Denis Girou (denis.girou@idris.fr).

```

6153 \@ifclassloaded{seminar}{%
6154 \Hy@seminarslidestrue\newcommand\theHslide{\arabic{slide}}%
6155 }{%
6156 \Hy@seminarslidesfalse
6157 }
6158 \@ifpackageloaded{slidesec}{%
6159 \newcommand\theHslidesection {\arabic{slidesection}}%
6160 \newcommand\theHslidesubsection{%
6161 \theHslidesection.\arabic{slidesubsection}}%
6162 }%
6163 \def\slide@heading[#1]#2{%
6164 \H@refstepcounter{slidesection}%
6165 \@addtoreset{slidesubsection}{slidesection}%
6166 \addtocontents{los}{%
6167 \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
6168 {\@SCTR}{slideheading.\theslidesection}}%

```

```

6169 }%
6170 \def\Hy@tempa{#2}%
6171 \ifx\Hy@tempa\@empty
6172 \else
6173 {%
6174   \edef\@currentlabel{%
6175     \csname p@slidesection\endcsname\theslidesection
6176   }%
6177   \makeslideheading{#2}%
6178 }%
6179 \fi
6180 \gdef\theslideheading{#1}%
6181 \gdef\theslidesubheading{}%
6182 \ifHy@bookmarksnumbered
6183   \def\Hy@slidetitle{\theslidesection\space #1}%
6184 \else
6185   \def\Hy@slidetitle{#1}%
6186 \fi
6187 \ifHy@hypertextnames
6188   \ifHy@naturalnames
6189     \hyper@@anchor{slideheading.\theslidesection}{\relax}%
6190     \Hy@writebookmark
6191       {\theslidesection}%
6192       {\Hy@slidetitle}%
6193       {slideheading.\theslidesection}%
6194       {1}%
6195       {toc}%
6196   \else
6197     \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
6198     \Hy@writebookmark
6199       {\theslidesection}%
6200       {\Hy@slidetitle}%
6201       {slideheading.\theHslidesection}%
6202       {1}%
6203       {toc}%
6204   \fi
6205 \else
6206   \Hy@GlobalStepCount\Hy@linkcounter
6207   \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6208   \Hy@writebookmark
6209     {\theslidesection}%
6210     {\Hy@slidetitle}%
6211     {slideheading.\the\Hy@linkcounter}%
6212     {1}%
6213     {toc}%
6214   \fi
6215 }%
6216 \def\slide@subheading[#1]#2{%
6217   \H@refstepcounter{slidesubsection}%
6218   \addtocontents{los}{%
6219     \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
6220     {\@SCTR}{slideheading.\theslidesubsection}%
6221   }%
6222   \def\Hy@tempa{#2}%
6223   \ifx\Hy@tempa\@empty
6224   \else
6225     {%

```

```

6226         \edef\@currentlabel{%
6227             \csname p@slidessubsection\endcsname\theslidessubsection
6228         }%
6229         \makeslidesubheading{#2}%
6230     }%
6231 \fi
6232 \gdef\theslidesubheading{#1}%
6233 \ifHy@bookmarksnumbered
6234     \def\Hy@slidetitle{\theslidessubsection\space #1}%
6235 \else
6236     \def\Hy@slidetitle{#1}%
6237 \fi
6238 \ifHy@hypertextnames
6239     \ifHy@naturalnames
6240         \hyper@@anchor{slideheading.\theslidessubsection}{\relax}%
6241         \Hy@writebookmark
6242             {\theslidessubsection}%
6243             {\Hy@slidetitle}%
6244             {slideheading.\theslidessubsection}%
6245             {2}%
6246             {toc}%
6247     \else
6248         \hyper@@anchor{slideheading.\theHslidessubsection}{\relax}%
6249         \Hy@writebookmark
6250             {\theslidessubsection}%
6251             {\Hy@slidetitle}%
6252             {slideheading.\theHslidessubsection}%
6253             {2}%
6254             {toc}%
6255     \fi
6256 \else
6257     \Hy@GlobalStepCount\Hy@linkcounter
6258     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
6259     \Hy@writebookmark
6260         {\theslidessubsection}%
6261         {\Hy@slidetitle}%
6262         {slideheading.\the\Hy@linkcounter}%
6263         {1}%
6264         {toc}%
6265 \fi
6266 }%
6267 \providecommand*\listslidesname{List of Slides}%
6268 \def\listofslides{%
6269     \section*{%
6270         \listslidesname
6271         \@mkboth{%
6272             \expandafter\MakeUppercase\listslidesname
6273         }{%
6274             \expandafter\MakeUppercase\listslidesname
6275         }%
6276     }%
6277     \def\l@slide##1##2##3##4{%
6278         \slide@undottedcline{%
6279             \slidenumberline{##3}{\hyperlink{##4}{##2}}%
6280         }{%
6281         }%
6282     \let\l@subslide\l@slide

```

```

6283 \startlos
6284 }%
6285 \def\slide@contents{%
6286 \def\l@slide##1##2##3##4{%
6287 \slide@cline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
6288 }%
6289 \let\l@subslide\@gobblefour
6290 \startlos
6291 }%
6292 \def\Slide@contents{%
6293 \def\l@slide##1##2##3##4{%
6294 \ifcase\lslide@flag
6295 \message{##1 ** \the\c@slide@section}%
6296 \ifnum##1>\c@slide@section
6297 \def\lslide@flag{1}%
6298 {%
6299 \large
6300 \slide@cline{%
6301 \slidenumberline{$\Rightarrow\bullet$}%
6302 {\hyperlink{##4}{##2}}%
6303 }{##3}%
6304 }%
6305 \else
6306 {%
6307 \large
6308 \slide@cline{%
6309 \slidenumberline{$\surd\;\bullet$}%
6310 {\hyperlink{##4}{##2}}%
6311 }{##3}%
6312 }%
6313 \fi
6314 \or
6315 \def\lslide@flag{2}%
6316 {%
6317 \large
6318 \slide@cline{%
6319 \slidenumberline{$\bullet$}%
6320 {\hyperlink{##4}{##2}}%
6321 }{##3}%
6322 }%
6323 \or
6324 {%
6325 \large
6326 \slide@cline{%
6327 \slidenumberline{$\bullet$}%
6328 {\hyperlink{##4}{##2}}%
6329 }{##3}%
6330 }%
6331 \fi
6332 }%
6333 \def\l@subslide##1##2##3##4{%
6334 \ifnum\lslide@flag=1 %
6335 \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
6336 \fi
6337 }%
6338 \def\lslide@flag{0}%
6339 \startlos

```

```

6340 }%
6341 }{}

```

This breaks TeX4ht, so leave it to last. Emend \@setref to put out a hypertext link as well as its normal text (which is used as an anchor). (\endinput have to be on the same line like \fi, or you have to use \expandafter before.)

```

6342 \ifHy@texht
6343   \expandafter\endinput
6344 \fi
6345 \let\real@setref\@setref
6346 \def\@setref#1#2#3{% csname, extract group, refname
6347   \ifx#1\relax
6348     \protect\G@refundefinedtrue
6349     \nfss@text{\reset@font\bfseries ??}%
6350     \@latex@warning{%
6351       Reference ‘#3’ on page \thepage \space undefined%
6352     }%
6353   \else
6354     \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
6355   \fi
6356 }

```

\Hy@setref@link extracts the reference information entries, because \hyper@@link does not expand arguments for the automatic link type detection.

```

6357 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
6358   \begingroup
6359   \toks0={\hyper@@link{#5}{#4}}%
6360   \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
6361   \edef\x{\endgroup
6362     \the\toks0 {\the\toks1 }%
6363   }%
6364   \x
6365 }
6366 \def\@pagesetref#1#2#3{% csname, extract macro, ref
6367   \ifx#1\relax
6368     \protect\G@refundefinedtrue
6369     \nfss@text{\reset@font\bfseries ??}%
6370     \@latex@warning{%
6371       Reference ‘#3’ on page \thepage \space undefined%
6372     }%
6373   \else
6374     \protect\hyper@@link
6375     {\expandafter\@fifthoffive#1}%
6376     {page.\expandafter\@secondoffive#1}%
6377     {\expandafter\@secondoffive#1}%
6378   \fi
6379 }
6380 </package>
6381 <*check>
6382 \checklatex
6383 \checkcommand\def\@setref#1#2#3{%
6384   \ifx#1\relax
6385     \protect\G@refundefinedtrue
6386     \nfss@text{\reset@font\bfseries ??}%
6387     \@latex@warning{%
6388       Reference ‘#3’ on page \thepage\space undefined%
6389     }%
6390   \else

```

```

6391 \expandafter#2#1\null
6392 \fi
6393 }
6394 </check>
6395 <*package>

```

Now some extended referencing. \ref* and \pageref* are not linked, and \autoref prefixes with a tag based on the type.

```

6396 \def\HyRef@StarSetRef#1{%
6397 \begingroup
6398 \Hy@safe@activetrue
6399 \edef\x{#1}%
6400 \@onelevel@sanitize\x
6401 \edef\x{\endgroup
6402 \noexpand\HyRef@@StarSetRef
6403 \expandafter\noexpand\csname r@\x\endcsname{\x}%
6404 }%
6405 \x
6406 }
6407 \def\HyRef@@StarSetRef#1#2#3{%
6408 \ifx#1\@undefined
6409 \let#1\relax
6410 \fi
6411 \real@setref#1#3{#2}%
6412 }
6413 \def\@refstar#1{%
6414 \HyRef@StarSetRef{#1}\@firstoffive
6415 }
6416 \def\@pagerefstar#1{%
6417 \HyRef@StarSetRef{#1}\@secondoffive
6418 }
6419 \AtBeginDocument{%
6420 \@ifpackageloaded{varioref}{%
6421 \def\@Refstar#1{%
6422 \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
6423 }%
6424 \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
6425 \MakeUppercase#1%
6426 }%
6427 \DeclareRobustCommand*\Ref*{%
6428 \@ifstar\@Refstar\HyRef@Ref
6429 }%
6430 \def\HyRef@Ref#1{%
6431 \hyperref[#{1}]{\Ref*{#1}}%
6432 }%
6433 \def\Vr@f#1{%
6434 \leavevmode\unskip\vref@space
6435 \hyperref[#{1}]{%
6436 \Ref*{#1}%
6437 \let\vref@space\nobreakspace
6438 \@vpageref[\unskip]{#1}%
6439 }%
6440 }%
6441 \def\vr@f#1{%
6442 \leavevmode\unskip\vref@space
6443 \begingroup
6444 \let\T@pageref\@pagerefstar
6445 \hyperref[#{1}]{%

```

```

6446         \ref*{#1}%
6447         \vpageref[\unskip]{#1}%
6448     }%
6449 \endgroup
6450 }%
6451 }{}%
6452 }
6453 \DeclareRobustCommand*\autopageref{%
6454     \ifstar{%
6455         \HyRef@autopagerefname\pageref*%
6456     }\HyRef@autopageref
6457 }
6458 \def\HyRef@autopageref#1{%
6459     \hyperref[#{1}]{\HyRef@autopagerefname\pageref*{#1}}%
6460 }
6461 \def\HyRef@autopagerefname{%
6462     \ifundefined{pageautorefname}{%
6463         \ifundefined{pagename}{%
6464             \Hy@Warning{No autoref name for 'page'}%
6465         }{%
6466             \pagename\nobreakspace
6467         }%
6468     }{%
6469         \pageautorefname\nobreakspace
6470     }%
6471 }
6472 \DeclareRobustCommand*\autoref{%
6473     \ifstar{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@{link}}%
6474 }
6475 \def\HyRef@autoref#1#2{%
6476     \begingroup
6477     \Hy@safe@activetrue
6478     \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
6479 \endgroup
6480 }
6481 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
6482     \HyRef@ShowKeysRef{#2}%
6483     \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
6484         \edef\HyRef@thisref{%
6485             \expandafter\@fourthoffive#1\@empty\@empty\@empty
6486         }%
6487         \expandafter\HyRef@testreftype\HyRef@thisref.\.%
6488         \Hy@safe@activesfalse
6489         #3{%
6490             \expandafter\@fifthoffive#1\@empty\@empty\@empty
6491         }{%
6492             \expandafter\@fourthoffive#1\@empty\@empty\@empty
6493         }{%
6494             \HyRef@currentHtag
6495             \expandafter\@firstoffive#1\@empty\@empty\@empty
6496             \null
6497         }%
6498     \else
6499         \protect\G@refundefinedtrue
6500         \nfss@text{\reset@font\bfseries ??}%
6501         \@latex@warning{%
6502             Reference '#2' on page \thepage\space undefined%

```



```

6503 }%
6504 \fi
6505 }
6506 \def\HyRef@testreftype#1.#2\{%
6507 \@ifundefined{#1autorefname}{%
6508 \@ifundefined{#1name}{%
6509 \HyRef@StripStar#1\*\@nil{#1}%
6510 \@ifundefined{\HyRef@name autorefname}{%
6511 \@ifundefined{\HyRef@name name}{%
6512 \def\HyRef@currentHtag{%
6513 \Hy@Warning{No autoref name for '#1'}%
6514 }{%
6515 \edef\HyRef@currentHtag{%
6516 \expandafter\noexpand\csname\HyRef@name name\endcsname
6517 \noexpand~%
6518 }%
6519 }%
6520 }{%
6521 \edef\HyRef@currentHtag{%
6522 \expandafter\noexpand\csname\HyRef@name autorefname\endcsname
6523 \noexpand~%
6524 }%
6525 }%
6526 }{%
6527 \edef\HyRef@currentHtag{%
6528 \expandafter\noexpand\csname#1name\endcsname
6529 \noexpand~%
6530 }%
6531 }%
6532 }{%
6533 \edef\HyRef@currentHtag{%
6534 \expandafter\noexpand\csname#1autorefname\endcsname
6535 \noexpand~%
6536 }%
6537 }%
6538 }
6539 \def\HyRef@StripStar#1*\@nil#3{%
6540 \def\HyRef@name{#2}%
6541 \ifx\HyRef@name\HyRef@CaseStar
6542 \def\HyRef@name{#1}%
6543 \else
6544 \def\HyRef@name{#3}%
6545 \fi
6546 }
6547 \def\HyRef@CaseStar{*\\}
6548 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

6549 \let\HyRef@ShowKeysRef\@gobble
6550 \def\HyRef@ShowKeysInit{%
6551 \begingroup\expandafter\expandafter\expandafter\endgroup
6552 \expandafter\ifx\csname SK@@label\endcsname\relax
6553 \else
6554 \ifx\SK@ref\@empty
6555 \else
6556 \def\HyRef@ShowKeysRef{%

```

```

6557         \SK@\SK@@ref
6558     }%
6559     \fi
6560 \fi
6561 }
6562 \@ifpackageloaded{showkeys}{%
6563     \HyRef@ShowKeysInit
6564 }{%
6565     \AtBeginDocument{%
6566         \@ifpackageloaded{showkeys}{%
6567             \HyRef@ShowKeysInit
6568         }{}%
6569     }%
6570 }

```

Defaults for the names that `\autoref` uses.

```

6571 \providecommand*\AMSautorefname{\equationautorefname}
6572 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
6573 \providecommand*\Itemautorefname{\itemautorefname}
6574 \providecommand*\itemautorefname{item}
6575 \providecommand*\equationautorefname{Equation}
6576 \providecommand*\footnoteautorefname{footnote}
6577 \providecommand*\itemautorefname{item}
6578 \providecommand*\figureautorefname{Figure}
6579 \providecommand*\tableautorefname{Table}
6580 \providecommand*\partautorefname{Part}
6581 \providecommand*\appendixautorefname{Appendix}
6582 \providecommand*\chapterautorefname{chapter}
6583 \providecommand*\sectionautorefname{section}
6584 \providecommand*\subsectionautorefname{subsection}
6585 \providecommand*\subsubsectionautorefname{subsubsection}
6586 \providecommand*\paragraphautorefname{paragraph}
6587 \providecommand*\subparagraphautorefname{subparagraph}
6588 \providecommand*\FancyVerbLineautorefname{line}
6589 \providecommand*\theoremautorefname{Theorem}
6590 \providecommand*\pageautorefname{page}
6591 \</package>

```

46 Configuration files

46.1 PS/PDF strings

Some drivers write PS or PDF strings. These strings are delimited by parentheses, therefore a lonely unmatched parenthesis must be avoided to avoid PS or PDF syntax errors. Also the backslash character itself has to be protected.

`\Hy@pstringdef` Therefore such strings should be passed through `\Hy@pstringdef`. The first argument holds a macro for the result, the second argument is the string that needs protecting. Since version 1.30.0 pdf_T_EX offers `\pdfescapestring`.

```

6592 \< *pdftex | dvipdfm | vtex | pdfmarkbase | dviwindo>
6593 \RequirePackage{pdfdoccmds}[2007/11/11]
6594 \begingroup\expandafter\expandafter\expandafter\endgroup
6595 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
6596     \begingroup
6597         \catcode'\| =0 %
6598         \@makeother\%

```

```

6599 |@firstofone{|endgroup
6600 |def|Hy@pstringdef#1#2{%
6601 |begingroup
6602 |edef~{|string~}%
6603 |xdef|Hy@gtemp{#2}%
6604 |endgroup
6605 |let#1|Hy@gtemp
6606 |@onelevel@sanitize#1%
6607 |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
6608 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
6609 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
6610 }%
6611 |def|Hy@ExchangeBackslash#1\#2|@nil{%
6612 #1%
6613 |ifx|\#2\|%%
6614 |else
6615 \\\%
6616 |Hy@ReturnAfterFi{%
6617 |Hy@ExchangeBackslash#2|@nil
6618 }%
6619 |fi
6620 }%
6621 }%
6622 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
6623 #1%
6624 \ifx\|#2\|%%
6625 \else
6626 \@backslashchar(%
6627 \Hy@ReturnAfterFi{%
6628 \Hy@ExchangeLeftParenthesis#2\@nil
6629 }%
6630 \fi
6631 }%
6632 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
6633 #1%
6634 \ifx\|#2\|%%
6635 \else
6636 \@backslashchar)%
6637 \Hy@ReturnAfterFi{%
6638 \Hy@ExchangeRightParenthesis#2\@nil
6639 }%
6640 \fi
6641 }%
6642 \else
6643 \def\Hy@pstringdef#1#2{%
6644 \begingroup
6645 \edef~{\string~}%
6646 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
6647 \endgroup
6648 \let#1\Hy@gtemp
6649 }%
6650 \fi
6651 </pdfTeX | dvipdfm | vTeX | pdfmarkbase | dviwindo>

```

46.2 pdfTeX

```
6652 <*pdfTeX>
```

This driver is for Han The Thanh's T_EX variant which produces PDF directly. This has new primitives to do PDF things, which usually translate almost directly to PDF code, so there is a lot of flexibility which we do not at present harness.

Set PDF version if requested by option pdfversion.

- pdfT_EX 1.10a, 2003-01-16: \pdfoptionpdfminorversion

- pdfT_EX 1.30, 2005-08-08: \pdfminorversion

```

6653 \let\Hy@pdfminorversion\relax
6654 \begingroup\expandafter\expandafter\expandafter\endgroup
6655 \expandafter\ifx\csname pdfminorversion\endcsname\relax
6656   \begingroup\expandafter\expandafter\expandafter\endgroup
6657   \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
6658     \else
6659       \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
6660     \fi
6661   \else
6662     \def\Hy@pdfminorversion{\pdfminorversion}%
6663   \fi
6664 \ifundefined{Hy@pdfminorversion}{%
6665   \PackageInfo{hyperref}{%
6666     PDF version is not set, because pdfTeX is too old (<1.10a)%
6667   }%
6668 }{%
6669   \ifHy@ocgcolorlinks
6670     \ifnum\Hy@pdfminorversion<5 %
6671       \setkeys{Hyp}{pdfversion=1.5}%
6672     \fi
6673   \fi
6674   \ifHy@setpdfversion
6675     \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
6676   \else
6677     \Hy@pdfminorversion=\Hy@pdfversion\relax
6678   \fi
6679   \PackageInfo{hyperref}{%
6680     \expandafter\string\Hy@pdfminorversion
6681     :=\number\Hy@pdfversion\space
6682   }%
6683   \fi
6684   \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
6685 }
6686 \Hy@DisableOption{pdfversion}%
6687 \ifHy@ocgcolorlinks
6688   \immediate\pdfobj{%
6689     <<%
6690       /Type/OCG%
6691       /Name(View)%
6692       /Usage<<%
6693         /Print<<%
6694           /PrintState/OFF%
6695         >>%
6696       /View<<%
6697         /ViewState/ON%
6698       >>%
6699     >>%
6700   >>%
6701 }%
```

```

6702 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
6703 \immediate\pdfobj{%
6704   <<%
6705     /Type/OCG%
6706     /Name(Print)%
6707     /Usage<<%
6708       /Print<<%
6709         /PrintState/ON%
6710       >>%
6711     /View<<%
6712       /ViewState/OFF%
6713     >>%
6714   >>%
6715 }%
6716 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
6717 \immediate\pdfobj{%
6718   [%
6719     \OBJ@OCG@view\space\OBJ@OCG@print
6720   ]%
6721 }%
6722 \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
6723 \pdfcatalog{%
6724   /OCProperties<<%
6725     /OCGs \OBJ@OCGs
6726     /D<<%
6727       /OFF[\OBJ@OCG@print]%
6728       /AS[%
6729         <<%
6730           /Event/View%
6731           /OCGs \OBJ@OCGs
6732           /Category[/View]%
6733         >>%
6734         <<%
6735           /Event/Print%
6736           /OCGs \OBJ@OCGs
6737           /Category[/Print]%
6738         >>%
6739         <<%
6740           /Event/Export%
6741           /OCGs \OBJ@OCGs
6742           /Category[/Print]%
6743         >>%
6744       >>%
6745     ]%
6746   >>%
6747 }%
6748 \beginngroup
6749 \edef\x{\endgroup
6750   \pdfpageresources{%
6751     /Properties<<%
6752       /OCView \OBJ@OCG@view
6753       /OCPrint \OBJ@OCG@print
6754     >>%
6755   }%
6756 }%
6757 \x
6758

```

```

6759 \AtBeginDocument{%
6760   \def\Hy@colorlink#1{%
6761     \begingroup
6762       \ifHy@ocgcolorlinks
6763         \def\Hy@ocgcolor{#1}%
6764         \setbox0=\color@hbox
6765       \else
6766         \HyColor@UseColor#1%
6767       \fi
6768   }%
6769   \def\Hy@endcolorlink{%
6770     \ifHy@ocgcolorlinks
6771       \color@endbox
6772       \mbox{%
6773         \pdfliteral page{/OC/OCPrint BDC}%
6774         \rlap{\copy0}%
6775         \pdfliteral page{EMC/OC/OCView BDC}%
6776         \begingroup
6777           \expandafter\HyColor@UseColor\Hy@ocgcolor
6778           \box0 %
6779         \endgroup
6780         \pdfliteral page{EMC}%
6781       }%
6782     \fi
6783   \endgroup
6784 }%
6785 }%
6786 \else
6787 \Hy@DisableOption{ocgcolorlinks}%
6788 \fi

```

First, allow for some changes and additions to pdftex syntax:

```

6789 \def\setpdflinkmargin#1{\pdflinkmargin#1}
6790 \ifx\pdfstartlink\undefined% less than version 14
6791   \let\pdfstartlink\pdfannotlink
6792   \let\pdflinkmargin\@tempdima
6793   \let\pdfxform\pdfform
6794   \let\pdflastxform\pdfastform
6795   \let\pdfrefxform\pdfrefform
6796 \else
6797   \pdflinkmargin1pt %
6798 \fi

```

First set up the default linking

```

6799 \providecommand*\@pdfview{XYZ}

```

First define the anchors:

```

6800 \def\new@pdflink#1{%
6801   \ifHy@verbose
6802     \typeout{pdftex: define anchor at line \the\inputlineno: #1}%
6803   \fi
6804   \Hy@SaveLastskip
6805   \Hy@pstringdef\Hy@pstringDest{#1}%
6806   \Hy@DestName\Hy@pstringDest\@pdfview
6807   \Hy@RestoreLastskip
6808 }
6809 \let\pdf@endanchor\@empty

```

\Hy@DestName Wrap the call of \pdfdest name in \Hy@DestName. Then it can easier be caught by package hypdestopt.

```
6810 \def\Hy@DestName#1#2{%
6811   \pdfdest name{#1}#2\relax
6812 }
```

Now the links; the interesting part here is the set of attributes which define how the link looks. We probably want to add a border and color it, but there are other choices. This directly translates to PDF code, so consult the manual for how to change this. We will add an interface at some point.

```
6813 \providecommand*\pdfborder{0 0 1}
6814 \providecommand*\pdfborderstyle{}
6815 \def\Hy@undefinedname{UNDEFINED}
6816 \def\find@pdflink#1#2{%
6817   \leavevmode
6818   \protected@edef\Hy@testname{#2}%
6819   \ifx\Hy@testname\@empty
6820     \let\Hy@testname\Hy@undefinedname
6821   \else
6822     \Hy@pstringdef\Hy@testname\Hy@testname
6823   \fi
6824   \Hy@StartlinkName{%
6825     \ifHy@pdfa /F 4\fi
6826     \Hy@setpdfborder
6827     \ifx\@pdfhighlight\@empty
6828       \else
6829         /H\@pdfhighlight
6830       \fi
6831       \ifx\CurrentBorderColor\relax
6832         \else
6833           /C[\CurrentBorderColor]%
6834         \fi
6835     }\Hy@testname
6836     \expandafter\Hy@colorlink\csname @#1color\endcsname
6837   }
6838 \def\Hy@StartlinkName#1#2{%
6839   \pdfstartlink attr{#1}goto name{#2}\relax
6840 }
6841 \def\close@pdflink{\Hy@endcolorlink\pdfendlink}
6842 \def\hyper@anchor#1{\new@pdflink{#1}\anchor@spot\pdf@endanchor}
6843 \def\hyper@anchorstart#1{\new@pdflink{#1}\Hy@activeanchortrue}
6844 \def\hyper@anchorend{\pdf@endanchor\Hy@activeanchorfalse}
6845 \def\hyper@linkstart#1#2{%
6846   \@ifundefined{#@#1bordercolor}{%
6847     \let\CurrentBorderColor\relax
6848   }{%
6849     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
6850   }%
6851   \find@pdflink{#1}{#2}%
6852 }
6853 \def\hyper@linkend{\close@pdflink}
6854 \def\hyper@link#1#2#3{%
6855   \@ifundefined{#@#1bordercolor}{%
6856     \let\CurrentBorderColor\relax
6857   }{%
6858     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
6859   }%
```

```

6860 \find@pdflink{#1}{#2}#3%
6861 \close@pdflink
6862 }
6863 \let\CurrentBorderColor\@linkbordercolor
6864 \def\hyper@linkurl#1#2{%
6865 \begingroup
6866 \Hy@pstringdef\Hy@pstringURI{#2}%
6867 \hyper@chars
6868 \leavevmode
6869 \pdfstartlink
6870 attr{%
6871 \Hy@setpdfborder
6872 \ifx\@pdfhighlight\@empty
6873 \else
6874 /H\@pdfhighlight
6875 \fi
6876 \ifx\@urlbordercolor\relax
6877 \else
6878 /C[\@urlbordercolor]%
6879 \fi
6880 }%
6881 user{%
6882 /Subtype/Link%
6883 \ifHy@pdfa /F 4\fi
6884 /A<<%
6885 /Type/Action%
6886 /S/URI%
6887 /URI(\Hy@pstringURI)%
6888 >>%
6889 }%
6890 \relax
6891 \Hy@colorlink\@urlcolor#1%
6892 \close@pdflink
6893 \endgroup
6894 }
6895 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
6896 \begingroup
6897 \Hy@pstringdef\Hy@pstringF{#2}%
6898 \Hy@pstringdef\Hy@pstringD{#3}%
6899 \leavevmode
6900 \pdfstartlink
6901 attr{%
6902 \Hy@setpdfborder
6903 \ifx\@pdfhighlight\@empty
6904 \else
6905 /H\@pdfhighlight
6906 \fi
6907 \ifx\@filebordercolor\relax
6908 \else
6909 /C[\@filebordercolor]%
6910 \fi
6911 }%
6912 user {%
6913 /Subtype/Link%
6914 \ifHy@pdfa /F 4\fi
6915 /A<<%
6916 /F(\Hy@pstringF)%

```



```

6917          /S/GoToR%
6918          \Hy@SetNewWindow

```

If #3 is empty, page 0; if its a number, Page number, otherwise a named destination.

```

\afterassignment\xxx\count@=0\foo!%

```

```

\def\xxx#1!{%
  \ifx\xxx#1\xxx
    foo was an integer
  \else
    it wasnt
  \fi}

```

```

6919          \ifx\#3\%
6920          /D[0 \@pdfstartview]%
6921          \else
6922          /D(\Hy@pstringD)%
6923          \fi
6924          >>%
6925          }%
6926          \relax
6927          \Hy@colorlink\@filecolor#1%
6928          \close@pdflink
6929          \endgroup
6930        }
6931        \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
6932          \begingroup
6933            \Hy@pstringdef\Hy@pstringF{#1}%
6934            \Hy@pstringdef\Hy@pstringP{#3}%
6935            \leavevmode
6936            \pdfstartlink
6937              attr{%
6938                \Hy@setpdfborder
6939                \ifx\@pdfhighlight\@empty
6940                \else
6941                  /H\@pdfhighlight
6942                \fi
6943                \ifx\@runbordercolor\relax
6944                \else
6945                  /C[\@runbordercolor]%
6946                \fi
6947              }%
6948            user {%
6949              /Subtype/Link%
6950              \ifHy@pdfa /F 4\fi
6951              /A<<%
6952                /F(\Hy@pstringF)%
6953                /S/Launch%
6954                \Hy@SetNewWindow
6955                \ifx\#3\%
6956                \else
6957                  /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
6958                \fi
6959                >>%
6960              }%
6961              \relax
6962              \Hy@colorlink\@runcolor#2%

```

```

6963 \close@pdflink
6964 \endgroup
6965 }

```

\@pdfproducer

```

6966 \ifx\@pdfproducer\relax
6967 \begingroup\expandafter\expandafter\expandafter\endgroup
6968 \expandafter\ifx\csname luatexversion\endcsname\relax
6969 \def\@pdfproducer{pdfTeX}%
6970 \ifx\eTeXversion\@undefined
6971 \else
6972 \ifx\eTeXversion\relax
6973 \else
6974 \ifnum\eTeXversion>0 %
6975 \def\@pdfproducer{pdfTeX}%
6976 \fi
6977 \fi
6978 \fi
6979 \ifx\pdfTeXversion\@undefined
6980 \else
6981 \ifnum\pdfTeXversion<100 %
6982 \edef\@pdfproducer{%
6983 \@pdfproducer
6984 \the\pdfTeXversion.\pdfTeXrevision
6985 }%
6986 \else
6987 \ifnum\pdfTeXversion<130 %
6988 \edef\@pdfproducer{%
6989 \@pdfproducer-%
6990 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
6991 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
6992 \pdfTeXrevision
6993 }%
6994 \else
6995 \ifnum\pdfTeXversion<140 %
6996 \else
6997 \def\@pdfproducer{pdfTeX}%
6998 \fi
6999 \edef\@pdfproducer{%
7000 \@pdfproducer-%
7001 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
7002 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
7003 \pdfTeXrevision
7004 }%
7005 \fi
7006 \fi
7007 \fi
7008 \else
7009 \begingroup
7010 \count@=\luatexversion
7011 \divide\count@ by 100 %
7012 \edef\x{\the\count@}%
7013 \count@=-\x\relax
7014 \multiply\count@ by 100 %
7015 \advance\count@ by \luatexversion
7016 \edef\x{\endgroup
7017 \def\noexpand\@pdfproducer{%

```

```

7018         LuaTeX-\x.\the\count@.\luatexrevision
7019     }%
7020 }%
7021 \x
7022 \fi
7023 \fi

```

\PDF@SetupDox

```

7024 \def\PDF@SetupDoc{%
7025   \ifx\@pdfpagescrop\@empty
7026   \else
7027     \edef\process@me{%
7028       \pdfpagesattr={%
7029         /CropBox[\@pdfpagescrop]%
7030         \expandafter\ifx\expandafter\\the\pdfpagesattr\\%
7031         \else
7032           ^^J\the\pdfpagesattr
7033         \fi
7034       }%
7035     }%
7036     \process@me
7037   \fi
7038   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
7039   \pdfcatalog{%
7040     /PageMode/\@pdfpagemode
7041     \ifx\@baseurl\@empty
7042     \else
7043       /URI<</Base(\Hy@pstringB)>>%
7044     \fi
7045   }%
7046   \ifx\@pdfstartpage\@empty
7047   \else
7048     \ifx\@pdfstartview\@empty
7049     \else
7050       openaction goto page\@pdfstartpage{\@pdfstartview}%
7051     \fi
7052   \fi
7053   \edef\Hy@temp{%
7054     \ifHy@toolbar\else /HideToolbar true\fi
7055     \ifHy@menubar\else /HideMenubar true\fi
7056     \ifHy>windowui\else /HideWindowUI true\fi
7057     \ifHy@fitwindow /FitWindow true\fi
7058     \ifHy@centerwindow /CenterWindow true\fi
7059     \ifHy@displaydoctitle /DisplayDocTitle true\fi
7060     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7061     \Hy@UseNameKey{Direction}\@pdfdirection
7062     \Hy@UseNameKey{ViewArea}\@pdfviewarea
7063     \Hy@UseNameKey{ViewClip}\@pdfviewclip
7064     \Hy@UseNameKey{PrintArea}\@pdfprintarea
7065     \Hy@UseNameKey{PrintClip}\@pdfprintclip
7066     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7067     \Hy@UseNameKey{Duplex}\@pdfduplex
7068     \ifx\@pdfpicktraybypdfsize\@empty
7069     \else
7070       /PickTrayByPDFSize \@pdfpicktraybypdfsize
7071     \fi
7072     \ifx\@pdfprintpagerange\@empty

```

```

7073     \else
7074         /PrintPageRange[\@pdfprintpagerange]%
7075     \fi
7076     \ifx\@pdfnumcopies\@empty
7077     \else
7078         /NumCopies \@pdfnumcopies
7079     \fi
7080 }%
7081 \pdfcatalog{%
7082     \ifx\Hy@temp\@empty
7083     \else
7084         /ViewerPreferences<<\Hy@temp>>%
7085     \fi
7086     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7087     \ifx\@pdflang\@empty
7088     \else
7089         /Lang(\@pdflang)%
7090     \fi
7091 }%
7092 }

```

\PDF@FinishDoc

```

7093 \def\PDF@FinishDoc{%
7094     \Hy@UseMaketitleInfos
7095     \pdfinfo{%
7096         /Author(\@pdfauthor)%
7097         /Title(\@pdftitle)%
7098         /Subject(\@pdfsubject)%
7099         /Creator(\@pdfcreator)%
7100         \ifx\@pdfcreationdate\@empty
7101         \else
7102             /CreationDate(\@pdfcreationdate)%
7103         \fi
7104         \ifx\@pdfmoddate\@empty
7105         \else
7106             /ModDate(\@pdfmoddate)%
7107         \fi
7108         \ifx\@pdfproducer\relax
7109         \else
7110             /Producer(\@pdfproducer)%
7111         \fi
7112         /Keywords(\@pdfkeywords)%
7113     }%
7114     \Hy@DisableOption{pdfauthor}%
7115     \Hy@DisableOption{pdftitle}%
7116     \Hy@DisableOption{pdfsubject}%
7117     \Hy@DisableOption{pdfcreator}%
7118     \Hy@DisableOption{pdfcreationdate}%
7119     \Hy@DisableOption{pdfmoddate}%
7120     \Hy@DisableOption{pdfproducer}%
7121     \Hy@DisableOption{pdfkeywords}%
7122 }

```

\hyper@pagetransition \@pdfpagetransition is initialized with \relax. So it indicates, if option pdfpagetransition is used. First previous /Trans entries are removed. If a new /Trans key exists, it is appended to \pdfpageattr.

```

7123 \def\hyper@pagetransition{%

```

```

7124 \ifx\@pdfpagetransition\relax
7125 \else
7126 \expandafter\Hy@RemoveTransPageAttr
7127 \the\pdfpageattr^^J/Trans{}}>>\END
7128 \ifx\@pdfpagetransition\@empty
7129 \else
7130 \edef\@processme{%
7131 \global\pdfpageattr{%
7132 \the\pdfpageattr
7133 ^^J/Trans << /S /\@pdfpagetransition\space >>%
7134 }%
7135 }%
7136 \@processme
7137 \fi
7138 \fi
7139 }

```

\Hy@RemoveTransPageAttr Macro \Hy@RemoveTransPageAttr removes a /Trans entry from \pdfpageattr. It is called with the end marker ^^J/Trans{}}>>\END. The trick is the empty group that does not appear in legal \pdfpageattr code. It appears in argument #2 and shows, whether the parameter text catches a really /Trans object or the end marker.

```

7140 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
7141 \ifx\#2\%
7142 \global\pdfpageattr{#1}%
7143 \else
7144 \Hy@RemoveTransPageAttr#1#4\END
7145 \fi
7146 }

```

\hyper@pageduration \@pdfpageduration is initialized with \relax. So it indicates, if option pdfpageduration is used. First previous /Dur entries are removed. If a new /Dur key exists, it is appended to \pdfpageattr.

```

7147 \def\hyper@pageduration{%
7148 \ifx\@pdfpageduration\relax
7149 \else
7150 \expandafter\Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
7151 \ifx\@pdfpageduration\@empty
7152 \else
7153 \edef\@processme{%
7154 \global\pdfpageattr{%
7155 \the\pdfpageattr
7156 ^^J/Dur \@pdfpageduration\space
7157 }%
7158 }%
7159 \@processme
7160 \fi
7161 \fi
7162 }

```

\Hy@RemoveDurPageAttr Macro \Hy@RemoveDurPageAttr removes a /Dur entry from \pdfpageattr. It is called with the end marker ^^J/Dur{} \END. The trick is the empty group that does not appear in legal \pdfpageattr code. It appears in argument #2 and shows, whether the parameter text catches a really /Dur object or the end marker.

```

7163 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
7164 \ifx\#2\%
7165 \global\pdfpageattr{#1}%

```

```

7166 \else
7167 \Hy@RemoveDurPageAttr#1#4\END
7168 \fi
7169 }

```

`\hyper@pagehidden` The boolean value of the key `/Hid` is stored in switch `\ifHy@pdfpagehidden`. First previous `/Hid` entries are removed, then the new one is appended, if the value is true (the PDF default is false).

```

7170 \def\hyper@pagehidden{%
7171 \ifHy@useHidKey
7172 \expandafter\Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
7173 \ifHy@pdfpagehidden
7174 \edef\@processme{%
7175 \global\pdfpageattr{%
7176 \the\pdfpageattr
7177 ^^J/Hid true % SPACE
7178 }%
7179 }%
7180 \@processme
7181 \fi
7182 \fi
7183 }

```

`\Hy@RemoveHidPageAttr` Macro `\Hy@RemoveHidPageAttr` removes a `/Hid` entry from `\pdfpageattr`. It is called with the end marker `^^J/Hid{} \END`. The trick is the empty group that does not appear in legal `\pdfpageattr` code. It appears in argument #2 and shows, whether the parameter text catches a really `/Hid` object or the end marker.

```

7184 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
7185 \ifx\#2\%
7186 \global\pdfpageattr{#1}%
7187 \else
7188 \Hy@RemoveHidPageAttr#1#4\END
7189 \fi
7190 }

```

```

7191 \g@addto@macro\Hy@EveryPageHook{%
7192 \hyper@pagetransition
7193 \hyper@pageduration
7194 \hyper@pagehidden
7195 }

```

Let us explicitly turn on PDF generation; they can reverse this decision in the document, but since we are emitting PDF links anyway, we *must* be in PDF mode.

```

7196 \pdfoutput=1
7197 \pdfcompresslevel=9
7198 \AtBeginDocument{%
7199 \ifHy@setpagesize
7200 \expandafter\@firstofone
7201 \else
7202 \expandafter\@gobble
7203 \fi
7204 {%
7205 \@ifclassloaded{seminar}{%
7206 \setlength{\pdfhorigin}{1truein}%
7207 \setlength{\pdfvorigin}{1truein}%
7208 \ifportrait
7209 \ifdim\paperwidth=\z@

```

```

7210         \else
7211             \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
7212         \fi
7213         \ifdim\paperheight=\z@
7214         \else
7215             \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
7216         \fi
7217     \else
7218         \ifdim\paperheight=\z@
7219         \else
7220             \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
7221         \fi
7222         \ifdim\paperwidth=\z@
7223         \else
7224             \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
7225         \fi
7226     \fi
7227 }{%
7228     \@ifundefined{stockwidth}{%
7229         \ifdim\paperwidth=\z@
7230         \else
7231             \setlength{\pdfpagewidth}{\paperwidth}%
7232         \fi
7233         \ifdim\paperheight=\z@
7234         \else
7235             \setlength{\pdfpageheight}{\paperheight}%
7236         \fi
7237     }{%
7238         \ifdim\stockwidth=\z@
7239         \else
7240             \setlength{\pdfpagewidth}{\stockwidth}%
7241         \fi
7242         \ifdim\stockheight=\z@
7243         \else
7244             \setlength{\pdfpageheight}{\stockheight}%
7245         \fi
7246     }%
7247 }%
7248 }%
7249 \Hy@DisableOption{setpagesize}%
7250 }
7251 \def\Acrobatmenu#1#2{%
7252     \Hy@Acrobatmenu{#1}{#2}{%
7253         \pdfstartlink
7254         attr{%
7255             \Hy@setpdfborder
7256             \ifx\@pdfhighlight\@empty
7257             \else
7258                 /H\@pdfhighlight
7259             \fi
7260             \ifx\@menubordercolor\relax
7261             \else
7262                 /C[\@menubordercolor]%
7263             \fi
7264         }%
7265         user{%
7266             /Subtype/Link%

```

```

7267      \ifHy@pdfa /F 4\fi
7268      /A<<%
7269      /S/Named/N/#1%
7270      >>%
7271      }%
7272      \relax
7273      \Hy@colorlink\@menucolor#2%
7274      \close@pdflink
7275      }%
7276    }
7277  </pdfTeX>
7278  <*hypertex>

```

46.3 hypertex

The Hyper \TeX specification (this is borrowed from an article by Arthur Smith) says that conformant viewers/translators must recognize the following set of `\special` commands:

href: `html:`

name: `html:`

end: `html:`

image: `html:`

base_name: `html:<base href = "href_string">`

The *href*, *name* and *end* commands are used to do the basic hypertext operations of establishing links between sections of documents. The *image* command is intended (as with current html viewers) to place an image of arbitrary graphical format on the page in the current location. The *base_name* command is used to communicate to the *dvi* viewer the full (URL) location of the current document so that files specified by relative URL's may be retrieved correctly.

The *href* and *name* commands must be paired with an *end* command later in the \TeX file — the \TeX commands between the two ends of a pair form an *anchor* in the document. In the case of an *href* command, the *anchor* is to be highlighted in the *dvi* viewer, and when clicked on will cause the scene to shift to the destination specified by *href_string*. The *anchor* associated with a *name* command represents a possible location to which other hypertext links may refer, either as local references (of the form `href="#name_string"` with the *name_string* identical to the one in the *name* command) or as part of a URL (of the form `URL#name_string`). Here *href_string* is a valid URL or local identifier, while *name_string* could be any string at all: the only caveat is that ‘`''`’ characters should be escaped with a backslash (`\`), and if it looks like a URL name it may cause problems.

```

7279 \def\PDF@FinishDoc{}
7280 \def\PDF@SetupDoc{%
7281   \ifx\@baseurl\@empty
7282     \else
7283       \special{html:<base href="\@baseurl">}%
7284     \fi
7285 }
7286 \def\hyper@anchor#1{%
7287   \Hy@SaveLastskip
7288   \begingroup

```



```

7289 \let\protect=\string
7290 \hyper@chars
7291 \special{html:<a name=\hyper@quote #1\hyper@quote>}%
7292 \endgroup
7293 \Hy@activeanchortrue
7294 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7295 \special{html:</a>}%
7296 \Hy@activeanchorfalse
7297 \Hy@RestoreLastskip
7298 }
7299 \def\hyper@anchorstart#1{%
7300 \Hy@SaveLastskip
7301 \begingroup
7302 \hyper@chars
7303 \special{html:<a name=\hyper@quote#1\hyper@quote>}%
7304 \endgroup
7305 \Hy@activeanchortrue
7306 }
7307 \def\hyper@anchorend{%
7308 \special{html:</a>}%
7309 \Hy@activeanchorfalse
7310 \Hy@RestoreLastskip
7311 }
7312 \def\@urltype{url}
7313 \def\hyper@linkstart#1#2{%
7314 \expandafter\Hy@colorlink\csname @#1color\endcsname
7315 \def\Hy@tempa{#1}%
7316 \ifx\Hy@tempa\@urltype
7317 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7318 \else
7319 \begingroup
7320 \hyper@chars
7321 \special{html:<a href=\hyper@quote\##2\hyper@quote>}%
7322 \endgroup
7323 \fi
7324 }
7325 \def\hyper@linkend{%
7326 \special{html:</a>}%
7327 \Hy@endcolorlink
7328 }
7329 \def\hyper@linkfile#1#2#3{%
7330 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
7331 }
7332 \def\hyper@linkurl#1#2{%

```

If we want to raise up the final link `\special`, we need to get its height; ask me why \LaTeX constructs make this totally foul up, and make us revert to basic \TeX . I do not know.

```

7333 \leavevmode
7334 \ifHy@raiselinks
7335 \setbox\@tempboxa=\color@hbox #1\color@endbox
7336 \@linkdim\dp\@tempboxa
7337 \lower\@linkdim\hbox{%
7338 \hyper@chars
7339 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7340 }%
7341 \Hy@colorlink\@urlcolor#1%
7342 \@linkdim\ht\@tempboxa

```

Because of the interaction with the dvihps processor, we have to subtract a little from the height. This is not clean, or checked. Check with Mark Doyle about what gives here. It may not be needed with the new dvips (Jan 1997).

```

7343 \advance\@linkdim by -6.5\p@
7344 \raise\@linkdim\hbox{\special{html:</a>}}%
7345 \Hy@endcolorlink
7346 \else
7347 \begingroup
7348 \hyper@chars
7349 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
7350 \Hy@colorlink\@urlcolor#1%
7351 \special{html:</a>}%
7352 \Hy@endcolorlink
7353 \endgroup
7354 \fi
7355 }
7356 \def\hyper@link#1#2#3{%
7357 \hyper@linkurl{#3}{\##2}%
7358 }

7359 \def\hyper@image#1#2{%
7360 \begingroup
7361 \hyper@chars
7362 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
7363 \endgroup
7364 }
7365 </hypertex>
7366 <*dviwindo>

```

46.4 dviwindo

[This was developed by David Carlisle]. Within a file dviwindo hyperlinking is used, for external URL's a call to \wwwbrowser is made. (You can define this command before or after loading the hyperref package if the default `c:/netscape/netscape` is not suitable) Dviwindo could in fact handle external links to dvi files on the same machine without calling a web browser, but that would mean parsing the URL to recognise such, and this is currently not done.

This was more or less blindly copied from the hypertex cfg. For dviwindo, \LaTeX must specify the size of the active area for links. For some hooks this information is available but for some, the start and end of the link are specified separately in which case a fixed size area of 10000000sp wide by \baselineskip high is used.

```

7367 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
7368 \def\hyper@anchor#1{%
7369 \Hy@SaveLastskip
7370 \begingroup
7371 \let\protect=\string
7372 \special{mark: #1}%
7373 \endgroup
7374 \Hy@activeanchortrue
7375 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
7376 \Hy@activeanchorfalse
7377 \Hy@RestoreLastskip
7378 }
7379 \def\hyper@anchorstart#1{%
7380 \Hy@SaveLastskip
7381 \special{mark: #1}%

```

```

7382 \Hy@activeanchortrue
7383 }
7384 \def\hyper@anchorend{%
7385 \Hy@activeanchorfalse
7386 \Hy@RestoreLastskip
7387 }
7388 \def\hyper@linkstart#1#2{%
7389 \expandafter\Hy@colorlink\csname @#1color\endcsname
7390 \special{button: %
7391 10000000 %
7392 \number\baselineskip\space
7393 #2%
7394 }%
7395 }
7396 \def\hyper@linkend{%
7397 \Hy@endcolorlink
7398 }
7399 \def\hyper@link#1#2#3{%
7400 \setbox\@tempboxa=\color@hbox #3\color@endbox
7401 \leavevmode
7402 \ifHy@raiselinks
7403 \@linkdim\dp\@tempboxa
7404 \lower\@linkdim\hbox{%
7405 \special{button: %
7406 \number\wd\@tempboxa\space
7407 \number\ht\@tempboxa\space
7408 #2%
7409 }%
7410 \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7411 \Hy@endcolorlink
7412 }%
7413 \@linkdim\ht\@tempboxa
7414 \advance\@linkdim by -6.5\p@
7415 \raise\@linkdim\hbox{}%
7416 \else
7417 \special{button: %
7418 \number\wd\@tempboxa\space
7419 \number\ht\@tempboxa\space
7420 #2%
7421 }%
7422 \expandafter\Hy@colorlink\csname @#1color\endcsname#3%
7423 \Hy@endcolorlink
7424 \fi
7425 }
7426 \def\hyper@linkurl#1#2{%
7427 \begingroup
7428 \hyper@chars
7429 \leavevmode
7430 \setbox\@tempboxa=\color@hbox #1\color@endbox
7431 \ifHy@raiselinks
7432 \@linkdim\dp\@tempboxa
7433 \lower\@linkdim\hbox{%
7434 \special{button: %
7435 \number\wd\@tempboxa\space
7436 \number\ht\@tempboxa\space
7437 launch: \wwwbrowser\space
7438 #2%

```

```

7439     }%
7440     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7441 }%
7442 \@linkdim\ht\@tempboxa
7443 \advance\@linkdim by -6.5\p@
7444 \raise\@linkdim\hbox{}%
7445 \else
7446 \special{button: %
7447 \number\wd\@tempboxa\space
7448 \number\ht\@tempboxa\space
7449 launch: \wwwbrowser\space
7450 #2%
7451 }%
7452 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7453 \fi
7454 \endgroup
7455 }
7456 \def\hyper@linkfile#1#2#3{%
7457 \begingroup
7458 \hyper@chars
7459 \leavevmode
7460 \setbox\@tempboxa=\color@hbox #1\color@endbox
7461 \ifHy@raiselinks
7462 \@linkdim\dp\@tempboxa
7463 \lower\@linkdim\hbox{%
7464 \special{button: %
7465 \number\wd\@tempboxa\space
7466 \number\ht\@tempboxa\space
7467 #3,%
7468 file: #2%
7469 }%
7470 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7471 }%
7472 \@linkdim\ht\@tempboxa
7473 \advance\@linkdim by -6.5\p@
7474 \raise\@linkdim\hbox{}%
7475 \else
7476 \special{button: %
7477 \number\wd\@tempboxa\space
7478 \number\ht\@tempboxa\space
7479 #3,%
7480 file: #2%
7481 }%
7482 \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7483 \fi
7484 \endgroup
7485 }
7486 \ifx\@pdfproducer\relax
7487 \def\@pdfproducer{dviwindo + Distiller}%
7488 \fi
7489 \def\PDF@FinishDoc{%
7490 \Hy@UseMaketitleInfos
7491 \special{PDF: Keywords \@pdfkeywords}%
7492 \special{PDF: Title \@pdftitle}%
7493 \special{PDF: Creator \@pdfcreator}%
7494 \ifx\@pdfcreationdate\@empty
7495 \else

```

```

7496     \special{PDF: CreationDate \@pdfcreationdate}%
7497 \fi
7498 \ifx\@pdfmoddate\@empty
7499 \else
7500     \special{PDF: ModDate \@pdfmoddate}%
7501 \fi
7502 \special{PDF: Author \@pdfauthor}%
7503 \ifx\@pdfproducer\relax
7504 \else
7505     \special{PDF: Producer \@pdfproducer}%
7506 \fi
7507 \special{PDF: Subject \@pdfsubject}%
7508 \Hy@DisableOption{pdfauthor}%
7509 \Hy@DisableOption{pdftitle}%
7510 \Hy@DisableOption{pdfsubject}%
7511 \Hy@DisableOption{pdfcreator}%
7512 \Hy@DisableOption{pdfcreationdate}%
7513 \Hy@DisableOption{pdfmoddate}%
7514 \Hy@DisableOption{pdfproducer}%
7515 \Hy@DisableOption{pdfkeywords}%
7516 }
7517 \def\PDF@SetupDoc{%
7518     \ifx\@baseurl\@empty
7519     \else
7520         \special{PDF: Base \@baseurl}%
7521     \fi
7522     \ifx\@pdfpagescrop\@empty\else
7523         \special{PDF: BBox \@pdfpagescrop}%
7524     \fi
7525     \def\Hy@temp{%
7526         \ifx\@pdfstartpage\@empty
7527         \else
7528             \ifx\@pdfstartview\@empty
7529             \else
7530                 \edef\Hy@temp{%
7531                     ,Page=\@pdfstartpage
7532                     ,View=\@pdfstartview
7533                 }%
7534             \fi
7535         \fi
7536         \edef\Hy@temp{%
7537             \noexpand\pdfmark{%
7538                 pdfmark=/DOCVIEW,%
7539                 PageMode=/\@pdfpagemode
7540                 \Hy@temp
7541             }%
7542         }%
7543         \Hy@temp
7544         \ifx\@pdfpagescrop\@empty
7545         \else
7546             \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
7547         \fi
7548         \edef\Hy@temp{%
7549             \ifHy@toolbar\else /HideToolbar true\fi
7550             \ifHy@menubar\else /HideMenubar true\fi
7551             \ifHy>windowui\else /HideWindowUI true\fi
7552             \ifHy@fitwindow /FitWindow true\fi

```

```

7553 \ifHy@centerwindow /CenterWindow true\fi
7554 \ifHy@displaydoctitle /DisplayDocTitle true\fi
7555 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7556 \Hy@UseNameKey{Direction}\@pdfdirection
7557 \Hy@UseNameKey{ViewArea}\@pdfviewarea
7558 \Hy@UseNameKey{ViewClip}\@pdfviewclip
7559 \Hy@UseNameKey{PrintArea}\@pdfprintarea
7560 \Hy@UseNameKey{PrintClip}\@pdfprintclip
7561 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7562 \Hy@UseNameKey{Duplex}\@pdfduplex
7563 \ifx\@pdfpicktraybypdfsize\@empty
7564 \else
7565 /PickTrayByPDFSize \@pdfpicktraybypdfsize
7566 \fi
7567 \ifx\@pdfprintpagerange\@empty
7568 \else
7569 /PrintPageRange[\@pdfprintpagerange]%
7570 \fi
7571 \ifx\@pdfnumcopies\@empty
7572 \else
7573 /NumCopies \@pdfnumcopies
7574 \fi
7575 }%
7576 \pdfmark{pdfmark=/PUT,%
7577 Raw={%
7578 \string{Catalog\string}<<%
7579 \ifx\Hy@temp\@empty
7580 \else
7581 /ViewerPreferences<<\Hy@temp>>%
7582 \fi
7583 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7584 \ifx\@pdflang\@empty
7585 \else
7586 /Lang(\@pdflang)%
7587 \fi
7588 >>%
7589 }%
7590 }%
7591 }
7592 </dviwindo>
7593 <*dvi pdfm>

```

46.5 dvipdfm dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

7594 \newsavebox{\pdfm@box}
7595 \def\@pdfm@mark#1{\special{pdf:#1}}
7596 \def\@pdfm@dest#1{%
7597 \Hy@SaveLastskip
7598 \beginingroup
7599 \Hy@pstringdef\Hy@pstringDest{#1}%
7600 \def\x{XYZ}%
7601 \ifx\x\@pdfview
7602 \def\x{XYZ @xpos @ypos null}%
7603 \else
7604 \def\x{FitH}%
7605 \ifx\x\@pdfview

```

```

7606     \def\x{FitH @ypos}%
7607 \else
7608     \def\x{FitBH}%
7609     \ifx\x\@pdfview
7610         \def\x{FitBH @ypos}%
7611     \else
7612         \def\x{FitV}%
7613         \ifx\x\@pdfview
7614             \def\x{FitV @xpos}%
7615         \else
7616             \def\x{FitBV}%
7617             \ifx\x\@pdfview
7618                 \def\x{FitBV @xpos}%
7619             \else
7620                 \def\x{Fit}%
7621                 \ifx\x\@pdfview
7622                     \let\x\@pdfview
7623                 \else
7624                     \def\x{FitB}%
7625                     \ifx\x\@pdfview
7626                         \let\x\@pdfview
7627                     \else
7628                         \def\x{FitR}%
7629                         \ifx\x\@pdfview
7630                             \Hy@Warning{'pdfview=FitR' is not supported}%
7631                             \def\x{XYZ @xpos @ypos null}%
7632                         \else
7633                             \onelevel@sanitize\@pdfview
7634                             \Hy@Warning{Unknown value '\@pdfview' for pdfview}%
7635                             \def\x{XYZ @xpos @ypos null}%
7636                         \fi
7637                     \fi
7638                 \fi
7639             \fi
7640         \fi
7641     \fi
7642 \fi
7643 \fi
7644 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
7645 \endgroup
7646 \Hy@RestoreLastskip
7647 }
7648 \providecommand*\@pdfview{XYZ}
7649 \providecommand*\@pdfborder{0 0 1}
7650 \providecommand*\@pdfborderstyle{}
7651 \def\hyper@anchor#1{%
7652     \@pdfm@dest{#1}%
7653 }
7654 \def\hyper@anchorstart#1{%
7655     \Hy@activeanchortrue
7656     \@pdfm@dest{#1}%
7657 }
7658 \def\hyper@anchorend{%
7659     \Hy@activeanchorfalse
7660 }
7661 \ifHy@ocgcolorlinks
7662     \def\OBJ@OCG@view{@OCG@view}%

```

```

7663 \pdfmarkmark{%
7664   obj \OBJ@OCG@view <<%
7665     /Type/OCG%
7666     /Name(View)%
7667     /Usage<<%
7668     /Print<<%
7669     /PrintState/OFF%
7670     >>%
7671     /View<<%
7672     /ViewState/ON%
7673     >>%
7674   >>%
7675 >>%
7676 }%
7677 \pdfmarkmark{close \OBJ@OCG@view}%
7678 \def\OBJ@OCG@print{\OCG@print}%
7679 \pdfmarkmark{%
7680   obj \OBJ@OCG@print <<%
7681     /Type/OCG%
7682     /Name(Print)%
7683     /Usage<<%
7684     /Print<<%
7685     /PrintState/ON%
7686     >>%
7687     /View<<%
7688     /ViewState/OFF%
7689     >>%
7690   >>%
7691 >>%
7692 }%
7693 \pdfmarkmark{close \OBJ@OCG@print}%
7694 \def\OBJ@OCGs{\OCGs}%
7695 \pdfmarkmark{%
7696   obj \OBJ@OCGs [%
7697     \OBJ@OCG@view\space\OBJ@OCG@print
7698   ]%
7699 }%
7700 \pdfmarkmark{close \OBJ@OCGs}%
7701 \pdfmarkmark{%
7702   put @catalog <<%
7703     /OCProperties<<%
7704     /OCGs \OBJ@OCGs
7705     /D<<%
7706     /OFF[\OBJ@OCG@print]%
7707     /AS[%
7708       <<%
7709         /Event/View%
7710         /OCGs \OBJ@OCGs
7711         /Category[/View]%
7712       >>%
7713     <<%
7714     /Event/Print%
7715     /OCGs \OBJ@OCGs
7716     /Category[/Print]%
7717   >>%
7718   <<%
7719     /Event/Export%

```



```

7720         /OCGs \OBJ@OCGs
7721         /Category[/Print]%
7722     >>%
7723 ]%
7724 >>%
7725 >>%
7726 >>%
7727 }%
7728 \@pdfmark{
7729     put @resources <<%
7730     /Properties<<%
7731     /OCView \OBJ@OCG@view
7732     /OCPrint \OBJ@OCG@print
7733     >>%
7734     >>%
7735 }%
7736 \AtBeginDocument{
7737     \def\Hy@colorlink#1{%
7738         \begingroup
7739         \ifHy@ocgcolorlinks
7740             \def\Hy@ocgcolor{#1}%
7741             \setbox0=\color@hbox
7742         \else
7743             \HyColor@UseColor#1%
7744         \fi
7745     }%
7746     \def\Hy@endcolorlink{%
7747         \ifHy@ocgcolorlinks
7748             \color@endbox
7749         \mbox{%
7750             \@pdfmark{content /OC/OCPrint BDC}%
7751             \rlap{\copy0}%
7752             \@pdfmark{content EMC/OC/OCView BDC}%
7753             \begingroup
7754                 \expandafter\HyColor@UseColor\Hy@ocgcolor
7755                 \box0 %
7756             \endgroup
7757             \@pdfmark{content EMC}%
7758         }%
7759         \fi
7760     \endgroup
7761 }%
7762 }%
7763 \else
7764     \Hy@DisableOption{ocgcolorlinks}%
7765 \fi
7766 \def\Hy@undefinedname{UNDEFINED}
7767 \def\hyper@linkstart#1#2{%
7768     \protected@edef\Hy@testname{#2}%
7769     \ifx\Hy@testname\@empty
7770         \let\Hy@testname\Hy@undefinedname
7771     \else
7772         \Hy@pstringdef\Hy@testname\Hy@testname
7773     \fi
7774     \@pdfmark{
7775         bann<<%
7776         /Type/Annot%

```

```

7777      /Subtype/Link%
7778      \ifHy@pdfa /F 4\fi
7779      \Hy@setpdfborder
7780      \expandafter\ifx\csname @#1bordercolor\endcsname\relax
7781      \else
7782          /C[\csname @#1bordercolor\endcsname]%
7783      \fi
7784      /A<<%
7785      /S/GoTo%
7786      /D(\Hy@testname)%
7787      >>%
7788      >>%
7789  }%
7790  \expandafter\Hy@colorlink\csname @#1color\endcsname
7791 }
7792 \def\hyper@linkend{%
7793   \Hy@endcolorlink
7794   \@pdfm@mark{eann}%
7795 }
7796 \def\hyper@link#1#2#3{%
7797   \hyper@linkstart{#1}{#2}#3\hyper@linkend
7798 }
7799 \def\hyper@linkfile#1#2#3{%
7800   \Hy@pstringdef\Hy@pstringF{#2}%
7801   \Hy@pstringdef\Hy@pstringD{#3}%
7802   \leavevmode
7803   \@pdfm@mark{%
7804     bann<<%
7805     /Type/Annot%
7806     /Subtype/Link%
7807     \ifHy@pdfa /F 4\fi
7808     \Hy@setpdfborder
7809     \ifx\@filebordercolor\relax
7810     \else
7811       /C[\@filebordercolor]%
7812     \fi
7813     /A<<%
7814     /S/GoToR%
7815     /F(\Hy@pstringF)%
7816     /D\ifx\@#3\@pdfstartview\else(\Hy@pstringD)\fi
7817     \Hy@SetNewWindow
7818     >>%
7819     >>%
7820   }%
7821   \Hy@colorlink\@filecolor#1\Hy@endcolorlink
7822   \@pdfm@mark{eann}%
7823 }
7824 \def\hyper@linkurl#1#2{%
7825   \Hy@pstringdef\Hy@pstringURI{#2}%
7826   \leavevmode
7827   \@pdfm@mark{%
7828     bann<<%
7829     /Type/Annot%
7830     /Subtype/Link%
7831     \ifHy@pdfa /F 4\fi
7832     \Hy@setpdfborder
7833     \ifx\@urlbordercolor\relax

```

```

7834     \else
7835         /C[\@urlbordercolor]%
7836     \fi
7837     /A<<%
7838         /S/URI%
7839         /URI(\Hy@pstringURI)%
7840     >>%
7841 >>%
7842 }%
7843 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
7844 \@pdfm@mark{eann}%
7845 }
7846 \def\Acrobatmenu#1#2{%
7847     \Hy@Acrobatmenu{#1}{#2}{%
7848         \@pdfm@mark{%
7849             bann<<%
7850                 /Type/Annot%
7851                 /Subtype/Link%
7852                 \ifHy@pdfa /F 4\fi
7853                 /A<<%
7854                 /S/Named%
7855                 /N/#1%
7856             >>%
7857             \Hy@setpdfborder
7858             \ifx\@menubordercolor\relax
7859                 \relax
7860                 /C[\@menubordercolor]%
7861             \fi
7862             >>%
7863         }%
7864         \Hy@colorlink\@menucolor#2\Hy@endcolorlink
7865         \@pdfm@mark{eann}%
7866     }%
7867 }
7868 \ifx\@pdfproducer\relax
7869     \def\@pdfproducer{dvipdfm}%

```

Detect Xe_{TeX}. However, but xdvipdfmx will overwrite it in the final PDF file.

```

7870 \begingroup\expandafter\expandafter\expandafter\endgroup
7871 \expandafter\ifx\csname XeTeXversion\endcsname\relax
7872 \else
7873     \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
7874 \fi
7875 \fi
7876 \def\PDF@FinishDoc{%
7877     \Hy@UseMaketitleInfos
7878     \@pdfm@mark{%
7879         docinfo<<%
7880             /Title(\@pdftitle)%
7881             /Subject(\@pdfsubject)%
7882             /Creator(\@pdfcreator)%
7883             \ifx\@pdfcreationdate\@empty
7884             \else
7885                 /CreationDate(\@pdfcreationdate)%
7886             \fi
7887             \ifx\@pdfmoddate\@empty
7888             \else
7889                 /ModDate(\@pdfmoddate)%

```

```

7890     \fi
7891     /Author(\@pdfauthor)%
7892     \ifx\@pdfproducer\relax
7893     \else
7894         /Producer(\@pdfproducer)%
7895     \fi
7896     /Keywords(\@pdfkeywords)%
7897     >>%
7898 }%
7899 \Hy@DisableOption{pdfauthor}%
7900 \Hy@DisableOption{pdftitle}%
7901 \Hy@DisableOption{pdfsubject}%
7902 \Hy@DisableOption{pdfcreator}%
7903 \Hy@DisableOption{pdfcreationdate}%
7904 \Hy@DisableOption{pdfmoddate}%
7905 \Hy@DisableOption{pdfproducer}%
7906 \Hy@DisableOption{pdfkeywords}%
7907 }

7908 \def\PDF@SetupDoc{%
7909     \edef\Hy@temp{%
7910         \ifHy@toolbar\else /HideToolbar true\fi
7911         \ifHy@menubar\else /HideMenubar true\fi
7912         \ifHy>windowui\else /HideWindowUI true\fi
7913         \ifHy@fitwindow /FitWindow true\fi
7914         \ifHy@centerwindow /CenterWindow true\fi
7915         \ifHy@displaydoctitle /DisplayDocTitle true\fi
7916         \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
7917         \Hy@UseNameKey{Direction}\@pdfdirection
7918         \Hy@UseNameKey{ViewArea}\@pdfviewarea
7919         \Hy@UseNameKey{ViewClip}\@pdfviewclip
7920         \Hy@UseNameKey{PrintArea}\@pdfprintarea
7921         \Hy@UseNameKey{PrintClip}\@pdfprintclip
7922         \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
7923         \Hy@UseNameKey{Duplex}\@pdfduplex
7924         \ifx\@pdfpicktraybypdfsize\@empty
7925         \else
7926             /PickTrayByPDFSize \@pdfpicktraybypdfsize
7927         \fi
7928         \ifx\@pdfprintpagerange\@empty
7929         \else
7930             /PrintPageRange[\@pdfprintpagerange]%
7931         \fi
7932         \ifx\@pdfnumcopies\@empty
7933         \else
7934             /NumCopies \@pdfnumcopies
7935         \fi
7936     }%
7937     \Hy@pstringdef\Hy@pstringB{\@baseurl}%
7938     \@pdfm@mark{%
7939         docview<<%
7940         \ifx\@pdfstartpage\@empty
7941         \else
7942             \ifx\@pdfstartview\@empty
7943             \else
7944                 /OpenAction[<@page\@pdfstartpage\@pdfstartview]%
7945             \fi
7946         \fi

```

```

7947 \ifx\@baseurl\@empty
7948 \else
7949 /URI<</Base(\Hy@pstringB)>>%
7950 \fi
7951 /PageMode/\@pdfpagemode
7952 \ifx\Hy@temp\@empty
7953 \else
7954 /ViewerPreferences<<\Hy@temp>>%
7955 \fi
7956 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
7957 \ifx\@pdflang\@empty
7958 \else
7959 /Lang(\@pdflang)%
7960 \fi
7961 >>%
7962 }%
7963 \ifx\@pdfpagescrop\@empty
7964 \else
7965 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
7966 \fi
7967 }
7968 </dvipdfm>

```

46.6 VTeX typesetting system

Provided by MicroPress, May 1998. They require VTeX version 6.02 or newer; see <http://www.micropress-inc.com/> for details.

```

7969 <*vtexhtml>
7970 \RequirePackage{vtexhtml}
7971 \newif\if@Localurl
7972 \def\PDF@FinishDoc{}
7973 \def\PDF@SetupDoc{%
7974 \ifx\@baseurl\@empty
7975 \else
7976 \special{!direct <base href="\@baseurl">}%
7977 \fi
7978 }
7979 \def\@urltype{url}
7980 \def\hyper@link#1#2#3{%
7981 \leavevmode
7982 \special{!direct <a href=\hyper@quote\hyper@hash#2\hyper@quote>}%
7983 #3%
7984 \special{!direct </a>}%
7985 }
7986 \def\hyper@linkurl#1#2{%
7987 \begingroup
7988 \hyper@chars
7989 \leavevmode
7990 \MathBSuppress=1\relax
7991 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
7992 #1%
7993 \MathBSuppress=0\relax
7994 \special{!direct </a>}%
7995 \endgroup
7996 }
7997 \def\hyper@linkfile#1#2#3{%
7998 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%

```

```

7999 }
8000 \def\hyper@linkstart#1#2{%
8001   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
8002     \@Localurltrue
8003     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
8004   \else
8005     \@Localurlfalse
8006     \begingroup
8007       \hyper@chars
8008       \special{!aref #2}%
8009     \endgroup
8010   \fi
8011 }
8012 \def\hyper@linkend{%
8013   \if@Localurl
8014     \special{!endaref}%
8015   \else
8016     \special{!direct </a>}%
8017   \fi
8018 }
8019 \def\hyper@anchorstart#1{%
8020   \Hy@SaveLastskip
8021   \begingroup
8022     \hyper@chars
8023     \special{!aname #1}%
8024     \special{!direct <a name=\hyper@quote#1\hyper@quote>}%
8025   \endgroup
8026   \Hy@activeanchortrue
8027 }
8028 \def\hyper@anchorend{%
8029   \special{!direct </a>}%
8030   \Hy@activeanchorfalse
8031   \Hy@RestoreLastskip
8032 }
8033 \def\hyper@anchor#1{%
8034   \Hy@SaveLastskip
8035   \begingroup
8036     \let\protect=\string
8037     \hyper@chars
8038     \leavevmode
8039     \special{!aname #1}%
8040     \special{!direct <a name=\hyper@quote #1\hyper@quote>}%
8041   \endgroup
8042   \Hy@activeanchortrue
8043   \bgroup\anchor@spot\egroup
8044   \special{!direct </a>}%
8045   \Hy@activeanchorfalse
8046   \Hy@RestoreLastskip
8047 }
8048 \def\@Form[#1]{\typeout{Sorry, TeXpider does not yet support FORMs}}
8049 \def\@endForm{}
8050 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
8051   \typeout{Sorry, TeXpider does not yet support FORM gauges}%
8052 }
8053 \def\@TextField[#1]#2{% parameters, label
8054   \typeout{Sorry, TeXpider does not yet support FORM text fields}%
8055 }

```

```

8056 \def \@CheckBox[#1]#2{% parameters, label
8057   \typeout{Sorry, TeXpider does not yet support FORM checkboxes}%
8058 }
8059 \def \@ChoiceMenu[#1]#2#3{% parameters, label, choices
8060   \typeout{Sorry, TeXpider does not yet support FORM choice menus}%
8061 }
8062 \def \@PushButton[#1]#2{% parameters, label
8063   \typeout{Sorry, TeXpider does not yet support FORM pushbuttons}%
8064 }
8065 \def \@Reset[#1]#2{%
8066   \typeout{Sorry, TeXpider does not yet support FORMs}%
8067 }
8068 \def \@Submit[#1]#2{%
8069   \typeout{Sorry, TeXpider does not yet support FORMs}%
8070 }
8071 \</vtexhtml>
8072 \<*vtex>

```

VTeX version 6.68 supports `\mediawidth` and `\mediaheight`. The `\ifx` construct is better than a `\csname`, because it avoids the definition and the hash table entry of a previous undefined macro.

```

8073 \ifx\mediaheight\@undefined
8074 \else
8075   \ifx\mediaheight\relax
8076   \else
8077     \ifHy@setpagesize
8078       \providecommand*\VTeXInitMediaSize{%
8079         \@ifundefined{stockwidth}{%
8080           \ifdim\paperheight>0pt %
8081             \setlength\mediaheight\paperheight
8082           \fi
8083           \ifdim\paperheight>0pt %
8084             \setlength\mediawidth\paperwidth
8085           \fi
8086         }{%
8087           \ifdim\stockheight>0pt %
8088             \setlength\mediaheight\stockheight
8089           \fi
8090           \ifdim\stockwidth>0pt %
8091             \setlength\mediawidth\stockwidth
8092           \fi
8093         }%
8094       }%
8095       \AtBeginDocument{\VTeXInitMediaSize}%
8096     \fi
8097     \Hy@DisableOption{setpagesize}%
8098   \fi
8099 \fi

```

Older versions of VTeX require xyz in lower case.

```

8100 \providecommand*\@pdfview{xyz}
8101 \providecommand*\@pdfborder{0 0 1}
8102 \providecommand*\@pdfborderstyle{}
8103 \let\CurrentBorderColor\@linkbordercolor
8104 \def\hyper@anchor#1{%
8105   \Hy@SaveLastskip
8106   \begingroup
8107     \let\protect=\string

```

```

8108 \hyper@chars
8109 \special{!aname #1;\@pdfview}%
8110 \endgroup
8111 \Hy@activeanchortrue
8112 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
8113 \Hy@activeanchorfalse
8114 \Hy@RestoreLastskip
8115 }
8116 \def\hyper@anchorstart#1{%
8117 \Hy@SaveLastskip
8118 \begingroup
8119 \hyper@chars
8120 \special{!aname #1;\@pdfview}%
8121 \endgroup
8122 \Hy@activeanchortrue
8123 }
8124 \def\hyper@anchorend{%
8125 \Hy@activeanchorfalse
8126 \Hy@RestoreLastskip
8127 }
8128 \def\@urltype{url}
8129 \def\Hy@undefinedname{UNDEFINED}
8130 \def\hyper@linkstart#1#2{%
8131 \Hy@pstringdef\Hy@pstringURI{#2}%
8132 \expandafter\Hy@colorlink\csname @#1color\endcsname
8133 \@ifundefined{#@#1bordercolor}{%
8134 \let\CurrentBorderColor\relax
8135 }{%
8136 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8137 }%
8138 \def\Hy@tempa{#1}%
8139 \ifx\Hy@tempa\@urltype
8140 \special{!%
8141 \href <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8142 a=<%
8143 \ifHy@pdfa /F 4\fi
8144 \Hy@setpdfborder
8145 \ifx\CurrentBorderColor\relax
8146 \else
8147 /C [\CurrentBorderColor]%
8148 \fi
8149 >%
8150 }%
8151 \else
8152 \protected@edef\Hy@testname{#2}%
8153 \ifx\Hy@testname\@empty
8154 \let\Hy@testname\Hy@undefinedname
8155 \fi
8156 \special{!%
8157 \href \Hy@testname;%
8158 a=<%
8159 \ifHy@pdfa /F 4\fi
8160 \Hy@setpdfborder
8161 \ifx\CurrentBorderColor\relax
8162 \else
8163 /C [\CurrentBorderColor]%
8164 \fi

```



```

8165     >%
8166   }%
8167   \fi
8168 }
8169 \def\hyper@linkend{%
8170   \special{!endaref}%
8171   \Hy@endcolorlink
8172 }
8173 \def\hyper@linkfile#1#2#3{%
8174   \leavevmode
8175   \special{!%
8176     aref <%
8177     \ifnum\Hy@VTeXversion>753 \ifHy@newwindow n\fi\fi
8178     f=#2>#3;%
8179     a=<%
8180     \ifHy@pdfa /F 4\fi
8181     \Hy@setpdfborder
8182     \ifx\@filebordercolor\relax
8183     \else
8184       /C [\@filebordercolor]%
8185     \fi
8186     >%
8187   }%
8188   \Hy@colorlink\@filecolor#1\Hy@endcolorlink
8189   \special{!endaref}%
8190 }
8191 \def\hyper@linkurl#1#2{%
8192   \begingroup
8193     \Hy@pstringdef\Hy@pstringURI{#2}%
8194     \hyper@chars
8195     \leavevmode
8196     \special{!%
8197       aref <u=/Type /Action /S /URI /URI (\Hy@pstringURI)>;%
8198       a=<%
8199       \ifHy@pdfa /F 4\fi
8200       \Hy@setpdfborder
8201       \ifx\@urlbordercolor\relax
8202       \else
8203         /C [\@urlbordercolor]%
8204       \fi
8205       >%
8206     }%
8207     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
8208     \special{!endaref}%
8209   \endgroup
8210 }
8211 \def\hyper@link#1#2#3{%
8212   \@ifundefined{#@#1bordercolor}{%
8213     \let\CurrentBorderColor\relax
8214   }{%
8215     \edef\CurrentBorderColor{\csname #@#1bordercolor\endcsname}%
8216   }%
8217   \leavevmode
8218   \protected@edef\Hy@testname{#2}%
8219   \ifx\Hy@testname\@empty
8220     \let\Hy@testname\Hy@undefinedname
8221   \fi

```

```

8222 \special{!%
8223   aref \Hy@testname;%
8224   a=<%
8225     \ifHy@pdfa /F 4\fi
8226     \Hy@setpdfborder
8227     \ifx\CurrentBorderColor\relax
8228     \else
8229       /C [\CurrentBorderColor]%
8230     \fi
8231   >%
8232 }%
8233 \expandafter\Hy@colorlink\csname @#1color\endcsname#3\Hy@endcolorlink
8234 \special{!endaref}%
8235 }
8236 \def\hyper@image#1#2{%
8237   \hyper@linkurl{#2}{#1}%
8238 }
8239 \def\@hyper@launch run:#1\#2#3{%
8240   \Hy@pstringdef\Hy@pstringF{#1}%
8241   \Hy@pstringdef\Hy@pstringP{#3}%
8242   \leavevmode
8243   \special{!aref %
8244     <u=%
8245       /Type/Action%
8246       /S/Launch%
8247       /F(\Hy@pstringF)%
8248       \Hy@SetNewWindow
8249       \ifx\#3\\\else /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>\fi%
8250     >;%
8251     a=<%
8252       \ifHy@pdfa /F 4\fi
8253       \Hy@setpdfborder
8254       \ifx\@runbordercolor\relax
8255       \else
8256         /C[\@runbordercolor]%
8257       \fi
8258     >%
8259   }%
8260   \Hy@colorlink\@runcolor#2\Hy@endcolorlink
8261   \special{!endaref}%
8262 }
8263 \def\Acrobatmenu#1#2{%
8264   \Hy@Acrobatmenu{#1}{#2}{%
8265     \special{!%
8266       aref <u=/S /Named /N /#1>;%
8267       a=<%
8268         \ifHy@pdfa /F 4\fi
8269         \Hy@setpdfborder
8270         \ifx\@menubordercolor\relax
8271         \else
8272           /C[\@menubordercolor]%
8273         \fi
8274       >%
8275     }%
8276     \Hy@colorlink\@menucolor#2\Hy@endcolorlink
8277     \special{!endaref}%
8278   }%

```

8279 }

The following code (transition effects) is made by Alex Kostin.

The code below makes sense for $\text{V}\text{T}_{\text{E}}\text{X}$ 7.02 or later.

Please never use $\backslash\text{ifundefined}\{\text{V}\text{T}_{\text{E}}\text{Xversion}\}\{..\}\{..\}$ globally.

```
8280 \ifnum\Hy@VTeXversion<702 %
8281 \else
8282   \def\hyper@pagetransition{%
8283     \ifx\@pdfpagetransition\relax
8284     \else
8285       \ifx\@pdfpagetransition\@empty
```

Standard incantation.

1. Does an old entry have to be deleted? 2. If 1=yes, how to delete?

```
8286     \else
8287       \hvtex@parse@trans\@pdfpagetransition
8288     \fi
8289   \fi
8290 }%
```

I have to write an “honest” parser to convert raw PDF code into $\text{V}\text{T}_{\text{E}}\text{X}$ $\backslash\text{special}$.
(AVK)

Syntax of $\text{V}\text{T}_{\text{E}}\text{X}$ $\backslash\text{special}\{!\text{trans } \langle\text{transition_effect}\rangle\}$:

```
<transition_effect> ::= <transition_style>[,<transition_duration>]
<transition_style> ::= <Blinds_effect> | <Box_effect> |
                        <Dissolve_effect> | <Glitter_effect> |
                        <Split_effect> | <Wipe_effect>
<Blinds_effect> ::= B[<effect_dimension>]
<Box_effect> ::= X[<effect_motion>]
<Dissolve_effect> ::= D
<Glitter_effect> ::= G[<effect_direction>]
<Split_effect> ::= S[<effect_motion>][<effect_dimension>]
<Wipe_effect> ::= W[<effect_direction>]
<Replace_effect> ::= R
<effect_direction> ::= <number>
<effect_dimension> ::= H | V
<effect_motion> ::= I | O
<transition_duration> ::= <number>
```

Transition codes:

```
8291 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
8292 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
8293 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
8294 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
8295 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
8296 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
8297 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%
```

Optional parameters:

```
8298 \def\hvtex@par@dimension{/Dm}%
8299 \def\hvtex@par@direction{/Di}%
8300 \def\hvtex@par@duration{/D}%
8301 \def\hvtex@par@motion{/M}%
```

Tokenizer:

```
8302 \def\hvtex@gettoken{\expandafter\hvtex@gettoken\hvtex@buffer\@nil}%
```

Notice that tokens in the input buffer must be space delimited.

```
8303 \def\hvtex@gettoken#1 #2\@nil{%
```

```

8304 \edef\hvtex@token{#1}%
8305 \edef\hvtex@buffer{#2}%
8306 }%
8307 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

8308 \let\hvtex@trans@code\@empty
8309 \let\hvtex@param@dimension\@empty
8310 \let\hvtex@param@direction\@empty
8311 \let\hvtex@param@duration\@empty
8312 \let\hvtex@param@motion\@empty
8313 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

8314 \hvtex@gettoken
8315 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

8316 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

8317 \else
8318 \hvtex@gettoken
8319 \fi
8320 \fi
8321 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

8322 \hvtex@trans@params
8323 }%

```

Reentrant macro to parse optional parameters.

```

8324 \def\hvtex@trans@params{%
8325 \ifx\hvtex@buffer\@empty
8326 \else
8327 \hvtex@gettoken
8328 \let\hvtex@trans@par\hvtex@token
8329 \ifx\hvtex@buffer\@empty
8330 \else
8331 \hvtex@gettoken
8332 \ifx\hvtex@trans@par\hvtex@par@duration

```

/D is the effect duration in seconds. V_T_EX special takes it in milliseconds.

```

8333 \let\hvtex@param@duration\hvtex@token
8334 \else \ifx\hvtex@trans@par\hvtex@par@motion

```

/M can be either /I or /O

```

8335 \expandafter\edef\expandafter\hvtex@param@motion
8336 \expandafter{\expandafter\@gobble\hvtex@token}%
8337 \else \ifx\hvtex@trans@par\hvtex@par@dimension

```

/Dm can be either /H or /V

```

8338 \expandafter\edef\expandafter\hvtex@param@dimension
8339 \expandafter{\expandafter\@gobble\hvtex@token}%
8340 \else \ifx\hvtex@trans@par\hvtex@par@direction

```

Valid values for /Di are 0, 270, 315 (the Glitter effect) or 0, 90, 180, 270 (the Wipe effect).

```

8341 \let\hvtex@param@direction\hvtex@token
8342 \fi\fi\fi\fi
8343 \fi

```

```

8344 \fi
8345 \ifx\hvtex@buffer\@empty
8346 \let\next\hvtex@produce@trans
8347 \else
8348 \let\next\hvtex@trans@params
8349 \fi
8350 \next
8351 }%

```

Merge <transition_effect> and issue the special when possible. Too lazy to validate optional parameters.

```

8352 \def\hvtex@produce@trans{%
8353 \let\vtex@trans@special\@empty
8354 \if S\hvtex@trans@code
8355 \edef\vtex@trans@special{\hvtex@trans@code
8356 \hvtex@param@dimension\hvtex@param@motion}%
8357 \else\if B\hvtex@trans@code
8358 \edef\vtex@trans@special{%
8359 \hvtex@trans@code\hvtex@param@dimension
8360 }%
8361 \else\if X\hvtex@trans@code
8362 \edef\vtex@trans@special{%
8363 \hvtex@trans@code\hvtex@param@motion
8364 }%
8365 \else\if W\hvtex@trans@code
8366 \edef\vtex@trans@special{%
8367 \hvtex@trans@code\hvtex@param@direction
8368 }%
8369 \else\if D\hvtex@trans@code
8370 \let\vtex@trans@special\hvtex@trans@code
8371 \else\if R\hvtex@trans@code
8372 \let\vtex@trans@special\hvtex@trans@code
8373 \else\if G\hvtex@trans@code
8374 \edef\vtex@trans@special{%
8375 \hvtex@trans@code\hvtex@param@direction
8376 }%
8377 \fi\fi\fi\fi\fi\fi\fi
8378 \ifx\vtex@trans@special\@empty
8379 \else
8380 \ifx\hvtex@param@duration\@empty
8381 \else
8382 \setlength{\dimen@}{\hvtex@param@duration\p}%

```

I'm not guilty of possible overflow.

```

8383 \multiply\dimen@\@m
8384 \edef\vtex@trans@special{%
8385 \vtex@trans@special,\strip@pt\dimen@
8386 }%
8387 \fi

```

And all the mess is just for this.

```

8388 \special{!trans \vtex@trans@special}%
8389 \fi
8390 }%

8391 \def\hyper@pageduration{%
8392 \ifx\@pdfpageduration\relax
8393 \else
8394 \ifx\@pdfpageduration\@empty

```

```

8395     \special{!duration-}%
8396     \else
8397     \special{!duration \@pdfpageduration}%
8398     \fi
8399   \fi
8400 }%
8401 \def\hyper@pagehidden{%
8402   \ifHy@useHidKey
8403     \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
8404   \fi
8405 }%
8406 \g@addto@macro\Hy@EveryPageBoxHook{%
8407   \hyper@pagetransition
8408   \hyper@pageduration
8409   \hyper@pagehidden
8410 }%
8411 \fi

```

Caution: In opposite to the other drivers, the argument of `\special{!onopen #1}` is a reference name. The VTeX's postscript mode will work with a version higher than 7.0x.

The command `\VTeXOS` is defined since version 7.45. Magic values encode the operating system:

- 1: WinTel
- 2: Linux
- 3: OS/2
- 4: MacOS
- 5: MacOS/X

```

8412 \ifx\@pdfproducer\relax
8413   \def\@pdfproducer{VTeX}%
8414   \ifnum\Hy@VTeXversion>\z@
8415     \count@\VTeXversion
8416     \divide\count@ 100 %
8417     \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
8418     \multiply\count@ -100 %
8419     \advance\count@\VTeXversion
8420     \edef\@pdfproducer{%
8421       \@pdfproducer
8422       .\ifnum\count@<10 0\fi\the\count@
8423       \ifx\VTeXOS\@undefined\else
8424         \ifnum\VTeXOS>0 %
8425           \ifnum\VTeXOS<6 %
8426             \space(
8427             \ifcase\VTeXOS
8428             \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
8429             \fi
8430           )%
8431         \fi
8432       \fi
8433     \fi
8434     ,\space
8435     \ifnum\OpMode=\@ne PDF\else PS\fi
8436     \space backend%
8437     \ifx\gexmode\@undefined\else
8438       \ifnum\gexmode>\z@\space with GeX\fi
8439     \fi
8440   }%

```

```
8441 \fi
8442 \fi
```

Current !pdfinfo key syntax:

Key	Field	Type
a	Author	String
b	CropBox	String
c	Creator	String
k	Keywords	String
l	PageLayout	PS
p	PageMode	PS
r	Producer	String
s	Subject	String
t	Title	String
u	URI	PS
v	ViewPreferences	PS

Note: PS objects that are dicts are in <<< . . >>> (yuck; no choice).

```
8443 \def\PDF@SetupDoc{%
8444   \ifx\@pdfpagescrop\@empty
8445   \else
8446     \special{!pdfinfo b=<\@pdfpagescrop>}%
8447   \fi
8448   \ifx\@pdfstartpage\@empty
8449   \else
8450     \ifx\@pdfstartview\@empty
8451     \else
8452       \special{!onopen Page\@pdfstartpage}%
8453     \fi
8454   \fi
8455   \special{!pdfinfo p=</\@pdfpagemode>}%
8456   \ifx\@baseurl\@empty
8457   \else
8458     \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
8459   \fi
8460   \special{!pdfinfo v=<<<%
8461     \ifHy@toolbar\else /HideToolbar true\fi
8462     \ifHy@menubar\else /HideMenubar true\fi
8463     \ifHy>windowui\else /HideWindowUI true\fi
8464     \ifHy@fitwindow /FitWindow true\fi
8465     \ifHy@centerwindow /CenterWindow true\fi
8466     \ifHy@displaydoctitle /DisplayDocTitle true\fi
8467     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8468     \Hy@UseNameKey{Direction}\@pdfdirection
8469     \Hy@UseNameKey{ViewArea}\@pdfviewarea
8470     \Hy@UseNameKey{ViewClip}\@pdfviewclip
8471     \Hy@UseNameKey{PrintArea}\@pdfprintarea
8472     \Hy@UseNameKey{PrintClip}\@pdfprintclip
8473     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8474     \Hy@UseNameKey{Duplex}\@pdfduplex
8475     \ifx\@pdfpicktraybypdfsize\@empty
8476     \else
8477       /PickTrayByPDFSize \@pdfpicktraybypdfsize
8478     \fi
8479     \ifx\@pdfprintpagerange\@empty
8480     \else
8481       /PrintPageRange[\@pdfprintpagerange]%
8482     \fi
```

```

8483 \ifx\@pdfnumcopies\@empty
8484 \else
8485 /NumCopies \@pdfnumcopies
8486 \fi
8487 >>>}%
8488 \ifx\@pdfpagelayout\@empty
8489 \else
8490 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
8491 \fi
8492 }%
8493 \def\PDF@FinishDoc{%
8494 \Hy@UseMaketitleInfos
8495 \special{!pdfinfo a=<\@pdfauthor>}%
8496 \special{!pdfinfo t=<\@pdftitle>}%
8497 \special{!pdfinfo s=<\@pdfsubject>}%
8498 \special{!pdfinfo c=<\@pdfcreator>}%
8499 \ifx\@pdfproducer\relax
8500 \else
8501 \special{!pdfinfo r=<\@pdfproducer>}%
8502 \fi
8503 \special{!pdfinfo k=<\@pdfkeywords>}%
8504 \Hy@DisableOption{pdfauthor}%
8505 \Hy@DisableOption{pdftitle}%
8506 \Hy@DisableOption{pdfsubject}%
8507 \Hy@DisableOption{pdfcreator}%
8508 \Hy@DisableOption{pdfcreationdate}%
8509 \Hy@DisableOption{pdfmoddate}%
8510 \Hy@DisableOption{pdfproducer}%
8511 \Hy@DisableOption{pdfkeywords}%
8512 }
8513 \end{document}

```

46.7 Fix for Adobe bug number 466320

If a destination occurs at the very begin of a page, the destination is moved to the previous page by Adobe Distiller 5. As workaround Adobe suggests:

```

/showpage {
  //showpage
  clippath stroke erasepage
} bind def

```

But unfortunately this fix generates an empty page at the end of the document. Therefore another fix is used by writing some clipped text.

```

8514 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
8515 <package>\providecommand*\Hy@DistillerDestFix{}
8516 <*pdfmark | dviwindo>
8517 \def\Hy@DistillerDestFix{%
8518 \begin{group}
8519 \let\x\literalps@out

```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

```

8520 \ifnum \@ifundefined{OpMode}{0}{}%
8521 \@ifundefined{gexmode}{0}{}%
8522 \ifnum\gexmode>0 \OpMode\else 0\fi
8523 }>1 %
8524 \def\x##1{%

```



```

8525      \immediate\special{!=##1}%
8526      }%
8527      \fi
8528      \x{%
8529      /product where{%
8530      pop %
8531      product(Distiller)search{%
8532      pop pop pop %
8533      version(.)search{%
8534      exch pop exch pop%
8535      (3011)eq{%
8536      gsave %
8537      newpath 0 0 moveto closepath clip%
8538      /Courier findfont 10 scalefont setfont %
8539      72 72 moveto(.)show %
8540      grestore%
8541      }if%
8542      }{pop}ifelse%
8543      }{pop}ifelse%
8544      }if%
8545      }%
8546      \endgroup
8547      }
8548      </pdfmark | dviwindo>

```

46.8 Direct pdfmark support (dvipdf and pdfmark)

Drivers that load pdfmark.def have to provide the correct macro definitions of

```

\@pdfproducer    for document information
\literalps@out   PostScript output
\headerps@out    PostScript output that goes in the header area

```

and the correct definitions of the following PostScript procedures:

```

H.S      start of anchor, link or rect
#1 H.A   end of anchor, argument=baselineskip in pt
#1 H.L   end of link, argument=baselineskip in pt
H.R      end of rect
H.B      raw rect code

```

```

8549 <*pdfmark | dvipdf>
8550 \def\hyper@anchor#1{%
8551   \Hy@SaveLastskip
8552   \begingroup
8553     \pdfmark[\anchor@spot]{%
8554       pdfmark=/DEST,%
8555       linktype=anchor,%
8556       View=/\@pdfview \@pdfviewparams,%
8557       DestAnchor={#1}%
8558     }%
8559   \endgroup
8560   \Hy@RestoreLastskip
8561 }
8562 <*dvipdf>
8563 \def\hyper@anchorstart#1{\Hy@activeanchortrue}
8564 \def\hyper@anchorend{\Hy@activeanchorfalse}
8565 \def\hyper@linkstart#1#2{%

```

```

8566 \expandafter\Hy@colorlink\csname @#1color\endcsname
8567 \xdef\hyper@currentanchor{#2}%
8568 }
8569 \def\hyper@linkend{%
8570 \Hy@endcolorlink
8571 }
8572 </dvipdf>
8573 <*pdfmark>
8574 \@ifundefined{hyper@anchorstart}{\endinput}{}
8575 \def\hyper@anchorstart#1{%
8576 \Hy@SaveLastskip
8577 \literalps@out{H.S}%
8578 \xdef\hyper@currentanchor{#1}%
8579 \Hy@activeanchortrue
8580 }
8581 \def\hyper@anchorend{%
8582 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
8583 \pdfmark{%
8584 pdfmark=/DEST,%
8585 linktype=anchor,%
8586 View=/\@pdfview \@pdfviewparams,%
8587 DestAnchor=\hyper@currentanchor,%
8588 }%
8589 \Hy@activeanchorfalse
8590 \Hy@RestoreLastskip
8591 }
8592 \def\hyper@linkstart#1#2{%
8593 \ifHy@breaklinks
8594 \else
8595 \leavevmode\hbox\bgroup
8596 \fi
8597 \expandafter\Hy@colorlink\csname @#1color\endcsname
8598 \literalps@out{H.S}%
8599 \xdef\hyper@currentanchor{#2}%
8600 \gdef\hyper@currentlinktype{#1}%
8601 }
8602 \def\hyper@linkend{%
8603 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
8604 \@ifundefined{@\hyper@currentlinktype bordercolor}{%
8605 \let\Hy@tempcolor\relax
8606 }{%
8607 \edef\Hy@tempcolor{%
8608 \csname @\hyper@currentlinktype bordercolor\endcsname
8609 }%
8610 }%
8611 \pdfmark{%
8612 pdfmark=/ANN,%
8613 linktype=link,%
8614 Subtype=/Link,%
8615 PDFAFlags=4,%
8616 Dest=\hyper@currentanchor,%
8617 AcroHighlight=\@pdfhighlight,%
8618 Border=\@pdfborder,%
8619 BorderStyle=\@pdfborderstyle,%
8620 Color=\Hy@tempcolor,%
8621 Raw=H.B%
8622 }%

```

```

8623 \Hy@endcolorlink
8624 \ifHy@breaklinks
8625 \else
8626 \egroup
8627 \fi
8628 }

```

```
8629 < *pdfmark >
```

We have to allow for `\baselineskip` having an optional stretch and shrink (you meet this in slide packages, for instance), so we need to strip off the junk. David Carlisle, of course, wrote this bit of code.

```

8630 \beginngroup
8631 \catcode'P=12 %
8632 \catcode'T=12 %
8633 \lowercase{\endgroup
8634 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>z@.#2\fi}%
8635 }
8636 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}
8637 < /pdfmark >

```

`\hyper@pagetransition`

```

8638 \def\hyper@pagetransition{%
8639 \ifx\@pdfpagetransition\relax
8640 \else
8641 \ifx\@pdfpagetransition\@empty
8642 % 1. Does an old entry have to be deleted?
8643 % 2. If 1=yes, how to delete?
8644 \else
8645 \pdfmark{%
8646 pdfmark=/PUT,%
8647 Raw={%
8648 \string{ThisPage\string}%
8649 <</Trans << /S /\@pdfpagetransition\space >> >>%
8650 }%
8651 }%
8652 \fi
8653 \fi
8654 }

```

`\hyper@pageduration`

```

8655 \def\hyper@pageduration{%
8656 \ifx\@pdfpageduration\relax
8657 \else
8658 \ifx\@pdfpageduration\@empty
8659 % 1. Does an old entry have to be deleted?
8660 % 2. If 1=yes, how to delete?
8661 \else
8662 \pdfmark{%
8663 pdfmark=/PUT,%
8664 Raw={%
8665 \string{ThisPage\string}%
8666 <</Dur \@pdfpageduration>>%
8667 }%
8668 }%
8669 \fi
8670 \fi
8671 }

```

\hyper@pagehidden

```
8672 \def\hyper@pagehidden{%
8673   \ifHy@useHidKey
8674     \pdfmark{%
8675       pdfmark=/PUT,%
8676       Raw={%
8677         \string{ThisPage\string}%
8678         <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
8679       }%
8680     }%
8681   \fi
8682 }

8683 \g@addto@macro\Hy@EveryPageBoxHook{%
8684   \hyper@pagetransition
8685   \hyper@pageduration
8686   \hyper@pagehidden
8687 }

8688 \pdfmark{
8689 \def\hyper@image#1#2{%
8690   \hyper@linkurl{#2}{#1}%
8691 }
8692 \def\Hy@undefinedname{UNDEFINED}
8693 \def\hyper@link#1#2#3{%
8694   \@ifundefined{@#1bordercolor}{%
8695     \let\Hy@tempcolor\relax
8696   }{%
8697     \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
8698   }%
8699   \begingroup
8700     \protected@edef\Hy@testname{#2}%
8701     \ifx\Hy@testname\@empty
8702       \let\Hy@testname\Hy@undefinedname
8703     \fi
8704   \*dvipdf)
8705     \pdfmark[{#3}]{%
8706       pdfmark=/LNK,%
8707       },%
8708       linktype={#1},%
8709       AcroHighlight=\pdfhighlight,%
8710       Border=\pdfborder,%
8711       BorderStyle=\pdfborderstyle,%
8712       Color=\Hy@tempcolor,%
8713       Dest=\Hy@testname
8714     }%
8715   \*dvipdf)
8716 \*pdfmarkbase)
8717   \pdfmark[{#3}]{%
8718     Color=\Hy@tempcolor,%
8719     linktype={#1},%
8720     AcroHighlight=\pdfhighlight,%
8721     Border=\pdfborder,%
8722     BorderStyle=\pdfborderstyle,%
8723     pdfmark=/ANN,%
8724     Subtype=/Link,%
8725     PDFAMFlags=4,%
8726     Dest=\Hy@testname
```

```

8727     }%
8728 </pdfmarkbase>
8729 \endgroup
8730 }
8731 \newtoks\pdf@docset
8732 \def\PDF@FinishDoc{%
8733   \Hy@UseMaketitleInfos
8734   \let\Hy@temp\@empty
8735   \ifx\@pdfcreationdate\@empty
8736   \else
8737     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
8738   \fi
8739   \ifx\@pdfmoddate\@empty
8740   \else
8741     \expandafter\def\expandafter\Hy@temp\expandafter{%
8742       \Hy@temp
8743       ModDate=\@pdfmoddate,%
8744     }%
8745   \fi
8746   \ifx\@pdfproducer\relax
8747   \else
8748     \expandafter\def\expandafter\Hy@temp\expandafter{%
8749       \Hy@temp
8750       Producer=\@pdfproducer,%
8751     }%
8752   \fi
8753   \expandafter
8754   \pdfmark\expandafter{%
8755     \Hy@temp
8756     pdfmark=/DOCINFO,%
8757     Title=\@pdftitle,%
8758     Subject=\@pdfsubject,%
8759     Creator=\@pdfcreator,%
8760     Author=\@pdfauthor,%
8761     Keywords=\@pdfkeywords
8762   }%
8763   \Hy@DisableOption{pdfauthor}%
8764   \Hy@DisableOption{pdftitle}%
8765   \Hy@DisableOption{pdfsubject}%
8766   \Hy@DisableOption{pdfcreator}%
8767   \Hy@DisableOption{pdfcreationdate}%
8768   \Hy@DisableOption{pdfmoddate}%
8769   \Hy@DisableOption{pdfproducer}%
8770   \Hy@DisableOption{pdfkeywords}%
8771 }
8772 \def\PDF@SetupDoc{%
8773   \def\Hy@temp{}%
8774   \ifx\@pdfstartpage\@empty
8775   \else
8776     \ifx\@pdfstartview\@empty
8777     \else
8778       \edef\Hy@temp{%
8779         ,Page=\@pdfstartpage
8780         ,View=\@pdfstartview
8781       }%
8782     \fi
8783   \fi

```

```

8784 \edef\Hy@temp{%
8785   \noexpand\pdfmark{%
8786     pdfmark=/DOCVIEW,%
8787     PageMode=/\@pdfpagemode
8788     \Hy@temp
8789   }%
8790 }%
8791 \Hy@temp
8792 \ifx\@pdfpagescrop\@empty
8793 \else
8794   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
8795 \fi
8796 \edef\Hy@temp{%
8797   \ifHy@toolbar\else /HideToolbar true\fi
8798   \ifHy@menubar\else /HideMenubar true\fi
8799   \ifHy>windowui\else /HideWindowUI true\fi
8800   \ifHy@fitwindow /FitWindow true\fi
8801   \ifHy@centerwindow /CenterWindow true\fi
8802   \ifHy@displaydoctitle /DisplayDocTitle true\fi
8803   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
8804   \Hy@UseNameKey{Direction}\@pdfdirection
8805   \Hy@UseNameKey{ViewArea}\@pdfviewarea
8806   \Hy@UseNameKey{ViewClip}\@pdfviewclip
8807   \Hy@UseNameKey{PrintArea}\@pdfprintarea
8808   \Hy@UseNameKey{PrintClip}\@pdfprintclip
8809   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
8810   \Hy@UseNameKey{Duplex}\@pdfduplex
8811   \ifx\@pdfpicktraybypdfsize\@empty
8812   \else
8813     /PickTrayByPDFSize \@pdfpicktraybypdfsize
8814   \fi
8815   \ifx\@pdfprintpagerange\@empty
8816   \else
8817     /PrintPageRange[\@pdfprintpagerange]%
8818   \fi
8819   \ifx\@pdfnumcopies\@empty
8820   \else
8821     /NumCopies \@pdfnumcopies
8822   \fi
8823 }%
8824 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
8825 \pdfmark{%
8826   pdfmark=/PUT,%
8827   Raw={%
8828     \string{Catalog\string}<<%
8829     \ifx\Hy@temp\@empty
8830     \else
8831       /ViewerPreferences<<\Hy@temp>>%
8832     \fi
8833     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
8834     \ifx\@pdflang\@empty
8835     \else
8836       /Lang(\@pdflang)%
8837     \fi
8838     \ifx\@baseurl\@empty
8839     \else
8840       /URI<</Base(\Hy@pstringB)>>%

```

```

8841         \fi
8842     >>%
8843 }%
8844 }%
8845 }
8846 </pdfmark | dvipdf>
8847 <*pdfmarkbase | dvipdf>

```

We define a single macro, pdfmark, which uses the ‘keyval’ system to define the various allowable keys; these are *exactly* as listed in the pdfmark reference for Acrobat 3.0. The only addition is pdfmark which specifies the type of pdfmark to create (like ANN, LINK etc). The surrounding round and square brackets in the pdfmark commands are supplied, but you have to put in / characters as needed for the values.

```

8848 \newif\ifHy@pdfmarkerror
8849 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
8850 \def\pdfmark@[#1]#2{%
8851     \Hy@pdfmarkerrorfalse
8852     \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
8853     \@processme
8854     \let\pdf@type\relax
8855     \setkeys{PDF}{#2}%
8856     \ifHy@pdfmarkerror
8857     \else
8858         \ifx\pdf@type\relax
8859             \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
8860             \ifx\#1\%
8861                 \else
8862                     \pdf@rect{#1}%
8863                 \fi
8864             \else
8865                 \ifx\#1\%
8866 <*pdfmarkbase>
8867                 \literalps@out{%
8868                     [\the\pdf@toks\space\pdf@type\space pdfmark%
8869                 }%
8870 </pdfmarkbase>
8871 <dvipdf> \literalps@out{/ANN >>}%
8872         \else
8873             \@ifundefined{@\pdf@linktype color}{%
8874                 \Hy@colorlink\@linkcolor
8875             }{%
8876                 \expandafter\Hy@colorlink
8877                     \csname @\pdf@linktype color\endcsname
8878             }%
8879             \pdf@rect{#1}%
8880 <*pdfmarkbase>
8881             \literalps@out{%
8882                 [\the\pdf@toks\space\pdf@type\space pdfmark%
8883             }%
8884 </pdfmarkbase>
8885 <dvipdf> \literalps@out{/ANN >>}%
8886             \Hy@endcolorlink
8887         \fi
8888     \fi
8889 \fi
8890 }

```

The complicated bit is working out the right enclosing rectangle of some piece of TeX text, needed by the /Rect key. This solution originates with Toby Thain (tobyth@netspace.net.au).

For the case breaklinks is enabled, I have added two hooks, the first one for package setouterhbox, it provides a hopefully better method without setting the text twice.

```
\usepackage[hyperref]{setouterhbox}
```

With the second hook, also you can set the text twice, e.g.:

```
\long\def\Hy@setouterhbox#1#2{\long\def\my@temp{#2}}
\def\Hy@breaklinksunhbox#1{\my@temp}
```

```
8891 \newsavebox{\pdf@box}
8892 \providecommand*{\Hy@setouterhbox}{\sbox}
8893 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
8894 \def\Hy@DEST{/DEST}
8895 \def\pdf@rect#1{%
8896 \dvi pdf \literalps@out{/ANN \pdf@type\space\the\pdf@toks\space <<#1%
8897 \leavevmode
8898 \ifHy@breaklinks
8899 \Hy@setouterhbox\pdf@box{#1}%
8900 \else
8901 \sbox\pdf@box{#1}%
8902 \fi
8903 \dimen@ \ht\pdf@box
8904 \ifdim\dp\pdf@box=\z@
8905 \literalps@out{H.S}%
8906 \else
8907 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
8908 \fi
```

If the text has to be horizontal mode stuff then just unbox the saved box like this, which saves executing it twice, which can mess up counters etc (thanks DPC...).

```
8909 \ifHy@breaklinks
8910 \expandafter\Hy@breaklinksunhbox
8911 \else
8912 \expandafter\box
8913 \fi
8914 \pdf@box
```

but if it can have multiple paragraphs you'd need one of these, but in that case the measured box size would be wrong anyway.

```
\ifHy@breaklinks#1\else\box\pdf@box\fi
\ifHy@breaklinks{#1}\else\box\pdf@box\fi

8915 \ifdim\dimen@=\z@
8916 \literalps@out{H.R}%
8917 \else
8918 \raise\dimen@\hbox{\literalps@out{H.R}}%
8919 \fi
8920 \ifx\pdf@type\Hy@DEST
8921 \else
8922 \pdf@addtoksx{H.B}%
8923 \fi
8924 }
```

All the supplied material is stored in a token list; since I do not feel sure I quite understand these, things may not work as expected with expansion. We'll have to experiment.


```

8925 \newtoks\pdf@toks
8926 \newtoks\pdf@defaulttoks
8927 \pdf@defaulttoks={}%
8928 \def\pdf@addtoks#1#2{%
8929   \edef\@processme{\pdf@toks{\the\pdf@toks\space /#2 #1}}%
8930   \@processme
8931 }
8932 \def\pdf@addtoksx#1{%
8933   \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
8934   \@processme
8935 }
8936 \def\PDFdefaults#1{%
8937   \pdf@defaulttoks={#1}%
8938 }

```

This is the list of allowed keys. See the Acrobat manual for an explanation.

```

8939 % what is the type of pdfmark?
8940 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
8941 % what is the link type?
8942 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
8943 \def\pdf@linktype{link}
8944 % parameter is a stream of PDF
8945 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
8946 % parameter is a name
8947 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
8948 % parameter is a array
8949 \define@key{PDF}{Border}{%
8950   \edef\Hy@temp{#1}%
8951   \ifx\Hy@temp\@empty
8952     \else
8953       \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
8954   \fi
8955 }
8956 \let\Hy@BorderArrayPatch\@empty
8957 % parameter is a dictionary
8958 \define@key{PDF}{BorderStyle}{%
8959   \edef\Hy@temp{#1}%
8960   \ifx\Hy@temp\@empty
8961     \else
8962       \pdf@addtoks{<<#1>>}{BS}%
8963   \fi
8964 }
8965 % parameter is a array
8966 \define@key{PDF}{Color}{%
8967   \ifx\relax#1\relax
8968     \else
8969       \pdf@addtoks{[#1]}{Color}% hash-ok
8970   \fi
8971 }
8972 % parameter is a string
8973 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
8974 % parameter is a integer
8975 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
8976 % parameter is a array
8977 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
8978 % parameter is a string
8979 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
8980 % parameter is a string or file

```

```

8981 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
8982 % parameter is a destination
8983 \define@key{PDF}{Dest}{%
8984   \Hy@pstringdef\Hy@pstringDest{#1}%
8985   \ifx\Hy@pstringDest\@empty
8986     \Hy@pdfmarkerrortrue
8987     \Hy@Warning{Destination with empty name ignored}%
8988   \else
8989     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
8990   \fi
8991 }
8992 \define@key{PDF}{DestAnchor}{%
8993   \Hy@pstringdef\Hy@pstringDest{#1}%
8994   \ifx\Hy@pstringDest\@empty
8995     \Hy@pdfmarkerrortrue
8996     \Hy@Warning{Destination with empty name ignored}%
8997   \else
8998     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
8999   \fi
9000 }
9001 % parameter is a string
9002 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
9003 % parameter is a string
9004 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
9005 % parameter is a int
9006 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
9007 \define@key{PDF}{PDFAFlags}{%
9008   \ifHy@pdfa
9009     \pdf@addtoks{#1}{F}%
9010   \fi
9011 }
9012 % parameter is a name
9013 \define@key{PDF}{AcroHighlight}{%
9014   \begingroup
9015     \edef\x{#1}%
9016     \expandafter\endgroup\ifx\x\@empty
9017     \else
9018       \pdf@addtoks{#1}{H}%
9019     \fi
9020 }
9021 % parameter is a string
9022 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
9023 % parameter is a string
9024 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
9025 % parameter is a string
9026 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9027 % parameter is a string
9028 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
9029 % parameter is a Boolean
9030 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
9031 % parameter is a integer or name
9032 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
9033 % parameter is a name
9034 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
9035 % parameter is a string
9036 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
9037 % parameter is a array

```

```

9038 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
9039 % parameter is a integer
9040 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
9041 % parameter is a name
9042 \pdfmarkbase\define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
9043 \dvipdf\define@key{PDF}{Subtype}{\pdf@addtoks{#1}{}}
9044 % parameter is a string
9045 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
9046 % parameter is a string
9047 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
9048 % parameter is a string
9049 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
9050 % parameter is an array
9051 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
9052 % parameter is a string
9053 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

9054 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
9055 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
9056 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
9057 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9058 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
9059 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
9060 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
9061 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
9062 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
9063 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
9064 </pdfmarkbase | dvipdf>
9065 <*pdfmark | dvipdf>
9066 \def\Acrobatmenu#1#2{%
9067   \Hy@Acrobatmenu{#1}{#2}{%
9068     \pdfmark[{#2}]{%
9069       linktype=menu,%
9070       pdfmark=/ANN,%
9071       AcroHighlight=\@pdfhighlight,%
9072       Border=\@pdfborder,%
9073       BorderStyle=\@pdfborderstyle,%
9074       Action={<< /Subtype /Named /N /#1 >>},%
9075       Subtype=/Link,%
9076       PDFAFlags=4%
9077     }%
9078   }%
9079 }

```

And now for some useful examples:

```

9080 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
9081 \def\PDFNextPage@[#1]#2{%
9082   \pdfmark[{#2}]{%
9083     #1,%
9084     Border=\@pdfborder,%
9085     BorderStyle=\@pdfborderstyle,%
9086     Color=.2 .1 .5,%
9087     pdfmark=/ANN,%
9088     Subtype=/Link,%
9089     PDFAFlags=4,%
9090     Page=/Next%
9091   }%

```

```

9092 }
9093 \def\PDFPreviousPage{%
9094   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
9095 }
9096 \def\PDFPreviousPage@[#1]#2{%
9097   \pdfmark[#{#2}]{%
9098     #1,%
9099     Border=\@pdfborder,%
9100     BorderStyle=\@pdfborderstyle,%
9101     Color=.4 .4 .1,%
9102     pdfmark=/ANN,%
9103     Subtype=/Link,%
9104     PDFAFlags=4,%
9105     Page=/Prev%
9106   }%
9107 }
9108 \def\PDFOpen#1{%
9109   \pdfmark{#1,pdfmark=/DOCVIEW}%
9110 }

```

This will only work if you use Distiller 2.1 or higher.

```

9111 \def\hyper@linkurl#1#2{%
9112   \begingroup
9113     \Hy@pstringdef\Hy@pstringURI{#2}%
9114     \hyper@chars
9115     \leavevmode
9116     \pdfmarkbase
9117     \pdfmark[#{#1}]{%
9118       pdfmark=/ANN,%
9119       linktype=url,%
9120       AcroHighlight=\@pdfhighlight,%
9121       Border=\@pdfborder,%
9122       BorderStyle=\@pdfborderstyle,%
9123       Color=\@urlbordercolor,%
9124       Action={<< /Subtype /URI /URI (\Hy@pstringURI) >>},%
9125       Subtype=/Link,%
9126       PDFAFlags=4%
9127     }%
9128   \pdfmarkbase
9129   \dvipdf
9130   \pdfmark[#{#1}]{%
9131     pdfmark=/LNK,%
9132     linktype=url,%
9133     AcroHighlight=\@pdfhighlight,%
9134     Border=\@pdfborder,%
9135     BorderStyle=\@pdfborderstyle,%
9136     Color=\@urlbordercolor,%
9137     Action={URI /URI <\Hy@hstringURI>}%
9138   }%
9139   \dvipdf
9140   \endgroup
9141 }
9142 \def\hyper@linkfile#1#2#3{%
9143   \begingroup
9144     \Hy@pstringdef\Hy@pstringF{#2}%
9145     \Hy@pstringdef\Hy@pstringD{#3}%
9146     \leavevmode
9147     \pdfmark

```

```

9148 \pdfmark[{#1}]{%
9149 pdfmark=/ANN,%
9150 Subtype=/Link,%
9151 PDFAFlags=4,%
9152 AcroHighlight=\pdfhighlight,%
9153 Border=\pdfborder,%
9154 BorderStyle=\pdfborderstyle,%
9155 linktype=file,%
9156 Color=\@filebordercolor,%
9157 Action={%
9158 <<%
9159 /S/GoToR%
9160 \Hy@SetNewWindow
9161 /F(\Hy@pstringF)%
9162 /D\ifx\#3\[0 \pdfstartview]\else(\Hy@pstringD)cvn\fi
9163 >>%
9164 }%
9165 }%
9166 \pdfmark}
9167 \*dvipdf)
9168 \pdfmark[{#1}]{%
9169 pdfmark=/LNK,%
9170 linktype=file,%
9171 AcroHighlight=\pdfhighlight,%
9172 Border=\pdfborder,%
9173 BorderStyle=\pdfborderstyle,%
9174 Color=\@filebordercolor,%
9175 Action={%
9176 <<%
9177 /S/GoToR%
9178 \Hy@SetNewWindow
9179 /F(\Hy@pstringF)%
9180 /D\ifx\#3\[0 \pdfstartview]\else(\Hy@pstringD)cvn\fi
9181 >>%
9182 }%
9183 }%
9184 \dvipdf)
9185 \endgroup
9186 }
9187 \def\hyper@launch run:#1\#2#3{%
9188 \begingroup
9189 \Hy@pstringdef\Hy@pstringF{#1}%
9190 \Hy@pstringdef\Hy@pstringP{#3}%
9191 \leavevmode
9192 \pdfmark}
9193 \pdfmark[{#2}]{%
9194 pdfmark=/ANN,%
9195 Subtype=/Link,%
9196 PDFAFlags=4,%
9197 AcroHighlight=\pdfhighlight,%
9198 Border=\pdfborder,%
9199 BorderStyle=\pdfborderstyle,%
9200 linktype=run,%
9201 Color=\@runbordercolor,%
9202 Action={%
9203 <<%
9204 /S/Launch%

```

```

9205         \Hy@SetNewWindow
9206         /F(\Hy@pstringF)%
9207         \ifx\|#3\|%
9208         \else
9209             /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9210         \fi
9211     >>%
9212 }%
9213 }%
9214 </pdfmark>
9215 <*dvipdf>
9216     \pdfmark[#{#2}]{%
9217         pdfmark=/LNK,%
9218         linktype=file,%
9219         AcroHighlight=@pdfhighlight,%
9220         Border=@pdfborder,%
9221         BorderStyle=@pdfborderstyle,%
9222         Color=@filebordercolor,%
9223         Action={%
9224             <<%
9225                 /S/GoToR%
9226                 \Hy@SetNewWindow
9227                 /F(\Hy@pstringF)%
9228                 \ifx\|#3\|%
9229                 \else
9230                     /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9231                 \fi
9232             >>%
9233         }%
9234     }%
9235 </dvipdf>
9236 \endgroup
9237 }
9238 </pdfmark | dvipdf>

```

Unfortunately, some parts of the pdfmark PostScript code depend on vagaries of the dvi driver. We isolate here all the problems.

46.9 Rokicki's dvips

dvips thinks in 10ths of a big point, its coordinate space is resolution dependent, and its *y* axis starts at the top of the page. Other drivers can and will be different!

The work is done in SDict, because we add in some header definitions in a moment.

```

9239 <*dvips>
9240 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
9241 \def\headerps@out#1{\special{! #1}}%
9242 \input{pdfmark.def}%
9243 \ifx\@pdfproducer\relax
9244     \def\@pdfproducer{dvips + Distiller}%
9245 \fi
9246 \providecommand*\@pdfborder{0 0 1}
9247 \providecommand*\@pdfborderstyle{}
9248 \providecommand*\@pdfview{XYZ}
9249 \providecommand*\@pdfviewparams{ H.V}
9250 \def\Hy@BorderArrayPatch{BorderArrayPatch}
9251 \g@addto@macro\Hy@FirstPageHook{%
9252     \headerps@out{%

```

Unless I am going mad, this *appears* to be the relationship between the default coordinate system (PDF), and dvips;

```
/DvipsToPDF { .01383701 div Resolution div } def
/PDFToDvips { .01383701 mul Resolution mul } def
```

the latter's coordinates are resolution dependent, but what that .01383701 is, who knows? well, almost everyone except me, I expect... And yes, Maarten Gelderman <mgelderman@econ.vu.nl> points out that its 1/72.27 (the number of points to an inch, big points to inch is 1/72). This also suggests that the code would be more understandable (and exact) if 0.013 div would be replaced by 72.27 mul, so here we go. If this isn't right, I'll revert it.

```
9253 /DvipsToPDF{72.27 mul Resolution div} def%
9254 /PDFToDvips{72.27 div Resolution mul} def%
9255 /BPToDvips{72 div Resolution mul}def%
```

The values inside the /Border array are not taken literally, but interpreted by ghostscript using the resolution of the dvi driver. I don't know how other distiller programs behaves in this manner.

```
9256 /BorderArrayPatch{%
9257   [exch%
9258     dup dup type/integertype eq exch type/realtype eq or%
9259     {BPToDvips}if%
9260     }forall]%
9261   }def%
```

The rectangle around the links starts off *exactly* the size of the box; we will to make it slightly bigger, 1 point on all sides.

```
9262 /HyperBorder {1 PDFToDvips} def%
9263 /H.V {pdf@hoff pdf@voff null} def%
9264 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def%
```

H.S (start of anchor, link, or rect) stores the x and y coordinates of the current point, in PDF coordinates

```
9265 /H.S {%
9266   currentpoint %
9267   HyperBorder add /pdf@lly exch def %
9268   dup DvipsToPDF 72 add /pdf@hoff exch def %
9269   HyperBorder sub /pdf@llx exch def%
9270 } def%
```

The calculation of upper left y is done without raising the point in \TeX , by simply adding on the current `\baselineskip` to the current y . This is usually too much, so we remove a notional 2 points.

We have to see what the current baselineskip is, and convert it to the dvips coordinate system.

Argument: baselineskip in pt. The x and y coordinates of the current point, minus the baselineskip

```
9271 /H.L {%
9272   2 sub dup%
9273   /HyperBasePt exch def %
9274   PDFToDvips /HyperBaseDvips exch def %
9275   currentpoint %
9276   HyperBaseDvips sub /pdf@ury exch def%
9277   /pdf@urx exch def%
9278 } def%
9279 /H.A {%
```

```

9280      H.L %
9281 % |/\pdf@voff| = the distance from the top of the page to a point
9282 % |/\baselineskip| above the current point in PDF coordinates
9283      currentpoint exch pop %
9284      vsize 72 sub exch DvipsToPDF %
9285      HyperBasePt sub % baseline skip
9286      sub /\pdf@voff exch def%
9287  } def%
9288  /H.R {%
9289      currentpoint %
9290      HyperBorder sub /\pdf@ury exch def %
9291      HyperBorder add /\pdf@urx exch def %
9292 % |/\pdf@voff| = the distance from the top of the page to the current point, in
9293 % PDF coordinates
9294      currentpoint exch pop vsize 72 sub %
9295      exch DvipsToPDF sub /\pdf@voff exch def%
9296  } def%
9297 }%
9298 }
9299 \AfterBeginDocument{%
9300   \ifx\special@paper\@empty\else
9301     \ifHy@setpagesize
9302       \special{papersize=\special@paper}%
9303     \fi
9304     \Hy@DisableOption{setpagesize}%
9305   \fi
9306 }
9307 </dvips>

```

46.10 VTeX's vtexpdfmark driver

This part is derived from the dvips (many names reflect this).

The origin seems to be the same as TeX's origin, 1 in from the left and 1 in downwards from the top. The direction of the y axis is downwards, the opposite of the dvips case. Units seems to be pt or bp.

```

9308 <*vtexpdfmark>
9309 \def\literalps@out#1{\special{pS:#1}}%
9310 \def\headerps@out#1{\immediate\special{pS:#1}}%
9311 \input{pdfmark.def}%
9312 \ifx\@pdfproducer\relax
9313   \ifnum\OpMode=\@one
9314     \def\@pdfproducer{VTeX}%
9315   \else
9316     \def\@pdfproducer{VTeX + Distiller}%
9317   \fi
9318 \fi
9319 \providecommand*\@pdfborder{0 0 1}
9320 \providecommand*\@pdfborderstyle{}
9321 \providecommand*\@pdfview{XYZ}
9322 \providecommand*\@pdfviewparams{ H.V}
9323 \g@addto@macro\Hy@FirstPageHook{%
9324   \headerps@out{%
9325     /vsize {\Hy@pageheight} def%

```

The rectangle around the links starts off *exactly* the size of the box; we will to make it slightly bigger, 1 point on all sides.


```

9326 /HyperBorder {1} def%
9327 /H.V {pdf@hoff pdf@voff null} def%
9328 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def%

```

H.S (start of anchor, link, or rect) stores the x and y coordinates of the current point, in PDF coordinates: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

9329 /H.S {%
9330   currentpoint %
9331   HyperBorder sub%
9332   /pdf@lly exch def %
9333   dup 72 add /pdf@hoff exch def %
9334   HyperBorder sub%
9335   /pdf@llx exch def%
9336 } def%

```

The x and y coordinates of the current point, minus the `\baselineskip`: $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$, $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

9337 /H.L {%
9338   2 sub%
9339   /HyperBasePt exch def %
9340   currentpoint %
9341   HyperBasePt add HyperBorder add%
9342   /pdf@ury exch def %
9343   HyperBorder add%
9344   /pdf@urx exch def%
9345 } def%
9346 /H.A {%
9347   H.L %
9348   currentpoint exch pop %
9349   vsize 72 sub exch %
9350   HyperBasePt add add%
9351   /pdf@voff exch def%
9352 } def%

```

$\text{pdf@ury} = Y_c + \text{HyperBorder}$, $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

9353 /H.R {%
9354   currentpoint %
9355   HyperBorder add%
9356   /pdf@ury exch def %
9357   HyperBorder add%
9358   /pdf@urx exch def %
9359   currentpoint exch pop vsize 72 sub add%
9360   /pdf@voff exch def%
9361 } def%
9362 }%
9363 }
9364 </vtxpdfmark>

```

46.11 Textures

At the suggestion of Jacques Distler (distler@golem.ph.utexas.edu), try to derive a suitable driver for Textures. This was initially a copy of dvips, with some guesses about Textures behaviour. Ross Moore (ross@maths.mq.edu.au) has added modifications for better compatibility, and to support use of pdfmark.

Start by defining a macro that expands to the end-of-line character. This will be used to format the appearance of PostScript code, to enhance readability, and avoid excessively long lines which might otherwise become broken to bad places.

`\Hy@ps@CR` The macro `\Hy@ps@CR` contains the end-of-line character.

```
9365 <*textures>
9366 \begingroup
9367   \obeylines %
9368   \gdef\Hy@ps@CR{\noexpand
9369     }%
9370 \endgroup %
```

Textures has two types of `\special` command for inserting PostScript code directly into the dvi output. The ‘postscript’ way preserves TeX’s idea of where on the page the `\special` occurred, but it wraps the contents with a `save–restore` pair, and adjusts the user-space coordinate system for local drawing commands. The ‘rawpostscript’ way simply inserts code, without regard for the location on the page.

Thus, to put arbitrary PostScript coding at a fixed location requires using *both* `\special` constructions. It works by pushing the device-space coordinates onto the operand stack, where they can be used to transform back to the correct user-space coordinates for the whole page, within a ‘rawpostscript’ `\special`.

```
9371 \def\literalps@out#1{%
9372   \special{postscript 0 0 transform}%
9373   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
9374 }%
9375 %
```

The ‘prepostscript’ is a 3rd kind of `\special`, used for inserting definitions into the dictionaries, before page-building begins. These are to be available for use on all pages.

```
9376 \def\headerps@out#1{%
9377   \special{%
9378     prepostscript TeXdict begin\Hy@ps@CR
9379       #1\Hy@ps@CR
9380     end%
9381   }%
9382 }%
9383 %
```

To correctly support the `pdfmark` method, for embedding PDF definitions with `.ps` files in a non-intrusive way, an appropriate definition needs to be made *before* the file `pdfmark.def` is read. Other parameters are best set afterwards.

```
9384 \g@addto@macro\Hy@FirstPageHook{%
9385   \headerps@out{%
9386     /betterpdfmark {%
9387       systemdict begin %
9388         dup /BP eq%
9389         {cleartomark gsave nulldevice []}%
9390         {dup /EP eq%
9391           {cleartomark cleartomark grestore}%
9392           {cleartomark}%
9393         }ifelse%
9394       }ifelse %
9395     end%
9396   }def\Hy@ps@CR
9397   __pdfmark__ not{/pdfmark /betterpdfmark load def}if%
9398 }% end of \headerps@out
9399 }% end of \AtBeginShipoutFirst
9400 %
9401 \input{pdfmark.def}%
9402 %
```

```

9403 \ifx\@pdfproducer\relax
9404   \def\@pdfproducer{Textures + Distiller}%
9405 \fi
9406 \providecommand*\@pdfborder{0 0 1}
9407 \providecommand*\@pdfborderstyle{}
9408 \providecommand*\@pdfview{XYZ}
9409 \providecommand*\@pdfviewparams{ H.V}
9410 %

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called pdf@llx pdf@lly pdf@urx pdf@ury, which are the coordinates of the bounding rectangle of the link, and pdf@hoff pdf@voff which are the PDF page offsets. The Rect pair are called at the LL and UR corners of a box known to T_EX.

```

9411 \headerps@out{%

```

Textures lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

9412   /vsize {\Hy@pageheight} def%
9413   /DvipsToPDF {} def%
9414   /PDFToDvips {} def%
9415   /BPToDvips {} def%
9416   /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
9417   /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
9418   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
9419   /H.S {%
9420     currentpoint %
9421     HyperBorder add /pdf@lly exch def %
9422     dup DvipsToPDF 72 add /pdf@hoff exch def %
9423     HyperBorder sub /pdf@llx exch def%
9424   } def\Hy@ps@CR
9425   /H.L {%
9426     2 sub %
9427     PDFToDvips /HyperBase exch def %
9428     currentpoint %
9429     HyperBase sub /pdf@ury exch def%
9430     /pdf@urx exch def%
9431   } def\Hy@ps@CR
9432   /H.A {%
9433     H.L %
9434     currentpoint exch pop %
9435     vsize 72 sub exch DvipsToPDF %
9436     HyperBase sub % baseline skip
9437     sub /pdf@voff exch def%
9438   } def\Hy@ps@CR
9439   /H.R {%
9440     currentpoint %
9441     HyperBorder sub /pdf@ury exch def %
9442     HyperBorder add /pdf@urx exch def %
9443     currentpoint exch pop vsize 72 sub %
9444     exch DvipsToPDF sub /pdf@voff exch def%
9445   } def\Hy@ps@CR
9446 }

9447 \AfterBeginDocument{%
9448   \ifHy@colorlinks
9449     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
9450   \fi
9451 }

```

Textures provides built-in support for HyperTeX specials so this part combines code from `hypertex.def` with what is established by loading `pdfmark.def`, or any other driver.

```

9452 \expandafter\let\expandafter\keepPDF@SetupDoc
9453   \csname PDF@SetupDoc\endcsname
9454 \def\PDF@SetupDoc{%
9455   \ifx\@baseurl\@empty
9456   \else
9457     \special{html:<base href="\@baseurl">}%
9458   \fi
9459   \keepPDF@SetupDoc
9460 }
9461 \def\hyper@anchor#1{%
9462   \Hy@SaveLastskip
9463   \begingroup
9464     \let\protect=\string
9465     \special{html:<a name=\hyper@quote #1\hyper@quote>}%
9466   \endgroup
9467   \Hy@activeanchortrue
9468   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9469   \special{html:</a>}%
9470   \Hy@activeanchorfalse
9471   \Hy@RestoreLastskip
9472 }
9473 \def\hyper@anchorstart#1{%
9474   \Hy@SaveLastskip
9475   \begingroup
9476     \hyper@chars
9477     \special{html:<a name=\hyper@quote#1\hyper@quote>}%
9478   \endgroup
9479   \Hy@activeanchortrue
9480 }
9481 \def\hyper@anchorend{%
9482   \special{html:</a>}%
9483   \Hy@activeanchorfalse
9484   \Hy@RestoreLastskip
9485 }
9486 \def\@urltype{url}
9487 \def\hyper@linkstart#1#2{%
9488   \expandafter\Hy@colorlink\csname @#1color\endcsname
9489   \def\Hy@tempa{#1}%
9490   \ifx\Hy@tempa\@urltype
9491     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9492   \else
9493     \begingroup
9494       \hyper@chars
9495       \special{html:<a href=\hyper@quote\##2\hyper@quote>}%
9496     \endgroup
9497   \fi
9498 }
9499 \def\hyper@linkend{%
9500   \special{html:</a>}%
9501   \Hy@endcolorlink
9502 }
9503 \def\hyper@linkfile#1#2#3{%
9504   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9505 }
9506 \def\hyper@linkurl#1#2{%

```

```

9507 \leavevmode
9508 \ifHy@raiselinks
9509   \setbox\@tempboxa=\color@hbox #1\color@endbox
9510   \@linkdim\dp\@tempboxa
9511   \lower\@linkdim\hbox{%
9512     \hyper@chars
9513     \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9514   }%
9515   \Hy@colorlink\@urlcolor#1%
9516   \@linkdim\ht\@tempboxa
9517   \advance\@linkdim by -6.5\p@
9518   \raise\@linkdim\hbox{\special{html:</a>}}%
9519   \Hy@endcolorlink
9520 \else
9521   \begingroup
9522     \hyper@chars
9523     \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9524     \Hy@colorlink\@urlcolor#1%
9525     \special{html:</a>}}%
9526     \Hy@endcolorlink
9527   \endgroup
9528 \fi
9529 }
9530 \def\hyper@link#1#2#3{%
9531   \hyper@linkurl{#3}{##2}%
9532 }
9533 \def\hyper@image#1#2{%
9534   \begingroup
9535     \hyper@chars
9536     \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
9537   \endgroup
9538 }
9539 </textures>

```

46.12 dvipsone

```

9540 % \subsection{dvipsone driver}
9541 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
9542 % |\special| commands.
9543 <*dvipsone>
9544 \providecommand*\@pdfborder{0 0 1}
9545 \providecommand*\@pdfborderstyle{}
9546 \def\literalps@out#1{\special{ps:#1}}%
9547 \def\headerps@out#1{\special{headertext=#1}}%
9548 \input{pdfmark.def}%
9549 \ifx\@pdfproducer\relax
9550   \def\@pdfproducer{dvipsone + Distiller}%
9551 \fi
9552 \def\PDF@FinishDoc{%
9553   \Hy@UseMaketitleInfos
9554   \special{PDF: Keywords \@pdfkeywords}%
9555   \special{PDF: Title \@pdftitle}%
9556   \special{PDF: Creator \@pdfcreator}%
9557   \ifx\@pdfcreationdate\empty
9558   \else
9559     \special{PDF: CreationDate \@pdfcreationdate}%
9560   \fi

```

```

9561 \ifx\@pdfmoddate\@empty
9562 \else
9563   \special{PDF: ModDate \@pdfmoddate}%
9564 \fi
9565 \special{PDF: Author \@pdfauthor}%
9566 \ifx\@pdfproducer\relax
9567 \else
9568   \special{PDF: Producer \@pdfproducer}%
9569 \fi
9570 \special{PDF: Subject \@pdfsubject}%
9571 \Hy@DisableOption{pdfauthor}%
9572 \Hy@DisableOption{pdftitle}%
9573 \Hy@DisableOption{pdfsubject}%
9574 \Hy@DisableOption{pdfcreator}%
9575 \Hy@DisableOption{pdfcreationdate}%
9576 \Hy@DisableOption{pdfmoddate}%
9577 \Hy@DisableOption{pdfproducer}%
9578 \Hy@DisableOption{pdfkeywords}%
9579 }
9580 \def\PDF@SetupDoc{%
9581   \def\Hy@temp{%
9582     \ifx\@pdfstartpage\@empty
9583     \else
9584       \ifx\@pdfstartview\@empty
9585       \else
9586         \edef\Hy@temp{%
9587           ,Page=\@pdfstartpage
9588           ,View=\@pdfstartview
9589         }%
9590       \fi
9591     \fi
9592     \edef\Hy@temp{%
9593       \noexpand\pdfmark{%
9594         pdfmark=/DOCVIEW,%
9595         PageMode=/\@pdfpagemode
9596       }\Hy@temp
9597     }%
9598   }%
9599   \Hy@temp
9600   \ifx\@pdfpagescrop\@empty
9601   \else
9602     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9603   \fi
9604   \edef\Hy@temp{%
9605     \ifHy@toolbar\else /HideToolbar true\fi
9606     \ifHy@menubar\else /HideMenubar true\fi
9607     \ifHy>windowui\else /HideWindowUI true\fi
9608     \ifHy@fitwindow /FitWindow true\fi
9609     \ifHy@centerwindow /CenterWindow true\fi
9610     \ifHy@displaydoctitle /DisplayDocTitle true\fi
9611     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9612     \Hy@UseNameKey{Direction}\@pdfdirection
9613     \Hy@UseNameKey{ViewArea}\@pdfviewarea
9614     \Hy@UseNameKey{ViewClip}\@pdfviewclip
9615     \Hy@UseNameKey{PrintArea}\@pdfprintarea
9616     \Hy@UseNameKey{PrintClip}\@pdfprintclip
9617     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling

```

```

9618 \Hy@UseNameKey{Duplex}\@pdfduplex
9619 \ifx\@pdfpicktraybypdfsize\@empty
9620 \else
9621 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9622 \fi
9623 \ifx\@pdfprintpagerange\@empty
9624 \else
9625 /PrintPageRange[\@pdfprintpagerange]%
9626 \fi
9627 \ifx\@pdfnumcopies\@empty
9628 \else
9629 /NumCopies \@pdfnumcopies
9630 \fi
9631 }%
9632 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9633 \pdfmark{%
9634 pdfmark=/PUT,%
9635 Raw={%
9636 \string{Catalog\string}<<%
9637 \ifx\Hy@temp\@empty
9638 \else
9639 /ViewerPreferences<<\Hy@temp>>%
9640 \fi
9641 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9642 \ifx\@pdflang\@empty
9643 \else
9644 /Lang(\@pdflang)%
9645 \fi
9646 \ifx\@baseurl\@empty
9647 \else
9648 /URI<</Base(\Hy@pstringB)>>%
9649 \fi
9650 >>%
9651 }%
9652 }%
9653 }
9654 \providecommand*\@pdfview{XYZ}
9655 \providecommand*\@pdfviewparams{ %
9656 gsave revscl currentpoint grestore %
9657 72 add exch pop null exch null%
9658 }
9659 \def\Hy@BorderArrayPatch{BorderArrayPatch}

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called pdf@llx pdf@lly pdf@urx pdf@ury, which are the coordinates of the bounding rectangle of the link, and pdf@hoff pdf@voff which are the PDF page offsets. These latter are currently not used in the dvipsone setup. The Rect pair are called at the LL and UR corners of a box known to T_EX.

```

9660 \g@addto@macro\Hy@FirstPageHook{%
9661 \headerps@out{%

```

dvipsone lives in scaled points; does this mean 65536 or 65781?

```

9662 /DvipsToPDF { 65781 div } def%
9663 /PDFToDvips { 65781 mul } def%
9664 /BPToDvips{65781 mul}def%
9665 /HyperBorder { 1 PDFToDvips } def%
9666 /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def%

```

The values inside the /Boder array are not taken literally, but interpreted by ghostscript

using the resolution of the dvi driver. I don't know how other distiller programs behaves in this manner.

```

9667 /BorderArrayPatch{%
9668   [exch{%
9669     dup dup type/integertype eq exch type/realtype eq or%
9670     {BPToDvips}if%
9671   }forall]%
9672 }def%
9673 /H.S {%
9674   currentpoint %
9675   HyperBorder add /pdf@lly exch def %
9676   dup DvipsToPDF 72 add /pdf@hoff exch def %
9677   HyperBorder sub /pdf@llx exch def%
9678 } def%
9679 /H.L {%
9680   2 sub %
9681   PDFToDvips /HyperBase exch def %
9682   currentpoint %
9683   HyperBase sub /pdf@ury exch def%
9684   /pdf@urx exch def%
9685 } def%
9686 /H.A {%
9687   H.L %
9688   currentpoint exch pop %
9689   HyperBase sub % baseline skip
9690   DvipsToPDF /pdf@voff exch def%
9691 } def%
9692 /H.R {%
9693   currentpoint %
9694   HyperBorder sub /pdf@ury exch def %
9695   HyperBorder add /pdf@urx exch def %
9696   currentpoint exch pop DvipsToPDF /pdf@voff exch def%
9697 } def%
9698 }%
9699 }
9700 </dvipsone>
9701 <*dvipdf>
9702 \def\literalps@out#1{\special{pdf: #1}}%
9703 \providecommand*\@pdfborder{0 0 1}
9704 \providecommand*\@pdfborderstyle{}
9705 </dvipdf>

```

46.13 TeX4ht

```

9706 <*tex4ht>
9707 \@ifpackageloaded{tex4ht}{%
9708   \typeout{hyperref tex4ht: tex4ht already loaded}%
9709 }{%
9710   \RequirePackage[htex4ht]{tex4ht}%
9711 }
9712 \hyperlinkfileprefix{}
9713 \def\PDF@FinishDoc{}
9714 \def\PDF@SetupDoc{%
9715   \ifx\@baseurl\@empty
9716   \else
9717     \special{t4ht=<base href="\@baseurl">}%
9718   \fi
9719 }

```



```

9720 \def\hyper@anchor#1{%
9721   \Hy@SaveLastskip
9722   \begingroup
9723     \let\protect=\string
9724     \special{t4ht=<a name=\hyper@quote #1\hyper@quote>}%
9725   \endgroup
9726   \Hy@activeanchortrue
9727   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9728   \special{t4ht=</a>}%
9729   \Hy@activeanchorfalse
9730   \Hy@RestoreLastskip
9731 }
9732 \def\hyper@anchorstart#1{%
9733   \Hy@SaveLastskip
9734   \begingroup
9735     \hyper@chars\special{t4ht=<a name=\hyper@quote#1\hyper@quote>}%
9736   \endgroup
9737   \Hy@activeanchortrue
9738 }
9739 \def\hyper@anchorend{%
9740   \special{t4ht=</a>}%
9741   \Hy@activeanchorfalse
9742   \Hy@RestoreLastskip
9743 }
9744 \def\@urltype{url}
9745 \def\hyper@linkstart#1#2{%
9746   \expandafter\Hy@colorlink\csname @#1color\endcsname
9747   \def\Hy@tempa{#1}%
9748   \ifx\Hy@tempa\@urltype
9749     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
9750   \else
9751     \begingroup
9752       \hyper@chars
9753       \special{t4ht=<a href=\hyper@quote\##2\hyper@quote>}%
9754     \endgroup
9755   \fi
9756 }
9757 \def\hyper@linkend{%
9758   \special{t4ht=</a>}%
9759   \Hy@endcolorlink
9760 }
9761 \def\hyper@linkfile#1#2#3{%
9762   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
9763 }
9764 \def\hyper@linkurl#1#2{%
9765   \leavevmode
9766   \ifHy@raiselinks
9767     \setbox\@tempboxa=\color@hbox #1\color@endbox
9768     \@linkdim\dp\@tempboxa
9769     \lower\@linkdim\hbox{%
9770       \begingroup
9771         \hyper@chars\special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
9772       \endgroup
9773     }%
9774     \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9775     \@linkdim\ht\@tempboxa
9776     \advance\@linkdim by -6.5\p@

```

```

9777 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
9778 \else
9779 \begingroup
9780 \hyper@chars
9781 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
9782 \Hy@colorlink\@urlcolor#1\Hy@endcolorlink
9783 \special{t4ht=</a>}}%
9784 \endgroup
9785 \fi
9786 }
9787 \def\hyper@link#1#2#3{%
9788 \hyper@linkurl{#3}{\##2}%
9789 }
9790 \def\hyper@image#1#2{%
9791 \begingroup
9792 \hyper@chars
9793 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
9794 \endgroup
9795 }
9796 \let\autoref\ref
9797 \ifx \rEfLiNK \UnDef
9798 \def\rEfLiNK #1#2{#2}%
9799 \fi
9800 \def\backref#1{}
9801 </tex4ht>
9802 <*tex4htcfg>
9803 \IfFileExists{\jobname.cfg}{\endinput}{}
9804 \Preamble{html}
9805 \begin{document}%
9806 \EndPreamble
9807 \def\TeX{TeX}
9808 \def\OMEGA{\Omega}
9809 \def\LaTeX{LaTeX}
9810 \def\LaTeXe{\LaTeX2e}
9811 \def\eTeX{e-TeX}
9812 \def\MF{Metafont}
9813 \def\MP{Metapost}
9814 </tex4htcfg>

```

47 Driver-specific form support

47.1 pdfmarks

```

9815 <*pdfmark>
9816 \long\def\@Form[#1]{%
9817 \g@addto@macro\Hy@FirstPageHook{%
9818 \headerps@out{%
9819 [%
9820 /_objdef{pdfDocEncoding}%
9821 /type/dict%
9822 /OBJ pdfmark%
9823 [%
9824 {pdfDocEncoding}%
9825 <<%
9826 /Type/Encoding%
9827 /Differences[%
9828 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
9829 /tilde %

```

9830 39/quotesingle %
 9831 96/grave %
 9832 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
 9833 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
 9834 /quotedblbase/quotedblleft/quotedblright/quoteleft%
 9835 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
 9836 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
 9837 164/currency %
 9838 166/brokenbar %
 9839 168/dieresis/copyright/ordfeminine %
 9840 172/logicalnot/.notdef/registered/macron/degree/plusminus%
 9841 /twosuperior/threesuperior/acute/mu %
 9842 183/periodcentered/cedilla/onesuperior/ordmasculine %
 9843 188/onequarter/onehalf/threequarters %
 9844 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
 9845 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
 9846 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
 9847 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
 9848 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
 9849 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
 9850 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
 9851 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
 9852 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
 9853 /ucircumflex/udieresis/yacute/thorn/ydieresis%
 9854]%
 9855 >>%
 9856 /PUT pdfmark%
 9857 [%
 9858 /_objdef{ZaDb}%
 9859 /type/dict%
 9860 /OBJ pdfmark%
 9861 [%
 9862 {ZaDb}%
 9863 <<%
 9864 /Type/Font%
 9865 /Subtype/Type1%
 9866 /Name/ZaDb%
 9867 /BaseFont/ZapfDingbats%
 9868 >>%
 9869 /PUT pdfmark%
 9870 [%
 9871 /_objdef{Helv}%
 9872 /type/dict%
 9873 /OBJ pdfmark%
 9874 [%
 9875 {Helv}%
 9876 <<%
 9877 /Type/Font%
 9878 /Subtype/Type1%
 9879 /Name/Helv%
 9880 /BaseFont/Helvetica%
 9881 /Encoding{pdfDocEncoding}%
 9882 >>%
 9883 /PUT pdfmark%
 9884 [%
 9885 /_objdef{aform}%
 9886 /type/dict%

```

9887 /OBJ pdfmark%
9888 [%
9889   /_objdef{afields}%
9890   /type/array%
9891 /OBJ pdfmark%
9892 {%
9893   [%
9894     /BBox[0 0 100 100]%
9895     /_objdef{Check}%
9896 /BP pdfmark %
9897 1 0 0 setrgbcolor%
9898 /ZapfDingbats 80 selectfont %
9899 20 20 moveto%
9900 (4)show%
9901 [/EP pdfmark%
9902 [%
9903   /BBox[0 0 100 100]%
9904   /_objdef{Cross}%
9905 /BP pdfmark %
9906 1 0 0 setrgbcolor%
9907 /ZapfDingbats 80 selectfont %
9908 20 20 moveto%
9909 (8)show%
9910 [/EP pdfmark%
9911 [%
9912   /BBox[0 0 250 100]%
9913   /_objdef{Submit}%
9914 /BP pdfmark %
9915 0.6 setgray %
9916 0 0 250 100 rectfill %
9917 1 setgray %
9918 2 2 moveto %
9919 2 98 lineto %
9920 248 98 lineto %
9921 246 96 lineto %
9922 4 96 lineto %
9923 4 4 lineto %
9924 fill %
9925 0.34 setgray %
9926 248 98 moveto %
9927 248 2 lineto %
9928 2 2 lineto %
9929 4 4 lineto %
9930 246 4 lineto %
9931 246 96 lineto %
9932 fill%
9933 /Helvetica 76 selectfont %
9934 0 setgray %
9935 8 22.5 moveto%
9936 (Submit)show%
9937 [/EP pdfmark%
9938 [%
9939   /BBox[0 0 250 100]%
9940   /_objdef{SubmitP}%
9941 /BP pdfmark %
9942 0.6 setgray %
9943 0 0 250 100 rectfill %

```

```

9944 0.34 setgray %
9945 2 2 moveto %
9946 2 98 lineto %
9947 248 98 lineto %
9948 246 96 lineto %
9949 4 96 lineto %
9950 4 4 lineto %
9951 fill %
9952 1 setgray %
9953 248 98 moveto %
9954 248 2 lineto %
9955 2 2 lineto %
9956 4 4 lineto %
9957 246 4 lineto %
9958 246 96 lineto %
9959 fill%
9960 /Helvetica 76 selectfont %
9961 0 setgray %
9962 10 20.5 moveto%
9963 (Submit)show%
9964 [/EP pdfmark%
9965 } ?pdfmark%
9966 [%
9967 {aform}%
9968 <<%
9969 /Fields{afields}%
9970 /DR<<%
9971 /Font<<%
9972 /ZaDb{ZaDb}%
9973 /Helv{Helv}%
9974 >>%
9975 >>%
9976 /DA(/Helv 10 Tf 0 g)%
9977 /CO{corder}%
9978 \ifHy@pdfa
9979 \else
9980 /NeedAppearances true%
9981 \fi
9982 >>%
9983 /PUT pdfmark%
9984 [%
9985 {Catalog}%
9986 <<%
9987 /AcroForm{aform}%
9988 >>%
9989 /PUT pdfmark%
9990 [%
9991 /_objdef{corder}%
9992 /type/array%
9993 /OBJ pdfmark% dps
9994 }}%
9995 \setkeys{Form}{#1}%
9996 }
9997 \def\@endForm{}
9998 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
9999 \typeout{Sorry, pdfmark drivers do not support FORM gauges}%
10000 }

```

```

10001 \def\@TextField[#1]#2{% parameters, label
10002   \def\Fld@name{#2}%
10003   \def\Fld@default{}%
10004   \let\Fld@value\@empty
10005   \def\Fld@width{\DefaultWidthofText}%
10006   \def\Fld@height{%
10007     \ifFld@multiline
10008       \DefaultHeightofTextMultiline
10009     \else
10010       \DefaultHeightofText
10011     \fi
10012   }%
10013   \begingroup
10014     \Field@toks={ }%
10015     \expandafter\HyField@SetKeys\expandafter{%
10016       \DefaultOptionsofText,#1%
10017     }%
10018     \HyField@FlagsText
10019     \ifFld@hidden\def\Fld@width{1sp}\fi
10020     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10021     \LayoutTextField{#2}{%
10022       \Hy@escapeform\PDFForm@Text
10023       \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
10024         pdfmark=/ANN,Raw={\PDFForm@Text}%
10025       }%
10026     }%
10027   \endgroup
10028 }
10029 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10030   \def\Fld@name{#2}%
10031   \let\Fld@default\relax
10032   \let\Fld@value\relax
10033   \def\Fld@width{\DefaultWidthofChoiceMenu}%
10034   \def\Fld@height{\DefaultHeightofChoiceMenu}%
10035   \begingroup
10036     \Fld@menulength=0 %
10037     \@tempdima\z@
10038     \@for\@curropt:=#3\do{%
10039       \expandafter\Fld@checkequals\@curropt==\%
10040       \Hy@StepCount\Fld@menulength
10041       \settowidth{\@tempdimb}{\@currDisplay}%
10042       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10043     }%
10044     \advance\@tempdima by 15\p@
10045     \Field@toks={ }%
10046     \begingroup
10047       \HyField@SetKeys{#1}%
10048     \edef\x{\endgroup
10049       \noexpand\expandafter
10050       \noexpand\HyField@SetKeys
10051       \noexpand\expandafter{%
10052         \expandafter\noexpand\cname DefaultOptionsof%
10053         \ifFld@radio
10054           Radio%
10055         \else
10056           \ifFld@combo
10057             \ifFld@popdown

```

```

10058         PopdownBox%
10059         \else
10060         ComboBox%
10061         \fi
10062         \else
10063         ListBox%
10064         \fi
10065         \fi
10066         \endcsname
10067     }%
10068 } \x
10069 \HyField@SetKeys{#1}%
10070 \ifFld@hidden\def\Fld@width{1sp}\fi
10071 \ifx\Fld@value\relax
10072     \let\Fld@value\Fld@default
10073 \fi
10074 \LayoutChoiceField{#2}{%
10075     \ifFld@radio
10076         \HyField@FlagsRadioButton
10077         \@@Radio{#3}%
10078     \else
10079         \begingroup
10080             \HyField@FlagsChoice
10081             \ifdim\Fld@width<\@tempdima
10082                 \ifdim\@tempdima<1cm\@tempdima1cm\fi
10083                 \edef\Fld@width{\the\@tempdima}%
10084             \fi
10085             \ifFld@combo
10086             \else
10087                 \@tempdima=\the\Fld@menulength\Fld@charsize
10088                 \advance\@tempdima by \Fld@borderwidth bp %
10089                 \advance\@tempdima by \Fld@borderwidth bp %
10090                 \edef\Fld@height{\the\@tempdima}%
10091             \fi
10092             \@@ListBox{#3}%
10093         \endgroup
10094     \fi
10095 }%
10096 \endgroup
10097 }
10098 \def\@@Radio#1{%
10099     \Fld@listcount=0 %
10100     \@for\@curropt:=#1\do{%
10101         \expandafter\Fld@checkequals\@curropt==\%
10102         \Hy@StepCount\Fld@listcount
10103         \@currDisplay\space
10104         \Hy@escapeform\PDFForm@Radio
10105         \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
10106             pdfmark=/ANN,%
10107             Raw={\PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>}%
10108         } % deliberate space between radio buttons
10109     }%
10110 }
10111 \newcount\Fld@listcount
10112 \def\@@ListBox#1{%
10113     \HyField@PDFChoices{#1}%
10114     \Hy@escapeform\PDFForm@List

```

```

10115 \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
10116   pdfmark=/ANN,Raw={\PDFForm@List}%
10117 }%
10118 }
10119 \def\@PushButton[#1]#2{% parameters, label
10120   \def\Fld@name{#2}%
10121   \begingroup
10122     \Field@toks={ }%
10123     \expandafter\HyField@SetKeys\expandafter{%
10124       \DefaultOptionsofPushButton,#1%
10125     }%
10126     \ifHy@pdfa
10127       \PackageError{hyperref}{%
10128         PDF/A: Push button with JavaScript is prohibited%
10129       }\@ehc
10130       \LayoutPushButtonField{%
10131         \leavevmode
10132         \MakeButtonField{#2}%
10133       }%
10134     \else
10135       \HyField@FlagsPushButton
10136       \ifFld@hidden\def\Fld@width{1sp}\fi
10137       \LayoutPushButtonField{%
10138         \leavevmode
10139         \Hy@escapeform\PDFForm@Push
10140         \pdfmark[\MakeButtonField{#2}]{%
10141           pdfmark=/ANN,Raw={\PDFForm@Push}%
10142         }%
10143       }%
10144     \fi
10145   \endgroup
10146 }
10147 \def\@Submit[#1]#2{%
10148   \Field@toks={ }%
10149   \def\Fld@width{\DefaultWidthofSubmit}%
10150   \def\Fld@height{\DefaultHeightofSubmit}%
10151   \begingroup
10152     \expandafter\HyField@SetKeys\expandafter{%
10153       \DefaultOptionsofSubmit,#1%
10154     }%
10155     \HyField@FlagsPushButton
10156     \HyField@FlagsSubmit
10157     \ifFld@hidden\def\Fld@width{1sp}\fi
10158     \Hy@escapeform\PDFForm@Submit
10159     \pdfmark[\MakeButtonField{#2}]{%
10160       pdfmark=/ANN,%
10161       Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
10162     }%
10163   \endgroup
10164 }
10165 \def\@Reset[#1]#2{%
10166   \Field@toks={ }%
10167   \def\Fld@width{\DefaultWidthofReset}%
10168   \def\Fld@height{\DefaultHeightofReset}%
10169   \begingroup
10170     \expandafter\HyField@SetKeys\expandafter{%
10171       \DefaultOptionsofReset,#1%

```



```

10172 }%
10173 \leavevmode
10174 \ifHy@pdfa
10175   \PackageError{hyperref}{%
10176     PDF/A: Reset action is prohibited%
10177   }\@ehc
10178   \MakeButtonField{#2}%
10179 \else
10180   \HyField@FlagsPushButton
10181   \ifFld@hidden\def\Fld@width{1sp}\fi
10182   \Hy@escapeform\PDFForm@Reset
10183   \pdfmark[\MakeButtonField{#2}]{%
10184     pdfmark=/ANN,Raw={\PDFForm@Reset}%
10185   }%
10186 \fi
10187 \endgroup
10188 }%
10189 \def\@CheckBox[#1]#2{% parameters, label
10190   \def\Fld@name{#2}%
10191   \def\Fld@default{0}%
10192   \begingroup
10193     \def\Fld@width{\DefaultWidthofCheckBox}%
10194     \def\Fld@height{\DefaultHeightofCheckBox}%
10195     \Field@toks={ }%
10196     \expandafter\HyField@SetKeys\expandafter{%
10197       \DefaultOptionsofCheckBox,#1%
10198     }%
10199     \HyField@FlagsCheckBox
10200     \ifFld@hidden\def\Fld@width{1sp}\fi
10201     \LayoutCheckField{#2}{%
10202       \Hy@escapeform\PDFForm@Check
10203       \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
10204         pdfmark=/ANN,Raw={\PDFForm@Check}%
10205       }%
10206     }%
10207   \endgroup
10208 }
10209 \</pdfmark>

```

47.2 dvipdf

```

10210 \<dvipdf>
10211 \def\@Form[#1]{\typeout{Sorry, I do not support FORMs}}
10212 \def\@endForm{}
10213 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10214   \typeout{Sorry, dvipdf does not support FORM gauges}%
10215 }
10216 \def\@TextField[#1]#2{% parameters, label
10217   \typeout{Sorry, dvipdf does not support FORM text fields}%
10218 }
10219 \def\@CheckBox[#1]#2{% parameters, label
10220   \typeout{Sorry, dvipdf does not support FORM checkboxes}%
10221 }
10222 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10223   \typeout{Sorry, dvipdf does not support FORM choice menus}%
10224 }
10225 \def\@PushButton[#1]#2{% parameters, label
10226   \typeout{Sorry, dvipdf does not support FORM pushbuttons}%

```

```

10227 }
10228 \def\@Reset[#1]#2{\typeout{Sorry, dvipdf does not support FORMs}}
10229 \def\@Submit[#1]#2{\typeout{Sorry, dvipdf does not support FORMs}}
10230 \</dvipdf>

```

47.3 HyperTeX

```

10231 \<hypertex>
10232 \def\@Form[#1]{\typeout{Sorry, HyperTeX does not support FORMs}}
10233 \def\@endForm{}
10234 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10235   \typeout{Sorry, HyperTeX does not support FORM gauges}%
10236 }
10237 \def\@TextField[#1]#2{% parameters, label
10238   \typeout{Sorry, HyperTeX does not support FORM text fields}%
10239 }
10240 \def\@CheckBox[#1]#2{% parameters, label
10241   \typeout{Sorry, HyperTeX does not support FORM checkboxes}%
10242 }
10243 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10244   \typeout{Sorry, HyperTeX does not support FORM choice menus}%
10245 }
10246 \def\@PushButton[#1]#2{% parameters, label
10247   \typeout{Sorry, HyperTeX does not support FORM pushbuttons}%
10248 }
10249 \def\@Reset[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10250 \def\@Submit[#1]#2{\typeout{Sorry, HyperTeX does not support FORMs}}
10251 \</hypertex>

```

47.4 TeX4ht

```

10252 \<tex4ht>
10253 \def\@Form[#1]{%
10254   \setkeys{Form}{#1}%
10255   \HCode{<form action="\Form@action" method="\Form@method">%
10256 }
10257 \def\@endForm{\HCode{</form>}}
10258 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10259   \typeout{Sorry, TeX4ht does not support gauges}%
10260 }
10261 \def\@TextField[#1]#2{% parameters, label
10262   \let\Hy@reserved@a\@empty
10263   \def\Fld@name{#2}%
10264   \def\Fld@default{}%
10265   \bgroup
10266     \Field@toks={ }%
10267     \setkeys{Field}{#1}%
10268     \HCode{<label for="\Fld@name">#2</label>}%
10269     \ifFld@password
10270       \@@PasswordField
10271     \else
10272       \@@TextField
10273     \fi
10274   \egroup
10275 }
10276 \def\@@PasswordField{%
10277   \HCode{%
10278     <input type="password" %
10279     id="\Fld@name" %

```

```

10280     name="\Fld@name" %
10281     \ifFld@hidden type="hidden" \fi
10282     value="\Fld@default" %
10283     \the\Field@toks
10284     >%
10285 }%
10286 }
10287 \def\@@TextField{%
10288   \ifFld@multiline
10289     \HCode{<textarea %
10290       \ifFld@readonly readonly \fi
10291       id="\Fld@name" %
10292       name="\Fld@name" %
10293       \ifFld@hidden type="hidden" \fi
10294       \the\Field@toks>%
10295     }%
10296     \Fld@default
10297     \HCode{</textarea>}}%
10298   \else
10299     \HCode{<input type="text" %
10300       \ifFld@readonly readonly \fi
10301       id="\Fld@name" %
10302       name="\Fld@name" %
10303       \ifFld@hidden type="hidden" \fi
10304       value="\Fld@default" %
10305       \the\Field@toks>%
10306     }%
10307   \fi
10308 }
10309 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10310   \def\Fld@name{#2}%
10311   \def\Fld@default{}%
10312   \let\Hy@reserved@a\relax
10313   \begingroup
10314     \expandafter\Fld@findlength#3\\%
10315     \Field@toks={ }%
10316     \setkeys{Field}{#1}%
10317     #2%
10318     \ifFld@radio
10319       \expandafter\@@Radio#3\\%
10320     \else
10321       \expandafter\@@Menu#3\\%
10322     \fi
10323   \endgroup
10324 }
10325 \def\Fld@findlength#1\\{%
10326   \Fld@menulength=0 %
10327   \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
10328 }
10329 \def\@@Menu#1\\{%
10330   \HCode{<select size="\the\Fld@menulength" %
10331     name="\Fld@name" %
10332     \the\Field@toks>%
10333   }%
10334   \@for\@curropt:=#1\do{%
10335     \expandafter\Fld@checkequals\@curropt==\\%
10336     \HCode{<option %

```

```

10337     \ifx\@currropt\Fld@default selected \fi
10338     value="\@currValue">\@currDisplay</option>%
10339   }%
10340 }%
10341 \HCode{</select>}%
10342 }
10343 \def\@@Radio#1\\{%
10344   \@for\@currropt:=#1\do{%
10345     \expandafter\Fld@checkequals\@currropt==\\%
10346     \HCode{<input type="radio" %
10347       \ifx\@currropt\Fld@default checked \fi
10348       name="\Fld@name" %
10349       value="\@currValue" %
10350       \the\Fld@toks>%
10351     }%
10352     \@currDisplay
10353   }%
10354 }
10355 \def\@PushButton[#1]#2{% parameters, label
10356   \def\Fld@name{#2}%
10357   \bgroup
10358     \Fld@toks={ }%
10359     \setkeys{Fld}{#1}%
10360     \HCode{<input type="button" %
10361       name="\Fld@name" %
10362       value="#2" %
10363       \the\Fld@toks>%
10364     }%
10365     \HCode{</button>}%
10366   \egroup
10367 }
10368 \def\@Submit[#1]#2{%
10369   \HCode{<button type="submit">#2</button>}%
10370 }
10371 \def\@Reset[#1]#2{%
10372   \HCode{<button type="reset">#2</button>}%
10373 }
10374 \def\@CheckBox[#1]#2{% parameters, label
10375   \let\Hy@reserved@a\@empty
10376   \def\Fld@name{#2}%
10377   \def\Fld@default{0}%
10378   \bgroup
10379     \Fld@toks={ }%
10380     \setkeys{Fld}{#1}%
10381     \HCode{<input type="checkbox" %
10382       \ifFld@checked checked \fi
10383       \ifFld@disabled disabled \fi
10384       \ifFld@readonly readonly \fi
10385       name="\Fld@name" %
10386       \ifFld@hidden type="hidden" \fi
10387       value="\Fld@default" %
10388       \the\Fld@toks>%
10389     #2%
10390   }%
10391   \egroup
10392 }
10393 </tex4ht>

```

47.5 pdfTeX

```

10394 <*pdfTeX>
10395 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10396   \typeout{Sorry, pdfTeX does not support FORM gauges}%
10397 }
10398 \def\MakeFieldObject#1#2{\sbox0{#1}%
10399   \immediate\pdfxform0 %
10400   \expandafter\edef\csname #2Object\endcsname{%
10401     \the\pdflastxform\space 0 R%
10402   }%
10403 % \hbox to Opt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}%
10404 }%
10405 \def\@Form[#1]{%
10406   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
10407   \setkeys{Form}{#1}%
10408   \ifnum\pdfTeXversion>13 %
10409     \pdfrefobj\OBJ@pdfdocencoding
10410     \pdfrefobj\OBJ@ZaDb
10411     \pdfrefobj\OBJ@Helv
10412     \pdfrefobj\OBJ@acroform
10413   \fi
10414   \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
10415   \MakeFieldObject%

```

Same as \ding{123} of package pifont.

```

10416   \beginngroup
10417     \fontfamily{pzd}%
10418     \fontencoding{U}%
10419     \fontseries{m}%
10420     \fontshape{n}%
10421     \selectfont
10422     \char123 %
10423   \endgroup
10424 }{Ding}%
10425 \MakeFieldObject{%
10426   \fbox{\textcolor{yellow}{\textsf{Submit}}}%
10427 }{Submit}%
10428 \MakeFieldObject{%
10429   \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
10430 }{SubmitP}%
10431 }
10432 \def\@endForm{}
10433 \def\@TextField[#1]#2{% parameters, label
10434   \def\Fld@name{#2}%
10435   \def\Fld@default{}%
10436   \let\Fld@value\@empty
10437   \def\Fld@width{\DefaultWidthofText}%
10438   \def\Fld@height{%
10439     \ifFld@multiline
10440       \DefaultHeightofTextMultiline
10441     \else
10442       \DefaultHeightofText
10443     \fi
10444   }%
10445   \beginngroup
10446     \Field@toks={ }%
10447     \expandafter\HyField@SetKeys\expandafter{%

```

```

10448     \DefaultOptionsofText,#1%
10449 }%
10450 \PDFForm@Name
10451 \HyField@FlagsText
10452 \ifFld@hidden\def\Fld@width{1sp}\fi
10453 \ifx\Fld@value\empty\def\Fld@value{\Fld@default}\fi
10454 \LayoutTextField{#2}{%
10455     \Hy@escapeform\PDFForm@Text
10456     \pdfstartlink user {\PDFForm@Text}\relax
10457     \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
10458 }%
10459 \endgroup
10460 }
10461 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10462     \def\Fld@name{#2}%
10463     \let\Fld@default\relax
10464     \let\Fld@value\relax
10465     \def\Fld@width{\DefaultWidthofChoiceMenu}%
10466     \def\Fld@height{\DefaultHeightofChoiceMenu}%
10467     \begingroup
10468         \Fld@menulength=0 %
10469         \@tempdima\z@
10470         \@for\@curropt:=#3\do{%
10471             \expandafter\Fld@checkequals\@curropt==\%
10472             \Hy@StepCount\Fld@menulength
10473             \settowidth{\@tempdimb}{\@currDisplay}%
10474             \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10475         }%
10476         \advance\@tempdima by 15\p@
10477         \Field@toks={ }%
10478         \begingroup
10479             \HyField@SetKeys{#1}%
10480         \edef\x{\endgroup
10481             \noexpand\expandafter
10482             \noexpand\HyField@SetKeys
10483             \noexpand\expandafter{%
10484                 \expandafter\noexpand\csname DefaultOptionsof%
10485                     \ifFld@radio
10486                         Radio%
10487                     \else
10488                         \ifFld@combo
10489                             \ifFld@popdown
10490                                 PopdownBox%
10491                             \else
10492                                 ComboBox%
10493                             \fi
10494                         \else
10495                             ListBox%
10496                         \fi
10497                     \fi
10498                 \endcsname
10499             }%
10500         }\x
10501         \HyField@SetKeys{#1}%
10502         \PDFForm@Name
10503         \ifFld@hidden\def\Fld@width{1sp}\fi
10504         \ifx\Fld@value\relax

```

```

10505     \let\Fld@value\Fld@default
10506     \fi
10507     \LayoutChoiceField{#2}{%
10508     \ifFld@radio
10509         \HyField@FlagsRadioButton
10510         \@@Radio{#3}%
10511     \else
10512         \beginngroup
10513         \HyField@FlagsChoice
10514         \ifdim\Fld@width<\@tempdima
10515             \ifdim\@tempdima<1cm\@tempdima1cm\fi
10516             \edef\Fld@width{\the\@tempdima}%
10517         \fi
10518         \ifFld@combo
10519         \else
10520             \@tempdima=\the\Fld@menulength\Fld@charsize
10521             \advance\@tempdima by \Fld@borderwidth bp %
10522             \advance\@tempdima by \Fld@borderwidth bp %
10523             \edef\Fld@height{\the\@tempdima}%
10524         \fi
10525         \@@ListBox{#3}%
10526     \endgroup
10527     \fi
10528     }%
10529 \endgroup
10530 }
10531 \def\@@Radio#1{%
10532     \Fld@listcount=0 %
10533     \@for\@curropt:=#1\do{%
10534         \expandafter\Fld@checkequals\@curropt==\%
10535         \Hy@StepCount\Fld@listcount
10536         \@currDisplay\space
10537         \leavevmode
10538         \Hy@escapeform\PDFForm@Radio
10539         \pdfstartlink user {%
10540             \PDFForm@Radio
10541             /AP<<%
10542             /N<<%
10543             /\@currValue\space \DingObject
10544             >>%
10545             >>%
10546             }%
10547             \relax
10548             \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
10549             \space % deliberate space between radio buttons
10550         }%
10551     }
10552 \newcount\Fld@listcount
10553 \def\@@ListBox#1{%
10554     \HyField@PDFChoices{#1}%
10555     \leavevmode
10556     \Hy@escapeform\PDFForm@List
10557     \pdfstartlink user {\PDFForm@List}\relax
10558     \MakeChoiceField{\Fld@width}{\Fld@height}%

```

Laurent.Guillope@math.univ-nantes.fr (Laurent Guillope) persuades me that this was wrong: `/\Fld@name\the\Fld@listcount`. But I leave it here to remind me that it is untested.

```

10559 \pdfendlink
10560 }
10561 \def\@PushButton[#1]#2{% parameters, label
10562 \def\Fld@name{#2}%
10563 \begingroup
10564 \Field@toks={ }%
10565 \expandafter\HyField@SetKeys\expandafter{%
10566 \DefaultOptionsofPushButton,#1%
10567 }%
10568 \PDFForm@Name
10569 \ifHy@pdfa
10570 \PackageError{hyperref}{%
10571 PDF/A: Push button with JavaScript is prohibited%
10572 }{@ehc
10573 \LayoutPushButtonField{%
10574 \leavevmode
10575 \MakeButtonField{#2}%
10576 }%
10577 \else
10578 \HyField@FlagsPushButton
10579 \ifFld@hidden\def\Fld@width{1sp}\fi
10580 \LayoutPushButtonField{%
10581 \leavevmode
10582 \Hy@escapeform\PDFForm@Push
10583 \pdfstartlink user {\PDFForm@Push}\relax
10584 \MakeButtonField{#2}%
10585 \pdfendlink
10586 }%
10587 \fi
10588 \endgroup
10589 }
10590 \def\@Submit[#1]#2{%
10591 \Field@toks={ }%
10592 \def\Fld@width{\DefaultWidthofSubmit}%
10593 \def\Fld@height{\DefaultHeightofSubmit}%
10594 \begingroup
10595 \expandafter\HyField@SetKeys\expandafter{%
10596 \DefaultOptionsofSubmit,#1%
10597 }%
10598 \HyField@FlagsPushButton
10599 \HyField@FlagsSubmit
10600 \ifFld@hidden\def\Fld@width{1sp}\fi
10601 \leavevmode
10602 \Hy@escapeform\PDFForm@Submit
10603 \pdfstartlink user {%
10604 \PDFForm@Submit
10605 /AP<</N \SubmitObject/D \SubmitPObject>>%
10606 }%
10607 \relax
10608 \MakeButtonField{#2}%
10609 \pdfendlink
10610 \endgroup
10611 }
10612 \def\@Reset[#1]#2{%
10613 \Field@toks={ }%
10614 \def\Fld@width{\DefaultWidthofReset}%
10615 \def\Fld@height{\DefaultHeightofReset}%

```



```

10616 \begingroup
10617   \expandafter\HyField@SetKeys\expandafter{%
10618     \DefaultOptionsofReset,#1%
10619   }%
10620   \leavevmode
10621   \ifHy@pdfa
10622     \PackageError{hyperref}{%
10623       PDF/A: Reset action is prohibited%
10624     }\@ehc
10625     \MakeButtonField{#2}%
10626   \else
10627     \HyField@FlagsPushButton
10628     \ifFld@hidden\def\Fld@width{1sp}\fi
10629     \Hy@escapeform\PDFForm@Reset
10630     \pdfstartlink user {\PDFForm@Reset}\relax
10631     \MakeButtonField{#2}%
10632     \pdfendlink
10633   \fi
10634 \endgroup
10635 }
10636 \def\@CheckBox[#1]#2{% parameters, label
10637   \def\Fld@name{#2}%
10638   \def\Fld@default{0}%
10639   \begingroup
10640     \def\Fld@width{\DefaultWidthofCheckBox}%
10641     \def\Fld@height{\DefaultHeightofCheckBox}%
10642     \Field@toks={ }%
10643     \expandafter\HyField@SetKeys\expandafter{%
10644       \DefaultOptionsofCheckBox,#1%
10645     }%
10646     \PDFForm@Name
10647     \HyField@FlagsCheckBox
10648     \ifFld@hidden\def\Fld@width{1sp}\fi
10649     \LayoutCheckField{#2}{%
10650       \Hy@escapeform\PDFForm@Check
10651       \pdfstartlink user {\PDFForm@Check}\relax
10652       \MakeCheckField{\Fld@width}{\Fld@height}%
10653       \pdfendlink
10654     }%
10655   \endgroup
10656 }
10657 \pdfobj {%
10658   <<%
10659     /Type/Encoding%
10660     /Differences[%
10661       24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
10662       /ring/tilde %
10663       39/quotesingle %
10664       96/grave %
10665       128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
10666       /fraction/guilsinglleft/guilsinglright/minus/perthousand%
10667       /quotedblbase/quotedblleft/quotedblright/quoteleft%
10668       /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
10669       /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
10670       164/currency %
10671       166/brokenbar %
10672       168/dieresis/copyright/ordfeminine %

```

```

10673      172/logicalnot/.notdef/registered/macron/degree/plusminus%
10674      /twosuperior/threesuperior/acute/mu %
10675      183/periodcentered/cedilla/onesuperior/ordmasculine %
10676      188/onequarter/onehalf/threequarters %
10677      192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
10678      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
10679      /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
10680      /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
10681      /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
10682      /grave/aacute/acircumflex/atilde/adieresis/aring/ae%
10683      /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
10684      /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
10685      /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
10686      /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
10687      ]%
10688      >>%
10689  }
10690  \edef\OBJ@pdfdocencoding{\the\pdflastobj}
10691  \pdfobj{%
10692    <<%
10693      /Type/Font%
10694      /Subtype/Type1%
10695      /Name/ZaDb%
10696      /BaseFont/ZapfDingbats%
10697    >>%
10698  }
10699  \edef\OBJ@ZaDb{\the\pdflastobj}
10700  \pdfobj{%
10701    <<%
10702      /Type/Font%
10703      /Subtype/Type1%
10704      /Name/Helv%
10705      /BaseFont/Helvetica%
10706      /Encoding \OBJ@pdfdocencoding\space 0 R%
10707    >>%
10708  }
10709  \edef\OBJ@Helv{\the\pdflastobj}
10710  \pdfobj{%
10711    <<%
10712      /Fields[]%
10713      /DR<<%
10714        /Font<<%
10715          /ZaDb \OBJ@ZaDb\space 0 R%
10716          /Helv \OBJ@Helv\space 0 R%
10717        >>%
10718      >>%
10719      /DA(/Helv 10 Tf 0 g)%
10720      \ifHy@pdfa
10721      \else
10722        /NeedAppearances true%
10723      \fi
10724    >>%
10725  }
10726  \edef\OBJ@acroform{\the\pdflastobj}
10727  </pdftex>

```

47.6 dvipdfm

D. P. Story adapted the pdfTeX forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```
10728 ⟨*dvipdfm⟩
```

```
\@Gauge
```

```
10729 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10730   \typeout{Sorry, dvipdfm does not support FORM gauges}%
10731 }
```

```
\@Form
```

```
10732 \def\@Form[#1]{%
10733   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
10734   \setkeys{Form}{#1}%
10735   \@pdfm@mark{obj @afields []}%
10736   \@pdfm@mark{obj @corder []}%
10737   \@pdfm@mark{%
10738     obj @aform <<%
10739       /Fields @afields%
10740       /DR<<%
10741       /Font<<%
10742       /ZaDb @OBJZaDb%
10743       /Helv @OBJHelv%
10744       >>%
10745       >>%
10746       /DA(/Helv 10 Tf 0 g)%
10747       /CO @corder%
10748       \ifHy@pdfa
10749       \else
10750       /NeedAppearances true%
10751       \fi
10752       >>%
10753   }%
10754   \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
10755 }
```

```
\@endForm
```

```
10756 \def\@endForm{}
```

```
\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.
```

```
10757 \def\dvipdfm@setdim{%
10758   height \the\ht\pdfm@box\space
10759   width \the\wd\pdfm@box\space
10760   depth \the\dp\pdfm@box\space
10761 }
```

```
\HyField@AnnotCount
```

```
10762 \newcount\HyField@AnnotCount
10763 \HyField@AnnotCount=\z@
```

```
\HyField@AdvanceAnnotCount
```

```
10764 \def\HyField@AdvanceAnnotCount{%
10765   \global\advance\HyField@AnnotCount\@ne
10766 }
```

\HyField@TheAnnotCount

```
10767 \def\HyField@TheAnnotCount{%
10768   \the\HyField@AnnotCount
10769 }
```

\@TextField

```
10770 \def\@TextField[#1]#2{% parameters, label
10771   \def\Fld@name{#2}%
10772   \def\Fld@default{}%
10773   \let\Fld@value\@empty
10774   \def\Fld@width{\DefaultWidthofText}%
10775   \def\Fld@height{%
10776     \ifFld@multiline
10777       \DefaultHeightofTextMultiline
10778     \else
10779       \DefaultHeightofText
10780     \fi
10781   }%
10782   \begingroup
10783     \Field@toks={ }%
10784     \expandafter\HyField@SetKeys\expandafter{%
10785       \DefaultOptionsofText,#1%
10786     }%
10787     \PDFForm@Name
10788     \HyField@FlagsText
10789     \ifFld@hidden\def\Fld@width{1sp}\fi
10790     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
10791     \setbox\pdfm@box=\hbox{%
10792       \MakeTextField{\Fld@width}{\Fld@height}%
10793     }%
10794     \HyField@AdvanceAnnotCount
10795     \LayoutTextField{#2}{%
10796       \Hy@escapeform\PDFForm@Text
10797       \@pdfm@mark{%
10798         ann @text\HyField@TheAnnotCount\space
10799         \dvipdfm@setdim << \PDFForm@Text >>%
10800       }%
10801     }%
10802     \unhbox\pdfm@box
10803     \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
10804     % record in @afields array
10805   \endgroup
10806 }
```

\@ChoiceMenu

```
10807 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10808   \def\Fld@name{#2}%
10809   \let\Fld@default\relax
10810   \let\Fld@value\relax
10811   \def\Fld@width{\DefaultWidthofChoiceMenu}%
10812   \def\Fld@height{\DefaultHeightofChoiceMenu}%
10813   \begingroup
10814     \Fld@menulength=0 %
10815     \@tempdima\z@
10816     \@for\@curropt:=#3\do{%
10817       \expandafter\Fld@checkequals\@curropt==\%
10818       \Hy@StepCount\Fld@menulength
```

```

10819     \settowidth{\@tempdimb}{\@currDisplay}%
10820     \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
10821 }%
10822 \advance\@tempdima by 15\p@
10823 \Field@toks={ }%
10824 \beginngroup
10825   \HyField@SetKeys{#1}%
10826 \edef\x{\endgroup
10827   \noexpand\expandafter
10828   \noexpand\HyField@SetKeys
10829   \noexpand\expandafter{%
10830     \expandafter\noexpand\cname DefaultOptionsof%
10831     \ifFld@radio
10832       Radio%
10833     \else
10834       \ifFld@combo
10835         \ifFld@popdown
10836           PopdownBox%
10837         \else
10838           ComboBox%
10839       \fi
10840     \else
10841       ListBox%
10842     \fi
10843   \fi
10844   \endcsname
10845 }%
10846 }\x
10847 \HyField@SetKeys{#1}%
10848 \PDFForm@Name
10849 \ifFld@hidden\def\Fld@width{1sp}\fi
10850 \ifx\Fld@value\relax
10851   \let\Fld@value\Fld@default
10852 \fi
10853 \LayoutChoiceField{#2}{%
10854   \ifFld@radio
10855     \HyField@FlagsRadioButton
10856     \@@Radio{#3}%
10857   \else
10858     \beginngroup
10859     \HyField@FlagsChoice
10860     \ifdim\Fld@width<\@tempdima
10861       \ifdim\@tempdima<1cm\@tempdima1cm\fi
10862       \edef\Fld@width{\the\@tempdima}%
10863     \fi
10864     \ifFld@combo
10865     \else
10866       \@tempdima=\the\Fld@menulength\Fld@charsize
10867       \advance\@tempdima by \Fld@borderwidth bp %
10868       \advance\@tempdima by \Fld@borderwidth bp %
10869       \edef\Fld@height{\the\@tempdima}%
10870     \fi
10871     \@@ListBox{#3}%
10872   \endgroup
10873 \fi
10874 }%
10875 \endgroup

```

```

10876 }

\@@Radio
10877 \def\@@Radio#1{%
10878   \Fld@listcount=0 %
10879   \setbox\pdfm@box=\hbox{\MakeRadioField{\Fld@width}{\Fld@height}}%
10880   \@for\@curropt:=#1\do{%
10881     \expandafter\Fld@checkequals\@curropt==\%
10882     \Hy@StepCount\Fld@listcount
10883     \@currDisplay\space
10884     \leavevmode
10885     \Hy@escapeform\PDFForm@Radio
10886     \ifnum\Fld@listcount=1 %
10887       \HyField@AdvanceAnnotCount
10888     \fi
10889     \@pdfm@mark{%
10890       ann \ifnum\Fld@listcount=1 @radio\HyField@TheAnnotCount\space\fi
10891       \dvipdfm@setdim
10892       <<%
10893         \PDFForm@Radio
10894         /AP<</N<</\@currValue /null>>>>%
10895       >>%
10896     }%
10897     \unhcopy\pdfm@box\space% deliberate space between radio buttons
10898     \ifnum\Fld@listcount=1 %
10899       \@pdfm@mark{put @afields @radio\HyField@TheAnnotCount}%
10900     \fi
10901   }%
10902 }

\Fld@listcount
10903 \newcount\Fld@listcount

\@@Listbox
10904 \def\@@Listbox#1{%
10905   \HyField@PDFChoices{#1}%
10906   \setbox\pdfm@box=\hbox{\MakeChoiceField{\Fld@width}{\Fld@height}}%
10907   \leavevmode
10908   \Hy@escapeform\PDFForm@List
10909   \HyField@AdvanceAnnotCount
10910   \@pdfm@mark{%
10911     ann @list\HyField@TheAnnotCount\space
10912     \dvipdfm@setdim
10913     <<\PDFForm@List>>%
10914   }%
10915   \unhbox\pdfm@box
10916   \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
10917 }

\@PushButton
10918 \def\@PushButton[#1]#2{% parameters, label
10919   \def\Fld@name{#2}%
10920   \begingroup
10921     \Field@toks={ }%
10922     \expandafter\HyField@SetKeys\expandafter{%
10923       \DefaultOptionsofPushButton,#1%
10924     }%

```

```

10925 \PDFForm@Name
10926 \ifHy@pdfa
10927 \PackageError{hyperref}{%
10928 PDF/A: Push button with JavaScript is prohibited%
10929 } \@ehc
10930 \LayoutPushButtonField{%
10931 \leavevmode
10932 \MakeButtonField{#2}%
10933 }%
10934 \else
10935 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
10936 \HyField@FlagsPushButton
10937 \ifFld@hidden\def\Fld@width{1sp}\fi
10938 \HyField@AdvanceAnnotCount
10939 \LayoutPushButtonField{%
10940 \leavevmode
10941 \Hy@escapeform\PDFForm@Push
10942 \@pdfm@mark{%
10943 ann @push\HyField@TheAnnotCount\space
10944 \dvipdfm@setdim
10945 <<\PDFForm@Push>>%
10946 }%
10947 }%
10948 \unhbox\pdfm@box
10949 \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
10950 \fi
10951 \endgroup
10952 }

\@Submit

10953 \def\@Submit[#1]#2{%
10954 \Field@toks={ }%
10955 \def\Fld@width{\DefaultWidthofSubmit}%
10956 \def\Fld@height{\DefaultHeightofSubmit}%
10957 \begingroup
10958 \expandafter\HyField@SetKeys\expandafter{%
10959 \DefaultOptionsofSubmit,#1%
10960 }%
10961 \HyField@FlagsPushButton
10962 \HyField@FlagsSubmit
10963 \ifFld@hidden\def\Fld@width{1sp}\fi
10964 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
10965 \leavevmode
10966 \Hy@escapeform\PDFForm@Submit
10967 \HyField@AdvanceAnnotCount
10968 \@pdfm@mark{%
10969 ann @submit\HyField@TheAnnotCount\space
10970 \dvipdfm@setdim
10971 <<\PDFForm@Submit>>%
10972 }%
10973 \unhbox\pdfm@box%
10974 \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
10975 \endgroup
10976 }

\@Reset

10977 \def\@Reset[#1]#2{%

```

```

10978 \Field@toks={ }%
10979 \def\Fld@width{\DefaultWidthofReset}%
10980 \def\Fld@height{\DefaultHeightofReset}%
10981 \beginngroup
10982 \expandafter\HyField@SetKeys\expandafter{%
10983 \DefaultOptionsofReset,#1%
10984 }%
10985 \leavevmode
10986 \ifHy@pdfa
10987 \PackageError{hyperref}{%
10988 PDF/A: Reset action is prohibited%
10989 }\@ehc
10990 \MakeButtonField{#2}%
10991 \else
10992 \HyField@FlagsPushButton
10993 \ifFld@hidden\def\Fld@width{1sp}\fi
10994 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
10995 \Hy@escapeform\PDFForm@Reset
10996 \HyField@AdvanceAnnotCount
10997 \@pdfm@mark{%
10998 ann @reset\HyField@TheAnnotCount\space
10999 \dvipdfm@setdim
11000 <<\PDFForm@Reset>>%
11001 }%
11002 \unhbox\pdfm@box
11003 \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
11004 \fi
11005 \endgroup
11006 }

```

\@CheckBox

```

11007 \def\@CheckBox[#1]#2{% parameters, label
11008 \def\Fld@name{#2}%
11009 \def\Fld@default{0}%
11010 \beginngroup
11011 \def\Fld@width{\DefaultWidthofCheckBox}%
11012 \def\Fld@height{\DefaultHeightofCheckBox}%
11013 \Field@toks={ }%
11014 \expandafter\HyField@SetKeys\expandafter{%
11015 \DefaultOptionsofCheckBox,#1%
11016 }%
11017 \PDFForm@Name
11018 \HyField@FlagsCheckBox
11019 \ifFld@hidden\def\Fld@width{1sp}\fi
11020 \setbox\pdfm@box=\hbox{\MakeCheckField{\Fld@width}{\Fld@height}}%
11021 \HyField@AdvanceAnnotCount
11022 \LayoutCheckField{#2}{%
11023 \Hy@escapeform\PDFForm@Check
11024 \@pdfm@mark{%
11025 ann @check\HyField@TheAnnotCount\space
11026 \dvipdfm@setdim
11027 <<\PDFForm@Check>>%
11028 }%
11029 \unhbox\pdfm@box
11030 \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
11031 }%
11032 \endgroup

```



```

11033 }
11034 \@pdfm@mark{obj @OBJpdfdocencoding%
11035 <<%
11036 /Type/Encoding%
11037 /Differences[%
11038 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
11039 39/quotesingle %
11040 96/grave %
11041 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
11042 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
11043 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
11044 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
11045 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
11046 164/currency %
11047 166/brokenbar %
11048 168/dieresis/copyright/ordfeminine %
11049 172/logicalnot/.notdef/registered/macron/degree/plusminus%
11050 /twosuperior/threesuperior/acute/mu %
11051 183/periodcentered/cedilla/onesuperior/ordmasculine %
11052 188/onequarter/onehalf/threequarters %
11053 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
11054 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
11055 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
11056 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
11057 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
11058 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
11059 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
11060 /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
11061 /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
11062 /thorn/ydieresis%
11063 ]%
11064 >>%
11065 }
11066 \@pdfm@mark{obj @OBJZaDb%
11067 <<%
11068 /Type/Font%
11069 /Subtype/Type1%
11070 /Name/ZaDb%
11071 /BaseFont/ZapfDingbats%
11072 >>%
11073 }
11074 \@pdfm@mark{obj @OBJHelv%
11075 <<%
11076 /Type/Font%
11077 /Subtype/Type1%
11078 /Name/Helv%
11079 /BaseFont/Helvetica%
11080 /Encoding @OBJpdfdocencoding%
11081 >>%
11082 }
11083 </dvipdfm>

```

47.7 Common forms part

```
11084 <*pdfform>
```

\Hy@escapestring

```

11085 \begingroup\expandafter\expandafter\expandafter\endgroup
11086 \expandafter\ifx\csname pdfescapestring\endcsname\relax
11087   \let\Hy@escapestring\@firstofone
11088   \def\Hy@escapeform#1{%
11089     \ifHy@escapeform
11090       \def\Hy@escapestring##1{%
11091         \noexpand\Hy@escapestring{\noexpand##1}%
11092       }%
11093       \edef\Hy@temp{#1}%
11094       \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
11095       \def\Hy@escapestring##1{%
11096         \@ifundefined{Hy@esc@\string##1}{%
11097           ##1%
11098           \ThisShouldNotHappen
11099         }{%
11100           \csname Hy@esc@\string##1\endcsname
11101         }%
11102       }%
11103     \else
11104       \let\Hy@escapestring\@firstofone
11105     \fi
11106   }%
11107   \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
11108     \ifx\#3\%
11109       \else
11110         \expandafter\Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
11111         \Hy@ReturnAfterFi{%
11112           \Hy@@escapeform#3\@nil
11113         }%
11114       \fi
11115     }%
11116   \else
11117     \def\Hy@escapeform#1{%
11118       \ifHy@escapeform
11119         \let\Hy@escapestring\pdfescapestring
11120       \else
11121         \let\Hy@escapestring\@firstofone
11122       \fi
11123     }%
11124     \Hy@escapeform{}%
11125   \fi

```

\PDFForm@Name

```

11126 \def\PDFForm@Name{%
11127   \begingroup
11128     \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
11129       \ifHy@unicode
11130         \Hy@unicodedefalse
11131       \fi
11132     \fi
11133     \pdfstringdef\Hy@gtemp\Fld@name
11134   \endgroup
11135   \let\Fld@name\Hy@gtemp
11136 }

```

\PDFForm@Check

```

11137 \def\PDFForm@Check{%

```

```

11138 /Subtype/Widget%
11139 \Fld@annotflags
11140 /T(\Fld@name)%
11141 /FT/Btn%
11142 \Fld@flags
11143 /Q \Fld@align
11144 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
11145 /MK<<%
11146 \ifnum\Fld@rotation=\z@
11147 \else
11148 /R \Fld@rotation
11149 \fi
11150 \ifx\Fld@bordercolor\relax
11151 \else
11152 /BC[\Fld@bordercolor]%
11153 \fi
11154 \ifx\Fld@bcolor\relax
11155 \else
11156 /BG[\Fld@bcolor]%
11157 \fi
11158 /CA(\Hy@escapestring{\Fld@cbsymbol})%
11159 >>%
11160 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11161 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11162 /H/P%
11163 \ifFld@checked /V/Yes\else /V/Off\fi
11164 }

```

\PDFForm@Push

```

11165 \ifHy@pdfa
11166 \else
11167 \def\PDFForm@Push{%
11168 /Subtype/Widget%
11169 \Fld@annotflags
11170 /T(\Fld@name)%
11171 /FT/Btn%
11172 \Fld@flags
11173 /H/P%
11174 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11175 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11176 \ifx\Fld@bordercolor\relax\else 1\fi
11177 \space
11178 \else
11179 /MK<<%
11180 \ifnum\Fld@rotation=\z@
11181 \else
11182 /R \Fld@rotation
11183 \fi
11184 \ifx\Fld@bordercolor\relax
11185 \else
11186 /BC[\Fld@bordercolor]%
11187 \fi
11188 >>%
11189 \fi
11190 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick})>>%
11191 }%
11192 \fi

```

\Fld@additionalactions

```
11193 \def\Fld@@additionalactions{%
K input (keystroke) format
11194 \ifx\Fld@keystroke@code\@empty
11195 \else
11196 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
11197 \fi
F display format
11198 \ifx\Fld@format@code\@empty
11199 \else
11200 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
11201 \fi
V validation
11202 \ifx\Fld@validate@code\@empty
11203 \else
11204 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
11205 \fi
C calculation
11206 \ifx\Fld@calculate@code\@empty
11207 \else
11208 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
11209 \fi
Fo receiving the input focus
11210 \ifx\Fld@onfocus@code\@empty
11211 \else
11212 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
11213 \fi
Bl loosing the input focus (blurred)
11214 \ifx\Fld@onblur@code\@empty
11215 \else
11216 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
11217 \fi
D pressing the mouse button (down)
11218 \ifx\Fld@onmousedown@code\@empty
11219 \else
11220 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
11221 \fi
U releasing the mouse button (up)
11222 \ifx\Fld@onmouseup@code\@empty
11223 \else
11224 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
11225 \fi
E cursor enters the annotation's active area.
11226 \ifx\Fld@onenter@code\@empty
11227 \else
11228 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
11229 \fi
X cursor exits the annotation's active area.
11230 \ifx\Fld@onexit@code\@empty
11231 \else
11232 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
```

```

11233 \fi
11234 }
11235 \def\Fld@additionalactions{%
11236 \if-\Fld@@additionalactions-%
11237 \else
11238 \ifHy@pdfa
11239 \else
11240 /AA<<\Fld@@additionalactions>>%
11241 \fi
11242 \fi
11243 }

```

\PDFForm@List

```

11244 \def\PDFForm@List{%
11245 /Subtype/Widget%
11246 \Fld@annotflags
11247 /T(\Fld@name)%
11248 /FT/Ch%
11249 \Fld@flags
11250 /Q \Fld@align
11251 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11252 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11253 \ifx\Fld@bordercolor\relax\else 1\fi
11254 \ifx\Fld@bcolor\relax \else 1\fi
11255 \space
11256 \else
11257 /MK<<%
11258 \ifnum\Fld@rotation=\z@
11259 \else
11260 /R \Fld@rotation
11261 \fi
11262 \ifx\Fld@bordercolor\relax
11263 \else
11264 /BC[\Fld@bordercolor]%
11265 \fi
11266 \ifx\Fld@bcolor\relax
11267 \else
11268 /BG[\Fld@bcolor]%
11269 \fi
11270 >>%
11271 \fi
11272 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11273 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11274 \Fld@choices
11275 \Fld@additionalactions
11276 }

```

\PDFForm@Radio

```

11277 \def\PDFForm@Radio{%
11278 /Subtype/Widget%
11279 \Fld@annotflags
11280 /T(\Fld@name)%
11281 /FT/Btn%
11282 \Fld@flags
11283 /H/P%
11284 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11285 /MK<<%

```

```

11286 \ifnum\Fld@rotation=\z@
11287 \else
11288 /R \Fld@rotation
11289 \fi
11290 \ifx\Fld@bordercolor\relax
11291 \else
11292 /BC[\Fld@bordercolor]%
11293 \fi
11294 \ifx\Fld@bcolor\relax
11295 \else
11296 /BG[\Fld@bcolor]%
11297 \fi
11298 /CA(H)%
11299 >>%
11300 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
11301 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11302 \ifx\@currValue\Fld@default
11303 /V\Fld@default
11304 \else
11305 /V/Off%
11306 \fi
11307 \Fld@additionalactions
11308 }

```

\PDFForm@Text

```

11309 \def\PDFForm@Text{%
11310 /Subtype/Widget%
11311 \Fld@annotflags
11312 /T(\Fld@name)%
11313 /FT/Tx%
11314 \Fld@flags
11315 /Q \Fld@align
11316 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
11317 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11318 \ifx\Fld@bordercolor\relax\else 1\fi
11319 \ifx\Fld@bcolor\relax \else 1\fi
11320 \space
11321 \else
11322 /MK<<%
11323 \ifnum\Fld@rotation=\z@
11324 \else
11325 /R \Fld@rotation
11326 \fi
11327 \ifx\Fld@bordercolor\relax
11328 \else
11329 /BC[\Fld@bordercolor]%
11330 \fi
11331 \ifx\Fld@bcolor\relax
11332 \else
11333 /BG[\Fld@bcolor]%
11334 \fi
11335 >>%
11336 \fi
11337 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
11338 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
11339 /DV(\Hy@escapestring{\Fld@default})%
11340 /V(\Hy@escapestring{\Fld@value})%

```

```

11341 \Fld@additionalactions
11342 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
11343 }

```

\PDFForm@Submit

```

11344 \def\PDFForm@Submit{%
11345   /Subtype/Widget%
11346   \Fld@annotflags
11347   /T(\Fld@name)%
11348   /FT/Btn%
11349   \Fld@flags
11350   /H/P%
11351   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11352   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11353     \ifx\Fld@bordercolor\relax\else 1\fi
11354     \space
11355   \else
11356     /MK<<%
11357     \ifnum\Fld@rotation=\z@
11358     \else
11359       /R \Fld@rotation
11360     \fi
11361     \ifx\Fld@bordercolor\relax
11362     \else
11363       /BC[\Fld@bordercolor]%
11364     \fi
11365     >>%
11366   \fi
11367   /A<<%
11368   /S/SubmitForm%
11369   /F<<%
11370   /FS/URL%
11371   /F(\Hy@escapestring{\Form@action})%
11372   >>%
11373   \Fld@submitflags
11374   >>%
11375 }

```

\PDFForm@Reset

```

11376 \ifHy@pdfa
11377 \else
11378   \def\PDFForm@Reset{%
11379     /Subtype/Widget%
11380     \Fld@annotflags
11381     /T(\Fld@name)%
11382     /FT/Btn%
11383     \Fld@flags
11384     /H/P%
11385     /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
11386     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
11387       \ifx\Fld@bordercolor\relax\else 1\fi
11388       \space
11389     \else
11390       /MK<<%
11391       \ifnum\Fld@rotation=\z@
11392       \else
11393         /R \Fld@rotation

```

```

11394      \fi
11395      \ifx\Fld@bordercolor\relax
11396      \else
11397      /BC[\Fld@bordercolor]%
11398      \fi
11399 %      /CA (Clear)
11400 %      /AC (Done)
11401      >>%
11402      \fi
11403      /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
11404      /A<</S/ResetForm>>%
11405      }%
11406 \fi

11407 </pdfform>
11408 <*package>

```

48 Bookmarks in the PDF file

This was originally developed by Yannis Haralambous (it was the separate `repere.sty`); it needed the `repere` or `makebook.pl` post-processor to work properly. Now redundant, as it is done entirely in \LaTeX macros.

To write out the current section title, and its rationalized number, we have to intercept the `\@sect` command, which is rather dangerous. But how else to see the information we need? We do the *same* for `\@ssect`, giving anchors to unnumbered sections. This allows things like bibliographies to get bookmarks when used with a manual `\addcontentsline`

```

11409 \def\phantomsection{%
11410   \Hy@GlobalStepCount\Hy@linkcounter
11411   \xdef\@currentHref{section*.\the\Hy@linkcounter}%
11412   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
11413 }
11414 </package>

```

48.1 Bookmarks

```
11415 <*outlines>
```

This section was written by Heiko Oberdiek; the code replaces an earlier version by David Carlisle.

The first part of bookmark code is in section 6. Further documentation is available as paper and slides of the talk, that Heiko Oberdiek has given at the EuroTeX'99 meeting in Heidelberg. See `paper.pdf` and `slides.pdf` in the `doc` directory of `hyperref`.

```

11416 \def\Hy@writebookmark#1#2#3#4#5{%
11417   % section number, text, label, level, file
11418   \ifx\WriteBookmarks\relax%
11419   \else
11420   \ifnum#4>\Hy@bookmarksdepth\relax
11421   \else
11422   \@@writetorep{#1}{#2}{#3}{#4}{#5}%
11423   \fi
11424   \fi
11425 }
11426 \def\Hy@currentbookmarklevel{0}
11427 \def\Hy@numberline#1{#1 }
11428 \def\@@writetorep#1#2#3#4#5{%

```



```

11429 \begingroup
11430   \edef\Hy@tempa{#5}%
11431   \ifx\Hy@tempa\Hy@bookmarkstype
11432     \edef\Hy@level{#4}%
11433     \ifx\Hy@levelcheck Y%
11434       \@tempcnta\Hy@level\relax
11435       \advance\@tempcnta by -1 %
11436       \ifnum\Hy@currentbookmarklevel<\@tempcnta
11437         \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
11438         \advance\@tempcnta by 1 %
11439         \Hy@Warning{%
11440           Difference (\the\@tempcnta) between bookmark levels is %
11441           greater \MessageBreak than one, level fixed%
11442         }%
11443         \@tempcnta\Hy@currentbookmarklevel
11444         \advance\@tempcnta by 1 %
11445         \edef\Hy@level{\the\@tempcnta}%
11446       \fi
11447     \else
11448       \global\let\Hy@levelcheck Y%
11449     \fi
11450     \global\let\Hy@currentbookmarklevel\Hy@level
11451     \@tempcnta\Hy@level\relax
11452     \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
11453     \advance\@tempcnta by -1 %
11454     \edef\Hy@tempa{#3}%
11455     \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
11456     \ifx\Hy@tempa\Hy@tempb
11457       \Hy@Warning{%
11458         The anchor of a bookmark and its parent's must not%
11459         \MessageBreak be the same. Added a new anchor%
11460       }%
11461     \phantomsection
11462   \fi
11463   \ifHy@bookmarksnumbered
11464     \let\numberline\Hy@numberline
11465     \let\partnumberline\Hy@numberline
11466     \let\chapternumberline\Hy@numberline
11467   \else
11468     \let\numberline@gobble
11469     \let\partnumberline@gobble
11470     \let\chapternumberline@gobble
11471   \fi
11472   \pdfstringdef\Hy@tempa{#2}%
11473   \if@filesw
11474     \protected@write\@outlinefile{}{%
11475       \protect\BOOKMARK
11476       [\Hy@level] [\@bookmarkopenstatus{\Hy@level}]{#3}%
11477       {\Hy@tempa}{\Hy@tempb}%
11478     }%
11479   \fi
11480 \fi
11481 \endgroup
11482 }

```

In the call of \BOOKMARK the braces around #4 are omitted, because it is not likely, that the level number contains] .

```

11483 \newcommand{\currentpdfbookmark}{%

```

```

11484 \pdfbookmark[\Hy@currentbookmarklevel]%
11485 }
11486 \newcommand{\subpdfbookmark}{%
11487 \@tempcnta\Hy@currentbookmarklevel
11488 \Hy@StepCount\@tempcnta
11489 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
11490 }
11491 \newcommand{\belowpdfbookmark}[2]{%
11492 \@tempcnta\Hy@currentbookmarklevel
11493 \Hy@StepCount\@tempcnta
11494 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
11495 \advance\@tempcnta by -1 %
11496 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
11497 }

```

Tobias Oetiker rightly points out that we need a way to force a bookmark entry. So we introduce `\pdfbookmark`, with two parameters, the title, and a symbolic name. By default this is at level 1, but we can reset that with the optional first argument.

```

11498 \renewcommand\pdfbookmark[3][0]{%
11499 \Hy@writebookmark{}{#2}{#3.#1}{#1}{toc}%
11500 \hyper@anchorstart{#3.#1}\hyper@anchorend
11501 }
11502 \def\BOOKMARK{\@ifnextchar[{\@BOOKMARK}{\@BOOKMARK[1] [-]}}
11503 \def\@BOOKMARK[#1]{\@ifnextchar[{\@BOOKMARK[#1]}{\@BOOKMARK[#1] [-]}}

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the `texinfo` macros.

The VTEX section was written originally by VTEX, but then amended by Denis Girou (`denis.girou@idris.fr`), then by Taco Hoekwater (`taco.hoekwater@wkap.nl`). The problem is that VTEX, with its close integration of the PDF backend, does look at the contents of bookmarks, escaping `\` and the like.

```

11504 <*vtex>
11505 \newcount\@serial@counter\@serial@counter=1\relax

```

`\hv@pdf@char` Plain octal codes doesn't work with versions below 6.50. So for early versions hex numbers have to be used. It would be possible to program this instead of the large `\ifcase`, but I'm too lazy to sort that out now.

```

11506 \begingroup
11507 \catcode'\'=12 %
11508 \ifnum\Hy@VTeXversion<650 %
11509 \catcode'\'=12 %
11510 \gdef\hv@pdf@char#1#2#3{%
11511 \char
11512 \ifcase'#1#2#3 %
11513 "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
11514 \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
11515 \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
11516 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
11517 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
11518 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
11519 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
11520 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
11521 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
11522 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
11523 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
11524 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
11525 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
11526 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%

```

```

11527 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
11528 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
11529 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
11530 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
11531 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
11532 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
11533 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
11534 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
11535 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
11536 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
11537 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
11538 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
11539 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
11540 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
11541 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
11542 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
11543 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
11544 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
11545 \fi
11546 }%
11547 \else
11548 \gdef\hv@pdf@char{\char'}%
11549 \fi
11550 \endgroup

```

\@@BOOKMARK

```

11551 \def\@@BOOKMARK[#1][#2]#3#4#5{%
11552 \expandafter\edef\csname @count@#3\endcsname{\the\@serial@counter}%
11553 \edef\@mycount{\the\@serial@counter}%
11554 \Hy@StepCount\@serial@counter
11555 \edef\@parcount{%
11556 \expandafter\ifx\csname @count@#5\endcsname\relax
11557 0%
11558 \else
11559 \csname @count@#5\endcsname
11560 \fi
11561 }%
11562 \immediate\special{%
11563 !outline #3;p=\@parcount,i=\@mycount,%
11564 s=\ifx#2-c\else o\fi,t=#4%
11565 }%
11566 }%

```

\ReadBookmarks

```

11567 \def\ReadBookmarks{%
11568 \begingroup
11569 \def\0{\hv@pdf@char 0}%
11570 \def\1{\hv@pdf@char 1}%
11571 \def\2{\hv@pdf@char 2}%
11572 \def\3{\hv@pdf@char 3}%
11573 \def\({}%
11574 \def\)}%
11575 \def\do##1{%
11576 \ifnum\the\catcode'##1=\active
11577 \@makeother##1%
11578 \fi
11579 }%

```

```

11580 \dospecials
11581 \InputIfFileExists{\jobname.out}{-}{-}%
11582 \endgroup
11583 \ifx\WriteBookmarks\relax
11584 \else
11585 \if@files
11586 \newwrite\@outlinefile
11587 \immediate\openout\@outlinefile=\jobname.out\relax
11588 \ifHy@typexml
11589 \immediate\write\@outlinefile{<relaxxml>\relax}%
11590 \fi
11591 \fi
11592 \fi
11593 }

11594 </vtex>
11595 <!*vtex>
11596 \def\ReadBookmarks{%
11597 \begingroup
11598 \escapechar='\'%
11599 \let\escapechar\@gobble %
11600 \def\@BOOKMARK[##1][##2]###4##5{\calc@bm@number{##5}}%
11601 \InputIfFileExists{\jobname.out}{-}{-}%
11602 \ifx\WriteBookmarks\relax
11603 \global\let\WriteBookmarks\relax
11604 \fi
11605 \def\@BOOKMARK[##1][##2]###4##5{%
11606 \def\Hy@temp{##4}%
11607 <*pdftex>
11608 \Hy@pstringdef\Hy@pstringName{##3}%
11609 \Hy@OutlineName{}\Hy@pstringName{%
11610 ##2\check@bm@number{##3}%
11611 }{%
11612 \expandafter\strip@prefix\meaning\Hy@temp
11613 }%
11614 </pdftex>
11615 <*pdfmark>
11616 \Hy@pstringdef\Hy@pstringName{##3}%
11617 \pdfmark{%
11618 pdfmark=/OUT,%
11619 Count={##2\check@bm@number{##3}},%
11620 Dest={\Hy@pstringName},%
11621 Title=\expandafter\strip@prefix\meaning\Hy@temp
11622 }%
11623 </pdfmark>
11624 <*dvipdfm>
11625 \Hy@pstringdef\Hy@pstringName{##3}%
11626 \@pdfm@mark{%
11627 outline \ifHy@DvipdfmxOutlineOpen
11628 [%
11629 \ifnum##21>\z@
11630 \else
11631 -%
11632 \fi
11633 ] %
11634 \fi
11635 ##1<<%
11636 /Title(\expandafter\strip@prefix\meaning\Hy@temp)%

```

```

11637      /A<<%
11638      /S/GoTo%
11639      /D(\Hy@pstringName)%
11640      >>%
11641      >>%
11642      }%
11643 </dvipdfm>
11644 }%
11645 {%
11646   \def\WriteBookmarks{0}%
11647   \InputIfFileExists{\jobname.out}{\relax}%
11648 }%
11649   %{\escapechar\m@ne\InputIfFileExists{\jobname.out}{\relax}}%
11650   \ifx\WriteBookmarks\relax
11651   \else
11652     \if@files
11653       \newwrite\@outlinefile
11654       \immediate\openout\@outlinefile=\jobname.out\relax
11655       \ifHy@typexml
11656         \immediate\write\@outlinefile{<relaxxml>\relax}%
11657       \fi
11658     \fi
11659   \fi
11660   \endgroup
11661 }
11662 <*pdfTeX>
11663 \def\Hy@OutlineName#1#2#3#4{%
11664   \pdfoutline goto name{#2}count#3{#4}%
11665 }
11666 </pdfTeX>
11667 \def\check@bm@number#1{%
11668   \expandafter\ifx\csname B_#1\endcsname\relax
11669     0%
11670   \else
11671     \csname B_#1\endcsname
11672   \fi
11673 }
11674 \def\calc@bm@number#1{%
11675   \@tempcnta=\check@bm@number{#1}\relax
11676   \advance\@tempcnta by 1 %
11677   \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
11678 }
11679 </!vTeX>

11680 \ifHy@implicit
11681 \else
11682   \expandafter\endinput
11683 \fi

11684 </outlines>
11685 <*outlines | hypertex>

11686 \let\H@old@ssect\@ssect
11687 \def\@ssect#1#2#3#4#5{%
11688   \H@old@ssect{#1}{#2}{#3}{#4}{#5}%
11689   \phantomsection
11690 }
11691 \let\H@old@schapter\@schapter
11692 \def\@schapter#1{%

```

```

11693 \H@old@schapter{#1}%
11694 \begingroup
11695   \let\@mkboth\@gobbletwo
11696   \Hy@GlobalStepCount\Hy@linkcounter
11697   \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11698   \Hy@raisedlink{%
11699     \hyper@anchorstart{\@currentHref}\hyper@anchorend
11700   }%
11701 \endgroup
11702 }

```

If there is no chapter number (\frontmatter or \backmatter) then \refstepcounter{chapter} is not executed, so there will be no destination for \ddcontentsline. So \@chapter is overloaded to avoid this:

```

11703 \@ifundefined{@chapter}{}{%
11704   \let\Hy@org@chapter\@chapter
11705   \def\@chapter{%
11706     \def\Hy@next{%
11707       \Hy@GlobalStepCount\Hy@linkcounter
11708       \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11709       \Hy@raisedlink{%
11710         \hyper@anchorstart{\@currentHref}\hyper@anchorend
11711       }%
11712     }%
11713     \ifnum\c@secnumdepth>\m@ne
11714       \@ifundefined{if@mainmatter}%
11715       \iftrue{\csname if@mainmatter\endcsname}%
11716       \let\Hy@next\relax
11717     \fi
11718     \fi
11719     \Hy@next
11720     \Hy@org@chapter
11721   }%
11722 }

11723 \let\H@old@part\@part
11724 \begingroup\expandafter\expandafter\expandafter\endgroup
11725 \expandafter\ifx\csname chapter\endcsname\relax
11726   \let\Hy@secnum@part\z@
11727 \else
11728   \let\Hy@secnum@part\m@ne
11729 \fi
11730 \def\@part{%
11731   \ifnum\Hy@secnum@part>\c@secnumdepth
11732     \phantomsection
11733   \fi
11734   \H@old@part
11735 }

11736 \let\H@old@spart\@spart
11737 \def\@spart#1{%
11738   \H@old@spart{#1}%
11739   \Hy@GlobalStepCount\Hy@linkcounter
11740   \xdef\@currentHref{part*.\the\Hy@linkcounter}%
11741   \Hy@raisedlink{%
11742     \hyper@anchorstart{\@currentHref}\hyper@anchorend
11743   }%
11744 }
11745 \let\H@old@sect\@sect

```

```

11746 \def \@sect#1#2#3#4#5#6[#7]#8{%
11747   \ifnum #2>\c@secnumdepth
11748     \Hy@GlobalStepCount\Hy@linkcounter
11749     \xdef\@currentHref{section*.\the\Hy@linkcounter}%
11750   \fi
11751   \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[#7]{#8}%
11752   \ifnum #2>\c@secnumdepth
11753     \Hy@raisedlink{%
11754       \hyper@anchorstart{\@currentHref}\hyper@anchorend
11755     }%
11756   \fi
11757 }

11758 </outlines | hypertex>
11759 <*outlines>

11760 \expandafter\def\csname Parent-4\endcsname{}
11761 \expandafter\def\csname Parent-3\endcsname{}
11762 \expandafter\def\csname Parent-2\endcsname{}
11763 \expandafter\def\csname Parent-1\endcsname{}
11764 \expandafter\def\csname Parent0\endcsname{}
11765 \expandafter\def\csname Parent1\endcsname{}
11766 \expandafter\def\csname Parent2\endcsname{}
11767 \expandafter\def\csname Parent3\endcsname{}
11768 \expandafter\def\csname Parent4\endcsname{}

11769 </outlines>

```

49 Compatibility with koma-script classes

```

11770 <*outlines | hypertex>

```

Hard-wire in an unpleasant over-ride of komascript ‘scrbook’ class for Tobias.Isenberg@gmx.de. With version 6.71b the hack is also applied to ‘scrreprt’ class and is removed for koma-script versions since 2001/01/01, because Markus Kohm supports hyperref in komascript.

```

11771 \def \Hy@tempa{%
11772   \def \@addchap[##1]##2{%
11773     \typeout{##2}%
11774     \if@twoside
11775       \@mkboth{##1}{}%
11776     \else
11777       \@mkboth{}{##1}%
11778     \fi
11779     \addtocontents{lof}{\protect\addvspace{10\p@}}%
11780     \addtocontents{lot}{\protect\addvspace{10\p@}}%
11781     \Hy@GlobalStepCount\Hy@linkcounter
11782     \xdef\@currentHref{\Hy@chapapp*.\the\Hy@linkcounter}%
11783     \Hy@raisedlink{%
11784       \hyper@anchorstart{\@currentHref}\hyper@anchorend
11785     }%
11786     \if@twocolumn
11787       \topnewpage[\@makeschapterhead{##2}]%
11788     \else
11789       \@makeschapterhead{##2}%
11790       \afterheading
11791     \fi
11792     \addcontentsline{toc}{chapter}{##1}%
11793   }%
11794 }

```

```

11795 \@ifclassloaded{scrbook}{%
11796   \@ifclasslater{scrbook}{2001/01/01}{%
11797     \let\Hy@tempa\@empty
11798   }{}%
11799 }{%
11800   \@ifclassloaded{scrreprt}{%
11801     \@ifclasslater{scrreprt}{2001/01/01}{%
11802       \let\Hy@tempa\@empty
11803     }{}%
11804   }{%
11805     \let\Hy@tempa\@empty
11806   }%
11807 }%
11808 \Hy@tempa
11809 </outlines | hypertex>

```

50 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek oberdiek@ruf.uni-freiburg.de

50.1 PD1 encoding

```

11810 <*pd1enc>
11811 \DeclareFontEncoding{PD1}{}{}

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

11812 \DeclareTextCommand{\textLF}{PD1}{\012} % line feed
11813 \DeclareTextCommand{\textCR}{PD1}{\015} % carriage return
11814 \DeclareTextCommand{\textHT}{PD1}{\011} % horizontal tab
11815 \DeclareTextCommand{\textBS}{PD1}{\010} % backspace
11816 \DeclareTextCommand{\textFF}{PD1}{\014} % formfeed

```

Accents

```

11817 \DeclareTextAccent{\`}{PD1}{\textgrave}
11818 \DeclareTextAccent{\'}{PD1}{\textacute}
11819 \DeclareTextAccent{\`}{PD1}{\textcircumflex}
11820 \DeclareTextAccent{\~}{PD1}{\texttilde}
11821 \DeclareTextAccent{\"}{PD1}{\textdieresis}
11822 \DeclareTextAccent{\r}{PD1}{\textring}
11823 \DeclareTextAccent{\v}{PD1}{\textcaron}
11824 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
11825 \DeclareTextAccent{\c}{PD1}{\textcedilla}
11826 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textgrave}
11827 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
11828 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textcircumflex}
11829 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
11830 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textdieresis}
11831 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
11832 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textcaron}
11833 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
11834 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
11835 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}

```

Accent glyph names

```

11836 \DeclareTextCommand{\textbreve}{PD1}{\030} % breve
11837 \DeclareTextCommand{\textcaron}{PD1}{\031} % caron
11838 \DeclareTextCommand{\textcircumflex}{PD1}{\032} % circumflex
11839 \DeclareTextCommand{\textdotaccent}{PD1}{\033} % dotaccent
11840 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034} % hungarumlaut

```



```

11841 \DeclareTextCommand{\textogonek}{PD1}{\035} % ogonek
11842 \DeclareTextCommand{\textring}{PD1}{\036} % ring
11843 \DeclareTextCommand{\texttilde}{PD1}{\037} % tilde

\040: space
\041: exclam
11844 \DeclareTextCommand{\textquotedbl}{PD1}{\string"} % quotedbl \042
11845 \DeclareTextCommand{\textnumbersign}{PD1}{\043} % numbersign
11846 \DeclareTextCommand{\textdollar}{PD1}{\044} % dollar
11847 \DeclareTextCommand{\textpercent}{PD1}{\045} % percent
11848 \DeclareTextCommand{\textampersand}{PD1}{\046} % ampersand

\047: quotesingle
11849 \DeclareTextCommand{\textparenleft}{PD1}{\string\{} % parenleft \050
11850 \DeclareTextCommand{\textparenright}{PD1}{\string\}} % parenright \051

\052: asterisk
\053: plus
\054: comma
\055: hyphen
\056: period
\057: slash
\060... \071: 0...9
\072: colon
\073: semicolon
11851 \DeclareTextCommand{\textless}{PD1}{<} % less \074

\075: equal
11852 \DeclareTextCommand{\textgreater}{PD1}{>} % greater \076

\077: question
\100: at
\101... \132: A...Z
\133: bracketleft
11853 \DeclareTextCommand{\textbackslash}{PD1}{\134} % backslash

\135: bracketright
11854 \DeclareTextCommand{\textasciicircum}{PD1}{\136} % asciicircum
11855 \DeclareTextCommand{\textunderscore}{PD1}{\137} % underscore
11856 \DeclareTextCommand{\textgrave}{PD1}{\140} % grave

\141... \172: a...z
11857 \DeclareTextCompositeCommand{\.}{PD1}{i}{i} % i
11858 \DeclareTextCommand{\textbraceleft}{PD1}{\173} % braceleft
11859 \DeclareTextCommand{\textbar}{PD1}{|} % bar
11860 \DeclareTextCommand{\textbraceright}{PD1}{\175} % braceright
11861 \DeclareTextCommand{\textasciitilde}{PD1}{\176} % asciitilde

No glyph \177 in PDFDocEncoding.
11862 \DeclareTextCommand{\textbullet}{PD1}{\200} % bullet
11863 \DeclareTextCommand{\textdagger}{PD1}{\201} % dagger
11864 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202} % daggerdbl
11865 \DeclareTextCommand{\textellipsis}{PD1}{\203} % ellipsis
11866 \DeclareTextCommand{\textemdash}{PD1}{\204} % emdash
11867 \DeclareTextCommand{\textendash}{PD1}{\205} % endash
11868 \DeclareTextCommand{\textflorin}{PD1}{\206} % florin
11869 \DeclareTextCommand{\textfractionmark}{PD1}{\207} % fraction, \207
11870 \DeclareTextCommand{\guilsinglleft}{PD1}{\210} % guilsinglleft
11871 \DeclareTextCommand{\guilsinglright}{PD1}{\211} % guilsinglright
11872 \DeclareTextCommand{\textminus}{PD1}{-} % minus, \212
11873 \DeclareTextCommand{\textperthousand}{PD1}{\213} % perthousand
11874 \DeclareTextCommand{\quotedblbase}{PD1}{\214} % quotedblbase

```

```

11875 \DeclareTextCommand{\textquotedblleft}{PD1}{\215} % quotedblleft
11876 \DeclareTextCommand{\textquotedblright}{PD1}{\216} % quotedblright
11877 \DeclareTextCommand{\textquoteleft}{PD1}{\217} % quoteleft
11878 \DeclareTextCommand{\textquoteright}{PD1}{\220} % quoteright
11879 \DeclareTextCommand{\quotesinglbase}{PD1}{\221} % quotesinglbase
11880 \DeclareTextCommand{\texttrademark}{PD1}{\222} % trademark
11881 \DeclareTextCommand{\textfi}{PD1}{\223} % fi ?? \223
11882 \DeclareTextCommand{\textfl}{PD1}{\224} % fl ?? \224
11883 \DeclareTextCommand{\L}{PD1}{\225} % Lslash, \225
11884 \DeclareTextCommand{\OE}{PD1}{\226} % OE
11885 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227} % Scaron
11886 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230} % Ydieresis
11887 \DeclareTextCommand{\IJ}{PD1}{\230}
11888 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231} % Zcaron, \231
11889 \DeclareTextCommand{\i}{PD1}{\232} % dotlessi, \232
11890 \DeclareTextCommand{\l}{PD1}{\233} % lslash, \233
11891 \DeclareTextCommand{\oe}{PD1}{\234} % oe
11892 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235} % scaron
11893 \DeclareTextCompositeCommand{\v}{PD1}{z}{\236} % zcaron, 236

```

No glyph \237 in PDFDocEncoding.

The euro \240 is inserted in version 1.3 of the pdf specification.

```

11894 \DeclareTextCommand{\texteuro}{PD1}{\240} % Euro
11895 \DeclareTextCommand{\textexclamdown}{PD1}{\241} % exclamdown
11896 \DeclareTextCommand{\textcent}{PD1}{\242} % cent
11897 \DeclareTextCommand{\textsterling}{PD1}{\243} % sterling
11898 \DeclareTextCommand{\textcurrency}{PD1}{\244} % currency
11899 \DeclareTextCommand{\textyen}{PD1}{\245} % yen
11900 \DeclareTextCommand{\textbrokenbar}{PD1}{\246} % brokenbar
11901 \DeclareTextCommand{\textsection}{PD1}{\247} % section
11902 \DeclareTextCommand{\textdieresis}{PD1}{\250} % dieresis
11903 \DeclareTextCommand{\textcopyright}{PD1}{\251} % copyright
11904 \DeclareTextCommand{\textordfeminine}{PD1}{\252} % ordfeminine
11905 \DeclareTextCommand{\guillemotleft}{PD1}{\253} % guillemotleft
11906 \DeclareTextCommand{\textlogicalnot}{PD1}{\254} % logicalnot

```

No glyph \255 in PDFDocEncoding.

```

11907 \DeclareTextCommand{\textregistered}{PD1}{\256} % registered
11908 \DeclareTextCommand{\textmacron}{PD1}{\257} % macron
11909 \DeclareTextCommand{\textdegree}{PD1}{\260} % degree
11910 \DeclareTextCommand{\textplusminus}{PD1}{\261} % plusminus
11911 \DeclareTextCommand{\texttwosuperior}{PD1}{\262} % twosuperior
11912 \DeclareTextCommand{\textthreesuperior}{PD1}{\263} % threesuperior
11913 \DeclareTextCommand{\textacute}{PD1}{\264} % acute
11914 \DeclareTextCommand{\textmu}{PD1}{\265} % mu
11915 \DeclareTextCommand{\textparagraph}{PD1}{\266} % paragraph
11916 \DeclareTextCommand{\textperiodcentered}{PD1}{\267} % periodcentered
11917 \DeclareTextCommand{\textcedilla}{PD1}{\270} % cedilla
11918 \DeclareTextCommand{\textonesuperior}{PD1}{\271} % onesuperior
11919 \DeclareTextCommand{\textordmasculine}{PD1}{\272} % ordmasculine
11920 \DeclareTextCommand{\guillemotright}{PD1}{\273} % guillemotright
11921 \DeclareTextCommand{\textonequarter}{PD1}{\274} % onequarter
11922 \DeclareTextCommand{\textonehalf}{PD1}{\275} % onehalf
11923 \DeclareTextCommand{\textthreequarters}{PD1}{\276} % threequarters
11924 \DeclareTextCommand{\textquestiondown}{PD1}{\277} % questiondown
11925 \DeclareTextCompositeCommand{\'}{PD1}{A}{\300} % Agrave
11926 \DeclareTextCompositeCommand{\`}{PD1}{A}{\301} % Acute
11927 \DeclareTextCompositeCommand{\~}{PD1}{A}{\302} % Acircumflex
11928 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303} % Atilde

```

11929 \DeclareTextCompositeCommand{"}{PD1}{A}{\304} % Adieresis
11930 \DeclareTextCompositeCommand{r}{PD1}{A}{\305} % Aring
11931 \DeclareTextCommand{\AE}{PD1}{\306} % AE
11932 \DeclareTextCompositeCommand{c}{PD1}{C}{\307} % Ccedilla
11933 \DeclareTextCompositeCommand{'}{PD1}{E}{\310} % Egrave
11934 \DeclareTextCompositeCommand{'}{PD1}{E}{\311} % Eacute
11935 \DeclareTextCompositeCommand{^}{PD1}{E}{\312} % Ecircumflex
11936 \DeclareTextCompositeCommand{"}{PD1}{E}{\313} % Edieresis
11937 \DeclareTextCompositeCommand{'}{PD1}{I}{\314} % Igrave
11938 \DeclareTextCompositeCommand{'}{PD1}{I}{\315} % Iacute
11939 \DeclareTextCompositeCommand{^}{PD1}{I}{\316} % Icircumflex
11940 \DeclareTextCompositeCommand{"}{PD1}{I}{\317} % Idieresis
11941 \DeclareTextCommand{\DH}{PD1}{\320} % Eth
11942 \DeclareTextCommand{\DJ}{PD1}{\320} % Eth
11943 \DeclareTextCompositeCommand{~}{PD1}{N}{\321} % Ntilde
11944 \DeclareTextCompositeCommand{'}{PD1}{O}{\322} % Ograve
11945 \DeclareTextCompositeCommand{'}{PD1}{O}{\323} % Oacute
11946 \DeclareTextCompositeCommand{^}{PD1}{O}{\324} % Ocircumflex
11947 \DeclareTextCompositeCommand{~}{PD1}{O}{\325} % Otilde
11948 \DeclareTextCompositeCommand{"}{PD1}{O}{\326} % Odieresis
11949 \DeclareTextCommand{\textmultiply}{PD1}{\327} % multiply
11950 \DeclareTextCommand{\O}{PD1}{\330} % Oslash
11951 \DeclareTextCompositeCommand{'}{PD1}{U}{\331} % Ugrave
11952 \DeclareTextCompositeCommand{'}{PD1}{U}{\332} % Uacute
11953 \DeclareTextCompositeCommand{^}{PD1}{U}{\333} % Ucircumflex
11954 \DeclareTextCompositeCommand{"}{PD1}{U}{\334} % Udieresis
11955 \DeclareTextCompositeCommand{'}{PD1}{Y}{\335} % Yacute
11956 \DeclareTextCommand{\TH}{PD1}{\336} % Thorn
11957 \DeclareTextCommand{\ss}{PD1}{\337} % germandbls
11958 \DeclareTextCompositeCommand{'}{PD1}{a}{\340} % agrave
11959 \DeclareTextCompositeCommand{'}{PD1}{a}{\341} % aacute
11960 \DeclareTextCompositeCommand{^}{PD1}{a}{\342} % acircumflex
11961 \DeclareTextCompositeCommand{~}{PD1}{a}{\343} % atilde
11962 \DeclareTextCompositeCommand{"}{PD1}{a}{\344} % adieresis
11963 \DeclareTextCompositeCommand{r}{PD1}{a}{\345} % aring
11964 \DeclareTextCommand{\ae}{PD1}{\346} % ae
11965 \DeclareTextCompositeCommand{c}{PD1}{c}{\347} % ccedilla
11966 \DeclareTextCompositeCommand{'}{PD1}{e}{\350} % egrave
11967 \DeclareTextCompositeCommand{'}{PD1}{e}{\351} % eacute
11968 \DeclareTextCompositeCommand{^}{PD1}{e}{\352} % ecircumflex
11969 \DeclareTextCompositeCommand{"}{PD1}{e}{\353} % edieresis
11970 \DeclareTextCompositeCommand{'}{PD1}{i}{\354} % igrave
11971 \DeclareTextCompositeCommand{'}{PD1}{i}{\354} % igrave
11972 \DeclareTextCompositeCommand{'}{PD1}{i}{\355} % iacute
11973 \DeclareTextCompositeCommand{'}{PD1}{i}{\355} % iacute
11974 \DeclareTextCompositeCommand{^}{PD1}{i}{\356} % icircumflex
11975 \DeclareTextCompositeCommand{~}{PD1}{i}{\356} % icircumflex
11976 \DeclareTextCompositeCommand{"}{PD1}{i}{\357} % idieresis
11977 \DeclareTextCompositeCommand{"}{PD1}{i}{\357} % idieresis
11978 \DeclareTextCommand{\dh}{PD1}{\360} % eth
11979 \DeclareTextCompositeCommand{~}{PD1}{n}{\361} % ntilde
11980 \DeclareTextCompositeCommand{'}{PD1}{o}{\362} % ograve
11981 \DeclareTextCompositeCommand{'}{PD1}{o}{\363} % oacute
11982 \DeclareTextCompositeCommand{^}{PD1}{o}{\364} % ocircumflex
11983 \DeclareTextCompositeCommand{~}{PD1}{o}{\365} % otilde
11984 \DeclareTextCompositeCommand{"}{PD1}{o}{\366} % odieresis
11985 \DeclareTextCommand{\textdivide}{PD1}{\367} % divide

```

11986 \DeclareTextCommand{\o}{PD1}{\370} % oslash
11987 \DeclareTextCompositeCommand{\'}{PD1}{u}{\371} % ugrave
11988 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372} % uacute
11989 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373} % ucircumflex
11990 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374} % udieresis
11991 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375} % yacute
11992 \DeclareTextCommand{\th}{PD1}{\376} % thorn
11993 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377} % ydieresis
11994 \DeclareTextCommand{\ij}{PD1}{\377}

```

Glyphs that consist of several characters.

```

11995 \DeclareTextCommand{\SS}{PD1}{SS}
11996 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

```

Aliases (german.sty)

```

11997 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
11998 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
11999 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
12000 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
12001 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
12002 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
12003 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
12004 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

```

Aliases (math names)

```

12005 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
12006 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
12007 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
12008 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
12009 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
12010 \DeclareTextCommand{\textbeta}{PD1}{\ss}

```

Polish aliases. PDF encoding does not have the characters, but it is useful to Poles to have the plain letters regardless. Requested by Wojciech Myszka ;W.Myszka@immt.pwr.wroc.pl;

```

12011 \DeclareTextCompositeCommand{\k}{PD1}{a}{a} % aogonek
12012 \DeclareTextCompositeCommand{\'}{PD1}{c}{c} % cacute
12013 \DeclareTextCompositeCommand{\k}{PD1}{e}{e} % eogonek
12014 \DeclareTextCompositeCommand{\'}{PD1}{n}{n} % nacute
12015 \DeclareTextCompositeCommand{\'}{PD1}{s}{s} % sacute
12016 \DeclareTextCompositeCommand{\'}{PD1}{z}{z} % zacute
12017 \DeclareTextCompositeCommand{\.}{PD1}{z}{z} % zdot
12018 \DeclareTextCompositeCommand{\k}{PD1}{A}{A} % Aogonek
12019 \DeclareTextCompositeCommand{\'}{PD1}{C}{C} % Cacute
12020 \DeclareTextCompositeCommand{\k}{PD1}{E}{E} % Eogonek
12021 \DeclareTextCompositeCommand{\'}{PD1}{N}{N} % Nacute
12022 \DeclareTextCompositeCommand{\'}{PD1}{S}{S} % Sacute
12023 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z} % Zacute
12024 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z} % Zdot

```

```

12025 </pdlenc>

```

50.2 PU encoding

```

12026 <*puenc>
12027 \DeclareFontEncoding{PU}{-}{}

```

50.2.1 Basic Latin

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

12028 \DeclareTextCommand{\textLF}{PU}{\80\012} % line feed
12029 \DeclareTextCommand{\textCR}{PU}{\80\015} % carriage return
12030 \DeclareTextCommand{\textHT}{PU}{\80\011} % horizontal tab

```

```

12031 \DeclareTextCommand{\textBS}{PU}{\80\010} % backspace
12032 \DeclareTextCommand{\textFF}{PU}{\80\014} % formfeed

```

Accents

```

12033 \DeclareTextAccent{\`}{PU}{\textgrave}
12034 \DeclareTextAccent{\'}{PU}{\textacute}
12035 \DeclareTextAccent{\`}{PU}{\textcircumflex}
12036 \DeclareTextAccent{\~}{PU}{\texttilde}
12037 \DeclareTextAccent{\"}{PU}{\textdieresis}
12038 \DeclareTextAccent{\r}{PU}{\textring}
12039 \DeclareTextAccent{\v}{PU}{\textcaron}
12040 \DeclareTextAccent{\.}{PU}{\textdotaccent}
12041 \DeclareTextAccent{\c}{PU}{\textcedilla}
12042 \DeclareTextAccent{\U}{PU}{\textbreve}
12043 \DeclareTextAccent{\C}{PU}{\textdoublegrave}
12044 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textgrave}
12045 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
12046 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textcircumflex}
12047 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}
12048 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textdieresis}
12049 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}
12050 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textcaron}
12051 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
12052 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
12053 \DeclareTextCompositeCommand{\U}{PU}{\@empty}{\textbreve}
12054 \DeclareTextCompositeCommand{\C}{PU}{\@empty}{\textdoublegrave}
12055 \DeclareTextCommand{\=}{PU}[1]{\TextSymbolUnavailable{\={#1}}#1}
12056 \DeclareTextCommand{\H}{PU}[1]{\TextSymbolUnavailable{\H{#1}}#1}
12057 \DeclareTextCommand{\k}{PU}[1]{\TextSymbolUnavailable{\k{#1}}#1}
12058 \DeclareTextCommand{\u}{PU}[1]{\TextSymbolUnavailable{\u{#1}}#1}

```

Accent glyph names

```

12059 \DeclareTextCommand{\textbreve}{PU}{\80\030} % breve
12060 \DeclareTextCommand{\textcaron}{PU}{\80\031} % caron
12061 \DeclareTextCommand{\textcircumflex}{PU}{\80\032} % circumflex
12062 \DeclareTextCommand{\textdotaccent}{PU}{\80\033} % dotaccent
12063 \DeclareTextCommand{\texthungarumlaut}{PU}{\80\034} % hungarumlaut
12064 \DeclareTextCommand{\textogonek}{PU}{\80\035} % ogonek
12065 \DeclareTextCommand{\textring}{PU}{\80\036} % ring
12066 \DeclareTextCommand{\texttilde}{PU}{\80\037} % tilde
12067 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017} % double grave

```

\040: space

\041: exclam

```

12068 \DeclareTextCommand{\textquotedbl}{PU}{\string"} % quotedbl \80\042
12069 \DeclareTextCommand{\textnumbersign}{PU}{\80\043} % numbersign
12070 \DeclareTextCommand{\textdollar}{PU}{\80\044} % dollar
12071 \DeclareTextCommand{\textpercent}{PU}{\80\045} % percent
12072 \DeclareTextCommand{\textampersand}{PU}{\80\046} % ampersand

```

\047: quotesingle

```

12073 \DeclareTextCommand{\textparenleft}{PU}{\80\050} % parenleft
12074 \DeclareTextCommand{\textparenright}{PU}{\80\051} % parenright

```

\052: asterisk

\053: plus

\054: comma

\055: hyphen

\056: period

\057: slash
 \060... \071: 0...9
 \072: colon
 \073: semicolon
 12075 \DeclareTextCommand{\textless}{PU}{<} % less \80\074
 \075: equal
 12076 \DeclareTextCommand{\textgreater}{PU}{>} % greater \80\076
 \077: question
 \100: at
 \101... \132: A...Z
 \133: bracketleft
 12077 \DeclareTextCommand{\textbackslash}{PU}{\80\134} % backslash
 \135: bracketright
 12078 \DeclareTextCommand{\textasciicircum}{PU}{\80\136} % asciicircum
 12079 \DeclareTextCommand{\textunderscore}{PU}{\80\137} % underscore
 12080 \DeclareTextCommand{\textgrave}{PU}{\80\140} % grave
 \141... \172: a...z
 12081 \DeclareTextCompositeCommand{\.}{PU}{i}{i} % i
 12082 \DeclareTextCommand{\j}{PU}{j} % jdotless
 12083 \DeclareTextCommand{\textbraceleft}{PU}{\80\173} % braceleft
 12084 \DeclareTextCommand{\textbar}{PU}{|} % bar
 12085 \DeclareTextCommand{\textbraceright}{PU}{\80\175} % braceright
 12086 \DeclareTextCommand{\textasciitilde}{PU}{\80\176} % asciitilde
 No glyph \177 in PDFDocEncoding.

50.2.2 Latin-1 Supplement

12087 \DeclareTextCommand{\textminus}{PU}{-} % minus, \80\212
 12088 \DeclareTextCommand{\textfi}{PU}{fi} % fi ?? \80\223
 12089 \DeclareTextCommand{\textfl}{PU}{fl} % fl ?? \80\224

There are two positions for the glyphs from \80\225 until \80\236. See the test files testbmoe., testbml, testbmisc, testbmzc, and testbmyi for details. Problematic are all positions, but especially \OE, \oe, and \i.

12090 \DeclareTextCommand{\OE}{PU}{OE} % OE
 12091 \DeclareTextCommand{\oe}{PU}{oe} % oe

The euro \240 is inserted in version 1.3 of the pdf specification.

12092 \DeclareTextCommand{\textexclamdown}{PU}{\80\241} % exclamdown
 12093 \DeclareTextCommand{\textcent}{PU}{\80\242} % cent
 12094 \DeclareTextCommand{\textsterling}{PU}{\80\243} % sterling
 12095 \DeclareTextCommand{\textcurrency}{PU}{\80\244} % currency
 12096 \DeclareTextCommand{\textyen}{PU}{\80\245} % yen
 12097 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246} % brokenbar
 12098 \DeclareTextCommand{\textsection}{PU}{\80\247} % section
 12099 \DeclareTextCommand{\textdieresis}{PU}{\80\250} % dieresis
 12100 \DeclareTextCommand{\textcopyright}{PU}{\80\251} % copyright
 12101 \DeclareTextCommand{\textordfeminine}{PU}{\80\252} % ordfeminine
 12102 \DeclareTextCommand{\guillemotleft}{PU}{\80\253} % guillemotleft
 12103 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254} % logicalnot

No glyph \255 in PDFDocEncoding.

12104 \DeclareTextCommand{\textregistered}{PU}{\80\256} % registered
 12105 \DeclareTextCommand{\textmacron}{PU}{\80\257} % macron
 12106 \DeclareTextCommand{\textdegree}{PU}{\80\260} % degree

12107 \DeclareTextCommand{\textplusminus}{PU}{\80\261} % plusminus
12108 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262} % twosuperior
12109 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263} % threesuperior
12110 \DeclareTextCommand{\textacute}{PU}{\80\264} % acute
12111 \DeclareTextCommand{\textmu}{PU}{\80\265} % mu
12112 \DeclareTextCommand{\textparagraph}{PU}{\80\266} % paragraph
12113 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267} % periodcentered
12114 \DeclareTextCommand{\textcedilla}{PU}{\80\270} % cedilla
12115 \DeclareTextCommand{\textonesuperior}{PU}{\80\271} % onesuperior
12116 \DeclareTextCommand{\textordmasculine}{PU}{\80\272} % ordmasculine
12117 \DeclareTextCommand{\guillemotright}{PU}{\80\273} % guillemotright
12118 \DeclareTextCommand{\textonequarter}{PU}{\80\274} % onequarter
12119 \DeclareTextCommand{\textonehalf}{PU}{\80\275} % onehalf
12120 \DeclareTextCommand{\textthreequarters}{PU}{\80\276} % threequarters
12121 \DeclareTextCommand{\textquestiondown}{PU}{\80\277} % questiondown
12122 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300} % Agrave
12123 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301} % Aacute
12124 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302} % Acircumflex
12125 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303} % Atilde
12126 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304} % Adieresis
12127 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305} % Aring
12128 \DeclareTextCommand{\AE}{PU}{\80\306} % AE
12129 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307} % Ccedilla
12130 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310} % Egrave
12131 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311} % Eacute
12132 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312} % Ecircumflex
12133 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313} % Edieresis
12134 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314} % Igrave
12135 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315} % Iacute
12136 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316} % Icircumflex
12137 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317} % Idieresis
12138 \DeclareTextCommand{\DH}{PU}{\80\320} % Eth
12139 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321} % Ntilde
12140 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322} % Ograve
12141 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323} % Oacute
12142 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324} % Ocircumflex
12143 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325} % Otilde
12144 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326} % Odieresis
12145 \DeclareTextCommand{\textmultiply}{PU}{\80\327} % multiply
12146 \DeclareTextCommand{\O}{PU}{\80\330} % Oslash
12147 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331} % Ugrave
12148 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332} % Uacute
12149 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333} % Ucircumflex
12150 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334} % Udieresis
12151 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335} % Yacute
12152 \DeclareTextCommand{\TH}{PU}{\80\336} % Thorn
12153 \DeclareTextCommand{\ss}{PU}{\80\337} % germandbls
12154 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340} % agrave
12155 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341} % aacute
12156 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342} % acircumflex
12157 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343} % atilde
12158 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344} % adieresis
12159 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345} % aring
12160 \DeclareTextCommand{\ae}{PU}{\80\346} % ae
12161 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347} % ccedilla
12162 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350} % egrave
12163 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351} % eacute

```

12164 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\352} % ecircumflex
12165 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353} % edieresis
12166 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354} % igrave
12167 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354} % igrave
12168 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355} % iacute
12169 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355} % iacute
12170 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\356} % icircumflex
12171 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\356} % icircumflex
12172 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357} % idieresis
12173 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357} % idieresis
12174 \DeclareTextCommand{\dh}{PU}{\80\360} % eth
12175 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361} % ntilde
12176 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362} % ograve
12177 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363} % oacute
12178 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\364} % ocircumflex
12179 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365} % otilde
12180 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366} % odieresis
12181 \DeclareTextCommand{\textdivide}{PU}{\80\367} % divide
12182 \DeclareTextCommand{\o}{PU}{\80\370} % oslash
12183 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371} % ugrave
12184 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372} % uacute
12185 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\373} % ucircumflex
12186 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374} % udieresis
12187 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375} % yacute
12188 \DeclareTextCommand{\th}{PU}{\80\376} % thorn
12189 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377} % ydieresis
12190 \DeclareTextCommand{\ij}{PU}{\80\377}

```

Glyphs that consist of several characters.

```
12191 \DeclareTextCommand{\SS}{PU}{SS}
```

Aliases (german.sty)

```

12192 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
12193 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
12194 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
12195 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
12196 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
12197 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
12198 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
12199 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}

```

Aliases (math names)

```

12200 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}
12201 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}
12202 \DeclareTextCommand{\textdiv}{PU}{\textdivide}
12203 \DeclareTextCommand{\textpm}{PU}{\textplusminus}
12204 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}

```

50.2.3 Latin Extended-A

```

12205 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% Amacron
12206 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% amacron
12207 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% Abreve
12208 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% abreve
12209 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% Aogonek
12210 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% aogonek
12211 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% Cacute
12212 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% cacute
12213 \DeclareTextCompositeCommand{\`}{PU}{C}{\81\010}% Ccircumflex
12214 \DeclareTextCompositeCommand{\`}{PU}{c}{\81\011}% ccircumflex

```



```

12215 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012} % Cdot
12216 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013} % cdot
12217 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014} % Ccaron
12218 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015} % ccaron
12219 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016} % Dcaron
12220 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017} % dcaron
12221 \DeclareTextCommand{\DJ}{PU}{\81\020} % Dslash
12222 \DeclareTextCommand{\dj}{PU}{\81\021} % dslash
12223 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022} % Emacron
12224 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023} % emacron
12225 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024} % Ebreve
12226 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025} % ebreve
12227 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026} % Edot
12228 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027} % edot
12229 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030} % Egonek
12230 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031} % egonek
12231 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032} % Ecaron
12232 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033} % ecaron
12233 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034} % Gcircumflex
12234 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035} % gcircumflex
12235 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036} % Gbreve
12236 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037} % gbreve
12237 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040} % Gdot
12238 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041} % gdot
12239 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042} % Gcedilla
12240 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043} % gcedilla
12241 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044} % Hcircumflex
12242 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045} % hcircumflex
12243 \DeclareTextCommand{\textHslash}{PU}{\81\046} % Hslash
12244 \DeclareTextCommand{\texthslash}{PU}{\81\047} % hslash
12245 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050} % Itilde
12246 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051} % itilde
12247 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051} % itilde
12248 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052} % Imacron
12249 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053} % imacron
12250 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053} % imacron
12251 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054} % Ibreve
12252 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055} % ibreve
12253 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055} % ibreve
12254 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056} % Iogonek
12255 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057} % iogonek
12256 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057} % iogonek
12257 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060} % Idot
12258 \DeclareTextCommand{\i}{PU}{\81\061} % idotless
12259 % IJlig
12260 % ijlig
12261 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064} % Jcircumflex
12262 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065} % jcircumflex
12263 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065} % jcircumflex
12264 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066} % Kcedilla
12265 \DeclareTextCompositeCommand{\c}{PU}{k}{\81\067} % kcedilla
12266 % kgreen
12267 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071} % Lacute
12268 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072} % lacute
12269 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073} % Lcedilla
12270 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074} % lcedilla
12271 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075} % Lcaron

```

```

12272 \DeclareTextCompositeCommand{\v}{PU}{\l}{\81\076} % lcaron
12273 % L middle dot
12274 % l middle dot
12275 \DeclareTextCommand{\L}{PU}{\81\101} % Lslash
12276 \DeclareTextCommand{\l}{PU}{\81\102} % lslash
12277 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103} % Nacute
12278 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104} % nacute
12279 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105} % Ncedilla
12280 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106} % ncedilla
12281 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107} % Ncaron
12282 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110} % ncaron
12283 % n apostrophe
12284 \DeclareTextCommand{\NG}{PU}{\81\112} % NG
12285 \DeclareTextCommand{\ng}{PU}{\81\113} % ng
12286 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114} % Omacron
12287 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115} % omacron
12288 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116} % Obreve
12289 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117} % obreve
12290 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120} % Odoubleacute
12291 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121} % odoubleacute
12292 \DeclareTextCommand{\OE}{PU}{\81\122} % OE
12293 \DeclareTextCommand{\oe}{PU}{\81\123} % oe
12294 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124} % Racute
12295 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125} % racute
12296 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126} % Rcedilla
12297 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127} % rcedilla
12298 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130} % Rcaron
12299 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131} % rcaron
12300 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132} % Sacute
12301 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133} % sacute
12302 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134} % Scircumflex
12303 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135} % scircumflex
12304 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136} % Scedilla
12305 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137} % scedilla
12306 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140} % Scaron
12307 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141} % scaron
12308 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142} % Tcedilla
12309 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143} % tcedilla
12310 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144} % Tcaron
12311 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145} % tcaron
12312 \DeclareTextCommand{\textTslash}{PU}{\81\146} % Tslash
12313 \DeclareTextCommand{\texttslash}{PU}{\81\147} % tslash
12314 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150} % Utilde
12315 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151} % utilde
12316 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152} % Umacron
12317 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153} % umacron
12318 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154} % Ubreve
12319 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155} % ubreve
12320 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156} % Uring
12321 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157} % uring
12322 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160} % Udoubleacute
12323 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161} % udoubleacute
12324 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162} % Uogonek
12325 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163} % uogonek
12326 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164} % Wcircumflex
12327 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165} % wcircumflex
12328 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166} % Ycircumflex

```

```

12329 \DeclareTextCompositeCommand{\`}{PU}{y}{\81\167} % ycircumflex
12330 \DeclareTextCompositeCommand{"}{PU}{Y}{\81\170} % Ydieresis
12331 \DeclareTextCommand{\IJ}{PU}{\81\170}
12332 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171} % Zacute
12333 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172} % zacute
12334 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173} % Zdot
12335 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174} % zdot
12336 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175} % Zcaron
12337 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176} % zcaron

```

50.2.4 Latin Extended-B

```

12338 \DeclareTextCommand{\textflorin}{PU}{\81\222} % florin
12339 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315} % Acaron
12340 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316} % acaron
12341 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317} % Icaron
12342 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320} % icaron
12343 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320} % icaron
12344 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321} % Ocaron
12345 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322} % ocaron
12346 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323} % Ucaron
12347 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324} % ucaron
12348 \DeclareTextCommand{\textGslash}{PU}{\81\344} % Gslash
12349 \DeclareTextCommand{\textgslash}{PU}{\81\345} % gslash
12350 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346} % Gcaron
12351 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347} % gcaron
12352 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350} % Kcaron
12353 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351} % kcaron
12354 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352} % Oogonek
12355 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353} % oogonek

```

50.2.5 Greek

```

12356 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}
12357 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}
12358 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}
12359 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}
12360 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}
12361 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}
12362 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}
12363 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}
12364 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}
12365 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}
12366 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}
12367 \DeclareTextCommand{\textAlpha}{PU}{\83\221}
12368 \DeclareTextCommand{\textBeta}{PU}{\83\222}
12369 \DeclareTextCommand{\textGamma}{PU}{\83\223}
12370 \DeclareTextCommand{\textDelta}{PU}{\83\224}
12371 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}
12372 \DeclareTextCommand{\textZeta}{PU}{\83\226}
12373 \DeclareTextCommand{\textEta}{PU}{\83\227}
12374 \DeclareTextCommand{\textTheta}{PU}{\83\230}
12375 \DeclareTextCommand{\textIota}{PU}{\83\231}
12376 \DeclareTextCommand{\textKappa}{PU}{\83\232}
12377 \DeclareTextCommand{\textLambda}{PU}{\83\233}
12378 \DeclareTextCommand{\textMu}{PU}{\83\234}
12379 \DeclareTextCommand{\textNu}{PU}{\83\235}
12380 \DeclareTextCommand{\textXi}{PU}{\83\236}
12381 \DeclareTextCommand{\textOmicron}{PU}{\83\237}

```

12382 \DeclareTextCommand{\textPi}{PU}{\83\240}
12383 \DeclareTextCommand{\textRho}{PU}{\83\241}
12384 \DeclareTextCommand{\textSigma}{PU}{\83\243}
12385 \DeclareTextCommand{\textTau}{PU}{\83\244}
12386 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}
12387 \DeclareTextCommand{\textPhi}{PU}{\83\246}
12388 \DeclareTextCommand{\textChi}{PU}{\83\247}
12389 \DeclareTextCommand{\textPsi}{PU}{\83\250}
12390 \DeclareTextCommand{\textOmega}{PU}{\83\251}
12391 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}
12392 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}
12393 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}
12394 \DeclareTextCompositeCommand{\'}{PU}{\textepsilon}{\83\255}
12395 \DeclareTextCompositeCommand{\'}{PU}{\texteta}{\83\256}
12396 \DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\257}
12397 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}
12398 \DeclareTextCompositeCommand{"}{PU}{\textupsilonacute}{\83\260}
12399 \DeclareTextCommand{\textalpha}{PU}{\83\261}
12400 \DeclareTextCommand{\textbeta}{PU}{\83\262}
12401 \DeclareTextCommand{\textgamma}{PU}{\83\263}
12402 \DeclareTextCommand{\textdelta}{PU}{\83\264}
12403 \DeclareTextCommand{\textepsilon}{PU}{\83\265}
12404 \DeclareTextCommand{\textzeta}{PU}{\83\266}
12405 \DeclareTextCommand{\texteta}{PU}{\83\267}
12406 \DeclareTextCommand{\texttheta}{PU}{\83\270}
12407 \DeclareTextCommand{\textiota}{PU}{\83\271}
12408 \DeclareTextCommand{\textkappa}{PU}{\83\272}
12409 \DeclareTextCommand{\textlambda}{PU}{\83\273}
12410 \DeclareTextCommand{\textmu}{PU}{\83\274}
12411 \DeclareTextCommand{\textnu}{PU}{\83\275}
12412 \DeclareTextCommand{\textxi}{PU}{\83\276}
12413 \DeclareTextCommand{\textomicron}{PU}{\83\277}
12414 \DeclareTextCommand{\textpi}{PU}{\83\300}
12415 \DeclareTextCommand{\textrho}{PU}{\83\301}
12416 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}
12417 \DeclareTextCommand{\textsigma}{PU}{\83\303}
12418 \DeclareTextCommand{\texttau}{PU}{\83\304}
12419 \DeclareTextCommand{\textupsilon}{PU}{\83\305}
12420 \DeclareTextCommand{\textphi}{PU}{\83\306}
12421 \DeclareTextCommand{\textchi}{PU}{\83\307}
12422 \DeclareTextCommand{\textpsi}{PU}{\83\310}
12423 \DeclareTextCommand{\textomega}{PU}{\83\311}
12424 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}
12425 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}
12426 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}
12427 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\315}
12428 \DeclareTextCompositeCommand{\'}{PU}{\textomega}{\83\316}
12429 %\DeclareTextCommand{\textvartheta}{PU}{\83\321}
12430 %\DeclareTextCommand{\textvarphi}{PU}{\83\325}
12431 %\DeclareTextCommand{\textvarpi}{PU}{\83\326}
12432 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}
12433 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}
12434 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}
12435 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}
12436 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}
12437 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}
12438 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}

```

12439 \DeclareTextCommand{\textsamplegreek}{PU}{\83\341}
12440 %\DeclareTextCommand{\textvarkappa}{PU}{\83\360}
12441 %\DeclareTextCommand{\textvarrho}{PU}{\83\361}

```

50.2.6 Cyrillic

Thanks to Vladimir Volovich (vvv@vvv.vsu.ru) for the help with the Cyrillic glyph names.

```

12442 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% IO
12443 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}%
12444 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% DJE
12445 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% GJE
12446 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% ukrainian IE
12447 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% DZE
12448 \DeclareTextCommand{\CYRII}{PU}{\84\006}% byelorussian-ukrainian I
12449 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% YI
12450 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% JE
12451 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% LJE
12452 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% NJE
12453 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% TSHE
12454 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% KJE
12455 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% short U
12456 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% DZHE
12457 \DeclareTextCommand{\CYRA}{PU}{\84\020}% A
12458 \DeclareTextCommand{\CYRB}{PU}{\84\021}% BE
12459 \DeclareTextCommand{\CYRV}{PU}{\84\022}% VE
12460 \DeclareTextCommand{\CYRG}{PU}{\84\023}% GHE
12461 \DeclareTextCommand{\CYRD}{PU}{\84\024}% DE
12462 \DeclareTextCommand{\CYRE}{PU}{\84\025}% IE
12463 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% ZHE
12464 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% ZE
12465 \DeclareTextCommand{\CYRI}{PU}{\84\030}% I
12466 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% short I
12467 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}%
12468 \DeclareTextCommand{\CYRK}{PU}{\84\032}% KA
12469 \DeclareTextCommand{\CYRL}{PU}{\84\033}% EL
12470 \DeclareTextCommand{\CYRM}{PU}{\84\034}% EM
12471 \DeclareTextCommand{\CYRN}{PU}{\84\035}% EN
12472 \DeclareTextCommand{\CYRO}{PU}{\84\036}% O
12473 \DeclareTextCommand{\CYRP}{PU}{\84\037}% PE
12474 \DeclareTextCommand{\CYRR}{PU}{\84\040}% ER
12475 \DeclareTextCommand{\CYRS}{PU}{\84\041}% ES
12476 \DeclareTextCommand{\CYRT}{PU}{\84\042}% TE
12477 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U
12478 \DeclareTextCommand{\CYRF}{PU}{\84\044}% EF
12479 \DeclareTextCommand{\CYRH}{PU}{\84\045}% HA
12480 \DeclareTextCommand{\CYRC}{PU}{\84\046}% TSE
12481 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% CHE
12482 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% SHA
12483 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% SHCHA
12484 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% HARD SIGN
12485 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% YERU
12486 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% SOFT SIGN
12487 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% E
12488 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% YU
12489 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% YA
12490 \DeclareTextCommand{\cyra}{PU}{\84\060}% a
12491 \DeclareTextCommand{\cyrb}{PU}{\84\061}% be

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12492 \DeclareTextCommand{\cyrv}{PU}{\84\062}% ve
12493 \DeclareTextCommand{\cyrg}{PU}{\84\063}% ghe
12494 \DeclareTextCommand{\cyrd}{PU}{\84\064}% de
12495 \DeclareTextCommand{\cyre}{PU}{\84\065}% ie
12496 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% zhe
12497 \DeclareTextCommand{\cyrz}{PU}{\84\067}% ze
12498 \DeclareTextCommand{\cyri}{PU}{\84\070}% i
12499 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% short i
12500 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}%
12501 \DeclareTextCommand{\cyrk}{PU}{\84\072}% ka
12502 \DeclareTextCommand{\cyr1}{PU}{\84\073}% el
12503 \DeclareTextCommand{\cyrn}{PU}{\84\074}% em
12504 \DeclareTextCommand{\cyrn}{PU}{\84\075}% en
12505 \DeclareTextCommand{\cyro}{PU}{\84\076}% o
12506 \DeclareTextCommand{\cyrp}{PU}{\84\077}% pe
12507 \DeclareTextCommand{\cyrr}{PU}{\84\100}% er
12508 \DeclareTextCommand{\cyrsh}{PU}{\84\101}% es
12509 \DeclareTextCommand{\cyrt}{PU}{\84\102}% te
12510 \DeclareTextCommand{\cyru}{PU}{\84\103}% u
12511 \DeclareTextCommand{\cyrf}{PU}{\84\104}% ef
12512 \DeclareTextCommand{\cyrh}{PU}{\84\105}% ha
12513 \DeclareTextCommand{\cyrch}{PU}{\84\106}% tse
12514 \DeclareTextCommand{\cyrch}{PU}{\84\107}% che
12515 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% sha
12516 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% shcha
12517 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% hard sign
12518 \DeclareTextCommand{\cyrery}{PU}{\84\113}% yeru
12519 \DeclareTextCommand{\cyrstsn}{PU}{\84\114}% soft sign
12520 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% e
12521 \DeclareTextCommand{\cyryu}{PU}{\84\116}% yu
12522 \DeclareTextCommand{\cyrya}{PU}{\84\117}% ya
12523 \DeclareTextCommand{\cyryo}{PU}{\84\121}% io
12524 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}%
12525 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% dje
12526 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% gje
12527 \DeclareTextCommand{\cyrie}{PU}{\84\124}% ukrainian ie
12528 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% dze
12529 \DeclareTextCommand{\cyrii}{PU}{\84\126}% byelorussian-ukrainian i
12530 \DeclareTextCommand{\cyryi}{PU}{\84\127}% yi
12531 \DeclareTextCommand{\cyrje}{PU}{\84\130}% je
12532 \DeclareTextCommand{\cyr1je}{PU}{\84\131}% lje
12533 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% nje
12534 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% tshe
12535 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% kje
12536 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% short u
12537 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% dzhe
12538 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% OMEGA
12539 \DeclareTextCommand{\cyromega}{PU}{\84\141}% omega
12540 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% YAT
12541 \DeclareTextCommand{\cyryat}{PU}{\84\143}% yat
12542 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% iotified E
12543 \DeclareTextCommand{\cyriote}{PU}{\84\145}% iotified e
12544 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% little YUS
12545 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% little yus
12546 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% iotified little YUS
12547 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% iotified little yus
12548 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% big YUS

12549 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% big yus
12550 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% iotified big YUS
12551 \DeclareTextCommand{\cyrriotbyus}{PU}{\84\155}% iotified big yus
12552 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% KSI
12553 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% ksi
12554 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% PSI
12555 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% psi
12556 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% FITA
12557 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% fita
12558 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% IZHITSA
12559 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% izhitsa
12560 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% IZHITSA double grave
12561 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% izhitsa double grave
12562 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% UK
12563 \DeclareTextCommand{\cyruk}{PU}{\84\171}% uk
12564 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% round OMEGA
12565 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% round omega
12566 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% OMEGA titlo
12567 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% omega titlo
12568 \DeclareTextCommand{\CYROT}{PU}{\84\176}% OT
12569 \DeclareTextCommand{\cyrot}{PU}{\84\177}% ot
12570 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% KOPPA
12571 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% koppa
12572 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% thousands sign
12573 %\DeclareTextCommand{\COMBINING TITLO}{PU}{\84\203}% COMBINING TITLO
12574 %\DeclareTextCommand{\COMBINING PALATALIZATION}{PU}{\84\204}% COMBINING PALATALIZATION
12575 %\DeclareTextCommand{\COMBINING DASIA PNEUMATA}{PU}{\84\205}% COMBINING DASIA PNEUMATA
12576 %\DeclareTextCommand{\COMBINING PSILI PNEUMATA}{PU}{\84\206}% COMBINING PSILI PNEUMATA
12577 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% GHE upturn
12578 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% ghe upturn
12579 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% GHE stroke
12580 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% ghe stroke
12581 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% GHE middle hook
12582 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% ghe middle hook
12583 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% ZHE descender
12584 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% zhe descender
12585 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% ZE descender
12586 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% ze descender
12587 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% KA descender
12588 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% ka descender
12589 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% KA vertical stroke
12590 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% ka vertical stroke
12591 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% KA stroke
12592 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% ka stroke
12593 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% bashkir KA
12594 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% bashkir ka
12595 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% EN descender
12596 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% en descender
12597 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% ligature EN GHE
12598 \DeclareTextCommand{\cyrng}{PU}{\84\245}% ligature en ghe
12599 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% PE middle hook
12600 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% pe middle hook
12601 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% abkhasian HA
12602 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% abkhasian ha
12603 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% ES descender
12604 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% es descender
12605 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% TE descender

12606 \DeclareTextCommand{\cyrttdsc}{PU}{\84\255}% te descender
12607 \DeclareTextCommand{\CYRY}{PU}{\84\256}% straight U
12608 \DeclareTextCommand{\cyry}{PU}{\84\257}% straight u
12609 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% straight U stroke
12610 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% straight u stroke
12611 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% HA descender
12612 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% ha descender
12613 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% ligature TE TSE
12614 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% ligature te tse
12615 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% CHE descender
12616 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% che descender
12617 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% CHE vertical stroke
12618 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% che vertical stroke
12619 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% SHHA
12620 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% shha
12621 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% abkhassian CHE
12622 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% abkhassian che
12623 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% abkhassian CHE descender
12624 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% abkhassian che descender
12625 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% palochka
12626 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% ZHE breve
12627 \DeclareTextCompositeCommand{\U}{PU}{\cyrz}{\84\302}% zhe breve
12628 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% KA hook
12629 \DeclareTextCommand{\cyrk}{PU}{\84\304}% ka hook
12630 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% EN hook
12631 \DeclareTextCommand{\cyrn}{PU}{\84\310}% en hook
12632 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% khakassian CHE
12633 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% khakassian che
12634 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% A breve
12635 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% a breve
12636 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% A diaeresis
12637 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% a diaeresis
12638 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% ligature A IE
12639 \DeclareTextCommand{\cyrae}{PU}{\84\325}% ligature a ie
12640 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% IE breve
12641 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% ie breve
12642 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% SCHWA
12643 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% schwa
12644 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% SCHWA diaeresis
12645 \DeclareTextCompositeCommand{"}{PU}{\cyrschwa}{\84\333}% schwa diaeresis
12646 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% ZHE diaeresis
12647 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\335}% zhe diaeresis
12648 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% ZE diaeresis
12649 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% ze diaeresis
12650 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% abkhassian DZE
12651 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% abkhassian dze
12652 \DeclareTextCompositeCommand{\=}{PU}{\CYRI}{\84\342}% I macron
12653 \DeclareTextCompositeCommand{\=}{PU}{\cyri}{\84\343}% i macron
12654 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% I diaeresis
12655 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% i diaeresis
12656 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% O diaeresis
12657 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% o diaeresis
12658 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% barred O
12659 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% barred o
12660 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% barred O diaeresis
12661 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% barred o diaeresis
12662 \DeclareTextCompositeCommand{\=}{PU}{\CYRU}{\84\356}% U macron


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12663 \DeclareTextCompositeCommand{\=}{PU}{\cyru}{\84\357}% u macron
12664 \DeclareTextCompositeCommand{\"}{PU}{\CYRU}{\84\360}% U diaeresis
12665 \DeclareTextCompositeCommand{\"}{PU}{\cyru}{\84\361}% u diaeresis
12666 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U double acute
12667 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% u double acute
12668 \DeclareTextCompositeCommand{\"}{PU}{\CYRCH}{\84\364}% CHE diaeresis
12669 \DeclareTextCompositeCommand{\"}{PU}{\cyrch}{\84\365}% che diaeresis
12670 \DeclareTextCompositeCommand{\"}{PU}{\CYRERY}{\84\370}% YERU diaeresis
12671 \DeclareTextCompositeCommand{\"}{PU}{\cyrery}{\84\371}% yeru diaeresis

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50.2.7 Symbols

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12672 \DeclareTextCommand{\textendash}{PU}{\9040\023} % endash
12673 \DeclareTextCommand{\textemdash}{PU}{\9040\024} % emdash
12674 \DeclareTextCommand{\textquotelleft}{PU}{\9040\030} % quoteleft
12675 \DeclareTextCommand{\textquoteright}{PU}{\9040\031} % quoteright
12676 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032} % quotesinglbase
12677 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034} % quotedblleft
12678 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035} % quotedblright
12679 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036} % quotedblbase
12680 \DeclareTextCommand{\textdagger}{PU}{\9040\040} % dagger
12681 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041} % daggerdbl
12682 \DeclareTextCommand{\textbullet}{PU}{\9040\042} % bullet
12683 \DeclareTextCommand{\textellipsis}{PU}{\9040\046} % ellipsis
12684 \DeclareTextCommand{\textperthousand}{PU}{\9040\060} % perthousand
12685 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061} % pertenthousand
12686 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071} % guilsinglleft
12687 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072} % guilsinglright
12688 \DeclareTextCommand{\textfractionmark}{PU}{\9040\104} % fraction slash
12689 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160} % superscript zero
12690 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164} % superscript four
12691 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165} % superscript five
12692 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166} % superscript six
12693 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167} % superscript seven
12694 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170} % superscript eight
12695 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171} % superscript nine
12696 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200} % subscript zero
12697 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201} % subscript one
12698 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202} % subscript two
12699 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203} % subscript three
12700 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204} % subscript four
12701 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205} % subscript five
12702 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206} % subscript six
12703 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207} % subscript seven
12704 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210} % subscript eight
12705 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211} % subscript nine
12706 \DeclareTextCommand{\texteuro}{PU}{\9040\254} % Euro
12707 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}
12708 \DeclareTextCommand{\textnumero}{PU}{\9041\026}
12709 \DeclareTextCommand{\texttrademark}{PU}{\9041\042} % trademark
12710 % \DeclareTextCommand{\cyrlangle}{PU}{\9043\051}
12711 % \DeclareTextCommand{\cyrangle}{PU}{\9043\052}

12712 \puenc)

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50.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

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12713 <*puvnenc>
12714 \DeclareTextCommand{\abreve}{PU}{\81\003}
12715 \DeclareTextCommand{\acircumflex}{PU}{\80\342}
12716 \DeclareTextCommand{\dj}{PU}{\81\021}
12717 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}
12718 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}
12719 \DeclareTextCommand{\ohorn}{PU}{\81\241}
12720 \DeclareTextCommand{\uhorn}{PU}{\81\260}
12721 \DeclareTextCommand{\ABREVE}{PU}{\81\002}
12722 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}
12723 \DeclareTextCommand{\DJ}{PU}{\81\020}
12724 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}
12725 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}
12726 \DeclareTextCommand{\OHORN}{PU}{\81\240}
12727 \DeclareTextCommand{\UHORN}{PU}{\81\257}

12728 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}
12729 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}
12730 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}
12731 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}
12732 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}
12733 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}
12734 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}
12735 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}
12736 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}
12737 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}
12738 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}
12739 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}
12740 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}
12741 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}
12742 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}
12743 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}
12744 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}
12745 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}
12746 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}
12747 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}
12748 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}
12749 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}
12750 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}
12751 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}
12752 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}
12753 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}
12754 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}
12755 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}
12756 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}
12757 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}
12758 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}
12759 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}
12760 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}
12761 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}
12762 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}
12763 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}
12764 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}
12765 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}
12766 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}
12767 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}
12768 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}
12769 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}

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12770 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}
12771 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}
12772 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}
12773 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}
12774 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}
12775 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}
12776 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}
12777 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}
12778 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}
12779 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}
12780 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}
12781 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}
12782 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}
12783 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}
12784 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}
12785 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}
12786 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}
12787 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}
12788 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}
12789 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}
12790 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}
12791 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}
12792 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}
12793 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}
12794 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}
12795 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}
12796 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}
12797 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}
12798 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}
12799 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}
12800 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}
12801 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}
12802 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}
12803 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}
12804 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}
12805 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}
12806 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}
12807 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}
12808 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}
12809 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}
12810 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}
12811 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}
12812 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}
12813 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}
12814 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}
12815 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}
12816 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}
12817 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}
12818 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}
12819 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}
12820 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}
12821 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}
12822 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}
12823 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}
12824 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}
12825 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}
12826 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}

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12827 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}
12828 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}
12829 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}
12830 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}
12831 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}
12832 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}
12833 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}
12834 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}
12835 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}
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12837 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}
12838 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}
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12843 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}
12844 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}
12845 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}
12846 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}
12847 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}
12848 </puvnenc>

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50.4 PU encoding, additions for Arabi

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12849 <*puarenc>
12850 \DeclareTextCommand{\hamza}{PU}{\86\041}% 0621;afii57409;ARABIC LETTER HAMZA
12851 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% 0622;afii57410;ARABIC LETTER ALEF WITH MADDA A
12852 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% 0623;afii57411;ARABIC LETTER ALEF WITH HAMZA A
12853 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% 0624;afii57412;ARABIC LETTER WAW WITH HAMZA AE
12854 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% 0625;afii57413;ARABIC LETTER ALEF WITH HA
12855 \DeclareTextCommand{\yahamza}{PU}{\86\046}% 0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
12856 \DeclareTextCommand{\alef}{PU}{\86\047}% 0627;afii57415;ARABIC LETTER ALEF
12857 \DeclareTextCommand{\baa}{PU}{\86\050}% 0628;afii57416;ARABIC LETTER BEH
12858 \DeclareTextCommand{\T}{PU}{\86\051}% 0629;afii57417;ARABIC LETTER TEH MARBUTA
12859 \DeclareTextCommand{\taa}{PU}{\86\052}% 062A;afii57418;ARABIC LETTER TEH
12860 \DeclareTextCommand{\thaa}{PU}{\86\053}% 062B;afii57419;ARABIC LETTER THEH
12861 \DeclareTextCommand{\jeem}{PU}{\86\054}% 062C;afii57420;ARABIC LETTER JEEM
12862 \DeclareTextCommand{\Haa}{PU}{\86\055}% 062D;afii57421;ARABIC LETTER HAH
12863 \DeclareTextCommand{\kha}{PU}{\86\056}% 062E;afii57422;ARABIC LETTER KHAH
12864 \DeclareTextCommand{\dal}{PU}{\86\057}% 062F;afii57423;ARABIC LETTER DAL
12865 \DeclareTextCommand{\dhal}{PU}{\86\060}% 0630;afii57424;ARABIC LETTER THAL
12866 \DeclareTextCommand{\ra}{PU}{\86\061}% 0631;afii57425;ARABIC LETTER REH
12867 \DeclareTextCommand{\zay}{PU}{\86\062}% 0632;afii57426;ARABIC LETTER ZAIN
12868 \DeclareTextCommand{\seen}{PU}{\86\063}% 0633;afii57427;ARABIC LETTER SEEN
12869 \DeclareTextCommand{\sheen}{PU}{\86\064}% 0634;afii57428;ARABIC LETTER SHEEN
12870 \DeclareTextCommand{\sad}{PU}{\86\065}% 0635;afii57429;ARABIC LETTER SAD
12871 \DeclareTextCommand{\dad}{PU}{\86\066}% 0636;afii57430;ARABIC LETTER DAD
12872 \DeclareTextCommand{\Ta}{PU}{\86\067}% 0637;afii57431;ARABIC LETTER TAH
12873 \DeclareTextCommand{\za}{PU}{\86\070}% 0638;afii57432;ARABIC LETTER ZAH
12874 \DeclareTextCommand{\ayn}{PU}{\86\071}% 0639;afii57433;ARABIC LETTER AIN
12875 \DeclareTextCommand{\ghayn}{PU}{\86\072}% 063A;afii57434;ARABIC LETTER GHAIN
12876 \DeclareTextCommand{\tatweel}{PU}{\86\100}% 0640;afii57440;ARABIC TATWEEL
12877 \DeclareTextCommand{\fa}{PU}{\86\101}% 0641;afii57441;ARABIC LETTER FEH
12878 \DeclareTextCommand{\qaf}{PU}{\86\102}% 0642;afii57442;ARABIC LETTER QAF

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12879 \DeclareTextCommand{\kaf}{PU}{\86\103}% 0643;afii57443;ARABIC LETTER KAF
12880 \DeclareTextCommand{\lam}{PU}{\86\104}% 0644;afii57444;ARABIC LETTER LAM
12881 \DeclareTextCommand{\meem}{PU}{\86\105}% 0645;afii57445;ARABIC LETTER MEEM
12882 \DeclareTextCommand{\nun}{PU}{\86\106}% 0646;afii57446;ARABIC LETTER NOON
12883 \DeclareTextCommand{\ha}{PU}{\86\107}% 0647;afii57470;ARABIC LETTER HEH
12884 \DeclareTextCommand{\waw}{PU}{\86\110}% 0648;afii57448;ARABIC LETTER WAW
12885 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% 0649;afii57449;ARABIC LETTER ALEF MAKSURA
12886 \DeclareTextCommand{\ya}{PU}{\86\112}% 064A;afii57450;ARABIC LETTER YEH

12887 \DeclareTextCommand{\nasb}{PU}{\86\113}% 064B;afii57451;ARABIC FATHATAN
12888 \DeclareTextCommand{\raff}{PU}{\86\114}% 064C;afii57452;ARABIC DAMMATAN
12889 \DeclareTextCommand{\jarr}{PU}{\86\115}% 064D;afii57453;ARABIC KASRATAN
12890 \DeclareTextCommand{\fatha}{PU}{\86\116}% 064E;afii57454;ARABIC FATHA
12891 \DeclareTextCommand{\damma}{PU}{\86\117}% 064F;afii57455;ARABIC DAMMA
12892 \DeclareTextCommand{\kasra}{PU}{\86\120}% 0650;afii57456;ARABIC KASRA
12893 \DeclareTextCommand{\shadda}{PU}{\86\121}% 0651;afii57457;ARABIC SHADDA
12894 \DeclareTextCommand{\sukun}{PU}{\86\122}% 0652;afii57458;ARABIC SUKUN

Farsi

12895 \DeclareTextCommand{\peh}{PU}{\86\176}% 067E;afii57506;ARABIC LETTER PEH
12896 \DeclareTextCommand{\tcheh}{PU}{\86\206}% 0686;afii57507;ARABIC LETTER TCHEH
12897 \DeclareTextCommand{\jeh}{PU}{\86\230}% 0698;afii57508;ARABIC LETTER JEH
12898 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% 06A9???;afii????;FARSI LETTER KAF
12899 \DeclareTextCommand{\gaf}{PU}{\86\257}% 06AF;afii57509;ARABIC LETTER GAF
12900 \DeclareTextCommand{\farsiya}{PU}{\86\314}% 06CC;afii????;FARSI LETTER YEH

12901 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% 200C;ZWNJ%
12902 \DeclareTextCommand{\noboundary}{PU}{\86\325}% 200D;ZWJ

12903 </puarenc>

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51 End of file hycheck.tex

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12904 < *check>
12905 \typeout{}
12906 \begin{document}
12907 \end{document}
12908 </check>

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